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the best
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for modern single
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TIPS FOR
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to hang doors

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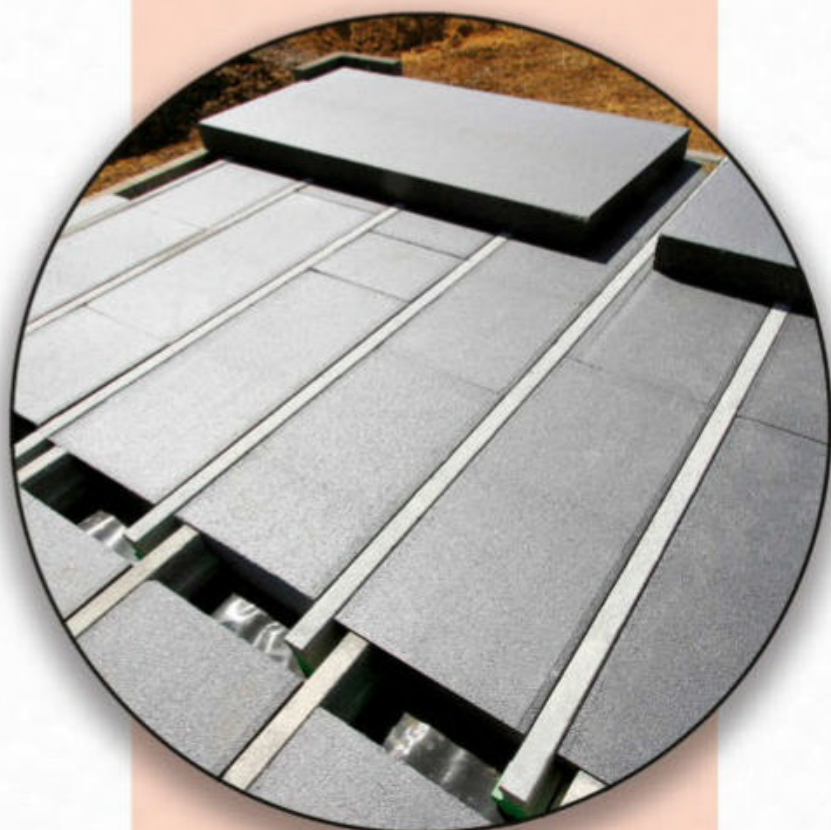
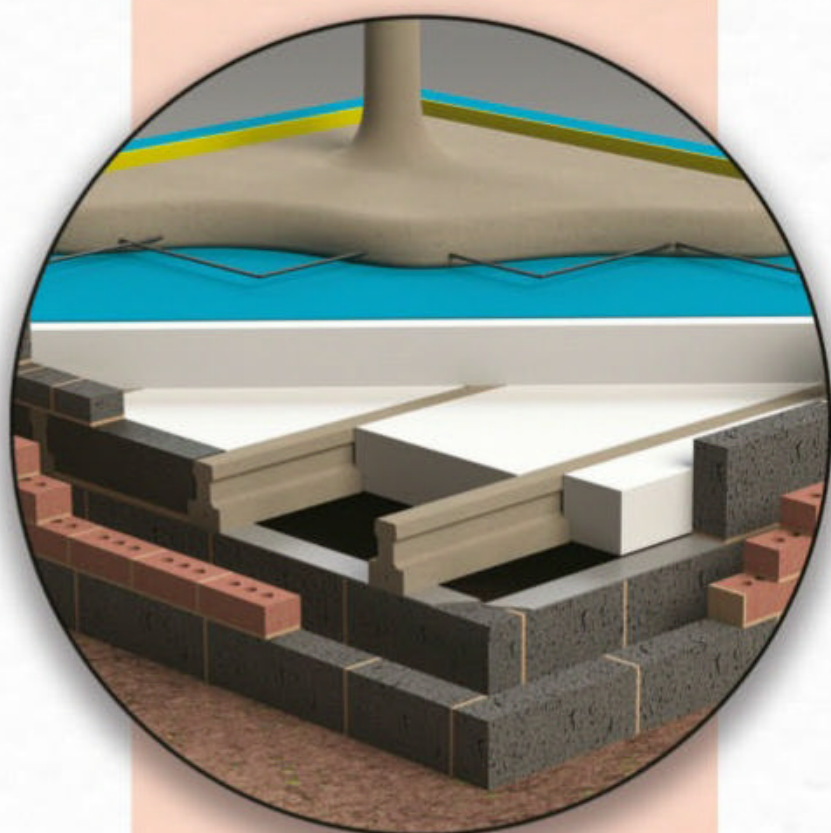
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EDITOR'S LETTER

It perhaps goes without saying, but the partnership you will form with your builder will be fundamental to the success of your building project. Self-build expert David Snell puts it thus: “Self-building is as much about building relationships as it is building houses.”

Finding the right builder is often no mean feat and, maintaining a good relationship, not always easy. But, it's worth remembering that this partnership is a two-way street, and for all the talk of cowboy builders, we often forget there are bad clients too: those who are late with payment, unreachable when key decisions need to be made, and who frequently change their minds but prove difficult when settling up for the resulting extras and are unable to appreciate why the build schedule has slipped as a consequence.

Fortunately, both cowboy builder and bad client are in the minority, but there are a number of ways to ensure you get the best from this partnership — David Snell,



CLAIRE LLOYD
has been a
member of the
*Homebuilding
& Renovating*
team for over a
decade. She's just
completed her
latest renovation

who has built his own home 14 times over, reveals his top tips on page 121.

Elsewhere in the issue, we disclose the key ‘grey areas’ which fall between trades and the implications for those who hope to project manage (page 167); planning consultant Ken Dijkman reveals how to increase your chances of planning permission success (page 155); and Mark Stevenson shares his knowledge on managing your build budget (page 147).

Plus, the story behind Alan and Lucy Brown's self-build (below and page 50). The couple spotted an infill plot, with views over Edinburgh's Firth of Forth, while walking their dog, and subsequently secured it with a bid of £31,313.13 (their lucky number is 13!). **H**



**Self-building
is as much
about
building
relationships
as it is
building
houses**



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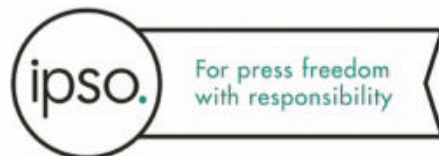
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The oak frame self-build

WORDS Alison Wall PHOTOGRAPHY Mike Black c/o Welsh Oak Frames



Plot *Twist*

Peter Williams and his wife Pauline abandoned their original plan to renovate a 1960s house, and opted to build a characterful, light-filled oak frame home instead



PROJECT NOTES

HOMEOWNER Peter and

Pauline Williams

PROJECT Self-build

LOCATION Shropshire

SIZE 400m² (plus 72m² pool house)

BUILD TIME Two years

HOUSE COST £357,500

BUILD COST £547,000

ESTIMATED VALUE £1million

It's one of the biggest decisions facing any self-builder: do you renovate an ugly or badly extended property that's on a site you like, or do you demolish it and start again? That was exactly the dilemma facing Peter and Pauline Williams, who'd been plot hunting for years before finding their perfect spot in north Shropshire.

"I found this house and I immediately loved the position," remembers Peter, who was already an experienced renovator. "The minute I came here I thought: this is it! However, Pauline hated it."

No wonder: the 1960s flat-roofed, poorly insulated house had been badly extended and remodelled — tellingly, the kitchen had ended up in the middle of the house with the window opening up to a sunroom. Peter's original plan was to renovate the property and add vaulted oak frame ceilings, but builder friends advised knocking it down and building new; a view echoed by Welsh Oak Frame's MD Paul Edmunds when he came to visit. Cost was one factor, with the renovation bill looking set to outstrip that for a self-build. VAT was another (self-builders can claim back VAT; renovators cannot).

Having made the decision to build a new home, Peter and Pauline could take a fresh look at their requirements. "We knew we wanted an oak frame house, but not a traditional cottage," says Peter. "At



**Planning
for the new
house went
through in
just four
weeks**

the back we wanted an open-plan area, with lots of glass, a full-height atrium and a 'glazed-style' roof, with a more enclosed feel at the front of the house." The couple were also keen to incorporate eco technologies, including solar PV, a mechanical ventilation with heat recovery system and rainwater harvesting. They presented their wishlist to Welsh Oak Frame. "They took the brief and Emyr – Welsh Oak Frame's design director – created what I couldn't," says Peter. "It was perfect. Everything I had asked for was there."

The oak frame specialist drew up the designs for the home, which sped through planning — helped by the fact that the existing property had no architectural merit and the new, high-end, energy efficient oak frame house would be sitting on exactly the same footprint as the original. "It went through in about four weeks," remembers Peter. "The planning officer [from Shropshire County Council] came out, looked at it and agreed that it would be much better than what was there."

Contemporary oak frame

The front elevation is a fairly simple design that gives little away of its oak-beamed character, although a large catslide porch with oak frame posts hints at the beams and posts within. The ground





THE GARDEN ROOM
In addition to the main house, the plot now features a garden room with a jacuzzi and a small snug. The garden room was designed to emulate the main house with its oak frame, timber cladding and Spanish slate roof.





BROKEN PLAN

The oak frame helps to zone the large open plan kitchen/dining/living space, creating visual distinctions between zones and architectural drama. The windows and doors are from Valdi.

floor exterior is clad with a smooth render, while the upper storey features stained vertically laid timbers, topped with natural Spanish slates.

At the rear, the character of the house starts to reveal itself, with a central double-height atrium and bays with hipped roofs that create distinct zones for the kitchen, dining and living areas. The complexity of the roof meant that it was partly prefabricated, and then finished on site using traditional cut roof techniques. “We could have used SIPs [structural insulated panels] but this was a more cost-effective route,” says Emyr Davies, design director at Welsh Oak Frame.

The other distinctive feature is the unusually deep floorplan — with its square form, it’s an efficient way to make the most of the space (both in terms of footprint and cost), but this design can sometimes mean the centre of the house lacks natural light. The central atrium at the rear certainly helps, as does a glass floor inset into the landing and a large oak-framed glazed roof above — the result is that natural light floods right through the home to the ground floor hallway.

Project planning

Originally, Peter had wanted to project manage the build himself. “But after hearing what all the stages of the build entailed, I knew it was a huge ask for someone with no experience to do,” he says. “However, I still wanted to be part of it. I talked it through with a good friend of mine, who is a builder, and who I wanted to work on the project.”

Between them they agreed that the builder friend would take on the project management, but keep Peter involved. “As he was going to be on site throughout the build, this worked extremely well, especially as I was away at work often and could only communicate via the internet,” says Peter. The other assets on the project were Pauline, who made all the interior design decisions, and, Welsh Oak Frame who erected the oak frame, which is so integral to the home’s character.

Not all was plain sailing, though — top of the ‘stress list’ was the fact that the council insisted that, because of minor discrepancies in the paperwork, the couple had to pay the full £18,000 Community Infrastructure Levy (CIL) charge that is normally exempt for self-builders. “I wasn’t able to fight



THE KITCHEN

A stand-out island from Tegla Bespoke Kitchens takes centre stage in the social kitchen (left). The contemporary colour scheme is complemented by the traditional-style shaker cupboards. The kitchen is open-plan and incorporates the dining area and living space.





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I am more than happy to put my feet up and enjoy our dream home



their bizarre demands, as they would have shut the project down. Now the project's complete, I intend to revisit this but at the time I had no option but to pay," says Peter.

"But overall, the plus points outnumbered the minuses. Now the house is complete, we are extremely pleased and proud of our achievement. At the time, I said that although it was a great experience, it wouldn't be one for me again. But now if the chance came up, I would go for it! For now, though, I am more than happy to put my feet up and enjoy our dream home." **H**

MASTER BEDROOM

The master suite (top) features doors either side of the bed leading to an en suite (above). Peter sourced the en suite tiles from Spain.

THE FLOORPLAN

The square floorplan sits on the footprint of the original 1960s house and follows the same orientation; the overall height of the new property is much higher than the original, however. The rear of the home offers open-plan living, with areas clearly delineated by oak frame bays, while a double-height atrium at the rear of the property brings light deep into the home.

GROUND FLOOR



FIRST FLOOR



PROJECT TIMELINE

HOUSE PURCHASED	July 2014
FIRST PLANNING	
APPLICATION SUBMITTED	November 2014
PLANNING PERMISSION	
GRANTED	February 2015
DEMOLITION AND	
GROUNDWORK	February - June 2015
OAK FRAME ERECTED	August 2015
FIRST FIX COMPLETED	December 2015
SECOND FIX COMPLETED	August 2016
COMPLETION	October 2016

SELECTED COSTS

KITCHEN	£60,000
WELSH OAK FRAME	£200,000
REST OF BUILD INCLUDING	
DEMOLITION AND GROUNDWORK	£278,000

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GROUND FLOOR	FIRST FLOOR
1 Sitting room	1 Master bedroom
2 Dining room	2 Sitting room
3 Kitchen	3 Bathroom
4 Utility	4 Bedroom
5 Study	5 Bedroom
6 WC	6 Laundry
7 Lobby	7 Bedroom
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11 Hall	11 Void



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SUSTAINABLE FINISH

The word on everyone's lips at the moment is 'sustainability'; how we impact the planet and what steps we can take to reduce this. A recently completed extension by Nimtim Architects offers a stunning and playful example of how sustainable materials can be used in modern domestic architecture by utilising naturally stained cork as cladding inside and out. A sound and heat insulator, the environmental benefits of employing cork in home design are numerous, not to mention that the material is dust, bacteria and fungus repellent. Cork is free from chemicals, carcinogens and synthetic resins, proving that a recyclable material has room in modern residential build projects for those brave enough to try something new. (www.nimtim.co.uk)





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3-7 JULY

STRAW BALE BUILDING COURSE Inverness, Scotland

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12 JULY

SUPPORTING YOUR LOW ENERGY OR PASSIVHAUS PROJECT National Self Build & Renovation Centre, Swindon

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19 JULY

HOW TO PROJECT MANAGE YOUR BUILD Potton Self Build Show Centre, Cambridgeshire

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for their dog when
they're not home
while 53% say they
leave a light on for
pets when out at
night, according to
a survey by heating
oil supplier, Super
Saver Oil.



IMAGE: JEREMY PHILLIPS (BOTTOM)



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MICROPLASTIC FILTER

Reduce the risk of ingesting microplastics with Kinetico, a reverse osmosis filtering system, which is able to filter tap water down to 0.0001 micron.

In October 2018, studies found microplastics in humans for the first time and research conducted around the British coast identified microplastics in every marine animal studied (University of Exeter and Plymouth Marine Laboratory). Although the long-term effects of ingesting the tiny fragments of plastic are unknown, the UK government and the WHO are undergoing research to investigate the health impacts.

A Kinetico system (left) is priced from £655 (www.kinetico.co.uk) and for every system sold, a donation is made to the charity 'Just A Drop'.



£377,945

...is the average cost of a detached house in the UK, an increase of 50% (£125,472) in a decade, according to research by estate agents Housesimple. Meanwhile the average cost of a self-build is just £305,943*. (Find inspiration for your own self-build with our article Self Build Homes for Every Budget at www.homebuilding.co.uk.)

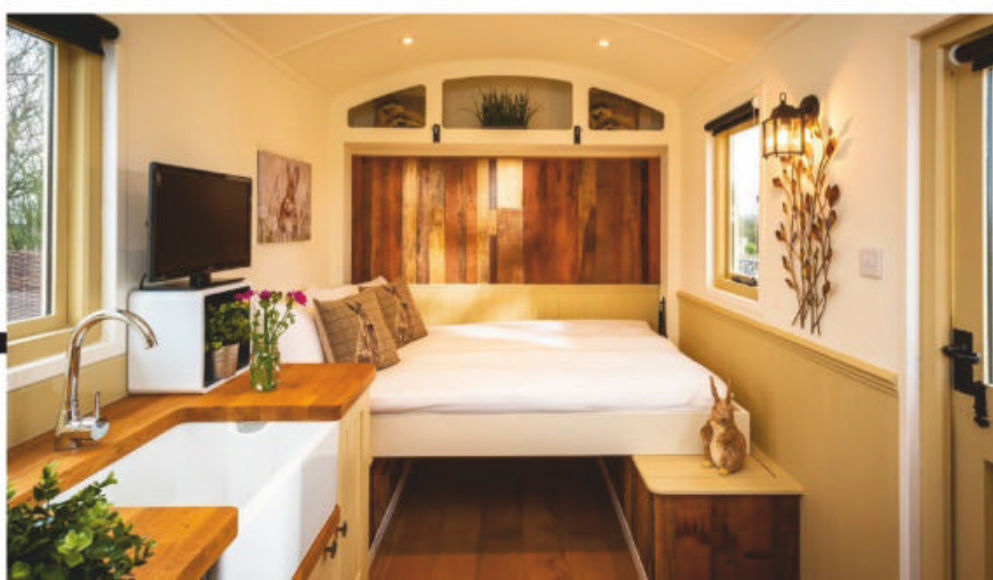
SIMPLE UNDERFLOOR HEATING

The new nVent Raychem QuickNet (www.nventthermal.com) offers underfloor heating that is quick and easy to install. The self-adhesive net mesh also means laying UFH in small and awkward spaces is a simple task.

COSY CABIN LIVING

A stylish solution to staying put on site

Although a way to save a considerable amount of money, living on site during a self-build or renovation project can mean muddy, cramped and cold living conditions. Portopods (www.portopods.com), however, offer a comfortable solution — the static or mobile buildings start from £7,250. They can also be installed in a variety of 'Shepherd Hut' designs, which include living and sleeping spaces, a kitchen and a bathroom — everything you need from temporary accommodation. What's more, once your new home is built, they make ideal garden rooms.



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USING SMART WINDOW CONTROLS

An easy way to make our homes more efficient and savvy, says energy expert David Hilton...



David Hilton is an expert in sustainable building and energy efficiency, and is a director of Heat and Energy Ltd

When we look at the measures that can be used to make our homes more efficient we often (and quite rightly) start with insulation and airtightness. These two measures will make our homes efficient but also controllable. The clue here is that we then need to work out how we are going to control them.

The draughts are now gone and therefore we will have increased build up of moisture and pollutants in the house. On a new build property there are a whole host of potential solutions such as mechanical ventilation with heat recovery (MVHR) systems, but these take up space and are not often suitable for retrofit into existing properties. So, what we tend to do at the moment is run around the home opening and closing windows and adjusting the thermostatic radiator valves (TRVs) to try and find a happy balance; hardly ideal.

AUTOMATION IN THE HOME

As such, when redecorating or rewiring the property, adding an extension or loft room, or replacing rooflights or windows, it is definitely worth looking into smarter controls for windows.

Many products now have open source software that can be used by different manufacturers

to make sure that the various components that you choose for your project are fully compatible with each other. There may even be products that have automation and connectivity that could be beneficial but which you are not currently aware of.

Take Velux for instance. For many years we have had these windows in our roofs and simply made sure that they are closed before we go out, in case it rains.

Things have moved on and Velux now not only have motorised windows in their range of top hung and central pivot windows which allow for the easy operation of windows in high up or out of reach areas, but also have rain sensors which will automatically close the window in the event of rain. With the addition of Velux Active you can adjust the windows, blinds and shutters automatically. Smart sensors can also monitor temperature, humidity and CO₂ levels, allowing Velux Active to intuitively open or close your windows.

You no longer need to worry about humidity build up in your kitchen or bathroom as the sensors will automatically open your windows to ventilate the home. There is also a departure switch to let the system know that you are leaving home and the windows are then left in the secured ventilation position. The Velux Active app also allows you to control the system from anywhere and it is fully compatible with many smart home controls such as Niko Home control, Apple® HomeKit™ and Siri.

LONDON

has the most energy efficient homes, says glazing experts Everest. Homeowners living in the capital also pay the least for their energy bills.



INNOVATIVE MICRO COMBINED BOILER

Viessmann has launched a new super energy-efficient fuel cell heat and power boiler, the Vitovalor PT2, which can save up to 40% energy consumption and reduce CO₂ emissions by up to 30% compared to separate heat and power generation. It can cover the basic electricity demands of an average home and has the highest possible Energy-related Product (ErP) rating of A+++, making it a viable alternative to heat pumps for domestic use. It can also be added to an existing heating system, and includes a 220-litre integrated stainless steel hot water cylinder. (www.viessmann.co.uk)

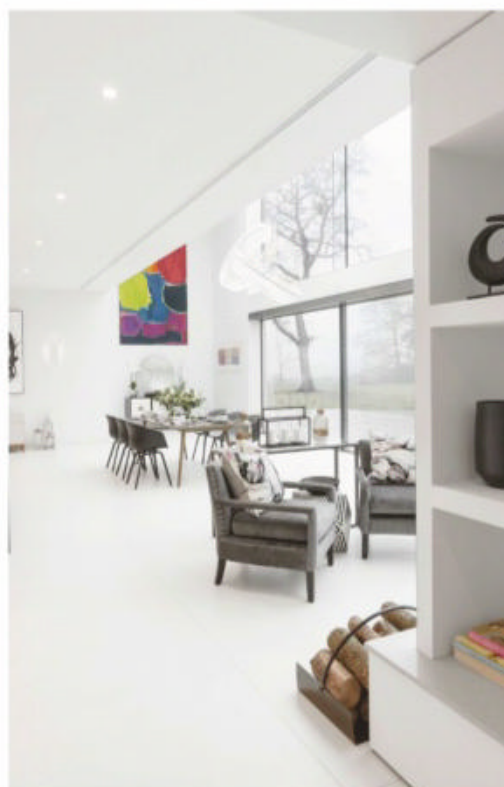
DIP A TOE IN 2019'S SUMMER TRENDS

Last year's scorching summer may have dictated one of 2019's biggest home trends, with searches for 'swimming pool designs' on Pinterest up 2,100% from 2018 and research by Duette revealing that Britons were willing to pay up to £10,000 more for a house with a pool than one without.

We're seeing self-builders and renovators introducing swimming pools into their plans with a focus on wellbeing – with hydrotherapy pools and smaller-format pools with swim-jets – but it's natural swimming pools (as pictured here by www.inspirednaturalpool.com) which are particularly popular, with searches increasing by 262%.



Below: The structural glass wall and roof was designed to contrast with the traditional style of the rest of the semi-detached building.



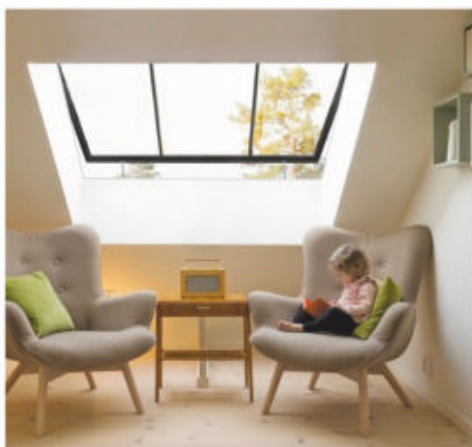
Right: The double-height void filled with a 2m-wide chandelier (Studio Lumm) leads to a mezzanine area housing the homeowner's library.





CHARACTERFUL CONSERVATION

Roof Maker's latest collection, Conservation Luxlite, has been designed to replicate the charm and character of heritage windows in traditional buildings with listed buildings and barn conversions specifically in mind. The aluminium slim-shaped split bar reduces the presence of a cold bridge, minimising the risk of condensation and improving thermal performance in comparison to traditional cast iron versions. (www.roof-maker.co.uk)



STYLISH SOLUTION

Herringbone has always been a sophisticated addition to modern and traditional homes alike, and the release of UK Flooring Direct's click-fit engineered wood flooring makes it easier than ever to introduce the style into your home. The DIY-friendly flooring is available in seven finishes (Toffee Oiled European Rustic Oak shown) and is available from £48/m². (www.ukflooringdirect.co.uk)

FINISHING TOUCHES: Porcelain paving



£ Valverdi's Indoor-Out tiles come in polished and anti-slip options. The City White range is priced equivalent to £35.05/m². (www.londontile.co.uk)



££ Low-maintenance and hard-wearing, Procelpave's Cuba large-format tiles are priced at £39.99/m². (www.tilemountain.co.uk)



£££ These wood-effect outdoor tiles are a great alternative to natural decking. Deck Honey tiles are available for £66.80/m². (www.sacwpaving.co.uk)

DREAM HOME

This month: Worcestershire glass extension

Once unloved and dated, a complete interior renovation scheme by Cream and Black, alongside a 6m-high glazed extension, designed by glazing specialists Trombe, has transformed this semi-detached, post-war house in Malvern, Worcestershire, into a contemporary and charming home for modern living.

Large swathes of glazing frame the views and bathe the space in natural light. Although largely open plan, the design scheme zones areas with architectural features, such as the three-sided fireplace and the statement kitchen island which provides a pop of colour in the otherwise largely monochrome palette.



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FOUR PLOTS IN THE SOUTH WEST FROM WWW.PLOTFINDER.NET



Oakhill, Somerset
£75,000

This secluded building plot comes with planning permission for a two-bedroom holiday cottage with open-plan living spaces and a generous balcony overlooking the nearby stream and surrounding woodland.



Marshfield, Wiltshire
£400,000

Full planning permission has been granted to convert a derelict barn into a traditional-style three-bedroom property with separate annex. The plot has adjacent parking and two courtyard gardens.



Tetbury, Gloucestershire
£250,000

Within walking distance of Tetbury town centre, this plot comes with detailed planning permission for a single-storey dwelling. The plot is currently attached to the garden of an existing property in a cul-de-sac.



St Austell, Cornwall
£110,000

This plot was once part of Kernick House and is part of a well-established area. The outline planning consent details an impressive three-bedroom dwelling with its own private entrance.

£817,000

is the average plot cost in Liverpool, making it the most expensive city for planning a self-build project in the UK*

CONSERVATION COVENANTS

Their role in our environment

The government, as part of its 25 Year Environment Plan, is establishing exactly how voluntary conservation covenants might improve the state of the environment of England for future generations to enjoy and to improve biodiversity around the country.

A conservation covenant is a voluntary agreement between a landowner and a 'responsible body', such as a conservation charity, government body or local authority, which protects the land and sets out legally binding obligations for not just the current landowners, but also subsequent owners.

Conservation covenants could include stipulations that require future generations/landowners to continue maintenance to protect habitats of native species of animals, protect and preserve heritage values of properties through restoration work and require proposed developments to promote a net positive impact in biodiversity around the local area where it could be damaged by on-site works.

BROWNFIELD HOME OPPORTUNITIES

The CPRE's (Campaign to Protect Rural England) annual State of Brownfield 2019 report has found that more than 1million homes could be built on the land available across over 18,000 sites and over 26,000 hectares.

The derelict land that had once previously been built on could make a sizable difference in the current housing crisis as two-thirds of the land is 'shovel ready' and suitable to have houses completed within five years.



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BACK TO BLACK

The Aio collection by Methven creates a big impact with the halo-shaped minimalist design that is engineered to give up to 20% more spray coverage and skin contact than a conventional shower. The Overhead Shower is priced at £430. (www.methven.com)



ASYMMETRICAL STATEMENT

Bathe the day away in Ashton & Bentley's new asymmetrical stand-alone tub. The contemporary shape wouldn't be out of place in either a modern or traditional-inspired room and the small footprint of just 1,726mm x 827mm means you don't have to compromise on style even if your bathroom is spatially challenged. The Isis bath is available for £2,995. (www.ashtonandbentley.co.uk)



PURE AND SIMPLE STYLE

Benchmark Kitchens has expanded its range of affordable kitchens with a selection of matt white schemes that offer a sleek and timeless design. The durable finish can be wiped clean of day-to-day marks and mucky fingerprints, while the new industrial-inspired shelving units can be introduced to customise a contemporary kitchen.

The Soho Matt White kitchen, shown here, starts from £1,650. Visit www.benchmarkkitchens.co.uk for more. 

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YOUR THOUGHTS

I have been a subscriber for a while now and you've helped me through planning my project renovating a cottage in South Yorkshire. We're just about to start work and I found the article in the June issue on designing a kitchen on a budget really helpful! We've not got a lot of funds and we're doing a lot of the work DIY — I had no idea there were so many alternative options available.

GEORGIA SHANNON (VIA EMAIL)

We love the new design and style of the magazine. Every month I try to make it last until the next issue arrives, which admittedly annoys my wife! I'm about to embark on a self-build of my own in a few months and I couldn't have done it without you.

JOYCE MANN (VIA EMAIL)

The single-storey bungalow from last month's issue was so gorgeous! Love the oak frame

@border_oak
KAREN MCMULLIN (VIA INSTAGRAM)

WATCH OUT FOR

'A self-sufficient home built on a rural plot' on YouTube: search for 'Homebuilding & Renovating'



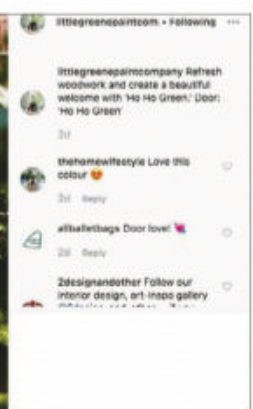
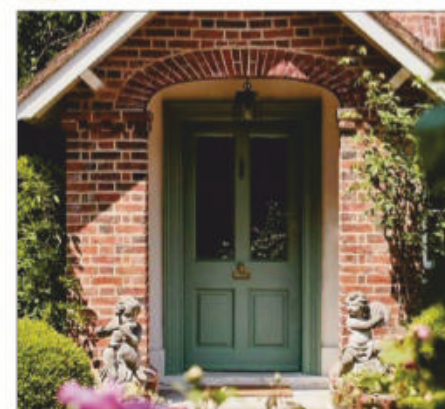
IMAGE: SIMON MAXWELL

SOCIAL ROUNDUP

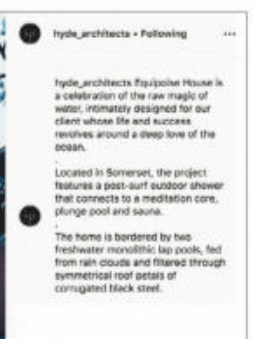
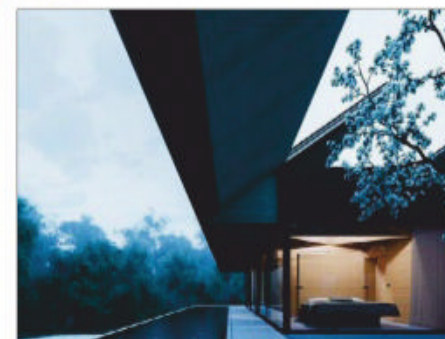
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Mark Brinkley is the author of the ever-popular *Housebuilder's Bible* and an experienced builder. He's just finished his latest self-build

SELF-BUILD PLOTS ARE FEW AND FAR BETWEEN

...and this needs to change if we're to have communities that are fit for their residents. But there is hope out there, says builder Mark Brinkley



Recently, I attended a presentation on two new housing developments near Cambridge, my home town. It's a hot topic locally because we are at the eastern end of the Oxford-Cambridge growth corridor and there are plans for a new road, a new railway and tens of thousands of new homes.

The Cambridge I grew up in was a small market town with a famous university. Now it resembles a giant development site with a mass of science parks to the north and Europe's largest medical complex taking shape to the south. Dotted around are new communities built to cope with the influx of jobs. Some are up and running, rather more are in the pipeline.

The two new settlements in development are both located on former World War II airfields — neither are in an ideal location. The Waterbeach Barracks site, to the north, is at least linked to Cambridge by an existing rail line, but the only road connection is via the hopelessly inadequate A10. The Bourn Airfield site, to the west, has better road links but no public transport other than a rural bus service.

But perhaps these two proposed new settlements could present opportunities for self-builders? You might hope so, as South Cambridgeshire, the local authority in which both settlements are located, has become a vanguard self-build authority. It runs an active self-build register and has a few self-build plots available for sale. It could certainly do with a few more, so surely the council will be actively trying to promote self-build as a viable form of housing delivery?

It would appear not. The only mention of housing mix in either presentation was the obligatory nod towards meeting the affordable housing quotas, a target with moveable goalposts which private developers have become adept at minimising. In fact, what is more remarkable is that both sites are being masterplanned by private developers whose aim has to be to maximise the profit from each location.

In the Bourn Airfield presentation, the master planner actually said he loves to play God on these sites. A supermarket here, a school there, a health centre somewhere in between, and all of them paid for by the sale of privately built housing. Self-builders? Who needs them? They just complicate matters.

How different to developments happening at Graven Hill in Bicester (which I reported on in detail last month). Here Cherwell Council is set on building a self-build based community. It shows that local authorities do not have to bow to the prevailing ethos of using professional developers to deliver everything and that it is possible to at least share control of how a place develops with future residents.

If there is to be a bigger, brighter future for self-build in this country, then councils in the high growth areas have to be a little braver about how they commission new developments. It's one thing to send delegates to parts of Europe to see how they have mastered community-led development, it appears to be quite another to replicate it on a meaningful scale. Cherwell Council shows it can be done, but thus far it's a lonely pioneer. **H**

“

Local authorities do not have to bow to the prevailing ethos of using professional developers... if there is to be a bigger, brighter future for self-build, then local authorities need to be a little braver

“I rebuilt a ruined castle”

Eight-year-old Richard Good-Stephenson, playing in the ruins of his family's castle in County Cork, Ireland, had a bold dream: that one day he would restore “the old place” to its former glory

Fast forward two decades, and Richard had fulfilled another of his early dreams — to become an airline pilot, first with the fledgling Ryanair and then with British Airways, which took him to Surrey.

But the original childhood dream refused to fade — and with it came the need to earn serious money to pay for the project. “I had to figure out a way to earn money to restore the old place, so I started a property business specialising in renovating old buildings. Eventually I gave up flying so that I could concentrate on that full-time,” he begins.

By 1998, Richard was in a position to start work on the restoration of the castle that had been in his family since the eighteenth century — moving his own family into the castle in 2001. Eighty years of abandonment following a fire in 1921 had done their worst: Cor Castle had no roof, parts of the building had collapsed and the whole structure was smothered in ivy. “A sycamore tree had even set seed in the drawing room and the crown had grown through the roof,” Richard remembers.







Luckily, Richard had plenty of renovation experience to draw on. In just three years and three months, working as project manager, he restored the ruins into a beautiful family home, first stabilising the solid stone walls and then rebuilding storey by storey, re-roofing and finally decorating.

Understanding how old buildings work was crucial, he says — especially the need to use lime mortars for pointing and plastering, as opposed to cement-based mortars. This allows the castle to ‘breathe’, so that moisture can be absorbed by the building fabric and then evaporate away naturally.

To supply lime for their own project, Richard set up his own small manufacturing plant in the grounds. “We set up a small slaking plant, bought a mortar mill and put together a large batch of coarse stuff [made from lime putty and used for plastering and repointing] for use on the project.”

Actor Jeremy Irons, who was renovating a medieval castle an hour west, asked if they could supply lime for his project. That request led to the creation of Roundtower Lime (www.roundtowerlime.com), a family business now run by younger son Harry (pictured on page 40).

Creating a family home

Living in a restored castle may sound romantic but Richard also wanted a warm, comfortable family home. “One of the advantages of having a building in such a raw state was that we could put in all the modern conveniences,” he says.



RECLAIMING IT BACK FROM NATURE

The castle had been left to rack and ruin, with ivy growing on external elevations (left) and a sycamore tree taking root in the drawing room. It was a painstaking and methodical process to restore the ruins not only to a habitable state, but also into a warm and comfortable family home.



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INTERIOR RE-FIT
With no records to work from, Richard and his team had to rely on existing ruins and Richard's childhood memories. "We studied the masonry very carefully internally and were able to establish details such as floor to ceiling heights," he says.

The castle, for example, is heated with a ground source heat pump, providing warmth to the underfloor heating on the ground floor and to the restored cast iron radiators on the upper storeys. The solid stone walls – up to four feet thick in some places – provide a massive thermal store and mean that the heating can go on in the autumn and stay on continuously until the spring, rather than being turned on and off every day. Insulating the 464m² property was another priority. "Twenty years ago, when we started the project, there was no breathable insulation product that we could use to insulate the walls, although there is now," says Richard. "Instead we put very good insulation on the roof and under the ground floor."

Renovating the interiors

"A lot of the records of the castle were lost in the fire, so we had no photographs of the interiors, but we could build an image of them based on the shape of the walls and windows," says Richard, who decorated in the Regency Gothic style. "When I was a boy I also gleaned information of where some of the rooms, such as the kitchen and drawing room, would have gone."

Visits to other properties of the same age in Ireland also provided valuable clues. "I spent a lot of time getting the details correct," says Richard. "We had a couple of false starts with the box windows, as the detailing and proportions weren't correct. So





I got an architect to draw up every detail of an Irish box sash window as a scale drawing and gave it to the joinery shop. Their initial reaction was: ‘That’s not going to work’. But it did, perfectly.”

Landscaping makeover

Even the gardens have been given a historically sympathetic makeover. “When we finished the restoration, we found an 1845 OS map that showed an outline of the garden. So we recreated it, with box hedging, herb borders, an orchard and lots of trees.” A keen gardener, Richard and his family grow all their own vegetables and fruit on site, keep hens and collect honey from the roof-top beehives.

It’s clear that decades after first dreaming of restoring the ancestral home as a young boy, Richard is a happy man. “All my life I’ve talked about restoring the castle,” he reflects. “Everyone said: ‘Don’t be ridiculous — how will you heat it? How will you furnish it?’ It was the family joke. But the more people tell me I can’t do something, the more I decide I will do it. Restoring the castle was something I had an ambition to do all my life.” **H**



ON-SITE BUSINESS
The lime plant set up on site to supply the renovation is now a family business, Roundtower Lime (www.roundtowerlime.com).



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View to the BRIDGES

Alan and Lucy Brown's discovery of a gap site overlooking the Firth of Forth provided the perfect Eureka opportunity to build their long-term family home...



GALLERY



Alan and Lucy Brown's new self-built family home, just off the Fife coastal path with spectacular views of the Forth Bridges in Scotland, emerged out of a design and build journey involving a wee bit of serendipity and luck at the outset and a huge amount of personal commitment throughout the duration of the build (which was documented for Channel 4's *Building the Dream*). The result is the Glasshouse, a contemporary, light-filled villa that the Browns emphatically describe as their "forever family home".

The couple, who have both lived in the Dalgety Bay area for most of their lives, spotted a 0.3-acre plot overlooking the River Forth quite by chance a few years ago. "We were out walking the dog one day and saw that this gap site was for sale. We saw it on the Saturday, called the seller on the Monday and put in our bid the following Wednesday, which was the closing date," they explain. "There was no planning permission in place but we put in an unconditional offer. Our lucky number is 13, so we went over the guide price of £20,000 by around 50 per cent and bid £31,313.13 — and our offer was accepted!"

The couple approached Dundee-based architects Andrew Black Design to help them create a design and to help them navigate their way through planning. "We had a wishlist — the main thing being that every room would have a view," says Alan. "Initially the architect came back with some designs

“

We really stretched ourselves with this build but we could honestly say we wouldn't change a thing

for a three-storey house, which the planners were happy with. Internally it was great but we decided to go back to the drawing board to create a more streamlined external design. We eventually settled on a much simpler plan for a two-storey house. The planning department was very supportive."

Sharing the project management

The project began on site in April 2015, with friend Marc Hendry of Dalgety Joiners working with Alan and Lucy as main contractor. "We had to sell our house to release the equity to take on the build, and during the project we moved in with my mother-in-law and father-in-law who live nearby," says Alan.

"I was on site every day and shared the project management with Marc of Dalgety Joiners," explains Alan. "Marc took the responsibility of the build and subcontracting many of the trades. I did a lot of research into the technical side of things such as the mechanical ventilation with heat recovery system and all the lighting, as well as sourcing all the windows and flooring. I'd choose the products and Marc would let me know how much was left in the budget — we would discuss every last detail. I'd walk around and just look at what was going on, which meant that I could pick up anything, and make any changes there and then."

And Alan admits that there were a few tweaks made to the timber-framed house during the build,



PROJECT NOTES

HOMEOWNERS Alan and Lucy Brown
PROJECT Contemporary self-build
LOCATION Fife coast, Edinburgh
CONSTRUCTION Timber frame
BUILD TIME Jun 2014 – Dec 2018
PLOT COST £31,313.13
BUILD COST £470,000
VALUE £1million



THE MAIN ELEVATION
 Silicone render and slate have been used to clad the house. “Being near the sea we needed cladding that would withstand the elements,” says Alan. A large detached double garage sits next to the house, and features guest accommodation — The Wee Glasshouse, which is available for rental. Design-wise it’s a mini version of the main living area of the house.

A balcony was also designed in to make the most of the views. “We’ve used a composite decking material. We changed the balcony during the build to make it more streamlined and larger. We had to go back to planning with it, but it was the right thing to do,” he concludes.



THE LIVING SPACE

The living area features blackout blinds and screen projector on the wall above the fireplace (not shown). The house has a whole-house music system, wired back to a plant room in the ground floor utility. “I wanted everything in one room,” says Alan.

THE KITCHEN

TMS designed the bespoke kitchen in collaboration with Alan and Lucy. “The LED lighting is everywhere — the kitchen has uplights, and light through the splashbacks,” says Alan. The kitchen island provides an informal spot to dine.

including the placement of some of the windows, and creating additional accommodation in the first floor kitchen area. “It’s built in timber frame but there was no timber kit company involved. Every panel was built on site. This allowed us to make important changes along the way,” explains Alan.

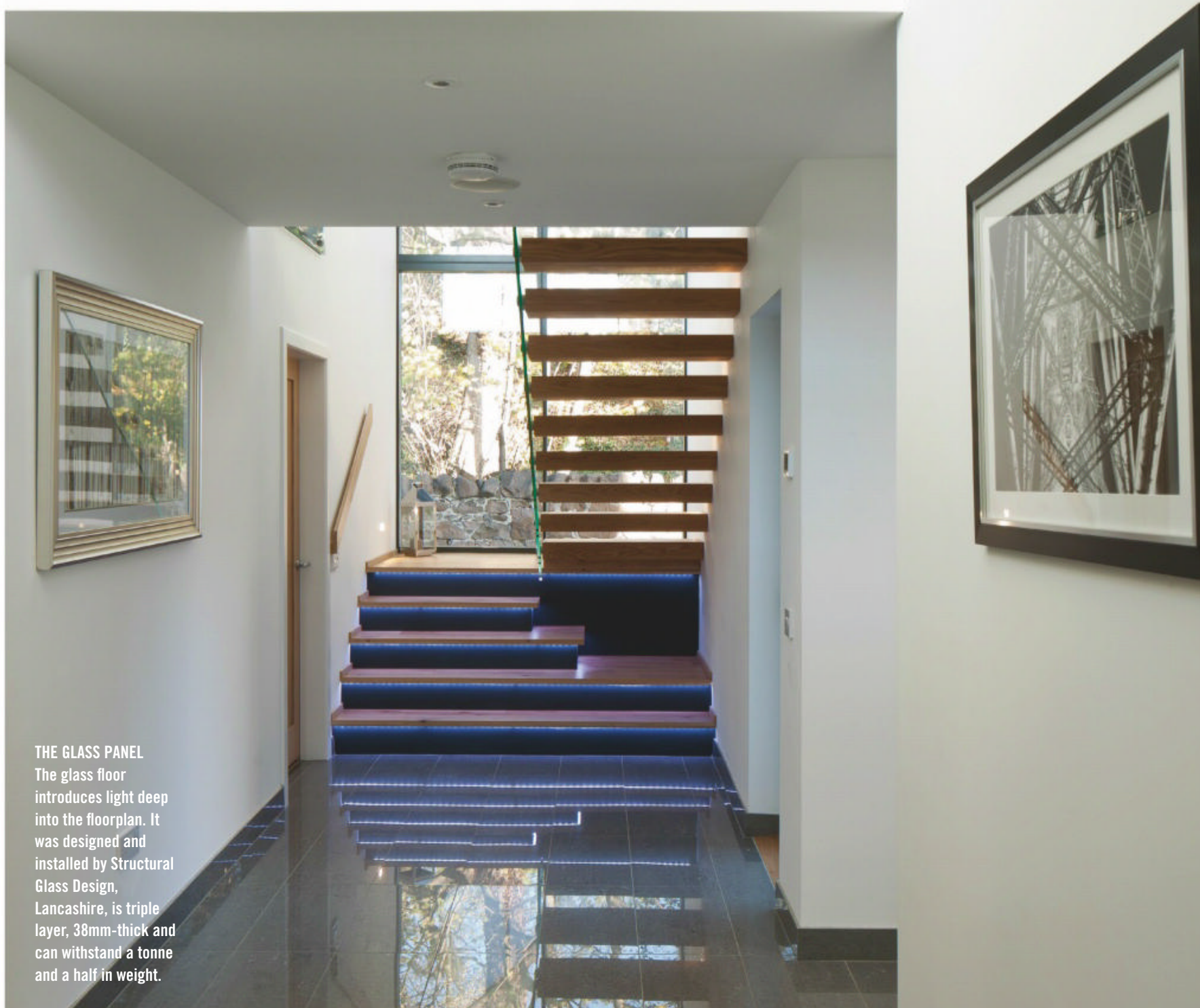
Following the highly collaborative build, the Glasshouse finally emerged as a two-storey villa featuring slate cladding and Wetherby silicone render finishes, designed to withstand the coastal elements. Marley Edgemere tiles were chosen for the hard-wearing roof, with the same tiles also being used for the sills, which creates a continuity across the external design.

Large areas of glazing to the open-plan upper-level kitchen, dining and lounge area take advantage of the dramatic sea views. “Lucy particularly wanted large feature windows,” says Alan. A double-height feature staircase connects the upper floor living area with the main entrance level accommodation, which features four bedrooms, three en suites, and a large utility area opening onto the private woodland-facing courtyard.

“The budget grew from £370,000 to £470,000 due to ‘up-specing’ to make the house exactly what we wanted and top quality. This included landscaping, The Wee Glasshouse (accommodation above the detached garage which we are currently renting out as a guesthouse), electrics, technology, kitchen, bathrooms, flooring, Velux features and more. All these additions were worth it as it’s a forever family home that won’t be sold. We always had it in mind that the extra we were spending wouldn’t put us in negative equity. In any event the house was valued at £1million on completion,” concludes Alan.

“We really stretched ourselves with this build but when we got to the end of the project I can honestly say we said we wouldn’t change a thing.” **H**





THE GLASS PANEL
The glass floor introduces light deep into the floorplan. It was designed and installed by Structural Glass Design, Lancashire, is triple layer, 38mm-thick and can withstand a tonne and a half in weight.



THE HALLWAY
The double-height hallway, with its large chandelier and vast amounts of glazing is a wow-factor space within this new home. "The chandelier we sourced on Ebay. It cost around £320. We had to design a fitting where it could be hung flat and not at an angle, which we designed on site," says Alan.



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MAKING CHANGES ALONG THE WAY

The Browns' home was stick built, meaning the timber frame was constructed on site, allowing the couple to make changes during the build. "Building every panel on site means you can then make changes as you go along — for example, window positions, door positions and electrical positioning," begins Alan.

"We made quite a few changes during the build, which has added to the success of the building. It's only possible to get the real impression of the positioning and views from many of the windows by standing on the site as the building progresses," he says.

"Originally we designed the whole upstairs area as completely open plan; there was no separating wall in the middle. However, when we put the mechanical ventilation with heat recovery system in we needed to house the workings of it. So we then had this idea that we would like a two-sided fireplace between the kitchen and dining/lounge area. So during the build we created the partition wall, which has two uses: to split up the kitchen and dining/lounge area but also to house the mechanics of the building.

"We also extended the kitchen during the build. We thought 'let's make a hidden door with the same material used in the kitchen'. So we got a standard door and glued the material to it. Behind the door we created a loft space and a WC and also a walk-in larder. This was to have been a walkway originally." **H**



GROUND FLOOR ROOMS

The house features an upside-down layout, with the bedrooms on the ground floor. The children's bedrooms are in a Jack and Jill arrangement, with both rooms sharing the en suite in between (right). "The bedrooms are exactly the same with the same built-in wardrobes but Amy and Chloe designed their own layout themselves — they have put their own stamp on their rooms," says Alan.



THE FLOORPLAN

The contemporary two-storey villa features an upside-down layout to maximise the views. The ground floor consists of a main entrance, four bedrooms, three en suite bathrooms and a large utility area leading straight to the back garden on the ground floor. The upper level features an open-plan living dining and kitchen area, with concealed larder and WC.

GROUND FLOOR

- 1 Study/
bedroom

2 En suite

3 En suite

4 Dressing
room

5 Hall
- 6 Master
bedroom

7 Bedroom

8 En suite

9 Bedroom

10 Utility room

11 Plant room

FIRST FLOOR

- 1 WC

2 Kitchen

3 Living room

4 Dining room

5 Lounge

6 Balcony



BUILD TEAM

ARCHITECT Andrew Black Design:
www.andrewblackdesign.com
BUILDER Dalgety Joiners:
01383 824388
EXTERNAL WALL INSULATION SYSTEM
Wetherby Building System:
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SELECTED COSTS

GROUNDWORKS	£34,000
MAIN BUILD COSTS, LANDSCAPING AND INTERNAL FIT-OUT (INCLUDING THE WEE GLASSHOUSE)	£284,000
GLAZING	£40,000
FLOORING (EXCLUDING BATHROOMS & KITCHENS)	£12,000
KITCHEN (INCLUDING FLOORING AND THE WEE GLASSHOUSE)	£30,000
BATHROOMS (INCLUDING FLOORING)	£16,000
BESPOKE JOINERY (KITCHEN, BATHROOM, BEDROOM, TV UNIT)	£5,000
DECORATION	£5,000
MECHANICAL	£4,000
ELECTRICAL	£40,000
TOTAL	£470,000

BUILD TIMELINE

BOUGHT PLOT September 2012
**ACHIEVED PLANNING PERMISSION; COMMENCED ON
SITE; FOUNDATION COMPLETED** June 2014
MAIN BUILD ON SITE April 2015
WATERTIGHT SHELL COMPLETED
October 2016
MOVED IN December 2017



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Customers who choose timber/aluminium designs benefit from further environmental credentials, with exceptional U values of up to $0.63\text{W/m}^2\text{K}$, in addition to the aesthetic qualities of timber. This, combined with exceptional energy performance, makes timber/aluminium ideal for both traditional as well as contemporary projects. The range also offers a choice of either spruce or larch timber interior finishes. The performance of Internorm's timber/aluminium windows is enhanced by an innovative composite construction that incorporates a highly insulating thermal foam.

Additional features unique to Internorm include Fix-O-Round technology, an all-round fixing for the window pane that provides a continuous

connection for the glazing with the window frame. The benefits are improved stability, thermal insulation and soundproofing, burglary protection and greater durability of the window unit for its entire lifespan.

In addition, a choice of glazing is also available, including SOLAR+ glass, a specialist thermal coating that is available on all triple-glazed windows as standard. SOLAR+ triple glazing maximises the potential energy gains provided through solar irradiation. It prevents subsequent heat loss through the window with very low U values, helping to maintain a comfortable, carbon and energy efficient interior environment that is also cost effective for the homeowner.

Other extra features include I-tec Shading, a specialist self-powered solar blind, which is the perfect option when an electricity supply is unavailable. Also part of the I-tec range is I-tec Ventilation, which is the first of its kind in the UK. The I-tec ventilator, which is integrated into the new Home Pure KF 500 window system, is equipped with an integrated MVHR (mechanical ventilation with heat recovery) system that reduces energy losses to a minimum through the achieved 86 per cent heat recovery. This system ensures that occupants have a constant supply of fresh air.

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NATASHA BRINSMEAD has worked for *Homebuilding & Renovating* for over 15 years. She has just finished her latest renovation

Big ideas for small bathrooms

Small or awkward spaces often result in some of the most creative solutions — and with the right layout and planning, a compact bathroom can be a thing of beauty

We can't all be lucky enough to have gargantuan bathrooms to kit out with over-sized sanitaryware. However, the more bijou bathroom need not be lacking in the style stakes just because it is spatially challenged — in fact some of the best designs are born out of necessity, forcing a certain creativity to be brought forth.

Thankfully, bathroom manufacturers have caught on to the fact that most of us need sanitaryware and furniture tailored to more compact bathrooms, so there is no lack of products out there to fit into your carefully planned space.

1 How small is too small?

According to CCL Wetrooms (www.ccl-wetrooms.co.uk), the average bathroom size in the UK is 2.5m x 2m. That's not to say you can't go smaller than this, but for the space to feel comfortable, and taking into account the standard sizes of items such as baths (1,700mm x 700mm) and shower trays (900mm x 900mm is typical) you wouldn't want to go too much smaller than 4.5m², certainly for a main bathroom.

Wetrooms, cloakrooms and shower rooms can be a little smaller, at around 1.5m x 1m. This is taking into account the minimum recommended size for a shower area of 700mm x 700mm and the clearance space required around a basin and WC (about 700mm for each).

2 Designing a layout

Begin planning your layout using a to-scale drawing of the space. Don't forget to include windows and doors, sloping ceilings, chimney breasts and ventilation on your plan as these will affect where you can place sanitaryware. If you have existing towel warmers or radiators that you need to work around, include these too.

Using to-scale cut outs of your bathroom fittings – bath, shower enclosure, basin, WC and even storage units – play around with layouts until you find one that fits your space nicely. When doing this, bear in mind the recommended clearance spaces too — while the bath may fit nicely along one wall, if you have no space in front from which to get in and out, you will need to rethink the layout.

3 Consider a wetroom

Wetrooms negate the need for a separate shower enclosure and so often make a lot of sense in small spaces.

There are a few considerations when designing a wetroom in order for it to work well, however. First is the 'splash radius'. Giving some thought to how far water is likely to project from the shower and how this will affect the room is vital — placing a towel warmer right next to the shower, for example, will result in sopping wet towels, whereas a basin that gets splashed is no big deal.

You will also need to waterproof the space (known as tanking). The shower area plus one additional metre surrounding it, should be tanked (and there are a number of ways in which this can be done), while a wetroom measuring 1.5m x 1m or less would mean the whole room would need to be waterproofed, according to CCL Wetrooms.

In addition, a fall will need to be created in order to allow water to channel towards the drain. This can either be done using a pre-formed deck and 'floor formers' or by screeding to a correct fall. And, if you have a particularly high flow rate of water, additional traps might be required to accommodate the draining water.

Wetroom kits are available, including everything you need. Alternatively, you might want to leave the job to an experienced fitter or plumber.

Many people choose to install a semi-wetroom, fitting a single glass screen either to the front or the open side of the showering space to prevent spray from escaping, perhaps using a shower tray sunk into the floor.

ILLUSION OF SPACE
Clean lines (think large-format tiles rather than small) can help create the illusion of space in a bathroom (top). The Doblo large-format porcelain tiles from Tile Mountain cost £23.99/m². (www.tilemountain.co.uk)

USE THOSE CORNERS
Every inch of space counts in small bathrooms. Corner sanitaryware can work well where space is at a premium. Take a look at Ideal Standard's Concept Space range (bottom). (www.ideal-standard.co.uk)



4 Compact bathing

Although the standard size for baths in the UK is 1,700mm x 700mm, it is easy to find tubs much smaller than this, in all kinds of shapes and sizes. Of course, many people designing a small bathroom may forgo the bath altogether, opting instead for just a shower.

Those after a freestanding bath need not miss out either — take a look at the Snowden 1300 Small Modern Freestanding Bath from Victorian Plumbing, for example, which is just 1,300mm long.

Japanese-style, extra-deep baths are a great idea too, making up for their shorter lengths with extra depth. Check out the deep soaking baths from Omnitub (www.omnitub.co.uk).

You might also like to consider

GO LARGE

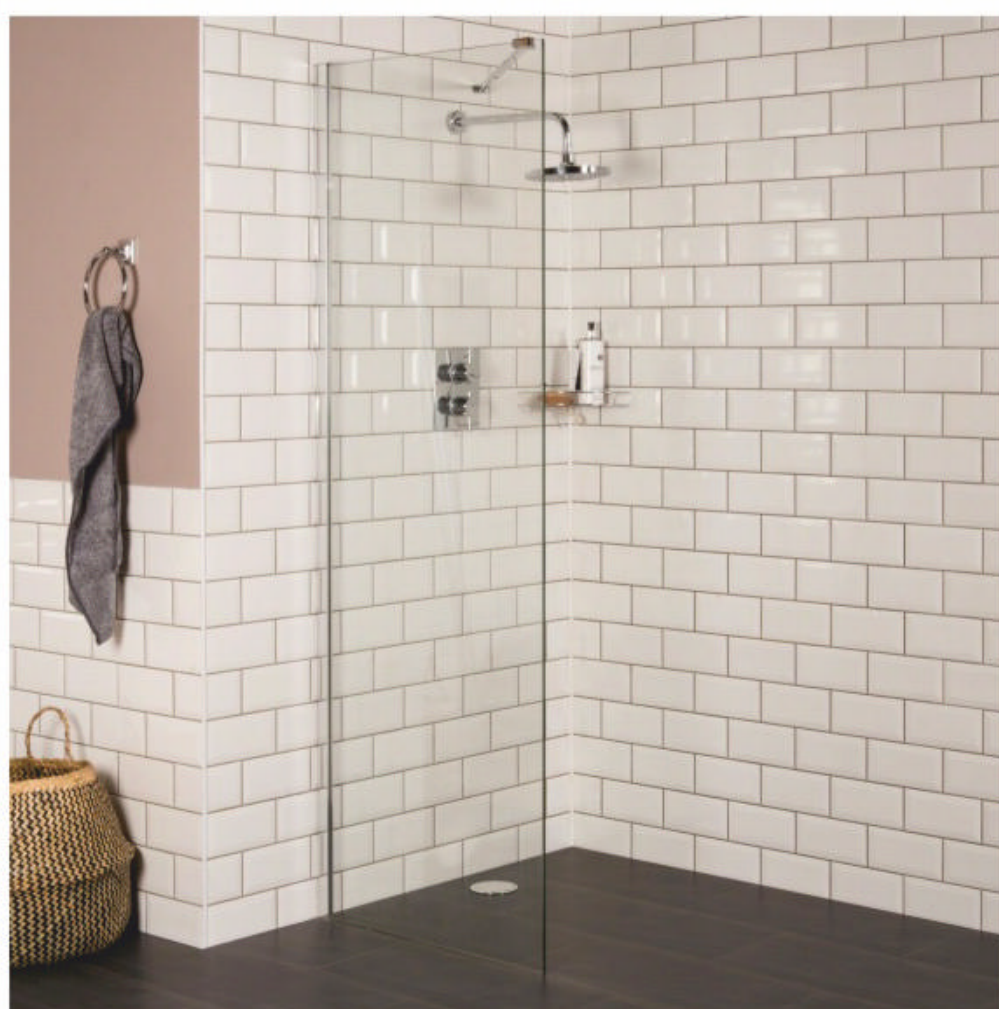
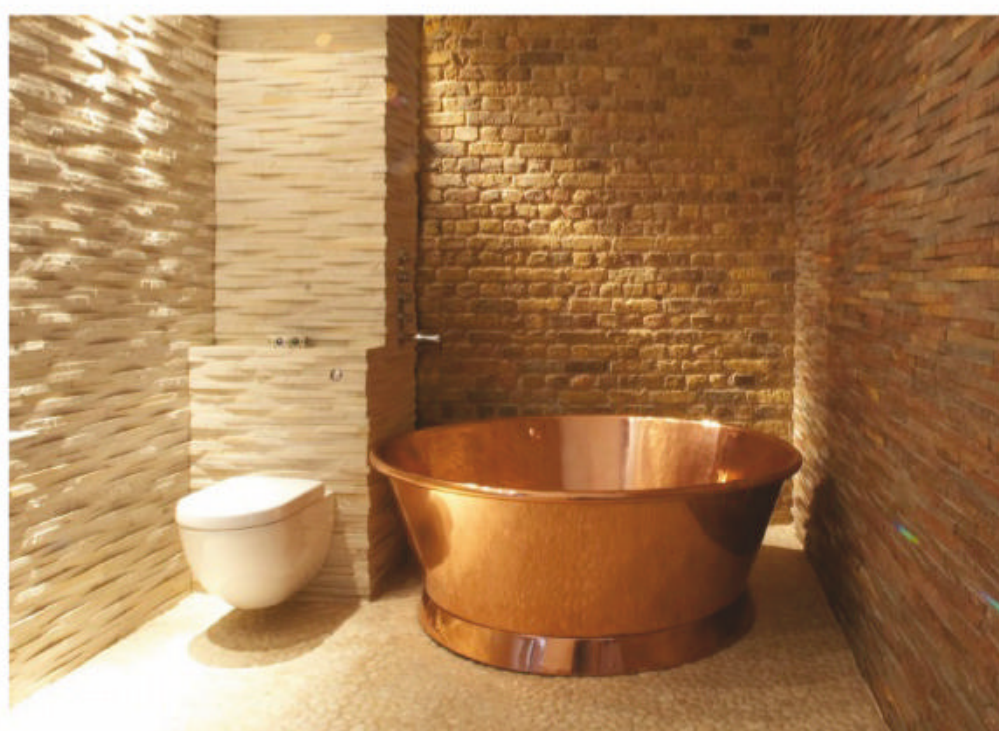
“Using large-format tiles means that there’s less grouting to do, and fewer visible grout lines, something that can often distract the eye from the overall design scheme and make a room appear fussy and smaller,” says Colin Lincoln-Evans, Buyer at Tile Mountain.

a shaped bath that tapers at one end in order to fit an awkward space — Ideal Standard have a good range. Or, finally, a shower bath is a good idea in a compact room. Some are L-shaped and angular, whilst others are P-shaped and curved.

SMALL WONDERS

Clockwise from main image: Clever design, such as 'floating' fittings lit from beneath and dramatic wall finishes distract from small room proportions; The Britton Compact Suite by Britton Bathrooms, from the Pure Bathroom Collection. The basin costs from £140. (www.purebathroomcollection.co.uk); Remember, baths don't have to be rectangular and small bathrooms need not be boring. The Rotundus bath from William Holland has a diameter of 1,600 mm and comes in a range of finishes. (www.williamholland.com); For a compromise between wetroom and full enclosure, look at the Aquariss Wet Room Shower Enclosure from Bathroom Takeaway. From £244.97. (www.bathroomtakeaway.com)





5 Wall-hung vs pedestal basins

While traditional pedestal sanitaryware remains a popular, elegant and cost-effective option, owners of small bathrooms should consider wall-hung fittings as an alternative.

Wall-hung basins are a good idea in small spaces for a number of reasons. Firstly, they keep floor space free, meaning you could incorporate some storage units beneath, unlike pedestal models. They also help to create more floor space visually.

They come in corner and compact models (although you shouldn't go too small in family bathrooms) and can be mounted at a height that suits you, as opposed to pedestals, which are at a fixed height.

On the downside, you will need to consider how the plumbing will be concealed. Choosing a semi-pedestal model overcomes this in most cases, as would fitting a storage unit beneath.

You will also need to check that your wall will take the weight of the new basin.

6 Which loo is for you?

Firstly, bear in mind that a minimum clearance space of 510mm is required in front of any toilet, while 760mm is recommended. With that in mind, there are three main options when it comes to choosing a new toilet: close-coupled, back-to-wall and wall-hung.



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Close-coupled toilets are the style that we tend to be most familiar with. The cistern is attached to and sits atop the toilet bowl, making one unit. They are cost-effective and deal with concealing all pipework. In addition, they are easy-to-fit and come in space-saving corner models too. Standard close-coupled WCs tend to be between 610mm and 680mm deep.

Back-to-wall toilets give the illusion of more space. The cistern is concealed within a studwall or furniture unit, with only the pan on show. The pan still sits on the floor, and will project roughly 470mm to 560mm from the wall or unit that it backs on to. Although this is smaller than a close-coupled model, bear in mind that space will be taken up by the studwall or unit required for the concealed cistern. That said, some concealed cisterns can be very slim.

Finally, wall-hung toilets offer the ultimate in sleek minimalism. They are fixed to a wall-mounting frame within a studwall. Many frames come complete with a concealed cistern and flush plate. They keep floor space free, giving the illusion of space and are easy to clean. Don't forget to account for the space that will be required for the construction of the studwall — the size will depend on the frame and cistern you opt for. As a guide, frames and concealed cisterns are available with adjustable depths of as little as 150mm to 200mm.

7 Storage is essential

In small spaces, storage can often be overlooked while trying to fit in the bathroom basics, yet it is crucial to incorporate shelving, units or

drawers if the bathroom is to work well and not get cluttered with bottles, tubes and pots.

Bathroom vanity units with countertop basins can work well and come in some very striking designs that combine basin, storage and a way to conceal plumbing in one.

Look to unused alcoves in retrofit projects — they often provide useful spots for shelving. Alternatively, if building studwalls in showering areas or behind a WC, incorporate shelving here rather than wasting the free void behind the wall.

High-level shelving takes up no floor space, so get creative and consider using the space above windows and doors, as well as the more obvious wall spaces. If you have a bulkhead in the room, above a staircase for example, don't let the space above go to waste — build in a cupboard or shelving here instead. Finally, take a look at baths that incorporate shelving within their design — or build a more substantial frame around a built-in bath to provide handy deep ledges.

8 Fit underfloor heating

Underfloor heating is a great option in any bathroom, small or otherwise. However, in a small bathroom, where wall space is at a premium, it makes sense to try to avoid large radiators or towel warmers. That said, if you can include a towel warmer (they come in all shapes and sizes and even as corner models), you will have a handy spot on which to dry wet towels.

Underfloor heating is particularly useful in wetrooms, helping to quickly dry water from the floor after showering. **H**



TWO-IN-ONE
The Metro Combined Two-In-One Wash Basin and Toilet from Victorian Plumbing (below) measures just 500mm x 300mm. From £269.95. (www.victorianplumbing.co.uk)

STORAGE SOLUTIONS
The compact Linea furniture pack from Frontline Bathrooms (top) includes WC, concealed cistern, basin and storage in one, £695. (www.frontlinebathrooms.co.uk)

HYBRID BATH DESIGN
Ebb Hybrid Shower Bath (above, £1,395) from Waters Baths of Ashbourne is 1,660mm and combines the look of a freestanding bath with the practicality of a shower bath. (www.watersbaths.co.uk)





PAUL HERVEY-BROOKES is an award-winning landscape designer based in the Cotswolds

How to design a garden for summer nights

Landscape designer Paul Hervey-Brookes explains how to enjoy your garden at night, from the first signs of summer through to the colder winter months

When planning new or redesigning existing gardens we rightly focus on our daytime use, but the garden plays an additional role as a space to entertain through long, dusky summer nights and as a place to be viewed during the coloured autumn evenings and darker winter months. Planning this extension of use should be considered an integral part of the design process, as well-planned, functional lighting and multi-use spaces really do add value to the property as a whole.

The most practical aspect to consider first is lighting. Good external lighting takes two forms: directional and feature. Directional (or navigational) lighting includes the illumination of steps, slopes and any other change in level for safety, and lighting doorways or entrance points. This lighting can be quite discreet, from minimalist powder-coated steel cubic shapes to pieces which are architecturally appropriate. These can be made bespoke, bought off the shelf or reconditioned and restored as salvage pieces. Steps and terrace

edges that are raised can be underlit, which while not illuminated enough to give high visibility, certainly makes you aware of a rise and reduces the likelihood of night-time trips or falls. As a rule, I tend to place directional lighting as discreetly as possible; it's best thought of as practical lighting, designed in for a purpose.

Lighting that is used to illuminate terraces, garden buildings and the entrance is always more design significant and should relate to the overall design intentions or the vernacular architecture. With all forms of lighting, it is worth considering the luminous brightness and the bulb type. Decorative lighting can be a feature in its own right and if you intend to place lighting in a prominent place, then Edison-style vintage bulbs add to the design intention, although they do need to carry the appropriate IP (ingress protection) rating for outdoor use.

As with our homes, soft light is always more forgiving and comfortable, while cool or white light does not lend itself to spaces for relaxing or outdoor dining.

Feature lighting

Feature lighting is often used to uplight impressive specimen trees and sculptures in the garden; sometimes, depending on the house, the façade itself can feature low level lighting.

Trees are always better lit from underneath, casting shadows up the trunk and into the canopy. Lights in a tree's canopy can be charming in towns and urban settings but I don't think they are successfully translated to home gardens. Feature lighting can also be placed above a table for added illumination when dining alfresco, while uplighting works well at the far end of the garden when shining onto a fence, as this makes the space appear larger.

Built into this two-tier lighting set up should be lights which are sensor or heat triggered for security of areas such as garages and outbuildings, and



Good external lighting takes two forms: directional and feature

Lighting Safety Advice

Darren Staniforth, technical expert at electrical regulatory body NICEIC, shares his top tips for safety advice when lighting an outside area:

- All outside sockets must be RCD-protected for safety. An RCD (residual current device) works by switching off the flow of electricity when a cable or flex is cut.
- Cables underground must be buried in a trench by an electrician at a sufficient depth to avoid damage from garden tools.
- All cabling should be suitable for installation outside. Your registered electrician can advise.
- Decorative lights plugged into an outdoor socket should be taken inside after use as they are not usually designed to stay out all year.
- If in doubt, seek the help of a qualified electrician, such as those registered with the NICEIC (www.niceic.com).

A WELL-DESIGNED LIGHTING SCHEME
External lighting ensures the decked seating area to this oak frame self-build (the frame was provided by Oakwrights) can be enjoyed long into the evening. The exterior floodlights are also linked to a smart home security system and are triggered to come on in the event of an incident.

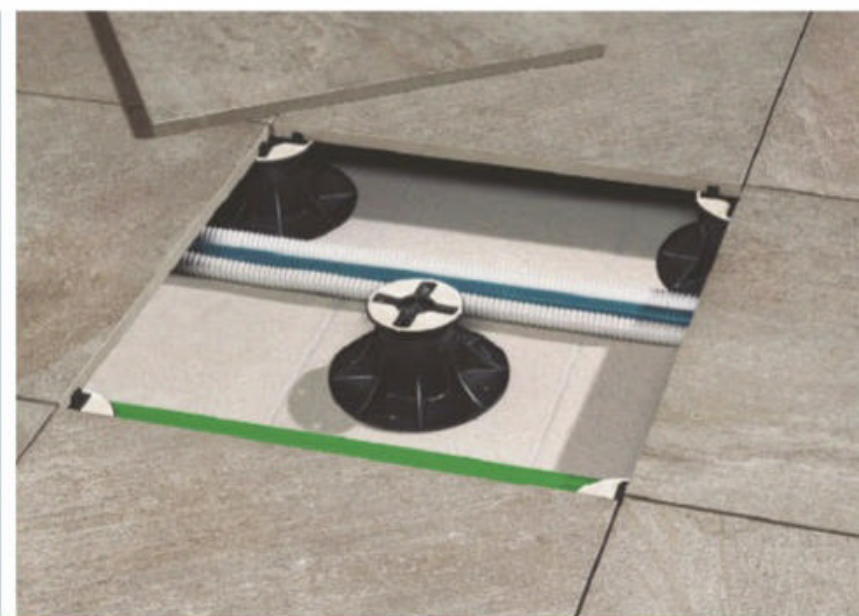




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The joy of lighting the garden is that it extends the amount of time the garden can be used throughout the seasons. With spring and autumn evenings, lighting in combination with fire pits prolongs the use of the garden, giving light, warmth and the potential to enjoy the sensation of ‘breaking’ the natural cycle of the season. Wrapped up outside with blankets, with impromptu fire pit cooking, the garden reveals a different quality as shadows fall and it becomes a secret den for watching the stars appear. With the addition of weatherproof speakers or even a decent bluetooth device, soft music can give the sensation of being somewhere else; an exotic escape of night wildlife calls and relaxed music.

When winter comes, the other, often overlooked, advantage with designed lighting is the ability to still enjoy the changing landscape, especially as dense foliage canopies are reduced to stark and dramatic silhouettes. Interesting ribbed or peeling bark can also be appreciated. Winter weather can also be enjoyed at dusk and evening with lighting; frost and the twinkling prisms of light through crystallised flakes gives the garden an amazing iridescent feeling, while illuminating snow gives it the quality of a thick down duvet. The most tempting part of this winter night-time story is with lighting that can all be appreciated from the warmth of a sitting room without the need to venture out.

Night-time scents

The night garden is as seductive as any day-time space. The senses are heightened by the reduced

visibility and the atmosphere is changed considerably. For many of us it comes as a surprise that there are a huge number of plants which are pollinated at night by moths; in the UK we have many more moths than butterflies and a good number of these are suffering reduced numbers. The answer is both simple and rewarding. Most of our naturally white flowers are pollinated at night, so one step is to plant more white-flowered plants.

The second step is introducing special plants which only release perfume after dusk, which can be appreciated by both wildlife and homeowners. Evening Primrose (*Oenothera*) is one such plant and comes in a range of colours from yellow to dusky pink and white. The variety ‘Sunset Boulevard’ is among the most subtle and charming of the named varieties available.

A sometimes overlooked plant which is easy to raise from seed and adds a lot of drama and night-time scent to the garden is tobacco, *Nicotiana sylvestris*. The plant can reach seven to eight feet and has long tubular white flowers which once sniffed reveal their use in a lot of high-end room oils and perfumes; sweet yet exotic. Other plants such as meadow rue release a wonderful fragrance that suggests coconut sun-tan oil and many plants which release their scent after dusk have rich exotic perfumes that feel other-worldly.

So my advice would be to extend the use and the seasons within your garden, with lighting and planting that is an integral part of the design process. 

NEXT MONTH: MAKING THE MOST OF YOUR FRONT GARDEN

5 TOP TIPS FOR SUCCESS

1. Lighting above and around an outdoor table can extend alfresco dining well into the evening. (The Alfresco Festoon Light Canopy shown is from www.lights4fun.co.uk.)



2. Plant more white-flowered plants to encourage night moths — doing so will help to boost their dwindling numbers.



3. Choose outdoor feature lighting which complements the architecture of the house. (The St Ives Ships Lights are from Garden Trading; www.gardentrading.co.uk.)



4. Choose plants that release a heady mix of perfume after dusk, such as Evening Primrose (right), which comes in a wide variety of colours.



5. Relax outdoors after dusk wrapped up with blankets and seated around the fire pit, gazing up and waiting for the stars to appear in the night sky.



Your guide to building with brick

Versatile, timeless and durable, there's more to the humble brick than meets the eye. Here's what you need to know before making your choice

When you start out on a self-build or extension journey what you think you know about building materials gets knocked sideways. As you begin to investigate what's out there your knowledge undoubtedly grows but so too can the confusion. What to pick can become a little overwhelming. And, as building materials go, the world of bricks is more vast than you'd think.

Bricks have been a mainstay building material, staunchly holding up the walls of hundreds of thousands of buildings in the UK for centuries. So surely, a brick's a brick? Not so. Tone, texture and form all come into play – soft yellow hues or dusky red bricks; reclaimed, machine-made, handmade; metric or imperial – there's lots to consider.

So where to start?

The local vernacular is a good place to begin. Interestingly, building with brick has a particular stronghold over the self-build markets in the Midlands and the North, and because of the dominance that the South East has when it comes

to self-build activity (19% of all self-builds take place in the region) this part of the country is also the most important to the brick companies*. So it may sound obvious, but what materials are used in the local area will have an impact on the external appearance you go for, or are allowed to go for. If the area you want to build in features the soft yellow hues of Cotswold stone, for example, choosing to build entirely out of Staffordshire blue bricks probably won't be favoured by your local planning office. But that's not to say you can't approach your local planners to ask what their stance is on materials. It's not uncommon to see contemporary designs incorporate a contrasting brick extension (as right), so it's always worth investigating what's likely to pass planning at the start of your project.

The main walls will form the best part of the overall exterior design so you want to make sure the bricks you choose let your build stand out for the right reasons. "Bricks will make up approximately 6% of your total build cost, yet aesthetically

they will define the success and kerb appeal of a project, so it's worth spending a fraction more to achieve the best quality finish possible," advises Jason Hughes, Managing Director of Imperial Bricks. "It's difficult and expensive to alter the façade of a home, so you need to be sure before the brickies turn up."

So how are clay bricks made?

The first part of the process begins at a quarry site. The clay is extracted and then goes through a process that transforms the hard, raw material into a mouldable one. The clay is crushed and mixed with certain quantities of water to make it malleable enough to shape. Clay bricks are then formed using different methods. Each method then determines the characteristics of the brick. "Handmade or machine made bricks will determine the overall finish," says Sophie Wilbraham, Managing Director, London Reclaimed Brick Merchants. "Handmade bricks, for example, are best for a barn-style build as they will give that authentic, rustic look. If you're carrying out renovations on an existing build then I would suggest using a brick matching service to find the most suitable."

Brick types

MACHINE MADE If you're looking for a smooth finish then an extruded or wire-cut clay brick could be a good choice. The clay is extruded (pushed out) into a column. The column of clay is then wire-cut and to keep it smooth it isn't modified before drying and firing in the kiln. This is a more modern method of brick making and is also known as wire-cut.



MICHELLE GUY is Assistant Editor of *HB&R*. She is an experienced homes journalist and is currently planning a kitchen renovation

RIGHT: Architect Stuart Archer and his wife renovated and extended this London stock brick home, choosing to build a side extension in contemporary black brick. They wanted to use modern materials to represent the time it was built and picked the Ibstock Atlas engineered bricks with their smooth and consistent appearance.



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IMPERIAL
handmade bricks

BUILD A TEST PANEL

"If you're building your own home, ask for a test panel to be made up, so you can see exactly how the bricks will look when they're laid," says Jason Hughes, MD of Imperial Bricks. Test panels should be around 1m².

In contrast, soft mud bricks (also known as stock) are made by dropping the clay into sand-coated moulds, which produce a sanded face with slight creases. This was originally done by hand (see more below) but is now generally a machine-made process. Waterstruck bricks are made in a very similar way to soft mud bricks but no sand is used in the moulding process, just water, which means the brick surface is a lot less grainy.

HANDMADE If you want to match existing bricks or you're building a home in a conservation area for example, handmade bricks provide an authentic look. The clay is rolled in sand then 'thrown' skilfully by hand into a mould. Handmade varieties offer more flexibility as they can be made up as standard or non-standard sized bricks. "Traditional handmade bricks offer longevity, quality and an aesthetic appeal that cannot be matched by standard machine-made bricks," says Jason Hughes. "The imperfect finish adds instant character and charm."

RECLAIMED If you're knocking down a property and building a new one on the plot then you can use bricks reclaimed from the original building(s) if you

want to replicate the look or need to due to a planning condition. Reclamation yards are another good source of second-hand bricks but getting the quantity and quality for a whole house or a large extension can be difficult. Wastage can be high and you may need to discard a few.

Picking patterns

Once you've chosen the brick type you want to use, you'll need to think about the bond: the pattern the bricks will be laid in. Brick bonds have an impact on aesthetics but they also have a job to do structurally, too. The way the bricks are laid will determine how the load is distributed. Each horizontal row of bricks is called a course and a course is made up, most commonly, of headers, stretchers or both. A header is the smaller end or 'face' of a brick and a stretcher is the long, narrower 'face'.

The most common brick bond is stretcher (which, as the name suggests, uses stretchers only). The joins on each course are centre aligned with the bricks above and below. However, there are a number of options available to the self-builder and extender, including more traditional Flemish bond, English bond and contemporary stack bond.

Adding detail

To add form and character to what can sometimes be a mass expanse of flat wall there are design details that you can incorporate to add interest. A dentil bond features alternating indented bricks in one or more courses. Dogs-tooth features a projecting course of bricks laid at 45°, cropped at the cavity. The design can be used to create corbelled eaves or decorative banding. A corbel is a bracket that projects further than the face of a wall often in and around the eaves of a roof.



ABOVE: Bricks (supplied by Bea Clay Solutions) have been laid at 90° creating a striking aesthetic that gives this house its own contemporary identity.

BELOW: This Passivhaus-certified self-build was constructed from structural insulated panels (SIPs) and is clad in brick slips to meet planning requirements. The brick and steel façade has been softened with red cedar louvres.





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METRIC VS IMPERIAL SIZES

Pre-1965 houses were built using imperial-sized bricks, which typically measured 9in (w) x 4.5in (d) x 3in (h).

Now metric size bricks are used. They're slightly smaller at 215mm (w) x 102.5mm (d) x 65mm (h).

Colour choice

There are many colour variations — from white to cream, yellow through to orangey reds, browns and blue tones, there's a spectrum for traditional and contemporary designs. "The colours of bricks are determined by the position of the brick in the kiln and the firing temperatures they reach," explains Jim Matthews, partner at HG Matthews. Colour is also down to the type of clay and the surface sanding or staining that occurs as well. Because colour variation will inevitably happen, it's a good idea to mix bricks from different packs before they're laid.

Choosing mortar

"The mortar joint surface area varies from 18% for stretcher bond to 22% for header bond," says Sean Wilkins, Technical Manager from The Brick Development Association, so you'll want to make sure the mortar doesn't dominate or clash with the brick and is in-keeping with the overall design. Make sure the mortar is appropriate for the brick you choose to use, too. Hydraulic lime mortar, for example is a good choice when working with handmade bricks. "The mortar allows for natural movement, offers an improved aesthetic with a textured finish and is available in regionally matched colours," says Jason Hughes. "It is also breathable, allowing any moisture within the brickwork to escape naturally, reducing the risk of frost damage and brick faces 'blowing' which can be a problem with cement-based mortars."

Whatever mortar you end up using keep it consistent throughout the job to avoid unsightly banding. Once you've decided on a mortar mix, stick to it, using the same

sand, cement and lime throughout.

"The perception of mortar colour can be varied by changing the joint profile," says Sean Wilkins. Profiles can be recessed (best used with frost-resistant bricks as this profile isn't as weather resistant as others); struck or weathered (introduces light and shade to brickwork, good strength and weather resistance); curved (good strength) and flush.

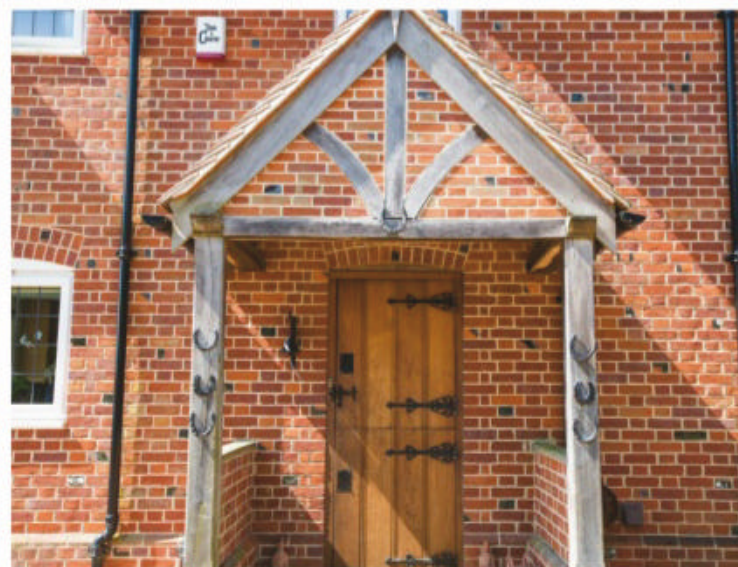
What are the costs?

The cheapest facing bricks are wire-cut and are between £250/1,000 and £400/1,000, while distinctive handmade bricks are upwards of £600/1,000.

To calculate how many you need, the standard method is to work out the size of the facing walls in square metres and multiply by 60 (the standard number of bricks per metre square of stretcher bond brickwork). Online calculators like www.brickability.co.uk can help you work out how many you'll need for your project. **H**

Useful contacts

BDA www.brick.org.uk
Ibstock www.ibstockplc.co.uk
MBH plc www.mbhplc.co.uk
Furness Brick
www.furnessbrick.co.uk
Wienerberger
www.wienerberger.co.uk
LRBM www.lrbm.com
Bulmer Brick and Tile
www.bulmerbrickandtile.co.uk
Imperial Bricks
www.imperialbricks.co.uk
HG Matthews
www.hgmatthews.com
York Handmade
www.yorkhandmade.co.uk



ABOVE, TOP: The homeowners of this house chose to paint the brick façade, which brightens the house's exterior appearance.

ABOVE: HG Matthews has revived the traditional technique of wood firing bricks so that they are glazed, as seen on this house, laid in a Flemish bond.

RIGHT: This grand house features 65mm Antique Orange clamp bricks from Furness Brick laid in a stretcher bond. The clamp brick range can be weathered to produce an aged appearance that almost matches bricks used in original buildings.



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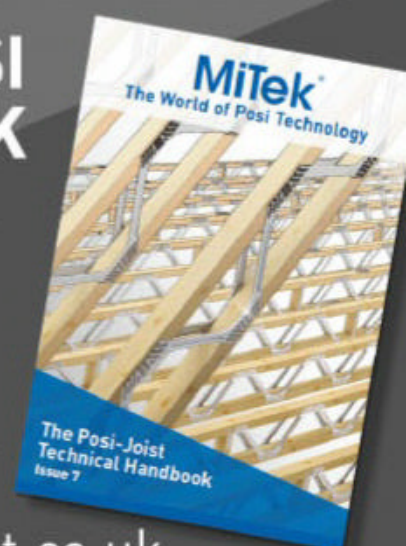
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MARK BRINKLEY is the author of the ever-popular *Housebuilder's Bible* and an experienced builder. He's just finished his latest self-build project

Choosing between roof structures

From cut roofs to prefabricated trusses and panelised systems, Mark Brinkley explains the options available to self-builders and extenders and the pros and cons to consider



Prefab trusses made off site – with steel fasteners like these manufactured by MiTek (www.mitek.co.uk) – are delivered and installed creating a web of timber trusses that suit a simple-shaped roof design.

Self-builders spend a great deal of time studying building systems and pondering whether to opt for conventional on-site construction or switch to a factory-built, off-site system. Habitually, they begin and end by looking at walling systems. The roof is added on, almost as an afterthought.

But there are very similar issues to consider with roofing and it is worth making yourself familiar with the options.

The roof structure

Although roofing can be steel-based or even pre-stressed concrete, the bulk of roofing structures are timber-based, to which insulation is added and a variety of membranes to counter both external weathering and condensation issues stemming from inside the structure. Today's roof cover, the material you actually see from the outside, is but the topmost layer of a thick bed of materials sitting beneath it.

Until the 1960s, all house roofs tended to be built using an age-old routine involving a high level of carpentry skills and a lot of load-bearing timbers. Think rafters, ridgeboards, purlins and wallplates, plus various bracing pieces to tie them all together. A 1950s roof wouldn't have looked out of place on a Tudor farmhouse or, for that matter, a Roman villa.

Prefab vs cut roofs

Then the trussed rafter arrived on the scene and the centuries-old skills of roof building were seemingly swept away. House roofs were reconfigured as a series of thin prefabricated



Oakwrights use a panelised roofing system that comes preinsulated. It can be craned in and fixed within a day.

“

For many years the trussed roof ruled the roofing roost. It halved the cost and doubled the speed of construction

IMAGE: OAKWRIGHTS (ABOVE); IAN ROOK (RIGHT)

trusses, light enough to be hauled up into place without the need for a crane. A roof structure could be built in a few hours and for a great deal less money than a traditional, hand-cut roof.

For many years the trussed rafter ruled the roofing roost. It halved the cost and doubled the speed of construction but it did come with one significant drawback. Once set in place, it became very challenging to alter the roof in future, as the thin cross members were all structural and the trusses had to remain as they were set in order to maintain their strength. This meant that

alterations and, in particular, loft conversions became a complex and expensive engineering challenge.

By the 1980s, with land prices rising rapidly, the loft conversion was seen as a very desirable way of extending a home and housebuilders were alive to the new realities. The 1960s-style fink truss started to slip out of fashion, to be replaced by attic trusses, which were much bulkier and more difficult to fit, but came with an empty roof void, enabling the space to become living space.

These days, roof truss manufacturers offer several



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formats of trussed rafter, each designed to fit a particular house style or design. The downside of all this is that the cost and speed advantage of the simple roof truss gets lost as the trusses grow in complexity and many housebuilders found themselves switching back to the traditional cut roof. This was especially true when features like dormer windows were added to the design, for the dormer can be as complex as a whole roof and once you start adding cut roof features on top of a trussed roof any hoped-for economies vanish.

Panelised roofs

The popularity of the trussed roof was further dented in the 1990s by the arrival of the panelised roof which incorporates insulation embedded between two rigid sheets of plywood or similar. SIPs (structural insulated panels) in particular are now popular.

A panel roof is craned into place to rest on supporting beams at the ridge and the walls and sometimes at mid-span too. They are extremely quick to install, and reduce the amount of follow-on work because the insulation comes embedded within the panel so there's no need to add it.

Panelised roofing comes into its own on simple roof shapes but gets progressively more challenging as the roof shape grows in complexity, and here conventional roof carpentry finds itself back in favour.

But where the roof space is designed to be lived in, and the roof shape is suitable, the panelised roof is now the most popular option.

Roof ventilation

The major complexity facing roof builders today is how to keep the roof structure dry from the inside. Now that we routinely add thick slabs of insulation to a roof, there is a very real risk of water vapour condensing within the roof structure, as there is a pronounced temperature drop through the roof in winter, from inside to out.

To compound the issue, there are alternative insulation options which use various materials placed in different zones within the roof. Insulation can be placed within the rafter zone, underneath it, above it or, as frequently occurs, a combination of all three. Various terms like cold roof, warm roof and hybrid roof are used to describe these arrangements and much confusion results from the casual use of these poorly defined terms.

The key point is that whichever roof profile is used, it must avoid any build up of moisture within the structure that might lead to condensation. The most important requirement is to seal the layer between the inside of the house, where the warm air carries more moisture, and the roofspace above. There are various membranes designed to do this, known as either vapour barriers or air barriers, and it is important to have a strategy in place so that any internal membrane is designed to work with the insulation above and any additional external membranes as well. Your first strategy is to stop water getting into the roofspace, but there should also be a way of letting any trapped water evaporate. Features like downlighters should not penetrate

Case study: Cutting timber on-site

When resident *Homebuilding & Renovating* writer and chartered surveyor Ian Rock built his 100m² extension, he had to consider the roof structure carefully (below). "The planners wanted the front of the extension to be set 200mm lower than the roof on the main house, whereas at the back it needed to be the same height as the existing roof to create the desired dual gabled 'twin peaks' effect.

"The roof design comprises two separate structures joined together," explains Ian.

So Ian opted for a traditional cut roof, with the carpenter constructing the skeleton and fitting the rafters, too.

Making sure the new roof abuts the existing house precisely can be tricky. Being able to cut what you need on site can mean any adjustments needed can be done on site rather than trying to alter prefabricated trusses, which isn't easy or particularly recommended because it can weaken the timber.



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the layer beneath an external roof, because this will make a pathway for warm moist air directly into the roofspace.

Another point to consider is whether the roof structure should be ventilated beneath the roof cover itself. This can be complicated (and therefore expensive) to do, but it adds a further level of protection, enabling a roof to dry outwards, should water get in.

Whatever method you choose, it is vital that a condensation risk analysis is carried out on your roof design before work starts.

Flat roofs

The issues with flat roofs are very similar. Although no such thing as a flat roof truss exists, a lot of flat roofing today is increasingly supplied in panelised form. Flat roofs are invariably covered in a continuous waterproofing layer such as felt, rubber or PVC, always constructed to a slight fall. Insulation can be placed within or above the structure and attention to water vapour movements from the inside is critical.

The fashion for green roofs continues to grow and there are countless different designs for green roof structures. In fact, the issues are not so very different to any other roof. Insulation and moisture management remain critical in these situations and once again you should ensure that a competent condensation risk analysis is carried out before construction gets underway. **H**



TRADITIONAL CUT ROOF (ON-SITE)

PROS

- Doesn't require specialised fabrication
- Highly adaptable but best for complex shaped roofs and might be best employed for renovation/extension when matching up to an existing roof
- Materials readily available and work can begin with lead-in times associated with prefab systems.

CONS

- Requires high skill levels, therefore labour-intensive and relatively expensive
- Timber sections are deeper, therefore use much more timber.



TRUSSED RAFTERS (PREFAB)

PROS

- On simple pitched roofs, roof trusses are very quick and easy to install
- Because each individual truss is a web of thin timber sections, it uses less timber than a cut roof.

CONS

- Ordered via specialists and fabricated off-site, therefore requires ordering in advance
- Difficult (though not impossible) to adapt so converting the roof space into a loft conversion at a later date is challenging
- Not so clever on complex roof shapes where the speed of installation slows down.



PANELISED ROOFS

PROS

- Very quick to install, although usually this requires a crane on site
- The insulation required for the roof is already built into the panel, so a great time-saver
- Great for designs calling for open roof space.

CONS

- The roof load is borne by supporting beams so has to be designed around this, which can limit design choice
- Time and cost advantages are lost with complex roof shapes
- Not every site can take a crane, though delivery lorry cranes are now available and capable of lifting many tonnes — up to 7m in height and 25m in length.



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Utilising the timeless beauty of bronze with a simple and elegant leaf motif, this PushPull PP141 handle will develop an individual patina over time, £625. (www.pushpull.co.uk)



Stylish and comfortable, the woven Italian bridle leather handle, £310.86 (per pair), from Turnstyle is bookended by classic brass collars. (www.turnstyledesigns.com)



The subtle design of the Mortice Knob, £25, is completed by the contemporary grey porcelain that offers a refined interior finish. (www.johnlewis.com)



Willow and Stone's Reeded handle, £173.75, takes inspiration from traditional design and is paired with a contemporary slimline backplate. (www.willowandstone.co.uk)



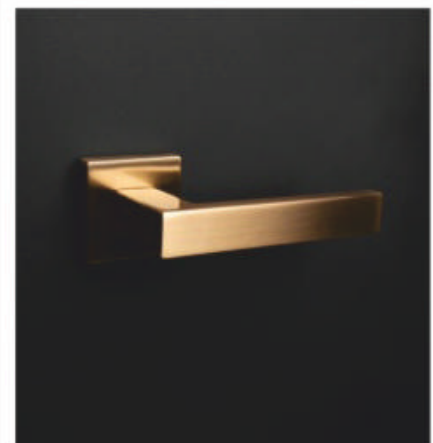
The angular style of the Alento handle in polished chrome can be matched with a full range of interior accessories for a uniform look. POA. (www.howdens.com)



Made from solid anodised metal, this tactile Buster + Punch handle, from £93, is hand-finished and helps complete a modern interior scheme. (www.busterandpunch.com)



The uncomplicated and understated soft curves of Howdens' Garda Rose handle presents a contemporary take on a traditional form. POA. (www.howdens.com)



The Hockney lever handles (here in Rich Gold) from Dowsing & Reynolds celebrate pared-back modern design at its finest. £59.99. (www.dowsingandreynolds.com)

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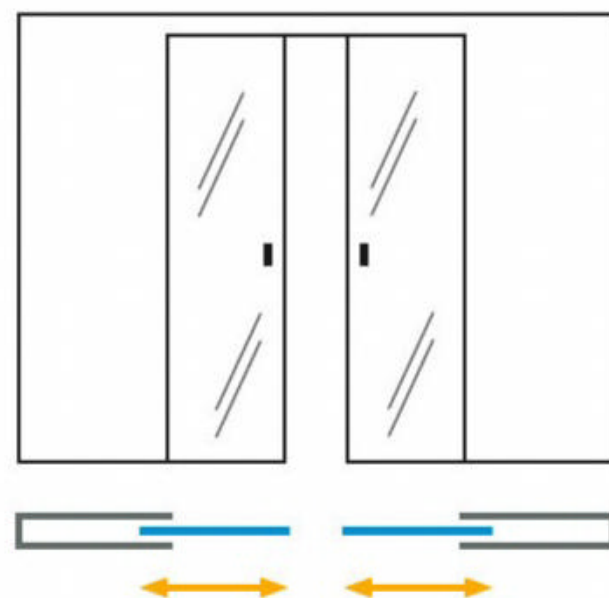
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Connecting with the great outdoors

If creating a stronger link between garden and home is high up on your house renovation wish list, introduce the natural world into your home with these brilliant design ideas

A covered terrace

Below: The upside-down nature of this rural self-build by Western Design Architects lends itself to a terrace with a retractable covering. The garden design by Caroline de Lane Lea means that the second-storey terrace sits level with the natural slope of the land.

Courtyard views

Right: Where garden views are limited, including a courtyard in the layout of a home can provide natural light to otherwise dark rooms. This self-build by De Rosee Sa was designed for a narrow, deep plot and features three internal courtyards.





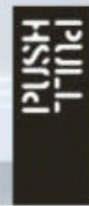
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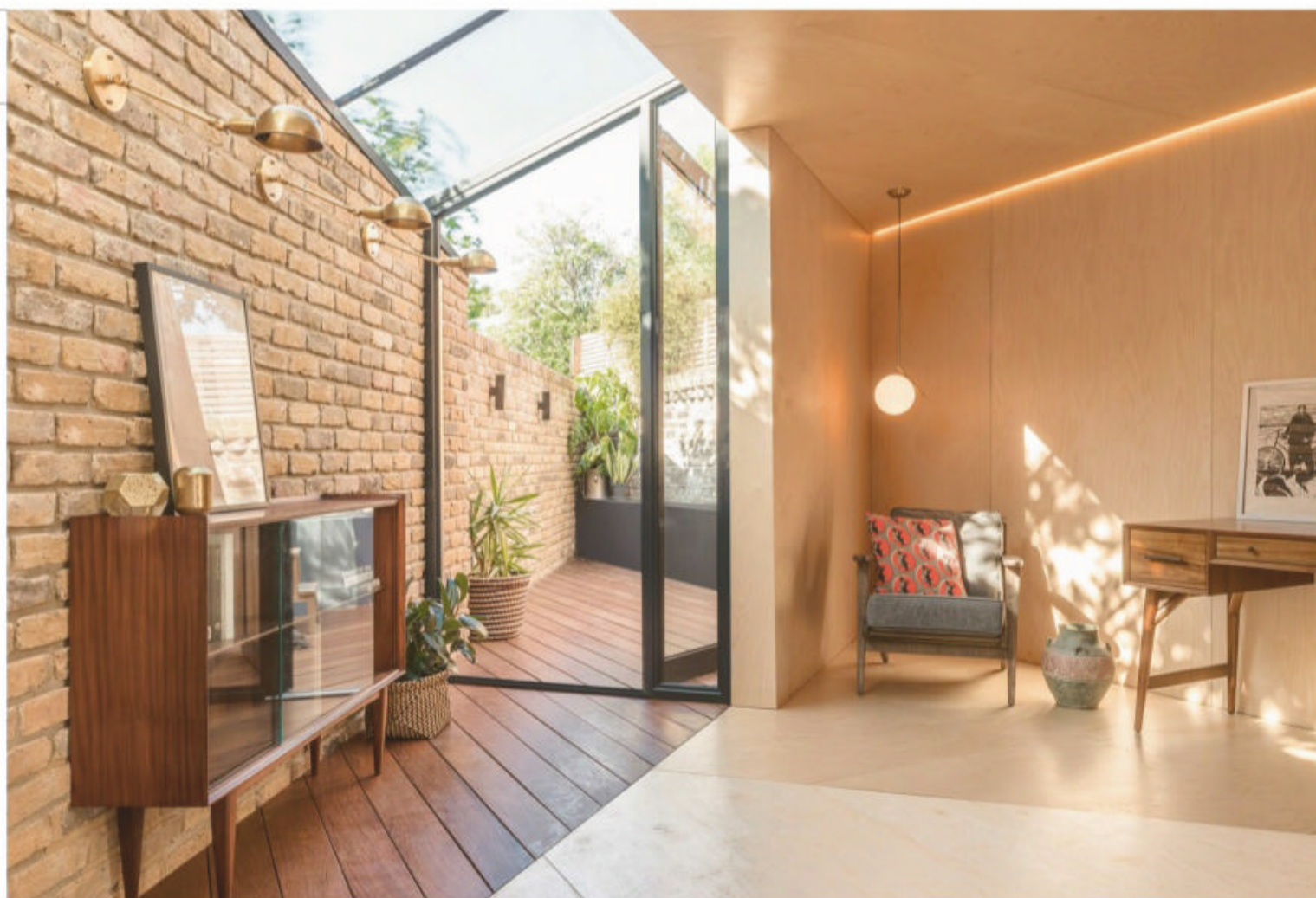
Design & Materials

A room outdoors

Right: Not everyone has the gift of a generous garden so what do you do when faced with a tiny plot and a desire to connect it with the outside? This small Yellow Cloud Studio extension makes the most of the space and uses materials (like the exposed brick) to create the illusion of an extended inside/outside room.

Colour inspiration

Below: This 1930s house has been transformed with the addition of a light-filled kitchen/diner extension. The connection to the sky via the sky lantern and the garden is carried into the earthy colour scheme in the kitchen (designed by Martin Moore).



Blurring boundaries

Right: Careful sequencing of internal and external spaces in this home creates a series of seamless transitions. Designed by Yellow Cloud Studio, the covered integral seating, wrapped in light larch cladding, is cut from the main living spaces, playing with the home's boundaries.



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Through-views

Right: The expansive glass roof to this London home means that even the snug, sat deep in the plan, doesn't feel alienated from the outside spaces. Through-views connect this more private, cosy area to the rest of the home, with an open doorway cleverly mirroring the form of the extension, designed by RISE Design Studio.



A wall of glazing

Below: The latest 'must-have' in modern properties is a wall of glazing which can be completely peeled back to open a room up for summer. Here, large-format bifold doors by Origin blur the boundaries between the interior and the great outdoors.



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Mirrored materials

Above: Mirroring or continuing materials such as flooring or cladding both inside and out can create a seamless transition between spaces. Matt tiles such as the Metropolitan Caliza from Porcelanosa are ideal for a slip-resistant finish.

The first-floor balcony

Left: Designing a bedroom with a balcony is a wonderful way of building in an aura of tranquillity. In this scheme, designed by William Tozer Associates, the understated glass balcony almost appears invisible — providing uninterrupted views of the trees and landscape beyond.

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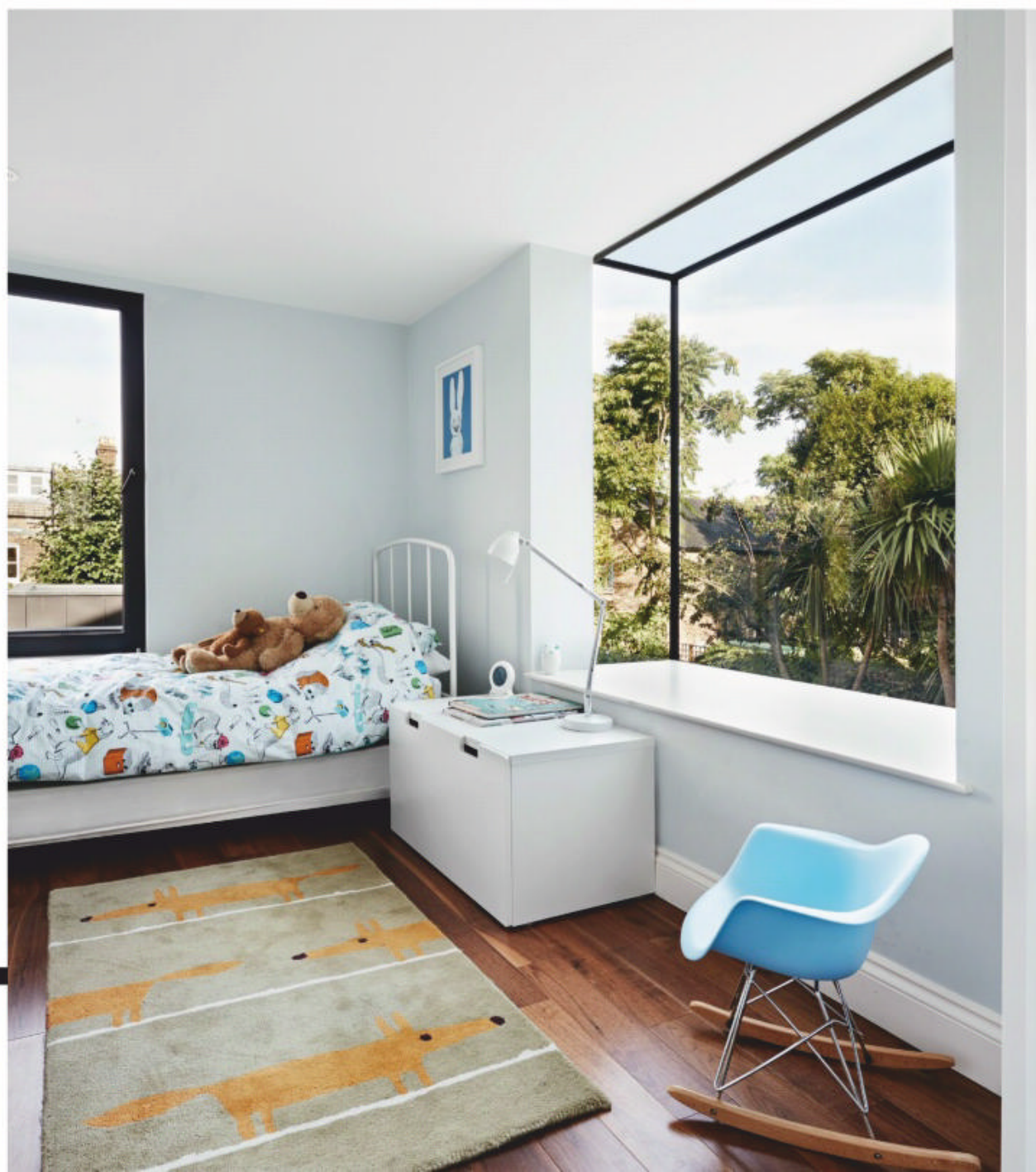
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Let in the light from above

Above: We tend to think laterally when it comes to connecting with the outdoors, but embracing views and light from above is equally important; this stunning roof lantern captures a view of the clouds in this cosy living/dining space created by Westbury Garden Rooms.

Framing the view

Left: If you're looking to transform an existing home, there's a temptation to gravitate towards the back of the house when trying to create a connection with the outdoors. Here, Mulroy Architects' design includes beautiful picture windows with slim sightlines in the bedrooms and bathrooms, meaning the influence of natural light and the views is felt throughout the house, rather than exclusively on the ground floor.

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A space for all seasons

Right: An orangery can maximise views while still providing the comfort of an indoor area; summer only lasts so long and having a space that can be used year round should be a priority. In this orangery by Westbury Garden Rooms, exposed brick walls give the illusion of an outside area while the room is still very much a part of the main house.



Connecting with nature

Left: Biophilic design is gaining momentum as the interior design buzzword of 2019. It relates to the human instinct to interact with nature and the associated health benefits. Improving air circulation and quality, and a home's connection with nature through incorporating plants, green roofs and living walls into domestic design, are all ideas.

Here, a light-filled, healthy workspace has been created in this MW Architects-designed mini-extension, which beautifully connects the interior space with views of the garden.

Seamless screening

Right: Wide expanses of glazing are a must-have for many of us, but finding a window treatment – to block out glare from the sun or to draw for privacy at night – can be a challenge; traditional dressings such as curtains can look too fussy. This is one ingenious solution: the discreet screening system from Centor retracts completely into the doorframe when not in use. There is also an insect screen option available. 



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STARTING THE DREAM

If you are hunting for a plot, don't despair. There's the perfect spot out there for you



One of the most common questions the team at Oakwrights are asked is: "How do I find my perfect plot?" Unfortunately there is no straightforward answer to this, other than a lot of research and perseverance. The general perception is that we are a small overcrowded island with little land available, but in fact this isn't the case — which is great for self-builders. However, land suitable for development can be hard to find. Sometimes more creative thinking is required, for instance buying a plot with a view to demolishing and replacing the existing building, or building on an infill site created from sub-divided gardens.

WHERE DO I BEGIN?

There are several avenues to explore when looking for a plot. These include investigating national land databases which, for a fee, allow you access to a list of plots. However we wouldn't advise you to solely rely on these, as good plots often don't reach the open market.

If you can narrow down your search area, we

Perseverance pays off

Lesley and David had lived in a new house for nine years when they decided it was time to self-build. They sold their house and spent two years in a campervan ensuring they were ready to relocate when a plot became available. They took out subscriptions to plotfinding websites, but it was their persistent niggling of estate agents that finally found them their perfect plot. "We found a plot but the agent advised us it was controversial because a developer had illegally removed some trees, which resulted in tree preservation orders and restrictions being put on the site limiting where we could build," explains Lesley. "Fortunately the owner of the plot agreed to allow us six months to try and secure planning before the sale was completed." Lesley and David secured planning and moved in to their beautifully designed barn-style home.

recommend making locals aware that you are looking for a plot. As daunting as it may be, don't be afraid to knock on a stranger's door to ask whether they would consider selling part of their garden! Local press, auctions and estate agents are also good sources of information, but remember to keep pestering the estate agents, as they could hold the key to your perfect plot.

The one common theme that we hear from our clients about finding their perfect plot is how determined they had to be. So don't get discouraged, it is estimated that between 18,000 and 25,000 single self-builds take place every year so your plot is out there. If you are embarking on your self-build journey and would like further information on how Oakwrights can help, visit www.oakwrights.co.uk, email enquiries@oakwrights.co.uk or call 01432 353353. **H**

Contemporary extension

WORDS Ellen Finch PHOTOGRAPHY Chris Snook STYLING Keri Sheehan



Bright ideas

An innovative side extension gave Laura Edwards and Matt Jackson the chance to leave their mark on their London family home





PROJECT NOTES

HOMEOWNERS Laura Edwards and Matt Jackson with their children, Sam and Isabel

PROJECT Extension and remodel of a 1960s ex-local authority end-of-terrace house

LOCATION Lewisham, London

BUILD COST £143,000



Awkward plots can often lead to creative solutions, and that was certainly the case with Laura and Matt’s 1960s end-of-terrace house and garden. Keen to stay put but desperate for more space, they looked to the oddly shaped, tapered plot of land to the side of their property as a chance to expand their home and create an extension that better accommodated their young family.

“We’d lived in south-east London for 10 years and loved the area. It’s got good schools and parks, and is in walking distance of lovely places like Greenwich and Blackheath — but we needed more space. To move to another property nearby, like a period house, would have meant we’d have to pay a lot more,” Laura begins.

The couple wanted to make the most of their money and put their stamp on their end-of-terrace house. “We had an odd-shaped side return that we realised we could do something quite interesting with, so we decided to extend.” They found an architect – a colleague’s husband who works for London-based architectural practice Selencky//Parsons – and approached the council for pre-application advice before submitting their plans for planning permission.

The design

With the aid of Selencky//Parsons, the couple designed a stand-out extension with real architectural



The council were clear that the extension be ‘subservient’ to the original build, and that’s where the architects got the idea for the Russian doll design

merit — a staggered structure that fits snugly in a tight space, complementing the house while setting it apart from its neighbours. For an ordinary ex-council house to undergo such a fantastic transformation is no mean feat.

“The council were clear that the extension be ‘subservient’ to the original build, and that’s where the architects got the idea for the Russian doll design we have now. I think it’s really clever,” says Laura.

This new addition also provided scope to remodel the interiors. As well as creating a new light-filled bedroom on the first floor, building the extension has allowed Laura and Matt to revisit the open-plan layout of their house to create a larger space.

“We both like modern lines. The architects were brilliant in thinking about how we use the space and making it work for us. That’s the benefit of having it designed for you — it fits exactly to what you want.”

The house’s layout was open plan before the extension and once the team knew how the outside would look, they chatted over different ideas. The layout was mapped out with zones for the open-plan space on the ground floor.

“Architects see it through completely new eyes — you have an idea about what might happen, but they always have a bigger vision. They suggested the exposed brick wall in the dining area, which is one of my favourite things. It could have gone all the way up into the bedroom — which in hindsight, might



THE LAYOUT

The ground floor was open plan previously, but the extension has allowed the couple to create a larger space. They have created distinct zones, including the galley kitchen (with units and worktop from Ikea), dining space and sitting room.



EXTENDING INTO THE GARDEN
Laura and Matt love the addition of bifold doors to the ground floor as the rooms inside feel light, airy and spacious. The exposed brick wall has been continued inside to blur the boundaries between inside and out.



have been quite nice. The colours and textures are really interesting — the kids love spotting shapes in them,” Laura comments.

Creating an illusion of space

Even with the extension, Laura admits the house is relatively small so she kept the interior bright, clean and simple. Functionality was important, but the family needed a space they wanted to come home to and that the kids would enjoy.

For instance, because of the odd shape of the living room and thanks to the staggered extension, the couple were able to create a small reading nook. “The kids love to pick out a book, and Sam plays his trumpet in here,” says Laura.

One of the key elements of the living room is the built-in storage, which the architects designed. As the family enter through the front door there’s a wall of storage which runs all the way under the stairs and right up to the back door, as well as in the utility room and larder — perfect for a home with two young children.

“We had conversations early on with the architects about what we could afford, and we broadly stuck to our budget — even if it meant staggering some things, like the carpentry. There were ideas along the way that they’d come up with – like zinc roofing,

LIVING SPACE AND HALL
The couple have adopted a semi-open-plan layout throughout the ground floor, with the hallway separated from the living room by a partial wall. The hallway features bespoke built-in storage; ideal for a family with young children.

which was more costly than standard roofing – that forced us to weigh up where to splash and where to save,” reflects Laura. “We would have loved to go into the roof and create a skylight above the stairwell, but it would have added on another £30,000. It would’ve been lovely, but we definitely didn’t need it,” Laura explains.

In the master bedroom, the windows either side of the room flood it with light and make the grown-up space of the house a relaxing sanctuary. This doesn’t mean it is out-of-bounds for the kids though: “The kids love standing at the window and pushing their noses up it to make funny faces,” Laura laughs.

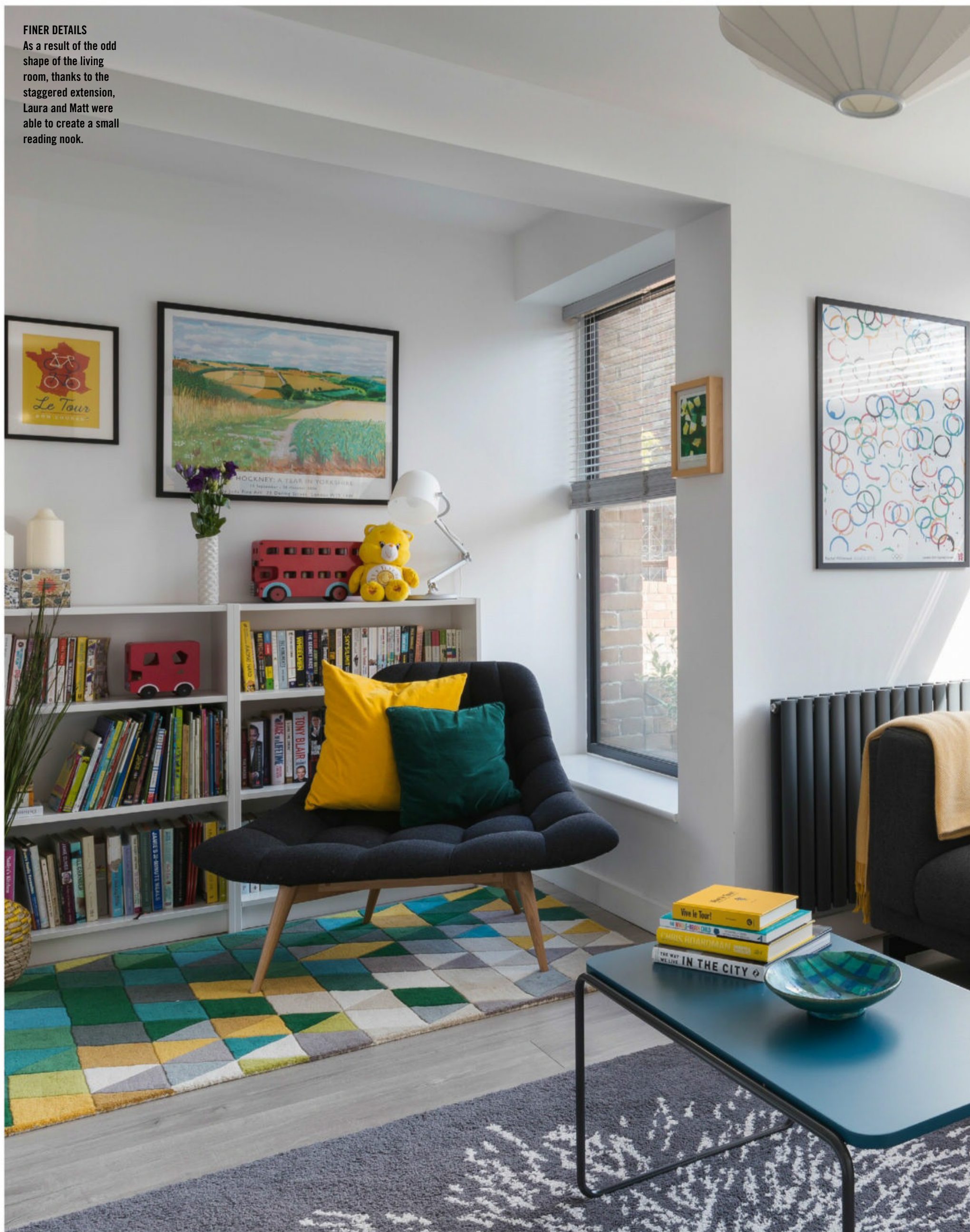
“Because the kids were sharing a bedroom, we had to find a way to please both of them while giving them some individuality. The bright green paint ties the room in with the rest of the house and makes their space feel fun. We knew they’d eventually have rooms of their own so we didn’t feel we needed to spend too much time or money. Despite that, they still got the biggest bedroom in the house — it’s lovely and spacious,” she explains.

In summer, the bifold doors are the stand-out feature of the house and, although the already small garden was reduced by the extension, the couple comment it feels bigger now, as if the whole of the ground floor and garden is one big room. **H**



FINER DETAILS

As a result of the odd shape of the living room, thanks to the staggered extension, Laura and Matt were able to create a small reading nook.







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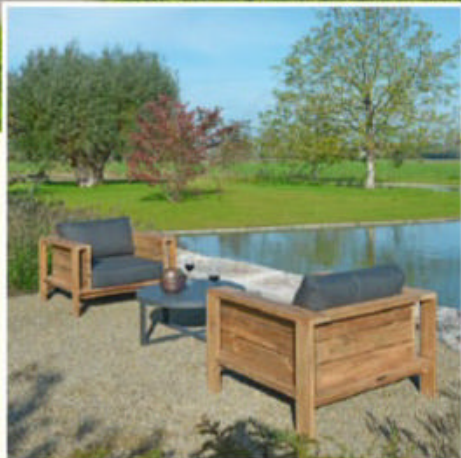
THE BEDROOMS
The master bedroom features a sloped alcove to one end of the room, so the couple commissioned a carpenter to install a wardrobe and custom shelves to maximise functional space.



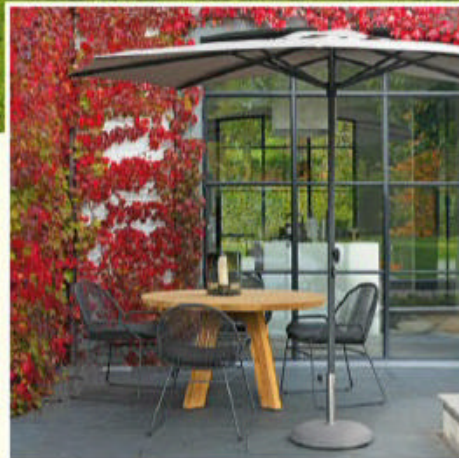
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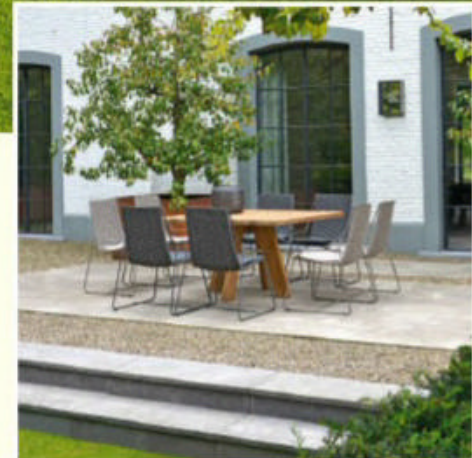
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Ferragudo lounge chairs, Tarifa teak table



Ardenza Ferragudo chairs, Tarifa teak table



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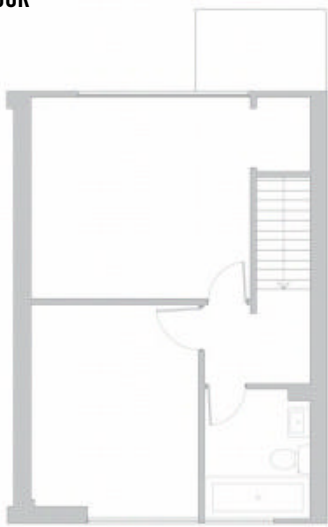


THE FLOORPLAN

The ‘Russian doll’ extension provides the ground floor with a ‘broken plan’ layout as the zones of the kitchen living and dining areas are defined by the stepped design. On the first floor an extra bedroom and bathroom has been added for the growing family.

FIRST FLOOR

BEFORE



AFTER

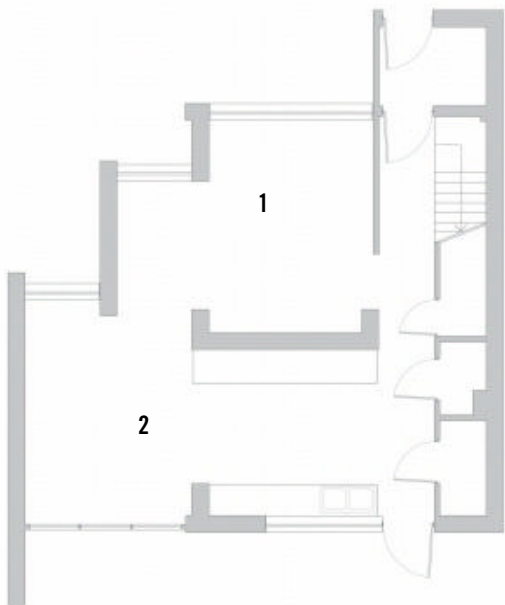


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BEFORE



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GROUND FLOOR

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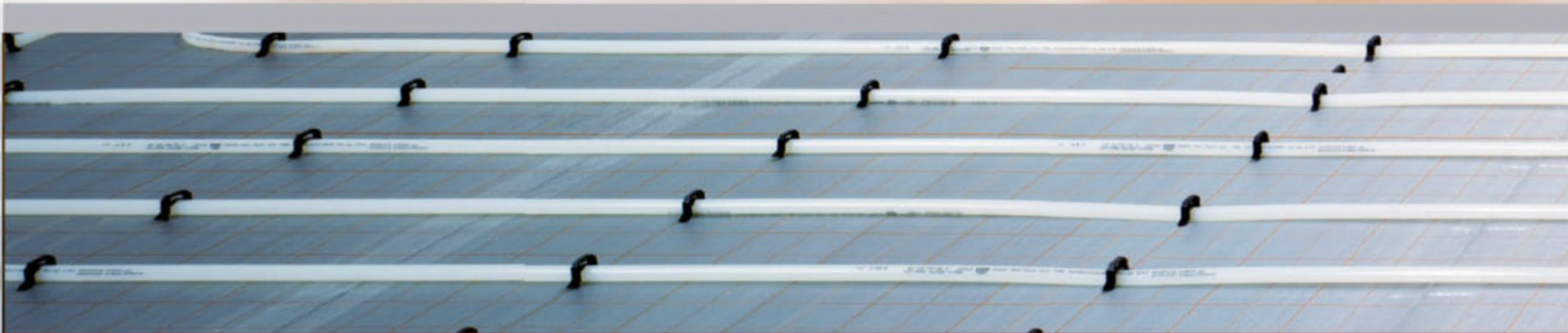
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DAVID SNELL

The author of *Building Your Own Home*, David is a serial self-builder and has been building homes for 50 years

15 ways to get the best from your builder

Serial self-builder David Snell dishes out the relationship advice and provides 15 top tips to make sure you and your builder remain a match made in heaven

Self-building is as much about building relationships as it is building houses. The one that you have with your builder is often the most important, as it is the most likely to be fraught with danger.

It's an odd relationship, especially for many first time self-builders. While you are, ostensibly, the principal partner – remember the ultimate decisions,

including the authorisation of payment, are all yours – it's often the builder who is the expert that you are relying on and the source of the advice and the knowledge that enables you to make those decisions.

Here's 15 of my top tips to navigate the relationship between self-builder and builder and make sure that you avoid any pitfalls along the way.

1 RESEARCH BUILDERS

The 'go to' route for anything these days seems to be the internet and there are several companies, many of whom advertise on television, offering lists of builders and tradespeople who have registered with them and, presumably, been checked out and rated accordingly. There are also the various trade organisations and warranty providers who can provide you with details of their members.

For me, recommendation, especially from another self-builder, is the best way of obtaining names. Either way, always make your own enquiries by talking to your long-listed builders' previous customers and looking at their previous work.



2 GET THE BEST QUALITY QUOTE

Don't be surprised if you hear nothing for ages after requesting a quote. If it goes on too long then it's a pound to a penny that they don't want the job and if you badger them too much you will get a price but it'll probably be ridiculously high.

Size matters when it comes to builders. The bigger builders may get back to you quicker, but they also have overheads that'll mean that the prices will be higher. The medium builders may put your plans out to a quantity surveyor (QS) and the price may be inflated because the QS will want to cover against all eventualities. The smaller builders will give the best prices but have less opportunity to pore over plans and price things up.

Help them and yourselves by sending your plans to one of the estimating companies, such as Estimators Online (www.estimators-online.com), which provides you with a list of costs, itemised by trade, and an indication of the builder's profit, which will need to be added.

3 KEEP AN EYE ON THE PLANS

As the project progresses, the plans will undoubtedly change. Always retrieve old plans and specifications and replace them with the up to date ones. Failure to do so leads to disputes and, worse still, to things being done incorrectly. For example, if the electrician has a plan showing a door opening one way and the carpenter has another showing it opening the other, the light switch will be on the wrong side. Before any trade starts it pays to make sure they have the right plans.

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The world of self-build and renovation can be a daunting place so don't forget to email us with your questions at homebuilding@futurenet.com

4 THE FIRST MEETING

When you have an acceptable quotation, the next move is to meet and thrash out any questions that you may have and make sure that this is the right person or company for you. Remember, this relationship will have to last at least six months and, should everything go well, will potentially result in future work on other projects — you may decide to extend further down the line or take on another self-build, perhaps.

But be under no illusions. Meetings that take place before the contract is signed are a two-way street. While you will be sizing them up, they will also be assessing you and weighing up whether you are going to be a suitable client or whether you are going to cause them trouble they could well do without.

6 MAKE YOUR MIND UP BEFORE BUILDING BEGINS

Nothing is more annoying for a builder or tradesperson than going back on or taking down work that has already been done. Even the fact that you'll pay for it does nothing to mitigate the frustration. That said, for you, this is a once in a lifetime experience and you may make the decision to insist on what you want.

Don't do it too often or it will lead to a breakdown in trust and your relationship — and tradespeople, and subbies working for the builder, may be reluctant to come back on the job. If there are changes or extras, make sure that before they are enacted they are agreed and that a price has been given. That'll help avoid nasty shocks at the end of the job.



7 KNOW THE HIERARCHY

Most builders will employ subcontractors for specific trades. If you have a contract with a builder, you do not have a contract with their subcontractors and as such cannot directly instruct them.

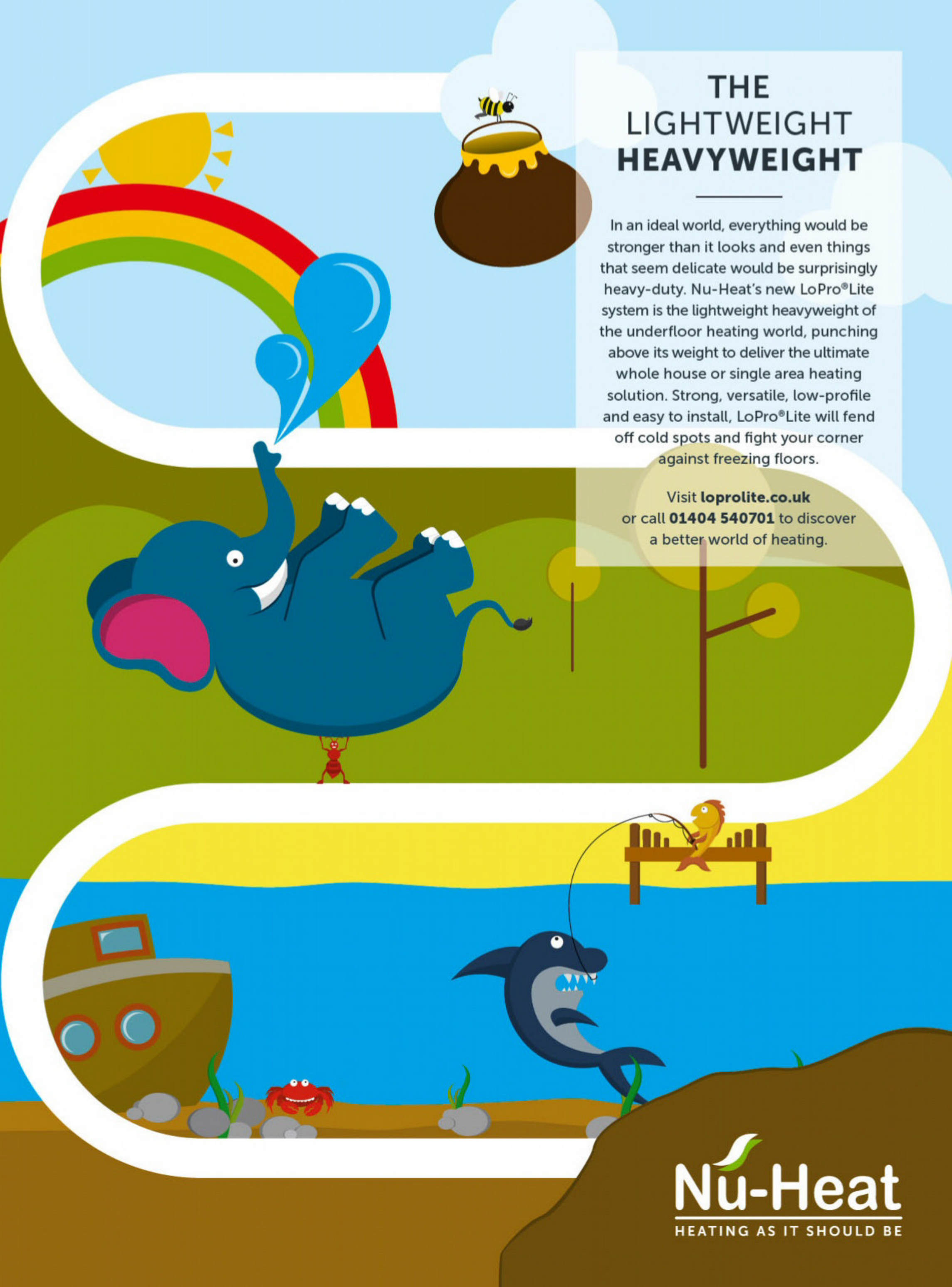
Agreeing changes or extras with a subcontractor will annoy the builder. You have to go through the builder for that and accept that they may want any price to include their cut.

5 BUILD A WORKING RELATIONSHIP QUICKLY

The long-term partnership that you and the builder are entering into is one that has to run smoothly. If you take an instant dislike to the person, then the only thing to do is stop and proceed no further. Equally, if they don't like you or they think you're not 'good for the money' then they'll refuse to take the job.

But when you do enter into this partnership you need to understand that it'll never be an equal one, given that you both have different objectives — aside from getting the house built. You are embarking on potentially the most daunting project of your life that will bring rewards in both occupation of that home and the accumulation of the monetary value in that home. The builder, on the other hand, gets no share in the eventual value. All they get is that one stab at earning a living from this project, before moving on to the next.

Once you understand that, it's easier to build up a working relationship that satisfies both parties' objectives.



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8 BE PATIENT

A good builder always has work and is in demand. They may give an indication of a start date and that may slip. If it slips because they have misled you then that may give you cause to look elsewhere and even terminate your proposed relationship — if you can find another builder. But if it slips because the preceding job has taken longer than anticipated, you may want to comfort yourself with the thought that at the end of your job they won't go off to another and leave you in the lurch.

9 KNOW WHAT TO EXPECT

Your builder may not always be on site. It's likely that a medium-sized builder will have more than one job on the go at any one time. But the mark of a good builder is one who maintains continuity on every site.

Don't just assume that because your builder isn't always on site they are not working for you. They may be picking up or sourcing materials. They may be off arranging for plant. The job's not all on site.

10 MAKE SURE YOU PAY

Your builder works for you for their wages. They also work to pay the wages of the people or subcontractors they employ and to pay off the large materials bills they accrue. Most builders who get into financial difficulties have viable businesses and the reason they get into trouble is cashflow.

Ultimately your end of the bargain with your builder is that you pay them promptly and in the manner and amount that has been agreed. Don't pay upfront — but equally don't make payments late that may send your builder into cash problems and sour your relationship.



11 ESTABLISH CONTACT TIMES

Small builders leave home early, get home late and often fall asleep as soon as they've had their tea. Most work a five-day week and try to keep their weekends free. But you are going to have to talk to them from time to time and possibly even meet them. So work out, right at the beginning, the best times for you to do this and, genuine emergencies apart, stick to those times.

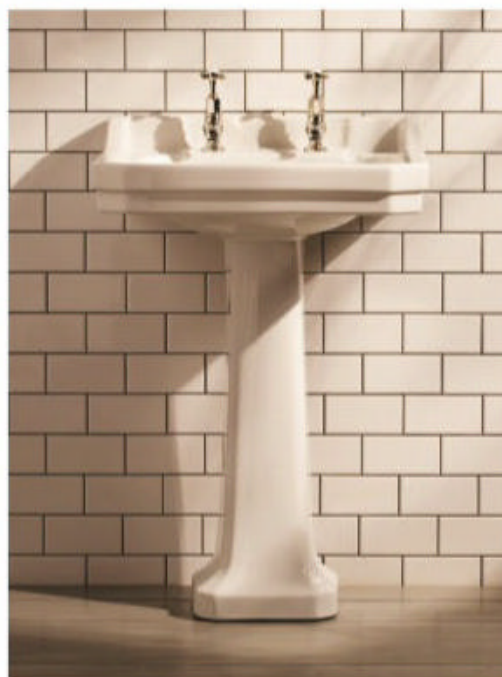
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12 RESPECT BREAKS

You'll obviously visit site in working hours and during that visit you'll be able to talk to your builders and the subcontractors. But respect their break times. If they're on a tea or lunch break they'll want to sit and eat their 'snap', read the paper or chat about other things. They won't want to talk business. Sit with them. Join in their general conversation and leave what you want to talk about until their break is over. They'll really appreciate that.

13 DIY... OR DON'T

It may seem like a great idea for the reasonably competent among you to undertake some of the work on site yourself or attempt to mitigate costs by working alongside the builders and operatives. Invariably, the involvement of a non-professional slows the job down and results in costs to the builder. Don't, therefore, be surprised if they agree to it at your insistence but are reluctant to agree a full refund.

Don't, also, be surprised if a whole day working alongside the people working on site gets you no thanks and no reward other than the feeling of satisfaction brought about by you having put the sweat of your brow into the project.

14 THINK THROUGH YOUR MATERIAL COSTS

Recognition of the self-build market by major suppliers and merchants has meant that the self-builder can now enjoy discounts that may equal or even exceed those that the builder can get. This is simply because the builder may have a spread of suppliers, with relatively low amounts amortised between them, while the self-builder is likely to be spending a lot in one place.

Additionally, because the self-builder may be an avid reader of *Homebuilding & Renovating* and an attendee of the self-build exhibitions, they may well choose materials or equipment that are not generally stocked by the builder's regular sources. In which case these items may well be purchased more advantageously by the self-builder direct.

15 BE A GOOD CLIENT

There are cowboy builders. There are builders who fail to finish or fail to finish on time. There are builders who don't do a very good job cosmetically. But, because of the regulations and the overseeing of the statutory and warranty inspectors, there are very few structural disasters. That's why you have to make your initial enquiries, talk to previous clients and inspect their previous work.

But there are also cowboy clients. Clients who are late payers. Clients who withhold payment for trumped up reasons. Clients who deduct amounts that are disproportionate to their perceived grievance. Don't be one of those. **H**



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5 things to do before commissioning a designer

Don't get in over your head at the beginning of the project; here are the things to think about...



1 Create a design brief

Having an indication of what you want to achieve and why (do you need more space or light, for example?), the number of bedrooms, bathrooms and an idea of what architectural styles you like before approaching an architect will help steer them in the right direction once you do meet. A good architect will discuss your lifestyle and draw information about how you interact as a family and how you like to live in your home to optimise their design. A preference with regards to materials can also help narrow down proceedings, but don't meet with an architect with an idea so set that you become unresponsive to different and new ideas.

2 Consider the level of service offered

Consider what level of service you are looking for before commissioning an architect or designer: are you looking for a practice which can provide both the initial design and Building Regs' drawings, do you need a specialist designer for a Passivhaus home, or perhaps you would like to retain your architect to manage the project throughout? This will impact how you approach different practices.

3 Budget realistically

"A good architect will do their utmost to suggest ways to deliver your dream home on the right budget," says Bryn Jones of Base Architecture. Finding an architect who can work to your budget is essential for a successful project, as is being realistic about your budget – and what you can afford – and communicating this to your architect from the start.

"Architects also work on different fee structures so it's important, before you commission any firm, to make sure you are absolutely clear about what you're paying for and how much the bill will be," Bryn continues. "Some architects charge a fixed price while others go by a percentage of the build price but, of course, if that goes up so can their fee."

4 Do your research

"Research is key to finding the best architect for your build," Bryn Jones advises. "Ask friends, neighbours and colleagues for recommendations and search the internet to look at other projects. If you've seen new builds or renovations taking place in your area that you admire, find out who is delivering that project. Social media is also useful to get some ideas of an architect's standard of design.

"Word of mouth is by far the best, and the most honest, appraisal you'll get. You can always ask for references and a reputable firm will be happy to put you in touch with a previous client."

5 Project compatibility

When researching architectural practices, take a look at previous projects (in magazines, on websites or via social media) and look out for architects with experience designing new homes or extensions you hope to emulate (i.e. traditional style or strikingly contemporary).

The first meeting with an architect can seem a little bit like a first date; everyone is on their best behaviour, trying to gauge if the working relationship will be a positive one. Try to find someone you will feel comfortable sharing new creative ideas with. "Like any relationship, you'll know when you've found the right person," says Bryn Jones. **H**



Remodelling bungalows

Still think of bungalows as the reserve of homeowners of a 'certain age', or as flimsy or old-fashioned? Time to think again, says Natasha Brinsmead

The rather fusty label that often comes attached to bungalows is actually an outdated view. Not only good for demolition and replacement — the humble bungalow has an awful lot going for it.

As well as fitting in with the more modern approach to renovation, that of creating a home for life, bungalows also often come complete with generous plots and bags of design potential.

Here we take a look at the various styles of bungalows that can be found in and around the UK and their associated design challenges — and show you how to overcome them in order to create a thoroughly modern home.

Why renovate a bungalow?

Whichever way you look at it, many bungalows are pretty greedy when it comes to land — they have a greater footprint for the same amount of overall square metreage as a house. However, they present some real opportunities for renovators out there looking to create a dream home.

Firstly, they tend to be built on large plots, giving buyers the potential to extend out. Secondly, they have low roofs, for ease of maintenance. And thirdly, they provide accessible accommodation that is easy and relatively low cost to maintain (no second storey windows, to name but one example).

Finally, many bungalows are considered rather unattractive by today's architectural standards, meaning planners are usually very accommodating when it comes to designs that aim to update them.

Single-storey properties also come with downsides and many bungalows present similar issues when it comes to modern-day living expectations.



MODERNIST DESIGN

The vision the owner of this 1970s bungalow had was for a modernist-inspired design. With only a 30% increase in volume allowed, a small extension at the rear and two new dormers in the roof provide extra space, while lots of internal reworking and a few external tweaks have transformed the building. (The scheme was designed by whiteBOX Architects: www.whitebox-architects.co.uk.)

BEFORE





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The Build



Remodelling the existing layout

Bungalows tend to be detached, or sometimes semi-detached. While this affords a degree of privacy from other houses, with all accommodation on the ground floor, rooms that you might want to feel a little more hidden away, such as bedrooms and bathrooms, need to be given thought in terms of their orientation and positioning.

When formulating a new plan for the rooms in a single-storey property you really need to think about what each and every room will be used for as a starting point — rooms that will be fully visible from the road, for example, will need extra consideration in terms of suitable window dressings and glazing options, furniture placement and lighting schemes.

It is not just privacy that needs to be contemplated when remodelling a bungalow layout. With single-storey living, it is crucial to ensure that the ‘public’ and ‘private’ areas of the home are well defined — just as they would be if they were on separate floors. What this means basically in design terms is that the typically social spaces, such as kitchen, eating and living areas, should be distinct from the quieter, behind-the-scenes rooms, such as bedrooms.

Not only will this enhance the living experience within a home, but it also makes practical sense — a bedroom next to a kitchen complete with a cacophony of appliances all rumbling and beeping away is not ideal. Aim to locate the bustling, noisy spaces as far away from bedrooms as possible.



TWO-STOREY EXTENSION

Once a dark, cold dormer bungalow, the owners of this property have doubled its size. An old conservatory was demolished and replaced with a sunroom, while a two-storey rear extension now includes a striking covered balcony. Changes to the front were minimal (although new windows and render provide a modern look). The lack of light internally was overcome by removing walls and introducing new rooflights.

The most successful single-storey floorplans tend to be based on a central space (often an entrance hallway) with social spaces leading off in one direction, and private to the other — effectively creating two ‘wings’ in place of two storeys.

Depending on the location of your bungalow, it might make more sense to split the layout into front and back, positioning public rooms at the front of the layout where they may be overlooked by approaching guests, and the private areas at the back, overlooked by nothing more than the garden. Tailor this to your particular project.

“Many people don’t feel comfortable sleeping downstairs, especially in bedrooms which face a street, meaning there is pressure to keep as many rooms as possible at the back of the house, facing the garden,” adds Simon Graham of Yard Architects. “Compared to a two-storey house it can be difficult to obtain the same sense of privacy between bedrooms and living



BEFORE

INGENIOUS DESIGN
Yard Architects designed the 'two box' extension to this bungalow. The wider of the boxes houses a kitchen, dining and living space while the smaller box contains a new master bedroom, with dressing room and en suite. (www.yardarchitects.co.uk)

DESIGN TIPS

Security in bungalows

One of the issues at the forefront of the minds of many bungalow renovators is how to ensure proper security measures are taken. With no high level windows and all rooms accessible from the ground floor, it is more important than ever to have good security on all windows and doors, along with a good alarm system.

In terms of alarms, those featuring some form of CCTV have been shown to be particularly good at deterring burglars.

In addition to these measures, aim to conceal the property from the road as much as possible when designing your landscaping, install a good exterior lighting scheme and ensure gates giving access to the front and/or rear of the property are secure.

spaces in a bungalow, without the natural separation offered by having them on different storeys.

“When remodelling a bungalow we try and ensure bedrooms are all kept together and separated from the living areas with a hallway or some form of joinery, a built-in bookcase for example,” continues Simon Graham. “This creates a better separation between living areas and bedrooms. It is also preferable to keep the front door near the living rooms, so you don’t have to walk past bedrooms when you come in and aim to get rid of long corridors.”

Updating the exterior

There is plenty that can be done to transform the exterior of a bungalow without extending. Updating windows, doors and external joinery will make a huge difference, as will recladding the façade of the bungalow.

Unattractive brickwork can be concealed using render, timber cladding or even one of the more modern cladding materials, such as fibre cement or Shou Sugi Ban timber. Recladding the entire building will likely need planning permission, but could prove a good opportunity to add external wall insulation, thus improving the energy efficiency of the house.

Extending a bungalow

There are a couple of issues exclusive to bungalows when it comes to designing an extension. In the main, they concern natural light and low rooflines. There is also the matter of proportion to think about — although many bungalows come with large gardens, one enormous single-storey dwelling can look out of scale if not well designed.

In terms of handling the low rooflines of single-storey properties, a flat roof extension is a good solution. Often the extension is built as a stand-alone structure, simply connected to the existing bungalow beneath the existing eaves.

It is, however, possible for the extension to be attached to the existing house at the same height as the existing eaves. This option tends to be trickier to achieve from a structural and design point of view when it comes to ensuring the join between old and new looks spot on.

Extensions with a monopitch roof can also work well. Designs that fall towards the existing eaves are particularly successful.

A final yet equally popular way to design a bungalow extension is to use a dual-pitched roof that runs at the opposite angle to that of the existing roof — these often make sense for extensions that will turn a long, straight building into an L or U-shaped building.

It may also be possible to create a loft conversion within a bungalow. You will need to assess whether the loft is viable for conversion. Check whether the roof is a traditional cut roof (usual in houses built before 1965) or features a trussed roof (post 1965). You will need to assess whether there is enough height within the loft. The minimum height for a traditional roof is 2.2 to 2.4m, while the minimum height for a trussed roof is 2.4 to 2.6m.

How to increase natural light

A common problem with post-war bungalows is that they often feature long, dark corridors, designed to separate sleeping quarters from living. There is often a lack of natural light, particularly in the central spaces of the layout.

“There are a few common issues with bungalow layouts. The first is that the building plan tends to be quite deep as all the accommodation is arranged on a single floor. This means there are often areas in the middle of the house where there is little access to light, views and ventilation,” explains architect Simon Graham. “If putting bathrooms in the middle of a plan helps free up some space on an external wall to allow a bedroom or kitchen to be relocated, for example, then use rooflights to bring light into these rooms.

“Electric rooflights are now quite economical, so you can still have opening windows. Adding rooflights into a hallway can also be very effective. If the building has a pitched roof then box the rooflight out in the roof space and create a larger opening at ceiling level which then narrows down to the rooflight size to get the most daylight possible.

“You could also consider removing a flat roof to create an open vaulted space with rooflights as a way to really transform a room with a low ceiling into one that feels

spacious and light. An engineer would need to be consulted on any changes that might affect the roof structure.”

There are several other ways to bring in more natural light; solutions are often by-products of well-designed extensions, too. “The use of glazed walls and doors will allow more light into the middle of a bungalow and create interesting views from within the property, making it feel less cellular,” says Simon Graham.

In order to allow light to flow between spaces, internal windows and a ‘broken plan’ layout, whereby partial walls and room dividers are used in place of solid walls, are ideas worth considering.

Adding a new storey

Despite the benefits of single-storey living, there is much to be said for adding a second storey to a bungalow — and this is a great way to maximise the footprint of the building, without the costs associated with new foundations.

You will need to consider a few factors to ensure this work is viable.

- What planning issues might stand in your way (overlooking, for example)?
- How structurally sound is the bungalow?
- What depth and type of foundations is the existing building standing on?
- Which existing internal walls are loadbearing?

LINKING SPACES

A timber frame extension, attached to the existing house by a flat-roofed link space, has been clad in render. The old garage (to the right) has been converted and can be accessed internally. Hyve Architects. (www.hyvearch.co.uk)

BEFORE





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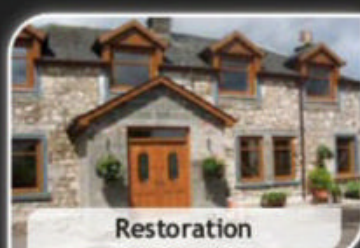
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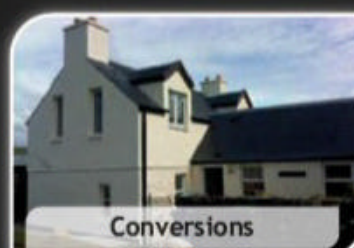
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● Foundations

Hopefully you have access to the property deeds, along with original construction drawings. These should show the depth and type of foundations, the drainage system and which internal walls were built with foundations. If not, track down local building control records if you can.

Otherwise, your best option is to consult a structural engineer. They will be able to advise you on ground conditions and will be likely to suggest digging trial holes in order to measure the depth and assess the existing foundations.

“Foundations must be checked by a structural engineer as early as possible to establish the feasibility of the project,” explains architectural technologist Tony Holt. “This includes checking external walls and internal walls as both are likely to be required to take new loadings. We have come across masonry internal walls that have been built straight off oversite concrete (a layer of concrete laid onto the ground below suspended timber floors). Just because a wall is in masonry, doesn’t

guarantee it’s been built off a foundation.”

Once the results are received your structural engineer will be able to give you information on whether the existing foundations are strong enough to support an additional storey. If not, the foundations will need to be strengthened or underpinned — although it may only be necessary to strengthen certain areas.

● Masonry or timber frame first floor?

While both masonry and timber frame are options when it comes to adding an additional storey, timber frame is often chosen as the weight is less than that of masonry. This may, in some cases, remove the need for underpinning foundations.

“We have utilised both off-site prefabricated timber frame solutions and on-site fabricated timber frame — both are viable solutions,” says Tony Holt. “We have also built up in masonry, which is an option for certain design solutions.

“The choice of timber frame or masonry/steel is usually a big consideration in the early stages of the design process. I tend to

BUNGALOWS REIMAGINED

Above: This run-down bungalow was built in 1998 and is sat on a heavily sloping site. Architect Annie Martin came up with a design that has brought in lots of natural light and makes the most of the challenging plot. (www.anniemartin.co.uk); Left: Opening up spaces and using roof lanterns is the ideal way to bring natural light into dark, central spaces.

The Build

find that if the existing ground floor external walls have an irregular footprint, opting for timber frame allows you to divorce the first floor structure and to create an overhang, which can result in an interesting design solution,” adds Tony Holt.

“If the use of timber frame is considered early and on-site fabrication is an option, then the designer and engineer can work together to reduce the need for steel sections by using glulam and flitch beams.

“If on-site fabrication is opted for then it’s important that the structural engineer is comfortable with the design approach, including designing the timber connection details and timber frame panels, all of which should be confirmed by written calculations that have been submitted to building control for approval.

“If off-site timber frame is chosen, the timber frame specialist will have their own structural engineer who will cover the structural design of this element. They should, as part of their service, provide line and point loads. These loads will need to be passed onto the structural engineer responsible for designing and ascertaining that the ground floor masonry walls are adequate to take the loads,” says Tony Holt.

In terms of the associated build costs, Tony Holt advises that timber frame tends to be the cheaper option when compared to masonry construction — although this can obviously vary from project to project. This is due to the fact that it is typically comprises of just 140mm insulated timber frame, finished with a breathable membrane, battens and cladding. **H**

CONTEMPORARY FAMILY HOME

The 1950s bungalow on this site was just 90m². A new first floor extension, designed by Tony Holt, with a duo-pitched roof, has resulted in a contemporary family home of 210m². (www.tonyholt-design.co.uk)

BEFORE



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EXTENSIONS: How to match existing materials

From roofs to windows and the walls in between, matching materials like-for-like on an extension can be a challenge, so here's what you need to know before you start your build project



There are two opposing camps in the world of home extension design: those who like to 'make a statement' by building something a bit daring, and those who favour authenticity, preferring to replicate the style of the existing house. Which of these is appropriate will depend on factors such as the age and type of property you want to extend.

A conservation-led approach may be desirable where an existing house exudes bags of charm, such as a period cottage. That said, the local planning department may, conversely, hope to see an addition more in keeping with present times — 'an evolution in time'. An unloved 1970s 'box' could also be crying out for a more adventurous 'ugly to lovely' facelift. Of course there's nothing to stop you incorporating a bit of both, perhaps some traditional brickwork combined with expanses of structural glazing, for instance. Either way, there's probably some truth in the perception that council planners and neighbours are more readily mollified by the promise of design consistency, whereas architects blessed with creative skills tend to favour more radical options. Ultimately, however, the decision rests, for the most part, with the homeowner who has to stump up the cash to pay for it all.

Sticking something 'a bit different' on the back of your property is arguably the easier option, technically speaking, since it allows considerable design freedom, almost like building a new house from scratch. Whereas, designing your extension so that it closely matches the style of the existing property is obviously going to impose constraints on the choice of materials and may also require trades versed in traditional skills, such as lime rendering.

The thing both approaches have in common is that unless carefully executed the project may detract from the aesthetics and consequently value of your property. For instance, half-heartedly replicating intricate Georgian or Tudor workmanship with cheap modern materials diminished by lackadaisical workmanship is a recipe



The main walls of a building account for most of its appearance so it's obviously important to source suitable materials

for dismal 'pastiche' that ends up looking a bit naff. Planning application drawings for extensions commonly include the words 'to match existing'. But unless detailed drawings are also produced to provide practical guidance on site this can potentially trigger problems later on when the builders start trying to interpret it.

The art of matching materials

Creating a new extension that harmonises with an older main house means sourcing appropriate materials to achieve the required likeness. But the bricks and tiles you're keen to replicate may have been out of production for well over a century and will probably also have mellowed, adopting a distinct patina of age.

Fortunately you only need to focus on the parts of the building's exterior that are actually visible. You don't need to clone every detail, so areas that are hidden from view, such as flat roofs and stuff below ground or indoors, can be built using standard materials. The need to comply with modern performance standards for thermal efficiency and suchlike means you have little choice other than to build a modern structure cloaked by a traditional façade. So the key components that need to be matched are the roofs, windows and walls (which we'll address first).

Brickwork

The main walls of a building account for most of its appearance so it's obviously important to source suitable materials. However, older bricks can be a bit quirky because, until the late Victorian period, most were produced locally with widely varying dimensions. Subsequent moves towards standardisation resulted in bricks manufactured to more consistent imperial measurements until 1965 when today's metric size brick was introduced.

Although some local variations in imperial sizes had persisted around the country, a typical imperial brick would be 9in (wide) x 4.5in (thick) x 3in (high). Given this complexity it's fortunate

for extension builders that there are a number of highly accomplished small-scale producers able to match a wide cross section of older bricks not just in terms of size, but also in colour and texture. One such firm, Shropshire-based Imperial Handmade Bricks, list more than 40 types in their catalogue. Most suppliers offer brick matching services if you send them samples or photos.

Before plunging into the refined world of hand-made replicas however, the first course of action is to check with local builders' merchants who may stock suitable off-the-shelf bricks that look very similar to the originals you want to match, but cost around half the price. For example, there are plenty of readily available 'soft reds' ideal for replicating decorative arches and corbels. The only snag is the standard metric size brick is 215mm (wide) x 102.5mm (thick) x 65mm (high), which is a little smaller than the old imperials. But if your new extension walls aren't built as a straight continuation of an old wall, the inconsistency in course heights may not be particularly evident to anyone other than eagle-eyed surveyors.

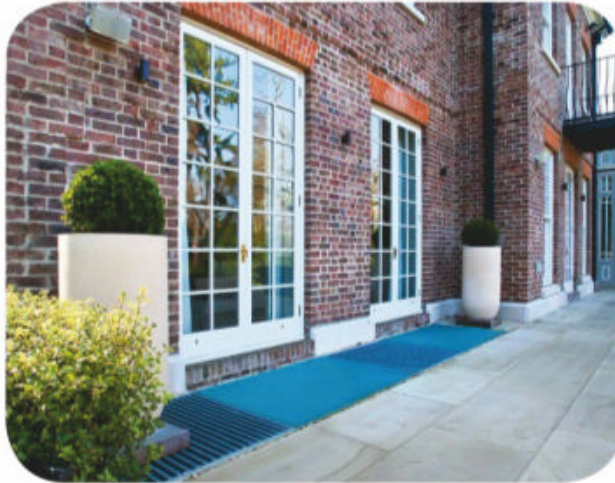
Manufacturers like Northcot, who supply merchants like Buildbase and Jewson, produce a wide range of period-style bricks with names like 'Tudor Restoration' and 'Cotswold Orange' in heights of 65mm, 68mm and 73mm. To achieve a weathered effect some are 'prematurely aged' during the production process. To help new brickwork blend in and match weathered walls, new brickwork can also be tinted by specialists using dyes. Another possible option is to use brick 'slips', comprising thin slivers of facing brick designed to adhere to a backing substrate such as blockwork. Once pointed-up these can be virtually indistinguishable from the genuine article.

But if you want the real deal, scouring local reclamation yards can reap rewards. Alternatively it may be possible to liberate matching ones nearer home by demolishing any old outbuildings in your

Six successful like-for-like projects



RENDER: This extended and remodelled house features K Rend Silicone FT, which is a fine texture scraped render, prepped with a K Rend Base Coat. On a standard-sized project K Rend would take a minimum of a week to complete, weather dependant.



BRICKWORK: Soft Red and Dark Multi brickwork, from London Reclaimed Brick Merchants, has been laid in a Flemish bond pattern on this example. The Soft Red costs £1 per brick (excl VAT) and the Dark Multi costs 95p per brick (excl VAT).



WINDOWS: The Residence 9 windows from The Residence Collection are timber alternatives that authentically replicate traditional timber sightlines coupled with the benefits of modern glazing. The historical design considers conservation guidelines.



CLAY TILES: This close-up shot of a roof shows a tri-colour blend of clay tiles from Spicer – Hanbury Appledore, Honeywell and Churchland – that replicate how a roof of age would look.



STONE: This extension has been sympathetically designed and clad in Coarse Weathered Edge stone in Sandstone 5 from Fernhill Stone to match materials used on the original cottage. The stone gives the natural effect of the walls around the Yorkshire Dales.



SLATE: Reclaimed Welsh slate tiles from the London Reclaimed Brick Merchants have been used for the roof of this barn conversion. The reclaimed slate is sorted and hand graded. Price per tile varies dependent on size but ranges from 40p up to £2.40.



CASE STUDY

We used stone reclaimed from the original building's external wall

The homeowners of this now characterful family home took on the gargantuan task of restoring and extending a ramshackle farmhouse in the Yorkshire Dales. They were granted permission to convert an old lean-to into a new kitchen and utility and to add a single-storey extension to the sitting room over the stream, which includes an arched base to allow the stream to flow below. The walls were rebuilt in block and reclaimed stone from an external wall and the roof was tiled in slate.

garden, or from walls being taken down to alter your home's layout. Be aware however that second-hand bricks tend to be less robust and have a higher wastage factor, so you may need to discard around one in every four. (For more on choosing the right bricks see page 76.)

Stonework

Matching old stonework can be a difficult task because most local quarries from which the stone was sourced closed down years ago. Even if you can locate suitable supplies of fresh stone, being a natural product there will always be variations, making it harder to achieve the same colour and texture as an original building. Techniques such as 'chiselling' can be employed to help match the surface texture, but you also need to consider the stone size and course heights. Existing historic stonework will have grown darker with age, so it may be worth first having it professionally cleaned. Probably the easiest type of stone to match is flint, but as with all masonry of this type it requires skilled specialists to work it correctly.

The type of stone that your house was built with will depend on what part of the country you're in, and also on the status of the property. More expensive buildings used smooth dressed 'ashlar' blocks, with cheaper squared blocks for ordinary housing or rough rubble stone for poorer rural cottages. Given the complexity, the best advice is to first consult a local stonemason who will know what is realistically achievable and the likely cost.

One slightly odd quirk encountered in many Victorian houses with brick walls is the use of cut stone lintels or decorative columns to bays and porches. These were actually often made from artificial 'Coade stone' and can be hard to source, although local salvage yards are worth a look.

Mortar joints and bonding

A competent brickie should be able to replicate traditional bonding patterns in old solid wall construction. But make sure you tell them first otherwise standard stretcher bond may be dished up. The most common solid wall pattern was Flemish bond with its distinctive alternating sides and ends of bricks visible (stretchers and headers). However, it's no longer permissible in new construction to build traditional solid 9 inch walls, since they need to comply with modern thermal efficiency targets (Part L of the Building Regs). Luckily brickies know a useful trick to get round this restriction. To build a modern insulated cavity wall so it looks like a traditional solid wall, alternate bricks are cut in half and laid so the ends are visible without bridging the cavity.

Getting the look of the extension right also means matching the height of the mortar joints, which in better quality older buildings can be significantly finer than today's standard 10mm. To replicate the colour and feel of traditional lime mortar (widely used until the 1930s) the type of sand can be varied or a colouring additive used, perhaps with a dash of lime or white cement. Where you're using reclaimed bricks however they will be relatively porous and should be laid using traditional lime mortar.

Finally it's important to match the style of pointing, so the new mortar joints don't visually dominate the wall. Most traditional pointing styles were either flush with the wall surface or had a slightly recessed 'bucket handle' concave curve.

Render

There are a number of traditional styles of lime render and it's normally possible to replicate them on new extensions using fairly standard sand/cement-based mixes with a masonry paint finish. Textured finishes like roughcast and pebbledash simply have pebbles or chippings added, and traditional painted 'stucco' adorning many Georgian and early Victorian

townhouses is nothing more than render shaped to mimic expensive stone blocks.

The main restriction when building a new extension is if you want to use the latest through-coloured ‘monocouche’ renders because achieving a perfect match with older sand/cement textures and colours can be difficult.

Roof coverings

Sourcing new roof tiles for an extension to match the ones on the main roof slopes should in most cases be comparatively straightforward. The fact that roofs are viewed from some distance allows a bit more leeway aesthetically than with walls, so achieving a perfect match in every detail is less of an issue. You can choose from a broad range of available styles and sizes of roof tiles, or even have replicas made to order. But the first step is to identify what you’ve got on your main roof, either by getting hold of an existing tile and see if there’s a brand name on the back, or sending a photo to a tile manufacturer.

Most older tiles are made from clay, with cheaper concrete varieties becoming standard issue in the post-war period. As with bricks, it’s sometimes possible to source reclaimed tiles, although their lifespan may be relatively short (some roofers refuse to lay them due to quality concerns) and there is a higher wastage factor with reclaimed, too.

Probably the biggest challenge when trying to match the look of an old roof is the effect of weathering. It’s sometimes claimed that a darkened patina can be replicated on fresh tiles by spraying on coatings of yoghurt or tomato fertiliser. Or you could spruce up the old roof by having it professionally pressure cleaned. But a more reliable roofers’ trick is to swap the new tiles with older existing ones stripped from less visible roof slopes or outbuildings, for example.

With roofs clad in slate, it should also normally be possible for a new extension to achieve a reasonable match. Slate is of course a natural quarried stone, unlike

manufactured tiles, and roofing slates come in multiple different sizes, thicknesses, colours and textures. High quality Welsh slate was widely used on Victorian and Georgian roofs and can still be sourced today, although less expensive imported varieties (from Spain, for instance) can be worth considering.

Artificial slates are cheaper still, but tend to be smoother, shinier and more uniform than the real thing, so aren’t usually recommended where you need to match existing natural slate.

You may also need to replicate decorative detailing, for example many Victorian roofs were splendidly bedecked with ornate ridge tiles. These were manufactured in a wide range of styles, so it can require diligent research to track down suitably matching new or reclaimed ones. Getting the detailing right at the eaves is also important. These shouldn’t be too hard to match, either with patterned corbelled brickwork, or timber fascias, perhaps formed as timber ‘box’ eaves. The exception is where you’ve got elaborate Victorian and Edwardian ‘carved’ bargeboards on gable end walls which won’t be cheap to replicate.

Windows

One of the key determinants of whether a building ‘looks right’ is the size, positioning and style of the windows. So for a matching new extension it’s important to accurately emulate this, as well as the detailing around the windows at the sills, lintels and arches. Fortunately, there are plenty of good quality replica windows on the market, including traditional timber box sashes with high-performance double-glazed sealed units. With period properties fitting new plastic windows or doors, even in new extensions, is generally considered inappropriate, although some look convincingly ‘wood-like’ when new. More challenging can be Art Deco style 1930s steel windows, although excellent replicas in aluminium are now available, some even incorporating period-style curved glass. 



The fact that roofs are viewed from some distance allows a bit of leeway aesthetically, so achieving a perfect match in every detail is less of an issue

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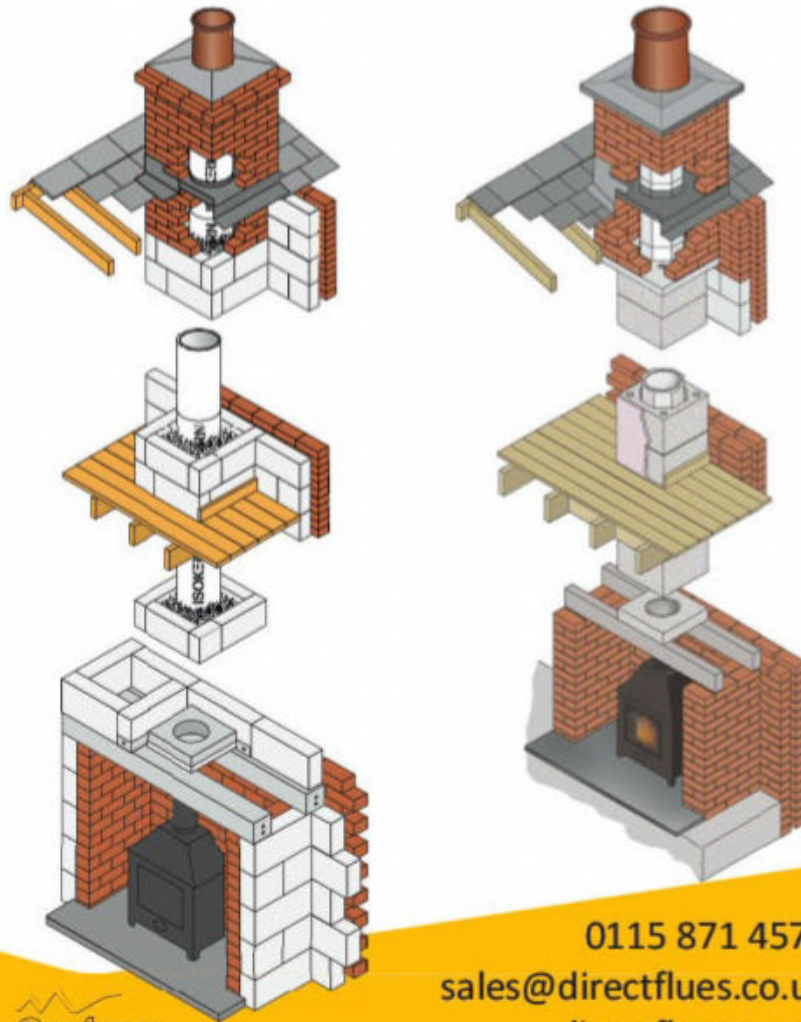


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Whether you like it or not, money makes the wheels of self-building turn and if you don't have enough, your build will eventually grind to a halt — that's if you manage to get started at all.

Anyone that decides to self-build will be doing it for a particular reason. For some, it's the craving for an individual lifestyle, for others it may be the pursuit of sustainable living. It doesn't matter what your drivers are, without the necessary funds, your dream could remain a fantasy or worse still, turn into a nightmare if you

can't fund the project through to the end. Getting your finances in order and working out how much money you need is therefore critically important to successfully getting the build underway.

The key issues to sort when it comes to money are as follows:

● Establish your budget and check it works!

Once you've established a reliable budget, compare it against the expected build cost, including any abnormalities (one-off costs

Before you start on site...

In this new series, I'll explain how to get ready to start your project. In this article, we look at financing the build and managing money (previous issues looked at what needs to be done to secure planning approval and setting up the project team). In future issues, I will look at: legal matters and site investigations;

completing the design and finalising specifications; Building Regulations and warranties; choosing the best route to build; setting quality standards; health and safety compliance; appointing contractors and suppliers; and setting up the building site. Together these topics provide an understanding of what's involved in successfully starting your self-build project.

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**Once you've
started the
build, options
to control
costs will be
much more
limited**

10 financial steps to take before starting your build

1. Work out how much money you have
2. Check your plans are sensible
3. Check the project's profitable
4. Adjust your plans if necessary
5. Complete the design and specification
6. Choose a preferred build route
7. Tie down the build cost
8. Identify risks and opportunities
9. Make a contingency allowance
10. Put the financial controls in place

unique to your project) to make sure you don't have a shortfall. Doing this early provides lots of choices to close the financial gap. Remember, once you've started the build, options to control costs will be much more limited.

Before committing to starting the build, it's worthwhile comparing the total cost of developing (professional fees + land value + build costs) against the predicted end value of the completed home. Hopefully, your project will generate equity or profit, making the efforts of self-building even more worthwhile. If the returns aren't what you'd expect and there's no obvious answer to improve the numbers, now's the time to return to the drawing board and come up with a scheme that will work.

If you need to close the financial gap, consider some or all of these approaches:

- Reduce the building footprint and limit the scale of the build.
- Review the specification and work out how to compromise on the not so essential 'big ticket' items.
- Eliminate cost uncertainties by undertaking site surveys and investigations.
- Choose a more affordable route to build — remember convenience costs more.
- Never assume you will claw back money along the way by buying better to land a budget — you won't, and not having a 'slush fund' could prove painful.

● Tie down the build cost

It seems obvious to suggest that costs should be known before you start to build. For some reason, lots of people, especially those who suffer cost overruns, don't tie this down and therefore the inevitable financial pressure builds. To figure out the

build cost, you first need to know what you want to build. Having the approved planning drawings is a great start but in order to form a fuller picture you'll also need a detailed scope of work, a project specification, a chosen build route and a list of those personal must-haves and 'nice-to-haves'.

There's lots of empirical evidence available that helps to form a fairly reliable picture of what construction costs should be. Have a look at what others have achieved by reading the case studies in *Homebuilding & Renovating*, take a look at the build cost calculator (page 200), and get hold of price guides from self-build package companies. These are all good tools that will help you put together a basic guide price.

But, as every self-build project is unique, while such information is useful, more information will be needed to work out an accurate and reliable build figure to reflect the individuality of your project.

Often, self-builders who aren't experienced or confident enough to put together a build budget turn to the services of professionals to do it for them. This is fine and certainly helpful but remember, it's your money and you will be spending it, so read and understand what they've done to make sure it's what you want and offers a budget that's affordable for you.

Finally, don't be afraid of putting together a budget yourself — it's not as complicated as you'd think and by sending out enquiries to builders or key subcontractors and suppliers, you'll quickly establish the lion's share of the cost which will offer some reassurance as to whether your budget will or won't work.

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SELF-BUILD MORTGAGES
Self-build mortgages differ from 'standard' mortgages: for example, funding is released in stages at key, identifiable times during the construction, rather than on completion of the build.



Cost certainty is a utopia rarely achieved, but it's worth working towards

Remember, convenience always comes at a cost and turnkey builders will be more expensive than self-managing or using a project manager to oversee the build. This doesn't mean builders are expensive for what they offer but it does mean you should understand why you need the convenience they provide before allowing a bigger slice of your cake to be consumed by taking this route to build.

● Aim for cost certainty

Let's face it, cost certainty is a utopia rarely achieved, but it's worth working towards. While cost variables have a habit of swinging both ways, helping to balance the books, they should never be relied upon to keep your build solvent. The key to cost certainty lies with eradicating the likelihood of the variables in the first place and this should be done before work starts.

Often, the cause of 'cost creep' is closer to home than you'd think, as the most likely source of change is probably you, changing your mind. It's a good idea to work out a detailed scope of works and specification as the process will help you figure out what you do and don't want.

A thoroughly prepared scope and spec will also serve as the basis for contractor and supplier enquiries. It will provide them with the information needed to price your project properly and to do so without the need for assumption, and for you to build in contingencies to cover change and unforeseen costs.

The risk of busting budgets doesn't lie solely with the cost of construction either. Issues can also occur with cost creep associated with professional services such as those for architects, engineers and surveyors. For example, it's quite common for architects to be appointed to undertake the building design but this might only include the concept design for planning and not the detailed drawings for Building Regulations.

It's a similar story when it comes to engineering due to the number of different disciplines involved such as foundations,

drainage and structural design. This could lead to confusion about what you think you might have bought. The fact that some contractors include engineering design as part of their package complicates matters still further.

Before making appointments, it's important to figure out what you and your project needs. Make sure you know what you're buying and be aware of service gaps between professionals. It's a good idea to draw up a detailed list of services needed and tick each one off as they're appointed.

Don't forget, some contractors and suppliers offer design for little or no cost — for example, structural systems and mechanical and electrical installations are considered as part of their package. It therefore may not be necessary to pay for a specialist to design these elements of work.

Watch out for professionals pricing services as a percentage of construction cost. The inclination may be to increase building costs to inflate fees — this 'double whammy' can prove very expensive so it's best avoided.

● Arrange project finance

Speaking from experience, arranging finance for a self-build project is a tortuous task. The process is complex, lenders' rules seem endless and the scrutiny, at times, can feel uncomfortable. Don't be surprised by the depth of interest in your personal expenses. Unlike standard mortgages, where the money is used to buy a house that already exists, self-build requires a high degree of money management to build a home and lenders will want to know you're in a position to do this. Lenders will check bank statements to figure out if you've got expensive habits and hobbies that might get in the way of keeping the cash flow positive. It's therefore a good idea to clean up spending habits well before embarking on a self-build project.

Despite the difficulty of navigating the process, the due diligence employed to protect the lender is a good thing — and also serves to protect the self-builder. I'm sure projects funded through finance rather



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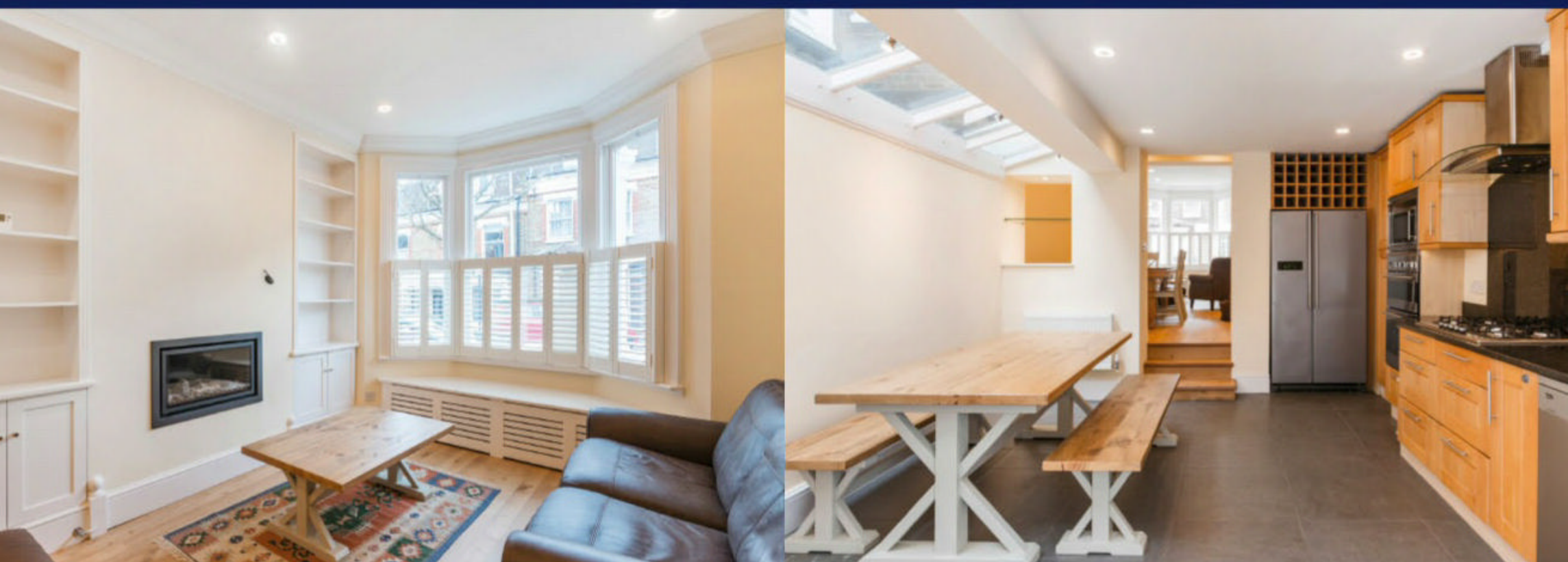
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RISK	IMPACT (£)	ACTION	WHEN	OPPORTUNITY	IMPACT (£)	ACTION	WHEN
Foundation requirements may change due to unforeseen ground conditions	£5,000	Carry out a site investigation and arrange for an engineer to design the foundations needed	Sept 2018	Off-site drainage connection proving expensive	£10,000	Negotiate with neighbour to agree if a drain connection can be made into their manhole	Sept 2018
The start date means the build will be completed in the winter period. Delays expected due to weather conditions	£10,000	Opt for a timber building system which isn't affected by wet conditions and enables the house to be made watertight quickly	Oct 2018	Change the specification / manufacturer of roof tiles to cheaper alternative	£3,000	Obtain samples and consent from planning authority to change	Oct 2018
Additional fees from architect, as Building Regs not included in service	£4,000	Obtain fixed price from architect and compare to alternative design options such as package companies	Aug 2018	Reduce rental costs for temporary accommodation while the new home is built	£4,500	Reduce build period by using an off-site system. Agree a reduced build programme with builder	Nov 2018
Gas service not available	£7,000	Investigate heating alternatives (i.e. air source or ground source heat pumps). Costs can range greatly	Nov 2018	Increase equity (profit) by maximising end value of the home	£25,000	Discuss features that should be included that future buyers would value. Maximise floor area by using a slim wall system	June 2018
Total Risk £26,000				Total Opportunity £42,500			



Having this visibility provides opportunity to ‘cut your cloth’ if the budget runs over

than cash are much more likely to avoid financial stress as a result.

Specialist mortgage brokers are particularly useful in helping to sort out your financial circumstances and securing the funding needed. You can, of course, arrange the finance without them but the truth is, it will take you longer and you’ll probably secure less funds as a result of naively putting forward a flawed application.

● Put cost controls in place

Once you’re satisfied the project is financially sound and arranged for the funding, before starting to build and spend money, put in place financial controls to ensure money is managed throughout the build. The key tools to do this are:

• **Budget trackers:** This involves no more than simply comparing actual costs against the forecast budget as orders are placed and bills are paid. The benefit of tracking expenditure is that a running total of the ‘true’ figures can be gathered and therefore the impact of cost can be understood as work progresses. Having this visibility provides opportunity to ‘cut your cloth’ if the budget runs over.

• **Risk and opportunity registers** (see example above): This isn’t a tool usually associated with self-build but it’s one self-builders should certainly use. In the interests of making money, commercial builders always have a really close eye on where money can be made and where it’s lost. Having this financial focus helps them identify issues early, so they can be addressed to minimise losses and maximise their profit.

Self-builders should do the same and by identifying areas of concern, they can be sorted before they become a painful financial reality. Having this commercial discipline is a great way of maintaining your sanity when unexpected bills land.

The financial health of any self-build project relies on two things: having a plan that’s sensible and being well-organised in order to control the money as you spend it. This should start at the very beginning of a self-build project by scrutinising the numbers and developing the tools to keep you in control. 

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**KEN DIJKSMAN**

Ken, a former planning officer, is a planning consultant and owner of Dijkman Planning LLP. He is also the author of *The Planning Game*

UNDERSTANDING PLANNING: How to get your plans approved

Knowing the considerations likely to win over planners in the area you want to build is essential, says planning consultant Ken Dijkman



As a self-builder, the more you know about planning permissions the more likely you are to be one of the lucky ones whose plans get passed

The rhetorical question I hear a lot is: “How on earth did they get planning permission for that?” Sometimes it’s said in jealousy, sometimes out of simple astonishment, and sometimes in disgust. Why some houses get permission and others don’t is something of a mystery to those outside the industry. As a self-builder, the more you know about planning permissions and policies – and why some applications are granted and others refused – the more likely you are to get your plans get passed.

Planning decisions are based on both national and local planning policies — namely the National Planning Policy Framework (NPPF), which forms the foundation for local authorities’ local plans. The jargon is ‘material considerations’ — things that are relevant to planning and that are taken into account when deciding a planning application.

The first key point to note is that planning decisions based on planning policies can be entirely different depending on the location of a site. So, understanding the context of a piece of land or a property is absolutely essential to grasping whether or not planning permission is likely to be granted. Different policies apply in different areas; in other words the planning policies related to a site on one side of the road might be different from those on the other. A great example would be the planning policies in a national park:

they will be much more restrictive and controlling than the policies in the area outside it. The same will apply to other designation areas such as conservation areas, areas of outstanding natural beauty, within the setting of listed buildings and in locations with sensitive wildlife restrictions.

Tipping the balance

Planning is often described as a kind of scale, known as the planning balance: some matters have positive weight in favour of a proposal and some matters weigh against.

There are some issues that are really not relevant to planning, that aren’t ‘material’ and that will not carry any weight for or against a proposal as far as the planning authority is concerned. These are some of the things that will neither help nor hinder your case in favour of your new home or extension, and include:

- **Personal circumstances** Everybody has a very good reason why they should be treated differently and why they really should have the house of their dreams. But it is extremely rare for individual personal circumstances to have any bearing on whether something is acceptable in terms of planning. There are examples: if someone is severely disabled and there are genuine grounds for them to be treated differently because of exceptional needs. But in the vast majority of cases your own personal, financial, family, marital or emotional pressures will have zero influence in terms of getting planning permission.

- **Who you are** Planning permission is attached to the land and the identity of the person making the application is usually irrelevant. It may be the case that an application is required for a farm worker’s cottage, which sounds like a personal permission, but it’s not. It’s about the need for a farm worker and a dwelling not the specific identity of that farm worker. Equally you might apply for a ‘granny flat’ in your garden justified on the basis that ancillary accommodation is needed. The identity of the individuals concerned is not relevant. The permission relates to a



CASE STUDY

A plot close to Milford on Sea with views looking out towards the sea across a third of an acre plot, did present its challenges for the now proud homeowners of this contemporary self-build. But luckily the couple had their son Oliver Bray, director of award-winning Winchester-based practice OB Architecture, to take on their project. The site was set between two traditional low-lying thatched cottages that were identified by the planners as ‘being of architectural significance in the local area’. Plus, the plot was in an area deemed of ‘special character’. Plans had to therefore be put forward to the parish council who felt the design was out of keeping with the neighbouring thatched cottages, which meant the couple had to go to a council planning committee meeting. But, there was good news – the design received the majority vote so the couple were able to go ahead with their dream build.

functional requirement, in accordance with planning policies, not the personal identity of the ‘granny’ involved.

● **Profit and loss** Financial circumstances very rarely have any influence on residential planning and certainly not for the self-builder. So arguments about financial issues and the costs involved in meeting planning requirements will have no bearing on a planning permission. People have always got a good financial reason to argue about planning, so aside from matters of viability (which might undermine the provision of socially desirable things such as affordable housing), the profit or lack of it is rarely relevant to getting permission.

Material matters

The list of planning issues that are ‘material’ to getting a permission is much longer. These are some of the important matters that might form part of the planning decision-makers assessment:

● **Principle** The number-one planning issue has got to be principle — is what you want to build ‘in principle’ acceptable in the location where you want to build it? In simple terms, most of the time, building a house within an existing settlement is acceptable ‘in principle’. Ordinarily building a house outside a settlement in the open countryside, on the other hand, is in principle not acceptable. In order to overcome this ‘in principle’ difficulty of trying to build a house in the countryside you need to have a good reason. You might be replacing an existing building or converting a barn. Or you may propose a house of exceptional design quality that justifies itself in landscape and visual terms. But an understanding of the principle is important, there is simply no point in persistently trying to get permission where the planning policies are opposed ‘in principle’ to a scheme.

● **Design and appearance** This is a very tricky area because planning does involve subjective judgements being made by planning officers and committee members about whether they feel the design, scale, character, architectural approach and general visual impact of a house is in keeping and in character in a particular location. There is clearly endless opportunity for disagreement when it comes to taste. This is why planning committees often end up refusing things because they’re out of keeping; it can be a default reason for refusal. The choice of a good architect who knows the area you want to build in and who has the ability to persuade the decision-makers will be key.

● **Residential amenities** Impact on neighbours is always important within built-up areas. This is about potential overshadowing, overlooking, physical domination and the direct physical relationship between what you want to build and the immediate neighbours. Most planning authorities have design guides and supplementary planning documents which spell out the rules of thumb and criteria that dictate whether they will accept distances between windows and relationships between new extensions or houses and nearby existing properties. So before getting carried away with ideas of a proposed new development check out the criteria and design standards set out within the ‘residential design guide’ for that location.

● **Heritage impact** Increasingly non-listed buildings in locations outside conservation areas are being accorded some importance. The phrase ‘non-designated heritage asset’ can refer to pretty much any house that has any age that the council planning officer may feel is important. As a result, they may try and prevent its demolition, or they may make heritage arguments against the size and positioning of an extension.

Obviously within conservation areas and in the settings of listed buildings there are also a host of conservation and heritage concerns you need to consider.

COUNCIL DESIGN GUIDES

and supplementary planning documents dealing with specific subject areas like design, access, parking, ecology, etc., are worth reading to learn more about what influences planning decisions.

● **Landscape impact** An important material consideration — the scale of a new development, its location, the materials used and the trees that must be retained are all often dictated by landscape sensitivity.

Different parts of the country have special landscape designations – such as areas of outstanding natural beauty, heritage coast or national park – and it's important to know about them when trying to get planning permission. It does mean that anomalies will exist and developments that appear to be in the same landscape will be treated very differently because of the designation which affects one but not the other. It also means that where you can incorporate significant landscape planting within your proposal and demonstrate that trees are being retained and hedges improved this may help your case.

● **Ecology** There are very serious laws about harming wildlife and damaging habitat but very few planning applications are prevented because of ecological impact. Putting aside Sites of Special Scientific Interest and those areas that require additional open space to compensate for increased numbers of residents, in most cases ecology comes down to the presence of bats or birds, and great-crested newts.

An application made in an area sensitive to wildlife will need to be accompanied by ecological surveys. There are plenty of consultants who offer them but the time of year when surveys can be undertaken is often restricted and if you're unlucky, you may have to delay your application for six months until you're in the right season to undertake the necessary surveys. However, once you've done your surveys and you understand the ecology, it is pretty unusual for this to prevent development; it is more normal for mitigation to be undertaken to ensure that wildlife is accommodated within a scheme and mitigation measures, such as bat boxes or nesting boxes or areas for newts, are retained and provided. Don't panic if the house you want to demolish has bats in the roof, just be aware it's likely to delay the process.



● Highway safety and parking

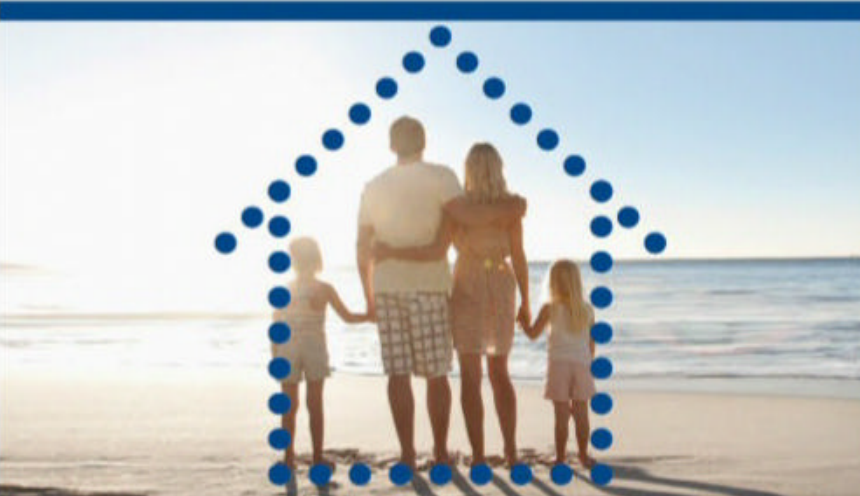
Highways and transport issues are often the number-one grounds for objection to new residential development, even to single houses. Local authorities have parking standards and if you are building a new house you need to provide parking. In some locations, such as the central areas of large towns, you can get away with no parking because it's assumed people can walk to the nearest bus stop or train station. But just about everywhere else there will be standards you need to comply with.

There are also necessary visibility considerations at new accesses to ensure that you can see the traffic. It is absolutely essential that if you buy a building plot that you ensure that it has adequate access that meets the necessary highways' requirements. There are many excellent development sites that are vacant and undeveloped because they are not capable of being accessed or because the point of access is owned by somebody unprepared to come to an agreement. So, accessibility, highway safety and parking are key material considerations that will be looked at very carefully in respect of any planning application.

So, next time you see a house built in a strange location and find yourself asking how did they get away with that, it might be worth looking at the planning history and reading the planning officer's report that will explain the decision-making criteria that led to that permission being granted. **H**

CASE STUDY

When Jo and John Hawes wanted to build a new house for themselves, preparing their planning application became a rather lengthy process. They came up against access issues, and had to have a bat survey, flood risk assessment and an arboricultural assessment done that included mapping out and identifying every tree and plant in the garden. As a result of the assessment a number of trees were retained and protected during the build.



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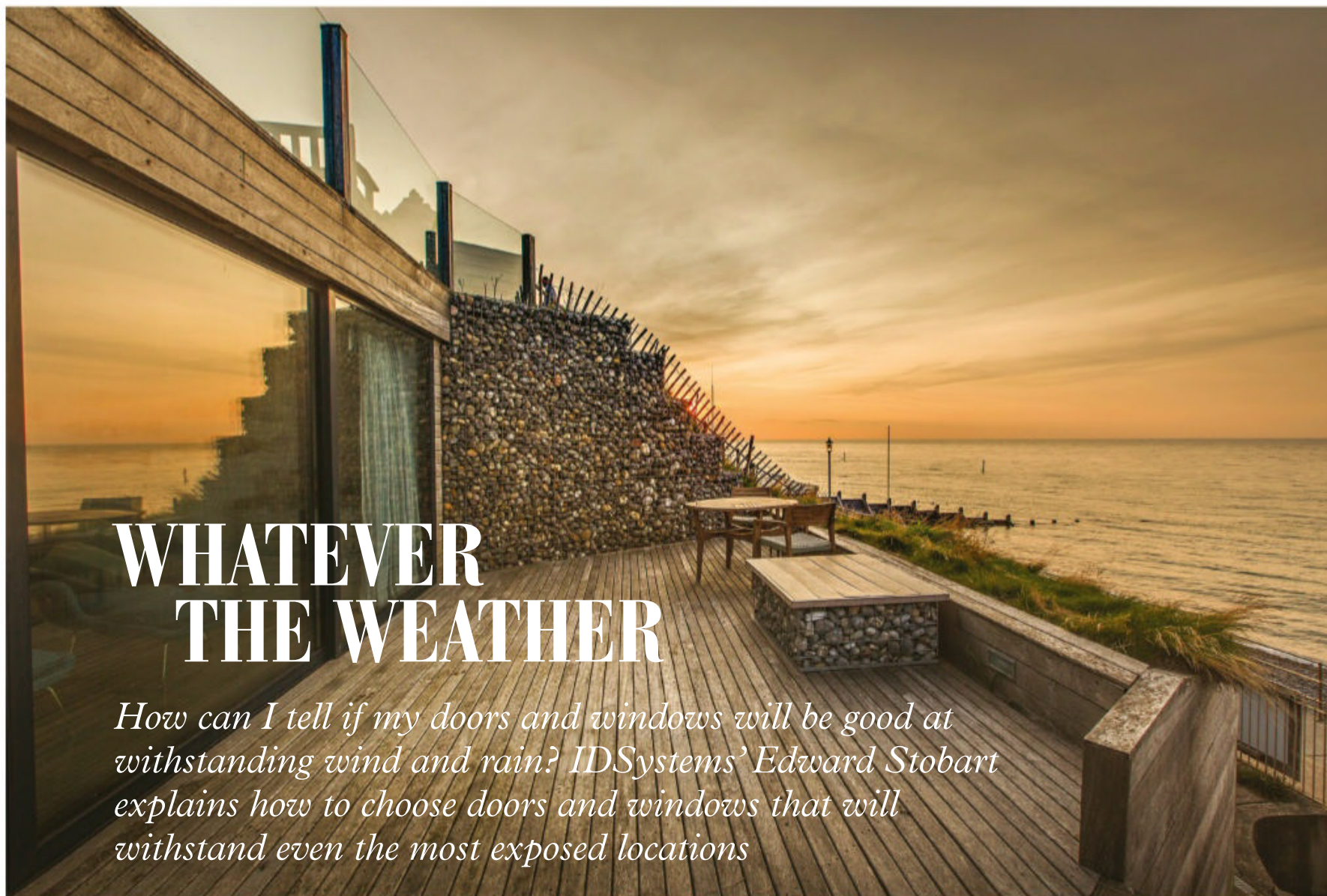
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Advertising feature



WHATEVER THE WEATHER

How can I tell if my doors and windows will be good at withstanding wind and rain? IDSystems' Edward Stobart explains how to choose doors and windows that will withstand even the most exposed locations

At IDSystems we typically get asked three questions on every project: “How much?”, “What are the sightlines?” and “What is the U value?” These are all good questions, but there is a fourth question that hardly ever gets asked — “How well will my doors withstand wind and rain?” Knowing the answer to this is crucial wherever you live, because it is a good indication of how well the system is put together. And it is absolutely critical if you are building in a rural or exposed location.

HOW IS WEATHER PERFORMANCE MEASURED?

AUnlike U values which are a theoretical calculation, for weather ratings every set of doors on the market has undergone an independent physical laboratory test in three categories — air permeability, watertightness and wind load.

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system, including track and frame, they offer an indication to the quality of the overall product, particularly regarding how well the doors are manufactured and how well they seal together and to the outer frame.

DOES A GOOD U VALUE MEAN THE DOORS ARE GOOD AT PROTECTING FROM THE ELEMENTS?

ANo, not at all. They are completely independent measurements. In theory it is possible to have door or window that has a very low U value but is still draughty, because the U value is calculated on the glass and frame of a panel or sash and not on the overall system.

WHAT FIGURES SHOULD I BE LOOKING FOR?

AFinding the actual test figures can be a challenge because some manufacturers, unsurprisingly, don't make it clear how well (or poorly) their doors perform in the tests. For the air permeability test (EN12207) the classes range from class 0 (the lowest) to class 4 (the highest), while for watertightness testing (EN12208) the classes range from class 0 (the lowest) to class 9 (the highest). At IDSystems, our SUNFLEX bifold doors achieve Class 4 for air permeability and Class 9a for watertightness, ensuring the systems are ideal for even the most exposed locations. **H**

Top: Three-panel Grand Slider II sliding doors from IDSystems
Bottom: Six-panel SUNFLEX SF55 bifold doors from IDSystems with gable end glazing.





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Jargon buster

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BARGEBOARD

Bargeboards are traditionally fastened to the gables of the roof to protect it and are now seeing a renaissance as an architectural feature (as right). Deeper bargeboards can create a contemporary finish while also reducing unwanted heat loss by preventing thermal bridging.

UNDERCLOAK

An undercloak is a slate or concrete fibre strip that's laid at the verge of a roof before it is battened and tiled/slatted. It helps support the mortar used to infill the gap between the underside of the tile/slate and the roof. (A dry verge system will eliminate the need for one.)

TRENCHFILL FOUNDATIONS

A widely used alternative to strip foundations is the trenchfill foundation, where the trenches are filled with ready-mixed concrete to just below ground level. (Strip foundations will need less concrete but feature below-ground masonry.) Just above ground level, the footings are topped with a damp-proof course and then the ground floor installed.

PARTY WALL

A wall that divides two attached buildings and that belongs to both. If you're looking to carry out building work on a terraced or semi-detached house or flat, then it is likely you will have a shared wall with a neighbouring property. The Party Wall Act prevents building work undertaken by one neighbour undermining the structural integrity of shared walls or neighbouring properties. It is also designed to avert and resolve potential disputes with neighbours.

OPEN PANELS

Prefabricated open panels for timber frame homes are manufactured off site and delivered to site without insulation and external joinery (doors and windows); the latter elements are added on site during the build and then the panels are 'closed'. This differs from closed panel systems, often offered by the likes of German package companies, which are delivered to site with insulation, joinery (windows and doors) and perhaps elements such as cladding, already factory fitted. ^H



SCREED

A way of levelling uneven floor structures (typically concrete subfloors) before laying the floor coverings. Screeds are also the generally preferred medium for underfloor heating pipes too, as the material is great at absorbing and radiating warmth, becoming an integral part of the heating process.

The terminology for liquid screeds can be a little confusing because the terms 'anhydrite', 'calcium sulphate' and 'gypsum' are used interchangeably, but the ready-mixed liquid screeds are beginning to take on the traditional sand/cement mixtures that previously dominated the market.

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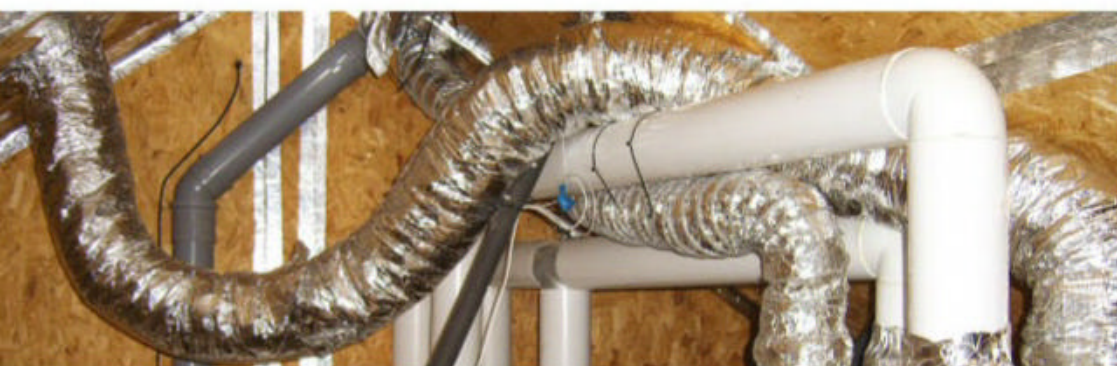


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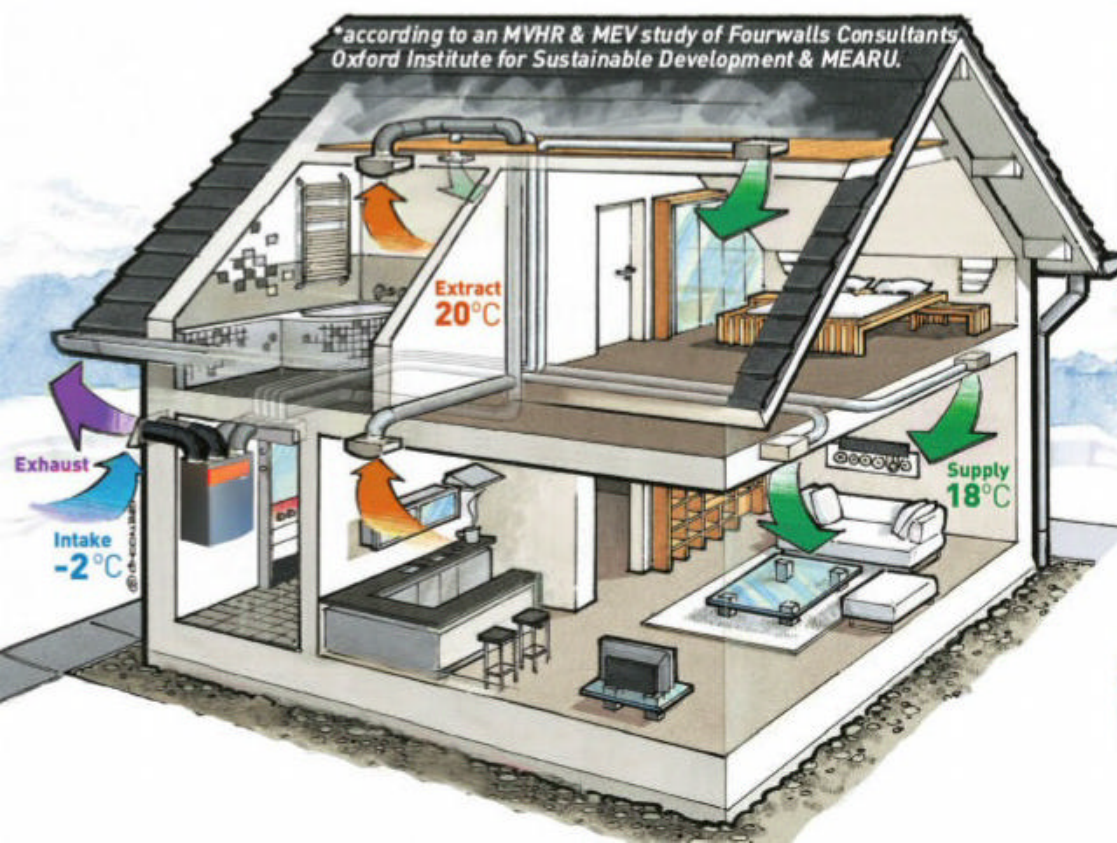
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VENTILATION: Know your options

Ventilation is key to a healthy home, and while mechanical ventilation with heat recovery has become a buzzword, there may be more options available than self-builders think, says energy expert David Hilton



We all need fresh air to survive and as such, in our drive towards energy efficiency in our homes, we are continually looking for better, and more efficient, ways to ventilate them and keep them healthy.

For many homes, including most of the existing housing stock, airbricks and trickle vents have been the solution of choice. They are cheap to install, comply with regulations and are understood by most contractors. These measures can keep the home ventilated but with some important caveats. If there is no wind then the home may not be ventilated at all, and conversely if the wind is blowing hard then the home could end up over-ventilated. External influences such as dirt and debris, plants or garden features, or internal features such as curtains or furniture can block airbricks. Internal doors must also be open to allow the passage of air to move through the home to allow for cross ventilation.

It is this unpredictability that has led us to explore active ventilation options more closely, and solutions such as mechanical ventilation with heat recovery (MVHR) systems have largely become the ventilation 'must have' for the discerning self-builder. This does make sense on paper as the system extracts warm, humid and stale air from certain rooms, such as the kitchen and bathrooms, and then delivers fresh air to habitable rooms such as the bedrooms and lounge. Fresh air is also drawn in from outside. The air passes through a heat exchanger and the heat in the stale air is extracted and transferred into the cool incoming fresh air to preheat it.

Manufacturers claim efficiencies of up to around 92% but in real world situations, where the airtightness is not absolutely optimised, lower figures of about 75% can be expected. This means that if the room temperature is around 20°C you could expect the fresh incoming air to be preheated to around 15°C. So, in order to achieve worthwhile levels of heat recovery efficiency it is important to have manageable airtightness levels.



Whichever system you opt for I would urge you to design it early on

Airtightness is simply another term for draughtproofing and it must be emphasised that it does not happen by accident. Air moves through the fabric of the building at all penetrations, such as windows, doors and services pipes, as well as all junctions, such as plate levels where the floor meets the wall and where the roof meets the wall, and through the fabric of the building itself. We would not want to draw humid air from the bathroom to then simply allow cold air to ingress through the ceiling area. All these areas must be designed to be airtight from the outset because if these details are not on the drawings they're probably not going to get built.

There is a lot of ductwork to accommodate and in order to make it discreet you really want to hide it away in open web floor/ceiling joists, studwork or loft areas. Too little ductwork, too small ductwork or too many twists and bends will increase the resistance and result in higher fan power and therefore higher running costs and increased potential for noise.

What are the alternatives?

If airtightness cannot be guaranteed or the duct runs cannot be designed and installed with low resistance (which can be a challenge in existing homes) then perhaps MVHR is not for you... but there are other options that may be available.

In 1972 Nuaire developed the concept of **Positive Input Ventilation (PIV)** to specifically tackle the ventilation issues in existing properties. The system works by gently supplying fresh, filtered air into the property from a unit installed in the loft area, and a distribution diffuser mounted in the ceiling. The continual supply and slight positive pressure result in the air in the property being continually diluted, displaced and replaced to create a healthier indoor air quality.

The airtightness of the property does play a part as air will travel the path of least resistance and you don't want

it escaping out the nearest window and having no effect on rooms further away from the diffuser. And it does also rely on the availability of some loft space to put the unit in, so is not ideally suited to apartments or homes with vaulted ceilings or flat roofs. You will also need to make sure that Building Regulations Part F is complied with, as the PIV unit does not act as an extract ventilator.

MVHR units are designed to run continuously all year round and another alternative option is known as 'on demand' ventilation. This is a process whereby mechanical ventilation (without heat recovery) is installed but only used when required, or to draw more air from areas of higher occupancy. So it is only the stale air that is exhausted and not a continuous flow. Simple versions of this are decentralised extract fans in bathrooms and kitchens. If we combine these with a passage of airflow from another area of the property we can introduce mechanically managed cross ventilation.

Further improvements would be to add a small number of extract ducts that converge to a single fan unit. This is known as a **mechanical extract ventilation (MEV)** unit, which requires the fresh air to enter the home through carefully positioned airbricks and trickle vents. So, an MEV system is almost the opposite of a PIV system. Ventilation manufacturer and system designer Aereco has also introduced humidity-sensitive trickle vents and airbricks. This feature allows the apertures to open when there is humidity present (occupied rooms) and close when the humidity levels drop, thus creating different paths of airflow according to changing occupancy.

What's more, by using an MEV system that has a refrigerant heat exchanger we are then able to extract the heat from the stale exhaust air and enhance it and use it as useful heat for hot water preparation. The Earth Save Products Ecocent hot water cylinder (overleaf) does exactly this

thanks to a built-in micro air source heat pump that draws in around 600 Watts of electricity to then deliver around 1,800 Watts of heat to the hot water.

Whichever system you opt for I would urge you to design it early on. Take into account your budget, the airtightness of the property and your specific lifestyle choices. Who knows? You may like to sleep with all the windows open. That way you can establish whether your planned home allows the technology to operate in an optimised way and that it will truly meet your expectations. 

USEFUL CONTACTS:

ADM Systems www.admsystems.co.uk

Aereco www.aereco.co.uk

Airflow www.airflow.com

Domus Ventilation www.domusventilation.co.uk

Earth Save Products www.earthsaveproducts.com

Elta Fans www.eltafans.com

Envirovent www.envirovent.com

Nuaire www.nuaire.co.uk

Paul Heat Recovery Scotland www.paulheatrecovery.co.uk

Rega www.rega-uk.com

Solarcrest www.solarcrest.co.uk

Total Home Environment www.totalhome.co.uk

Vent Axia www.vent-axia.com

VENTILATION DUCTING: 5 things you need to know



DAVID TREHARNE
is a senior
engineer at
Domus
Ventilation
(www.domusventilation.co.uk)

1. ONE SIZE DOES NOT FIT ALL

There are four types of plastic ventilation ducting systems to choose from: the original flat channel, which is effective and space saving; the round pipe, which offers improved flow rates but can be problematic where space is at a premium; the low cost flexible hose; and the radial, specifically designed for use with continuous mechanical ventilation systems. The shape and size of your ducting will vary according to the type of ventilation system you are fitting and the space.

2. SELECT QUALITY DUCTING

Substandard ducting could result in the ventilation system not

meeting Building Regulations or a room with an ugly stain in need of redecoration as a result of leakage from the ducting system. Sadly, there's no standard to look for but the fit is a sure indicator of quality. If the ducting bows, looks like it is concave or the wall thickness appears uneven the tolerances will be too wide and create a lacklustre fit.

3. VENTILATION SYSTEMS CAN BE NOISY IF NOT CORRECTLY INSTALLED

A noisy ventilation system is more often than not a result of ducting that is too small for the volume of air extracted, or poorly installed. Where the ducting isn't the cause of sound, it can be the carrier of it. Sound can travel down the ducting from the fan, or from traffic noise or room-to-room cross talk. Duct sound attenuators can be used, which effectively absorb sound over a range of audible frequencies.

4. INSULATE YOUR DUCTING

Ducting insulation is required

under Building Regulations where the ducting passes through unheated areas and voids, such as loft spaces. It reduces the possibility of condensation forming, which can lead to mould. The minimum duct insulation standard is the equivalent of at least 25mm of a material having a thermal conductivity of $\leq 0.04\text{W}/(\text{m.K})$. Not all domestic duct insulation products meet this requirement, so research carefully. (For reference, Domus Thermal exceeds these measures.)

5. THINK FIRE SAFETY

When a hole is made in a compartment wall for plastic ventilation ducting to pass through, the hole must be firestopped (a seal added) to restore the wall's fire rating in accordance with Approved Document B of the Building Regulations. It is essential that the firestopping product you use for this has been specifically designed for this purpose.

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DAVID SNELL

The author of *Building Your Own Home*, David is a serial self-builder and has been building homes for 50 years

How to address the grey areas between trades

Serial self-builder David Snell reveals the key tasks which fall between trades, what this means for your project and how to prepare for them



Over time, the particular skills of individuals have evolved into the various trade disciplines that we know and recognise today. But the trouble has always been the 'grey areas' which fall between trades, and the debates around just who is responsible for what, particularly where tasks undertaken by one or several trades abuts another. This problem has been exacerbated in recent times by the introduction of new technologies and new methods of doing things to the point where, in some instances, entirely new trade disciplines have grown up.

For those opting for a turnkey solution or employing a project manager or main contractor / builder to oversee the build, these grey areas will be smoothed over and managed for you for the most part. However, for those project managing part of or the entire build and/or taking on DIY, it pays to be aware of, and plan for, these grey areas from the outset.

The self-builder or renovator in this position needs to understand these

anomalies, to look out for them and to make sure that they are covered by at least one of the interacting trades and included in their quotations. To aid with this, I've listed some of those key grey areas which fall outside the remit of the trades, and explain what you need to know.

● Setting out the foundations

A surveyor may well survey the land and produce a topographical picture of your plot, detailing the measurements and the various levels. An architect or designer may take that plan and use it to formulate the design of the new house or extension, and then the builder or groundworker will undertake the construction in accordance with those plans. But who is responsible for setting the building out on site? This involves marking out the location and outline of the house before the foundations are dug; a task which must be done accurately for obvious reasons. The answer is that it does not automatically fall within the remit or the capabilities of any of the aforementioned professions.



The self-builder or renovator needs understand these anomalies and make sure that they are covered by at least one of the interacting trades

When to get the building inspector out

The building inspector will need to visit the site at set stages to approve the works. Those inspection stages are:

- Excavations for foundations
- Foundation concrete
- Oversite
- Damp-proof course
- Foul water drains trenches open
- Surface water drains trenches open
- Occupation prior to completion (second fix)
- Completion

It's not rocket science. All it needs is a knowledge of Pythagoras' theorem, some pegs, string lines and something to mark the ground, such as lime or spray paint. But whether you aim to take on this task yourself, or want this to be undertaken by a groundworker or a surveyor, just who is going to take responsibility has to be established within the price agreed from the outset.

● Hiring equipment

If you're using a builder for the whole job then they'll be responsible for hiring any additional equipment they need. However, self-builders who are project managing will need to make provisions for this. If you're employing direct labour, for instance, then bricklayers may turn up expecting you to supply not only all of the necessary materials but also the 600mm x 600mm spot boards upon which the labourers will load out the mortar. Additionally, unless previously agreed otherwise, they will expect to find a mixer, a water butt and a hose running from a suitable water source.

If you haven't got these items on site when they arrive, your bricklayers may simply go off to another site and you could be waiting ages for them to come back.

● Liaising with building inspectors

It's the responsibility of the main applicant to ensure that the Building Regulations' inspectors are advised of the commencement of work and then kept abreast of progress and called out to inspect at the required stages. It's the responsibility of the client (the self-builder) to make sure that warranty inspectors are, similarly, advised.

It's also incumbent upon the self-builder to make sure that service and utility providers are contracted and that contact is maintained with them for the provision of their services and any necessary work that may need to be undertaken to facilitate them carrying out their tasks.

All of these actions can be devolved to the builder or another responsible person

on site (i.e. a project manager or architect if they're retained to oversee the build), but ultimate responsibility remains with the self-builder. So you need to make sure that, if you are devolving these responsibilities, the fact that you have done so is clearly understood and undertaken.

● Beam and block flooring

It's a moot point as to which trade this falls under. If the suspended concrete or beam and block floor is to the ground floor, it's more or less assumed that it comes within the remit of the groundworkers — but not necessarily. It can equally be done by the bricklayers and in some cases, the groundworkers will position the beams and the bricklayers will infill them with blocks and brush grout them. Again, the self-builder must make sure they know just who is going to be responsible; you need to know who's doing what.

First floor beam and block floors create an even bigger grey area. By the time they are ready to go on, the groundworkers are likely to have left site and, in those cases, it may well fall to the bricklayers to put them up. But they, in all probability, will require a crane to get them up to the higher levels.

● Insulation

Slab insulation to the oversite will be laid by the groundworkers. Walling insulation to the external skins (masonry construction) will be fixed by the bricklayers or carpenters (when it comes to timber frame). However, insulation to a roof, studwork walls or intermediate flooring can sometimes be a grey area.

Usually the carpenters will put the insulation within studwork walls or in the floor zone. But not always. They may leave this task to the plasterers, dryliners or tackers on the basis that other trades, such as plumbers and electricians, won't want it in until they have carcassed (i.e. run the wiring and plumbing as part of first fix). Either way, it has to go in and once again the self-builder must establish who's going to be responsible.

JARGON BUSTER

In very basic terms, in warm roof construction, insulation sits above the roof deck or rafters (in order to prevent coldbridging). In a cold roof the insulation is between the rafters and/or below.

Similarly with roof insulation: the carpenters often install insulation between the rafters as they go to create a warm roof, but not necessarily. And when it comes to installing insulation to a cold roof void, there really is no trade within whose remit this falls.

● Leadwork

This used to be the sole responsibility of the plumbers but, lately, with prefabricated items being available off the shelf, things like skirts (a large area of lead typically found at the bottom of dormers), soakers (placed under tiles where a roof abuts a wall or similar) and flashings can fall to the roofers, the carpenters or the bricklayers.

Make sure that if any leadwork needs pointing in to the brickwork, someone on site – usually the bricklayers – is tasked with the job. And while they're on with it, they can point in any putlog holes left when the scaffolding is removed.

● Filling in holes

The electrician or the plumber may need to cut a hole in plasterboard to fit their pipes and wires through. But is it their job to make good that hole? Usually the answer is 'no'. So the responsibility for this snagging job falls to the decorator who should make good any and all of the blemishes and rough patches within the home. But make sure that they understand that.

● Cleaning the site

Unless you get a specialist company in, or again the onus is on main contractor, this is nobody's job except the self-builder's. Yet it's essential and ongoing throughout the build. If nobody clears things up the whole job will get bogged down in a quagmire of debris. If nobody sweeps and vacuums the dust, no painter in the world can create a good finish.

It seems, depressingly, that no trade will ever have factored in clearing up after themselves within their price. It's the biggest grey area of them all, and the job – undertaken by you, the self-builder – deserves a title all of its own. **H**

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If nobody clears things up on site, the whole job will get bogged down in a quagmire of debris and dust... cleaning up is the biggest grey area

FIVE COMMON GREY AREAS



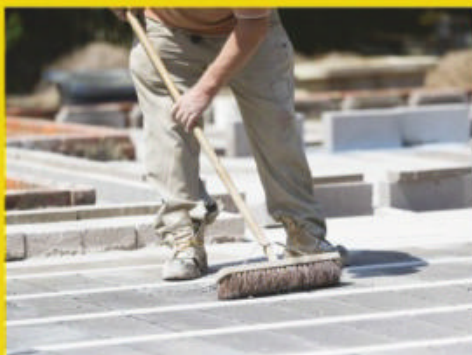
INSTALLING INSULATION

Some tasks, such as insulating the concrete slab, fall within the remit of one trade, but not all jobs associated with installing insulation do.



HIRING EQUIPMENT

If you're project managing, you will be responsible for hiring equipment — such as concrete mixers for the bricklayers.



BEAM AND BLOCK FLOORING

Work to ground floor beam and block flooring may be started by the groundworkers and finished by the bricklayers — but do check from the outset.



CLEANING THE SITE

One of the most underestimated but key tasks on site — cleaning up at the end of each day/week may fall to the self-builder.



SNAGGING

Snagging tasks such as filling in holes left by the electricians completing second fix work are usually undertaken by the decorator, but not always.

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Ask the experts

Our team of homebuilding experts provide the need-to-know answers to your questions. This month, they advise on ecology assessments, garage doors and lawn care



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Sally is a planning consultant and director of Foxley Tagg Planning Ltd (www.foxleytaggplanning.co.uk)



DAVID O'MARA
David O'Mara is marketing manager at Hörmann UK (www.hormann.co.uk)



ROB DWIAR
Rob Dwiar is a landscape designer and writer, RHS gold medal winner and 2016 RHS Young Designer finalist. On Twitter: @RobDwiar



OLIVER BARSOUM
Oliver is an architect and director at Syte Architects (www.sytearchitects.com). He has been an architect for 25 years.

HOW CAN I PROTECT MY LAWN THROUGHOUT BUILDING WORK?

Q Our extension project at the back of the house gets underway in a few weeks and the builders will be using some of the garden to store their materials. How can we protect our lawn from getting damaged?

ALEX JEFFREYS

ROB DWIAR SAYS:

It pains me to be the bearer of bad news, but this is mainly a damage limitation job from the start: lawns just don't do well from being covered or compressed for long periods. They will inevitably be useful spaces to store materials however, given they offer a flat surface. Scaffolding boards or pallets to put materials on or for protecting against heavy footfall will help you stave off damage in the short run, and also prevent areas from being carved or chopped up, but there are no real hard and fast measures to completely protect a lawn in such conditions I'm afraid.

If you're attached to your lawn and want to spend a bit of money protecting it, you can get interlocking tile systems or even employ stripping services that will peel off layers of your lawn and roll it up for you to store until after the work is finished. Either way it would be another cost and not a total fix: the rolls won't last forever and the lawn will still be patchy after the interlocking tiles are removed. However, this can all be tempered by the fact that at least it's 'just' the lawn. Turf does a pretty decent job of trying to come back after trauma or drought, and it won't be too expensive or labour intensive to either resuscitate it, or even re-lay it with new turf if it gets totally ruined. Whatever you do, hope for the best but definitely prepare for the worst.

WANT ADVICE ON YOUR PROJECT?

Whether you are embarking on a self-build, renovation project, extending your home or tackling a DIY task, if you have a query about your project why not ask one of our experts? Email your question to homebuilding@futurenet.com.

You can also visit our website, www.homebuilding.co.uk, to read the latest expert advice, or get social and join us on Facebook, Pinterest, YouTube, Twitter or Instagram.

Finally, come along to one of our eight Homebuilding & Renovating Shows across the UK (www.homebuildingshow.co.uk) and book a free 15-minute consultation with an expert at our dedicated Ask the Experts stand.



HOW CAN I KEEP MY GARAGE-CUM-GYM WARM?

Q *We're planning to build a home with an integral garage. As we plan to use the garage as both a home gym and storage space, it will be as well insulated as the main house. We're worried, however, that the garage door will let in the cold. Is there anything we can do when buying and installing a garage door to ensure it does not become a source of heat loss and draughts?*

DANIEL AND SUE DAVIS

DAVID O'MARA SAYS:

Traditional up-and-over garage doors don't have the best insulation, letting in draughts and making the space unsuitable for anything other than storing a car, so if you plan to use your garage as a home gym it is worthwhile doing research into the type of garage doors available.

Sectional garage doors offer more insulation due to the PU foam sandwiched between two sheets of steel and these come in 42mm and 67mm thick types. (The LPU 67 Thermo door from Hörmann UK offers up to 10% improved insulation in comparison to the 42mm version, for example.)

To further help thermal insulation you can opt for a product such as Hörmann's ThermoFrame, which is fitted to a sectional garage door and will improve the insulation values by as much as 15% as it will provide a thermal break between frame and brickwork, stopping the cold air entering the room.

Another benefit of a well-insulated door is that it also helps to regulate the temperature in the rooms above and to the side of the garage, removing any worries of damp or mould forming with changes in temperature.

“

A well-insulated door will help regulate the temperature in the rooms above and to the side

IS AN ECOLOGY ASSESSMENT JUSTIFIED?

Q I have purchased a plot with planning permission, located next door to a listed building and a pond. We have applied for a garage and some minor amendments to the house design (as our Permitted Development rights have been removed). The planning department have contacted us to request an ecology assessment. The original planning permission did not have this requirement; are they justified in requesting this assessment?

JAMES BELL

SALLY TAGG SAYS:

This suggests that there was an oversight when the planning department considered the original planning permission. If the county ecologist considers that there is the potential for newts on site due to the existence of a pond then they are within their rights to request an ecology report.

If you liaise with a local ecologist they will be able to evaluate the situation and may be able to liaise directly with the council's ecologist, if they have one, or the county ecologist, if your authority is not a unitary authority.



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WHERE TO TURN FOR OUR BEDROOM REMODEL?

Q *I'd like to remodel our bathroom on a budget of around £5-7k. How should I start the process?*

LUCY HILL

OLIVER BARSOUM SAYS:

A few hours with an architect or an interior designer can resolve fundamental issues and set you up with a good working layout. This would include a plan and elevations of the walls. These drawings will show the locations of all of the bathroom fittings and how they sit with other features, such as windows and the door.

With any bathroom remodelling project on a small budget, I would start with the location of the existing plumbing, specifically the toilet waste pipe. See if you can make the layout work with this in

mind. The thing you want to avoid is having boxed in pipework snaking around the bathroom as it always looks like a mistake.

Only once you have all this information set should you proceed to choosing the appropriate sanitary fittings and tiles, not before. There is such a bewildering range of bathroom fittings, not to mention sizes and colours of tiles to choose from, so let a good layout tell you what will work best. As a little tip, select one wall to differentiate in a contrasting tile and this will give the bathroom a focus.

PITCHES AND PLANNING

Q My local council have asked me to change my design to something less aesthetically pleasing. There is a small row of terraced houses next to the plot, but it is semi rural and I am being asked to copy the pitch and height of the adjacent roofs. The house I'm proposing will be the same size as three of the terraces and this change will create a really low roof.

BEN LAWS

SALLY TAGG SAYS:

You need to look at local planning policy relating to design and the Residential Design Guide (RDG) (if the LPA have one). You should make a clear and dispassionate case explaining why your preferred design would be more in line with the provisions contained within local policy and the RDG. Focus on the impact on the local area. Remember, the LPA are primarily concerned with the external visual impact of what you are proposing, so complaints relating to how the dwelling will function internally will likely fall on deaf ears. Your architect and/or planning consultant should be able to help you put together a coherent rebuttal. H

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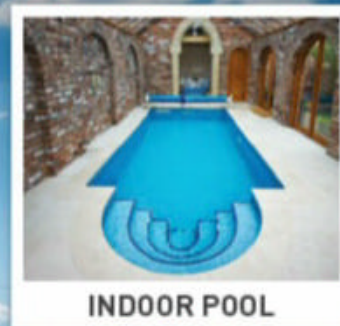
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How to... hang a door

Builder Bruce Bendall details the steps necessary to hang a new door to a new or an existing frame

It has often be said to me that I make things look easy. My answer is usually: “It’s never as easy as I make it look”. But the truth is I have been in this game so long I have picked up tips and tricks from many of the guys I have worked with — as well as a whole number of things that I know from bitter experience not to do in order to save time, expense, or in the worst case, a trip to A&E! Here, in this quick guide, I’ll be sharing some of these tips to help save you the pain of one or all of these experiences.

When it comes to hanging a door and attaching door furniture, you’ll need: a saw, sharp chisels, a plane, a magnetic screwdriver, a tape measure, a sliding set square, a mallet, a drill, a workbench, a Stanley knife and a 20p piece.

Remember, the procedure will depend upon whether you are hanging a new door and frame, or fitting onto an existing frame. I will cover both where necessary.

TOP ‘HOW TO’ TIPS

1 If you are fitting a new door to a new frame then it is easier to fit the doorstops (which stop the door being knocked from its hinges) last. First measure the opening

and check the door will fit — also check which way the door will open and where the light switch is! Measure the thickness of the door and transfer this to the frame in four places. Tack four small blocks of wood as temporary doorstops. If you are careful you can just tack four nails in — as an alternative, I find wire or pipe clips work well. (If you are fitting into an existing door frame then your doorstops will already be in place so you will have to work around them.)

2 Now look at the top of the door. If it is a hollow core moulded type it will have a mark, key symbol or the word ‘lock’ printed on it. This means that there is a solid block within the door that will enable you to fit the door handle and/or lock on this side. Make sure you remember which side is which!

3 Offer the door up to the frame. Don’t expect it to go in first time — this has only happened to me a handful of times in 30-odd years. Try to rope in a willing helper to hold the door against the frame while you mark the top and sides of the door. If you can’t get anyone to help, measure where the door handle is going to be and put a temporary screw in that you can hold while you mark around the door.

4 Clamp the door in your workbench while you plane it down to the marked line. You may need a few test fits before you get it right, but always remember it is easier to plane off a bit more than to stick it back on. The perfect fit is when you can run a 20p between door and frame.

5 Decide how much clearance you need to allow for any floor coverings and mark this on the door.

6 Measure 150mm down from the top of the door for the top of the first hinge and mark both the door and frame together. Then measure 225mm up from the bottom. This is to correct an optical





I will usually bin the supplied screws and replace them with a quality brand

illusion that makes the bottom hinge appear nearer to the floor if you space them equally. If you are fitting a third hinge it generally gets installed centrally, between the two hinges.

7 If you are fitting to an existing frame, mark the door from the cutouts that are already there. Use a hinge as a template to mark below your top line on the door and above your bottom one. It helps to shade between the two to make sure you cut out the same side on both the door and hinge.

8 Clamp the door in your workbench and use a hinge folded back on itself as a template to transfer the marks to the edge of the door — a Stanley knife works well for this.

9 Use a sharp chisel the same width as the cutout and do a series of cuts using a mallet. The idea is to try and use the same force with each tap so the cuts are an even depth. You should then be able to use the chisel alone to even out the depth.

10 Do this until your hinges fit perfectly flush, then do the same with the door frame (you won't have to do this if you're fitting to an existing frame). This is the point at which it is easy to cut the wrong side of the mark, so offer the door up again to check before you do any chiselling.

11 Next you need to fix the hinges. The best way to drill hinges is with a self-centring, spring-loaded drill bit, but a normal bit will suffice if you are careful to drill in the centre of each hole. I will usually bin the supplied screws (if there are any) and replace them with a quality brand, such as Spax or Bullet. Don't forget to drill the frame as well before screwing the hinges to the door — and try to get the writing on the hinges the right way up!

12 If you marked the door to allow for a new floor covering cut it to size now.

13 Offer the door up to the frame in its open position and screw it into place. This, again, is a lot easier with a willing helper, but it can be done with the help of a board lifter, or two chisels arranged like a seesaw under the door so you can lift the door into place with your foot while screwing the hinges into place.

14 Close the door and do the 20p test again. If it needs adjusting away from the hinges use a thin card packer cut to fit behind the hinge. To go toward the hinge side you will need to shave a bit more out of the cutout. Repeat the 20p test until you are happy with the fit and the door opens and closes easily.

15 Decide on the height of the door handle (usually halfway up the door) and mark this position on the edge of the door. Find the centre and mark with a sliding square, then use the square to transfer the door height around both sides of the door.

16 If you are fitting a barrel latch then you need to measure the length and diameter. Most chippies use a drill and either a spade or auger bit to drill the latch hole, but I maintain that an old-fashioned brace with a nice sharp bit is still the best tool for this job. Mark the drill bit with a piece of tape or a cable tie to the depth of your latch.

17 Chock the door half open with a wooden wedge and drill the latch carefully, taking care to stay parallel to the door. Use the square to measure the barrel from the face to the centre of the handle shaft and transfer this on both sides.

18 Drill carefully from both sides into the centre. Don't attempt to drill right through from one side; you will be out of line at best and the breakout as the drill comes through can often be outside the area that the handle will cover.

19 Slide the barrel into the hole as far as it will go, line the faceplate up with the door and carefully score around it with the Stanley knife.

20 Use a chisel the same width as the faceplate and cut out the scored area using the same technique as hinges.

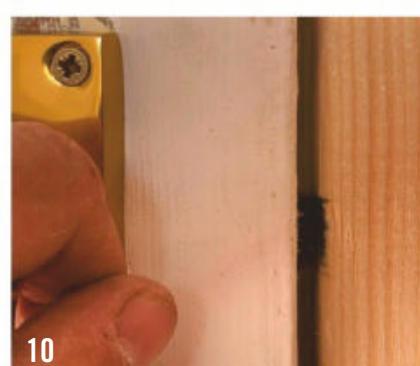
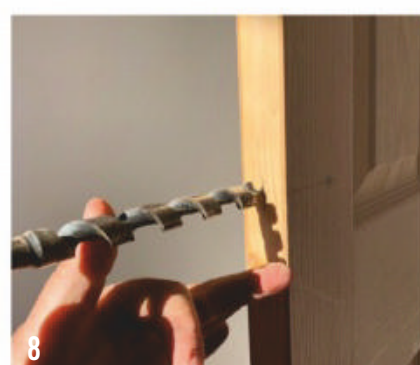
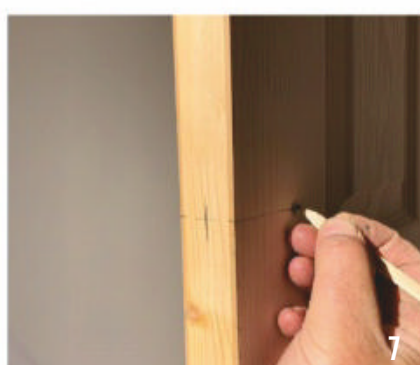
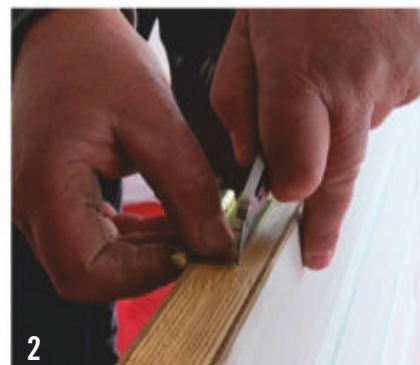
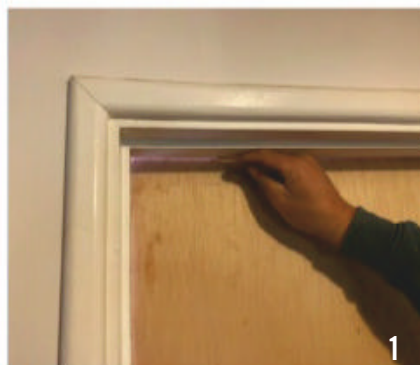
21 To fit the handles, slide the shaft through the hole and hang the handles on both sides. If they don't slide flush to the door you need to measure the gap and then remove that amount from the end of the shaft with a hacksaw. Align the handles and drill and screw them on.

22 Rub a pencil on the end of the latch and then close and open the door a couple of times to leave a mark on the frame. Use this to align the keeper plate correctly and then use the same cut out method as before.

23 Close the door again, make sure it opens and closes easily and the latch works smoothly. If you are fitting to an existing frame check that the door doesn't pinch on the doorstops or rebate.

24 On a new frame remove the temporary stops or clips you fitted earlier. Measure the top of the frame and cut the doorstop to length. Go inside and click the door shut. Fit the doorstop so it is barely touching the door and tack it on. Go back out and check the door shuts flush. When you're happy, nail it home. Repeat for the two sides and you're done!

25 Fitting a mortice lock on an external or bathroom door is similar to fitting the tubular latch as described above. However, you will need to chain drill multiple holes and then chisel between them to make a slot (mortice). This takes longer and requires a lot more trial fitting, but is no more difficult if you are patient and take your time. **H**



STEP BY STEP

1. Offer the door to the frame and mark the door to indicate which edges need to be planed. Then clamp the door in a workbench in order to plane it down to fit;
2. In order to create a recess for the hinge, use the hinge as a template and score around the edge with a Stanley knife;
3. Make a series of cuts using a chisel using the same force to create cuts of an even depth;
4. Chisel out the hinge recess carefully so that the hinges sit flush;
5. Use a self-centring, spring-loaded drill bit to affix the hinges to the door;
6. Offer the door to the frame again. If you are working alone, two chisels positioned like this can aid with lifting the door;
7. Mark out the position of the door handle (usually halfway up) and mark the centre before transferring the mark to both sides of the door;
8. If fitting a barrel latch, use a drill or brace to create the latch hole;
9. If the handles are not fitting flush, measure the gap and use a hacksaw to remove the end off the handle shaft;
10. Rub a pencil on the end of the latch to transfer a mark to the frame to align the keeper plate. Then chisel out the space as before.

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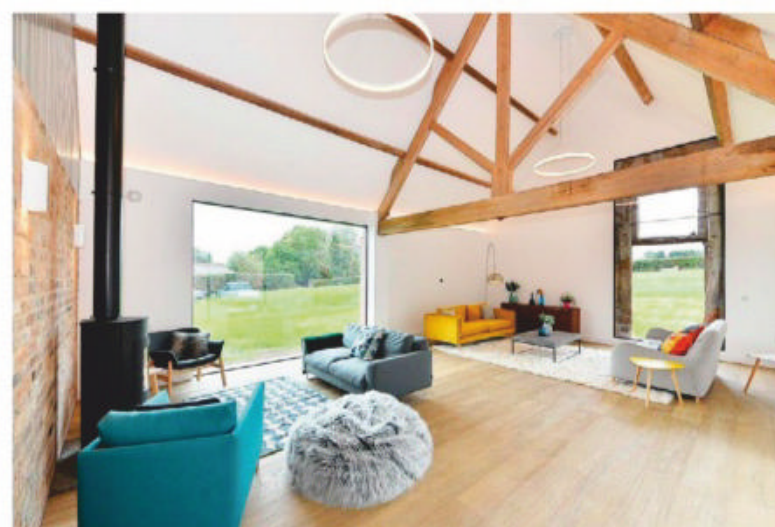
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The modern extension

WORDS Natasha Brinsmead PHOTOGRAPHY Nigel Rigden

Riding the *Wave*

Set above the Cornish coast and looking out to sea, Paul and Sue Landreth's new holiday home brings together a traditional granite house with cutting-edge design in the form of a spectacular contemporary extension



GALLERY



GAZING OUT TO SEA

While the existing granite house already enjoyed views of the sea beyond, the modern extension, with its expanse of frameless glazing, the infinity pool and the new terraces that now surround the house, all provide an extra and fresh perspective.



THE FRONT ELEVATION

It was important to Paul and Sue that the extension should respect the original house, as well as the street scene. The new entrance was excavated to ensure privacy, while crisp rendered walls shield the terrace to the rear.

THE ART OF BLENDING

While the extension is decidedly modern, with its curved European redwood-clad ceiling and limestone floor, the original house is always in view, thanks to the striking glazed gables and exposed stone walls (bottom right).





PROJECT NOTES

HOMEOWNERS Paul and Sue Landreth

PROJECT Extension and renovation

LOCATION Cornwall

BUILD TIME Sept 2014 – May 2016

SIZE 366m²

PLOT COST £725,000 (March 2013)

BUILD COST Undisclosed

The Cornish coast is no stranger to trailblazing design, with traditional properties eagerly snapped up by those hoping to transform them into homes that fully embrace the dramatic and, at times, demanding landscapes that they were built on. And the home of Sue and Paul Landreth, designed by Devon-based architect Stan Bolt, has certainly risen above and beyond this challenge.

The house Paul and Sue purchased back in 2013 was a typical Cornish building, constructed from local granite in 1890. While the original property was in sound condition for its age, it had been unsympathetically extended over the years, once during the 1920s and again in the 1970s. Located on a gently sloping site, the house is graced with unbroken panoramic views to the western Atlantic approaches of the Cornish coast.

“The house was very run-down inside and out,” says Paul. “But structurally it was sound. We made the decision to retain the house rather than demolish it — although starting from scratch would have been cheaper from a VAT perspective. Knocking it down would have seemed like vandalism.”

Paul and Sue were drawn to the designs of award-winning architect Stan Bolt, who has designed a wealth of homes around the Devon and Cornish coasts and is well-versed in the challenges exposed sites can present.

Respecting the landscape

“The landscape here is rugged, wild and just phenomenal,” says Stan. “The building is very much of the site and archetypal of the domestic architecture at the time it was built. It provided a good starting point for the rest of the design.”

The decision was taken to demolish both the







extensions, which comprised something of a hotchpotch of felt flat-roofed buildings and a pitched roof construction.

“We stripped it back,” explains Stan. “Some of the old building had to be repaired and original openings reinstated — but essentially we could start again from scratch.”

“We wanted to create an extension that was modern but that fitted in with the existing house — and we wanted to walk in through the front door and be faced with sea views,” says Paul.

“Faced with these panoramic, unobstructed views and this amazing dynamic vista, the natural inclination was to make the extension very lightweight and all-glass, but the initial schemes didn’t quite hit the nail on the head,” remembers Stan. “So we came up with the idea of the three

THE LIVING AREA

The spaces in the extension were designed to embrace the coastal position of the house. The triple-pitched roof sits on props so that the timber finishes never touch the ring beam structure which all the glazing disappears into — the roof appears to float.

In addition to the glass and stone walls, MDF with an oak veneer has also been used (top right).

pitched roofs; a ‘saw-toothed’ design. It was a step back to something more vernacular and referenced the existing building through the pitches and slate covering — tying them together.

“The design of the existing house is very introverted. With massive blocks and relatively small windows — it deals with the outside spaces as hostile and something to be protected from,” explains Stan. “We wanted the extension to do the opposite — to be an extrovert, open-plan space that eroded the distinction between the inside and out. We also wanted the extension to be subservient to the existing house, which is cubic and dominant and very proud.

“Despite their differences, the two buildings share a language and enter into a dialogue,” says Stan. “And the fully glazed gables of the three-pitched sections of the roof look out at the original building — it is always in your frame of vision from the inside.”

A difficult site

Planning was quickly passed, and landscaping work began before the building work. “Chris Greene designed the landscaping scheme,” says Paul. “A huge amount of soil had to be dug out and over 100 tonnes of local granite was brought in to form the shape of the garden.”

With a strong focus on respecting the existing building, the extension is attached to the main house with a lightweight green roofed link sheltering the new front door that leads to the entrance hall.

This new entrance has been created within a sunken courtyard featuring curved elements that sit in contrast to the otherwise straight lines of the house. The sunken space required a huge amount of excavation work, no mean feat given that the ground was mainly rock and access was tricky.



SOCIALBLE KITCHEN

The fuss-free kitchen, from Harvey Jones sits within the 'middle' pitch of the three pitches (top far right).

THE ENTRANCE

The curved sections not only add contrast to the otherwise rectilinear form of the house, but also add a sense of protection from the elements — the bright blue 'rotunda' (right) adds a touch of the Mediterranean and simultaneously acts as a marker and provides protection to the front door.

A key element of Paul and Sue's brief was that they should be able to walk through the front door and be greeted with views out to sea — and once the huge oak pivot door swings open, it is clear that this part of the brief has been fulfilled (bottom right).





“The lane is very narrow and we couldn’t get big enough drills in,” says Paul. “The small drills kept breaking and it took ages — there was a lot of disruption for everyone.”

The distinctive three-pitched roof, with its fully glazed gables (above), is supported by a continuous exposed ring beam, and appears to levitate above the single-storey extension.

“The ring beam is a ring of steel formed from inner and outer steel channels,” explains Stan. “It is welded as one continuous piece and is propped up on the masonry where it meets the walls, or on steel columns where it meets the full-height glazing — all the walls and glazing goes up to the underside of it. Between the two steels is a void to take the heads of the sliding doors and the fixed glazing so that no frames are visible. The glazing for the gables also runs into these voids, leaving a very crisp, clean visual line.”

Internally, the underside of the pitched roofs has been clad in European redwood, curved at the eaves and ridges to reference the rolling waves. The pitches also add definition to the open plan layout of the extension, which includes living spaces, kitchen/diner and, accessed down several steps, the plant and utility spaces, along with a shower room within the entrance rotunda, lit by a glazed ceiling.

“The spaces were designed to get more extrovert as you move towards the sea,” says Stan. “And more introvert the further away you get — you can move in and out, a bit like the tide.”

These new spaces all look out to sea through an expansive swathe of full-height fixed and sliding glazing that wraps around the rear elevation, with a selection of terraces set over varying levels, all either sheltering or embracing the elements.

“We have a saying in the office: visual simplicity equates to constructional complexity,” concludes architect Stan. “If any house exemplifies this maxim, it must surely be this one.”

“The house works brilliantly,” adds Paul. “It is a fabulous house — just wonderful.” **H**





THE STAIRCASE

The new staircase is located in the original house and is in almost the same position as it has always been. The stained glass panel, designed by artist Matthew Lanyon (www.matthewlanyon.co.uk), sits where the original front door once was.

SHOWERING COCOON

The ground floor shower room (left) is located in the 'rotunda' to the front of the house — a glass ceiling above the shower gives an ethereal sense to the space and brings natural light into this area.

SEA VISTAS

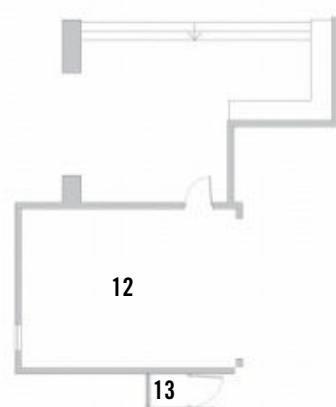
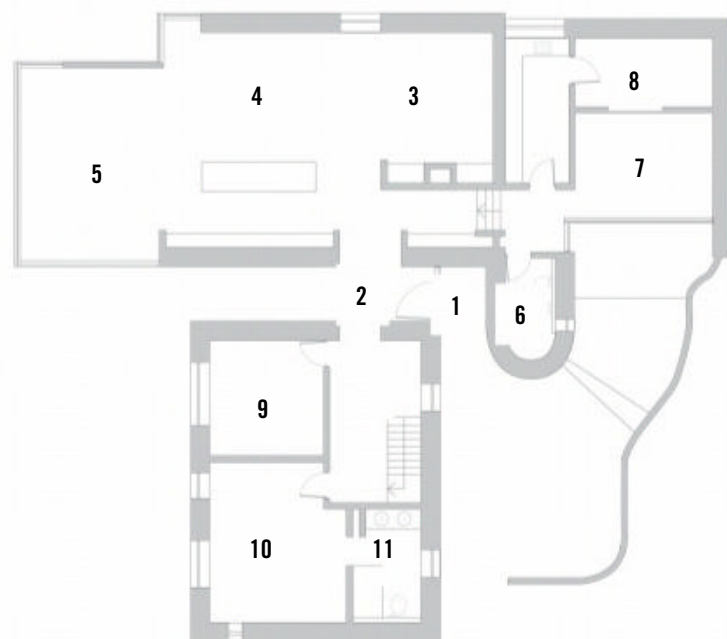
A large, open terrace is located to the west of the house, looking out to sea, whilst a courtyard to the south of the building (above), provides shelter from the winds. A slot opening in the wall gives a peek out to the stunning views beyond.

THE FLOORPLAN

Three bedrooms, an en suite and a family bathroom remain on the first floor of the cottage, while the single-storey extension has allowed for the house to expand its social areas, consisting of a large open-plan kitchen/living/dining area and a master suite that makes the most of the stunning sea views.

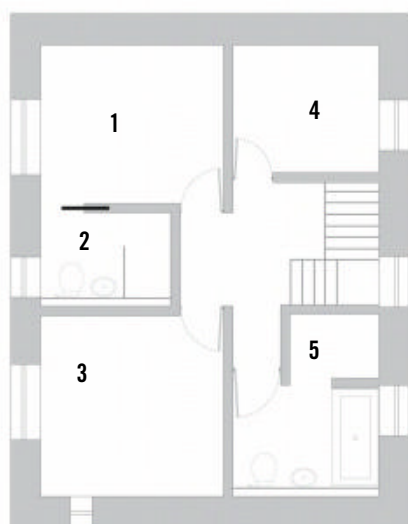
GROUND FLOOR

- 1 Porch
- 2 Entrance hall
- 3 Living room
- 4 Kitchen/dining room
- 5 Informal dining room
- 6 Shower room
- 7 Study
- 8 Utility
- 9 Snug
- 10 Master bedroom
- 11 En suite
- 12 Garage
- 13 Bin store



FIRST FLOOR

- 1 Bedroom
- 2 En suite
- 3 Bedroom
- 4 Bedroom
- 5 Family bathroom



BEFORE



BEFORE

BEFORE
The roof timbers of the original house required repair and new slates were also fitted. The old windows have all been replaced with new timber

versions. In addition, the granite walls were insulated and waterproofed internally and the rotten timber ground floor joists were replaced with a concrete slab.

THE SUPPLIERS

ARCHITECT Stan Bolt: 01803 852588;
www.stanboltarchitect.com

PROJECT MANAGERS AND MAIN CONTRACTORS EaseManage LLP:
01752 895487

STRUCTURAL ENGINEERS Airey and Coles: 01752 229119

GROUNDWORKS Duchy Contracts: 01872 277232

SERVICE ENGINEERS Davey & Gilbert:
www.daveyandgilbert.co.uk

BUILDING SUPPLIES Travis Perkins:
www.travisperkins.co.uk

PRECAST AND COPINGS Mexboro Concrete: 01803 558025

INTERIOR DESIGNER Jill Stein Interior Design:
www.rickstein.com; Catherine Bishop at Cornish Interiors: 01752 250033

GARDEN DESIGN Chris Greene Garden Design:
www.chrisgreenegardendesign.co.uk

INTERIOR STONE Mandarin Stone: www.mandarinstone.com; Everything Stone Ltd.: 01726 814 466

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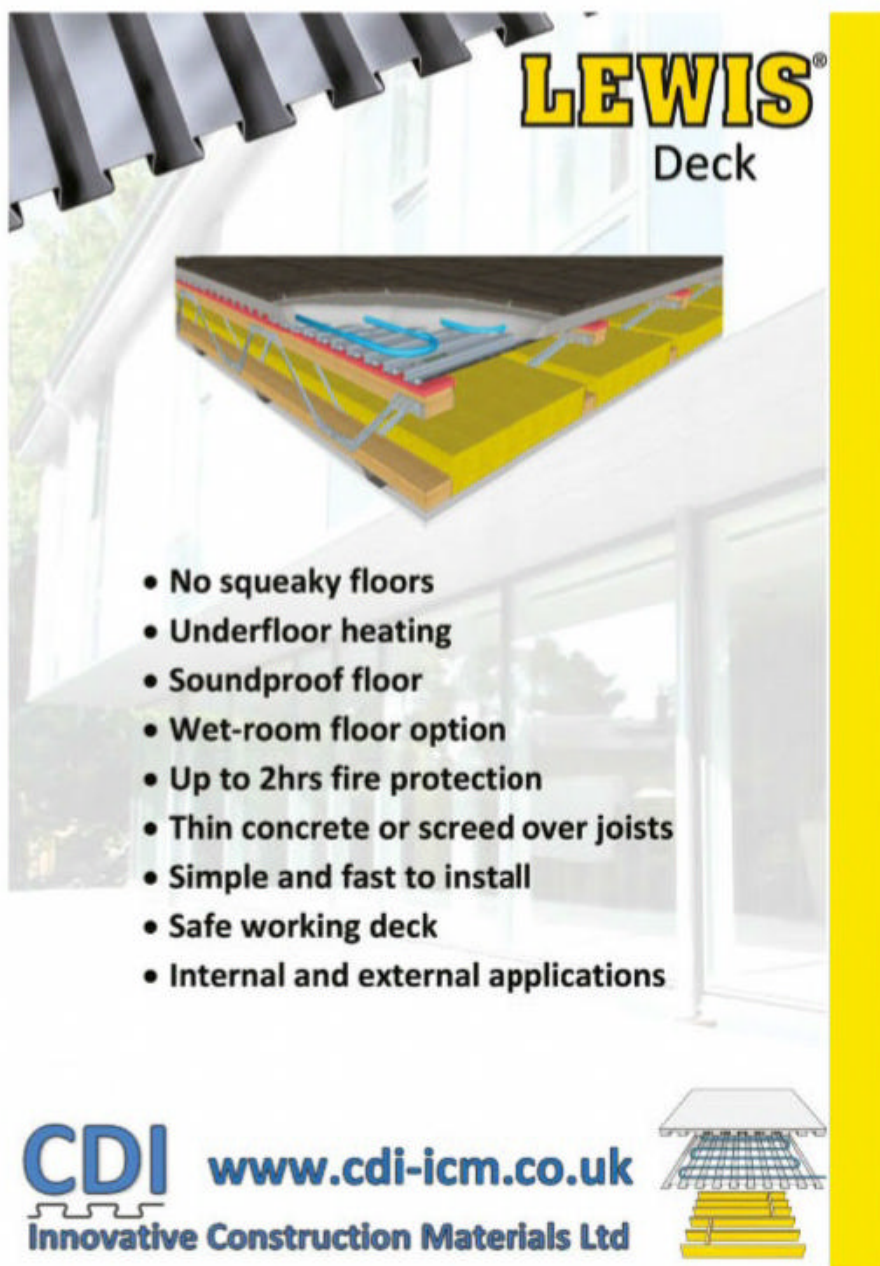
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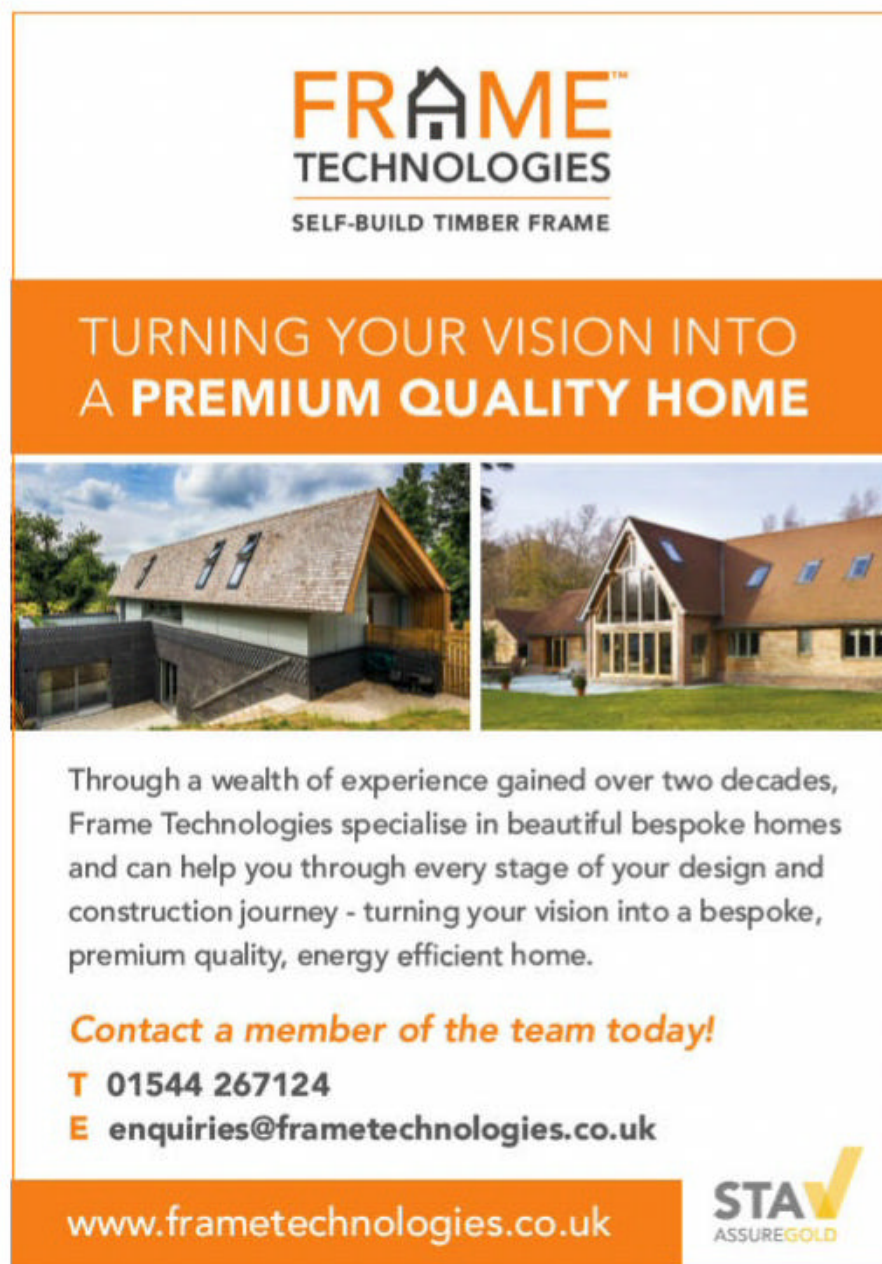
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BRINGING THE OUTDOORS IN

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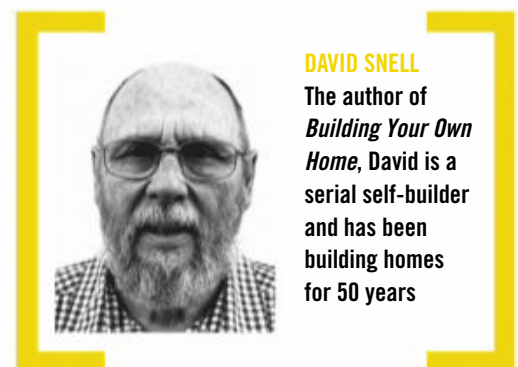
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DAVID SNELL
The author of *Building Your Own Home*, David is a serial self-builder and has been building homes for 50 years

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Part Four: Roof covering

NEW SERIES

In this new series, David Snell will also be looking at the costs associated with:

- CARPENTRY AND JOINERY
- ELECTRICAL PLUMBING AND HEATING
- PLASTERING, DRY LINING, TACKING AND FLOOR AND WALL TILING



IMAGES: DAVID SNELL

Before starting my last self-build project, I sent my Building Regulations' plans off to an estimating service and received back a detailed breakdown of each stage of the build, with costs divided into labour and materials. In this series, I look at the key stages of the build (as outlined above) and explain the costs involved.

Happily, on this project I managed to bring the cost of my build in under estimate, so I'm also passing on my words of advice on areas where savings can be made without compromising quality.

This month, we look at the roof covering. Up until this point, even after the roof trusses have been raised, the build is still just an open shell. The covering of the roof turns this enclosure into a shelter and from that point on, so much more can happen on site (and particularly inside the build), regardless of the weather.

Before any slates or tiles are laid, the roof needs to be covered with the underfelt and battened out with timber battens spaced so as to create the correct lap or overhang to the slate/tile below. For my project, I chose slates. The other main choice is tiles, which can be clay or concrete.



THE ESTIMATED COSTS

The estimate for the **materials and plant** for the roof covering works:

Breathable membrane	£269.32
Battening and nails	£165.32
Verge undercloak and eaves support	£116.22
Slates/tiles	£1,605.60
Ridge tiles and dry ridge system	£268.74
Leadwork	£173.75
Waste to skips	£173.60
TOTAL	£2,772.55

The estimate/budget for **labour costs** attributed to this task:

TOTAL LABOUR COST	£3,034.36
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TOTAL LABOUR AND MATERIAL COST: £5,806.91

- The plans just noted that the roof was to be slated and it had been assumed on our estimation that we would want to go for the cheapest alternative. So the estimators based their estimate on the use of large flat concrete interlocking tiles.
- General plant, such as digger and mixers, was provided by the builder within the contract. Specialist plant was hired in at appropriate times during the build.
- The labour estimate assumed that the work was to be carried out by a single trade and that, any ancillary work by other trades would be included within their overall prices for their parts of the project.

THE TRADES INVOLVED IN THIS STAGE

- 1** The main trade is obviously that of the roof tiler/slater, but several of the other trades have to fit in around them and assist in the process. Most tilers mix up and lay their own mortar to the ridges and point up between the undercloak and the underside of the tiles or slates at the verges. But some may leave it to the bricklayers or general builder.
- 2** Bricklayers may also need to be on hand to bed any undercloak to the verges and to point up any flashings that are let into the chimney.
- 3** A plumber may be necessary to construct and/or fix flashings to chimneys that protrude through or into the roof planes and to set the skirts around the vent and flue pipes that protrude through it.
- 4** Sometimes the underfelt and battening can be carried out by carpenters or any other competent tradesperson but it is usual for the tilers/slaters to gauge and fix their own battening.
- 5** General labour will be needed to get the slates/tiles up onto and loaded out on the roof.



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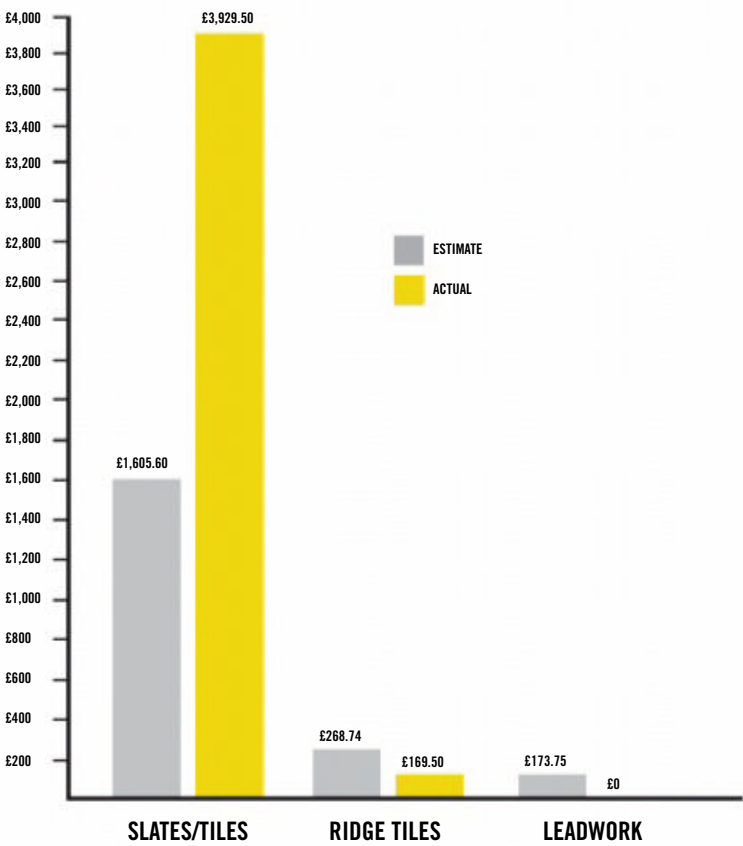
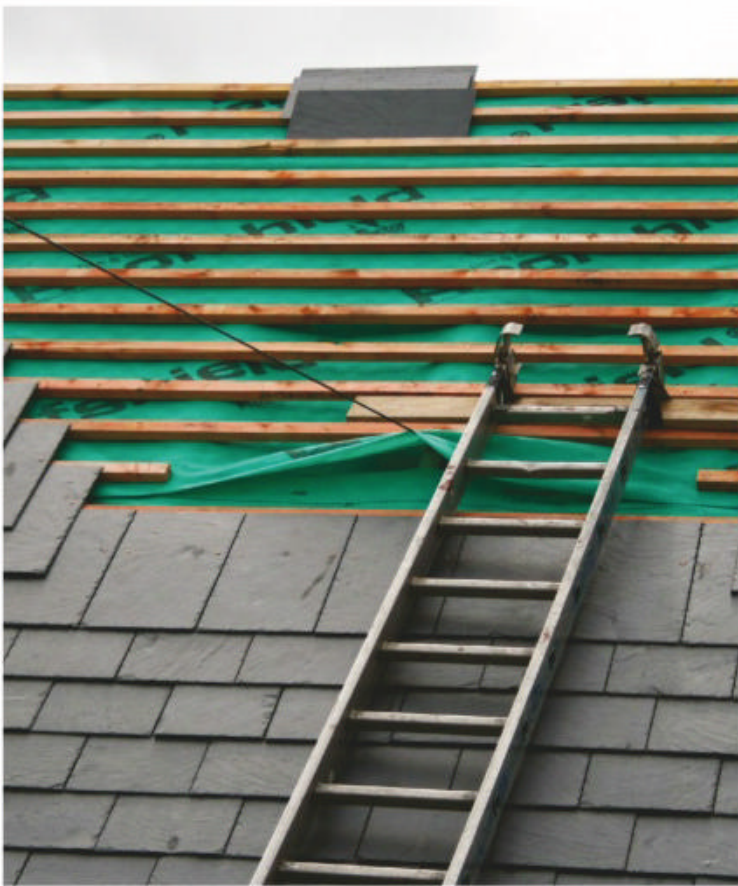
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The Build

BUILD COSTS

ACTUAL MATERIAL AND HIRE COSTS*

Slates	£3,656.00
Slate and halves**	£273.50
Nails and fixings	£193.49
Underfelt	£324.00
Batten	£203.00
Eaves and verges	£71.90
Ridge tiles	£169.50
TOTAL	£4,891.39



ACTUAL LABOUR COSTS*

We agreed a lump sum for the total labour costs with our builder. This was based on all of the labour estimates for each trade and section of the build within the costings that we obtained from the estimating company, and came to a total of £50,691.39. It was payable in five, more or less, equal stages:

- STAGE 1: £10,138.28 on completion of works up to and including oversite
- STAGE 2: £10,138.28 on completion of works to plate height
- STAGE 3: £10,138.28 on completion of roof and slating
- STAGE 4: £10,138.28 on completion of internal plastering and external render
- STAGE 5: £10,138.27 on completion of the works

Where there were understandable and agreed labour extras, these were listed as individual costs, at the relevant stages. Even though we'd changed from concrete tiles to natural slates, the labour costs didn't change and Bruce, our builder, didn't charge us any extra. I think he's so used to laying slates that he's just as quick with them as he would be with tiles. I suppose there was a little more battening and nailing but he obviously thought it was 'swings and roundabouts'. The garage/lean-to slates are also included in the costs.

* PRICES AS OF 2018 ** SLATE AND HALVES WERE USED TO HELP ENSURE THAT THE SLATES ARE GAUGED CORRECTLY ACROSS THE ROOF USING FULL TILES

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COST-SAVING TIPS FOR ROOF COVERING

● There's nothing wrong with Welsh slates apart from the fact that they're frightfully expensive. Cheaper alternatives are available from Spain, China and Brazil. (Note, Spanish slates are generally considered to be better quality than those from China and Brazil. We opted for Spanish slates, as the batches that we inspected at our local suppliers proved not only to be the best in cost terms but in the consistency and thickness.) As long as you can demonstrate that the slates you're proposing are fit for purpose and satisfy the colour and size requirements, the local authority should approve your choice of slate.

● Slates can be natural or man-made. Strangely enough, some of the man-made slates work out more expensive than the natural slates imported from all around the world. Slates are laid treble lapped, which means that if you drilled down through them, you'd have to go through three layers. Each slate also has to be nailed, which, again, ups the cost.

● If you choose tiles, bear in mind that clay tiles are generally more expensive than concrete tiles. In general the larger concrete interlocking tiles work out cheapest, both from the point of view of material cost and labour costs. The usual coverage is around 10 to the square metre and they can, therefore be laid fairly quickly. Smaller plain tiles, on the other hand, usually have a coverage of 60 to the square metre, which means more battening and more time needed to lay — and are subsequently more expensive to lay. It's not always necessary to nail each course and, in many cases, every third row will suffice.

● There wasn't any additional leadwork required on my project. The rooflights came with their own flashing and those were all that was necessary and so savings were made here.

Did I beat the estimator?

On this occasion, no. It cost a lot more than the budget because we opted for natural slates rather than the concrete interlocking slate/tiles that had been assumed on our estimation. I have to hold my hand up here. I hadn't read the estimate too carefully and I missed the fact that they hadn't costed on the basis of natural slate.

The extra costs came as quite a shock, tempered only by the fact that Bruce, our builder, didn't charge any extra for laying natural slate instead of the concrete ones. I think he had always assumed that we were going to be using natural slate as we'd discussed it many times. The net extra costs amounted to £2,118.84 but, as far as our general budget was concerned, the savings we'd made in earlier parts of the build more than compensated. However, we did make some savings, as follows:

1 Bruce, our builder, did not charge us extra for installing slates rather than tiles as he is so used to laying slates; this may not be the case with all builders, so it is worth checking.

2 The rooflights came with their own flashing, so there was no need for any extra leadwork — this resulted in modest savings.

3 I chose Spanish slates rather than the far more expensive Welsh slates (and, surprisingly, some of the man-made slates, which can be more expensive than natural slates). With any slate, you will need to check for consistency of thickness and size; inconsistent slates (which will probably cost less) will never sit or lay properly.

4 I chose not to use a dry ridge system (ridge tiles attached by mechanical fixings and not mortar) as I have never liked the look of them; instead, we bedded normal concrete terracotta tile ridges (which lead to a saving of £117.24). **H**

Your build costs

Find out how much your new home might cost to build, with our self-build cost calculator

One of the most important aspects when planning your self-build or home renovation/extension project is working out how much it is going to cost. This figure will depend on the size and shape of the house, the level of your own involvement, where in the country you intend to build, and the materials you’re going to use. If you can make even rough decisions about these factors, then you can begin to work out how much it is going to cost.

As a very general rule of thumb, expect a building plot to cost between a third and a half of the end value of the finished house. The costs of building a house will then depend on the variables listed above. All building work is usually quoted on a cost/m² basis. For example, a typical new four bedroom self-built home is around 200m² (with 100m² on two storeys) and

usually varies between £1,000-£2,500/m² (although self-builders can achieve costs of between £500-£3,500/m²+).

Renovation costs are more difficult to establish as they involve many variables, but allow at least £1,000-£1,500/m² for work. This, added to the cost of the plot/house and with a 10-30% contingency, should result in less than the final end value of the house. The table below, based on information from the Building Cost Information Service (part of the RICS, the Royal Institution of Chartered Surveyors), is updated monthly to help you work out a more accurate estimate for your self-build. Note, these figures are for build costs only and do not account for VAT, which is not charged for self-build projects.

There is a free online version at www.homebuilding.co.uk/calculator.

		BUILD ROUTE A			BUILD ROUTE B			BUILD ROUTE C			BUILD ROUTE D		
		(DIY + subbies)			(Subbies)			(Builder/subbies)			(Main contractor)		
		Standard	Good	Excellent	Standard	Good	Excellent	Standard	Good	Excellent	Standard	Good	Excellent
SINGLE STOREY													
<90m ²	Greater London	1366	1580	1900	1446	1673	2012	1527	1766	2124	1607	1859	2236
	South-East	1198	1386	1667	1268	1468	1765	1339	1549	1863	1409	1631	1961
	NW, SW, East & Scotland	1089	1262	1517	1153	1336	1606	1217	1410	1695	1281	1484	1784
	Mids, Yorks, NE & Wales	1042	1206	1450	1103	1277	1535	1164	1348	1621	1226	1419	1706
91-160m ²	Greater London	1251	1518	1972	1324	1607	2088	1398	1697	2204	1471	1786	2320
	South-East	1097	1331	1730	1162	1409	1831	1227	1487	1933	1291	1566	2035
	NW, SW, East & Scotland	998	1211	1575	1057	1283	1668	1116	1354	1760	1175	1425	1853
	Mids, Yorks, NE & Wales	955	1158	1506	1011	1227	1594	1067	1295	1683	1124	1363	1771
161m ² +	Greater London	1114	1461	1833	1179	1547	1940	1245	1633	2048	1310	1719	2156
	South-East	977	1281	1607	1034	1356	1702	1092	1431	1797	1149	1507	1891
	NW, SW, East & Scotland	889	1165	1464	941	1234	1550	993	1302	1636	1045	1371	1722
	Mids, Yorks, NE & Wales	849	1115	1399	899	1181	1481	949	1246	1563	999	1312	1645
TWO STOREY													
90-130m ²	Greater London	1314	1521	1868	1392	1610	1978	1469	1700	2088	1546	1789	2198
	South-East	1153	1333	1639	1221	1412	1735	1289	1490	1831	1357	1569	1928
	NW, SW, East & Scotland	1049	1214	1492	1110	1285	1580	1172	1357	1668	1234	1428	1755
	Mids, Yorks, NE & Wales	1002	1161	1426	1061	1229	1510	1120	1298	1593	1179	1366	1677
131-220m ²	Greater London	1107	1340	1700	1172	1419	1800	1237	1498	1900	1302	1577	2000
	South-East	971	1176	1491	1028	1245	1578	1086	1314	1666	1143	1384	1754
	NW, SW, East & Scotland	883	1070	1357	935	1133	1436	987	1196	1516	1039	1259	1596
	Mids, Yorks, NE & Wales	845	1023	1297	895	1083	1373	945	1143	1449	994	1203	1526
221m ² +	Greater London	1021	1308	1641	1082	1385	1738	1142	1462	1834	1202	1538	1931
	South-East	897	1146	1441	949	1214	1525	1002	1281	1610	1055	1349	1695
	NW, SW, East & Scotland	815	1043	1310	863	1105	1387	911	1166	1465	959	1227	1542
	Mids, Yorks, NE & Wales	780	997	1253	826	1056	1327	872	1114	1401	918	1173	1475



You can also use our
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HOW IT WORKS

1 IDENTIFY YOUR BUILD ROUTE FROM THE FOUR OPTIONS

Your level of involvement in the project will influence the build costs. For simplicity, the four most common build routes have been identified below:

BUILD ROUTE A: **DIY + subbies**

Building on a largely DIY basis, substituting around 30% of labour costs with DIY, and employing help with the rest of the building work. Materials purchased directly.

BUILD ROUTE B: **Subbies**

Building using tradespeople hired directly — you will be project managing, but there is minimal DIY involvement. Most or all materials purchased directly.

BUILD ROUTE C: **Builders/subbies**

Building using a main contractor or package supplier to complete the structure to a weathertight stage, with the remaining work undertaken by subcontractors and most materials purchased by self-builder direct from suppliers.

BUILD ROUTE D: **Main contractor**

Building using a main contractor. Building in this way requires the least involvement from the self-builder.

2 IDENTIFY YOUR EXPECTED LEVEL OF SPECIFICATION

The standard of specification that you choose will have an enormous influence on your build cost. For estimating purposes, three general categories of quality have been identified:

Standard

This serves as a basic build quality equivalent to that offered by most speculative developers. A house may include standard softwood joinery, studwork partitions, a contract kitchen, basic sanitaryware and radiator central heating.

Good

This is equivalent to that offered by quality developers. Features may include high-end, off-the-shelf softwood joinery, blockwork partition walls, contract quality kitchen and sanitaryware and underfloor heating (UFH) downstairs.

Excellent

A very high standard. This house may include hardwood joinery, a bespoke kitchen and quality sanitaryware, and UFH, for instance.

3 MULTIPLY THE FIGURE BY YOUR HOUSE SIZE

We have used gross internal floor area as a measure (it's the most common in the industry). It's the area of a building measured to the internal face of each perimeter wall for each floor level. It includes areas occupied by internal walls and partitions. ^H



Expect a building plot to cost between a third and a half of the end value of the finished house

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Long-term savings are now a key consideration

Energy efficiency is becoming an increasingly important factor when it comes to our homes, says Graven Hill's MD



KAREN CURTIN is the managing director of Graven Hill, the UK's largest self and custom build community

Following on from a year of price increases in 2018, energy costs are, once again, expected to rise further this year leaving homeowners with two choices: to be as self-sufficient as possible when it comes to the energy they use in their homes, or simply use less of it.

With this in mind, 'eco houses' are becoming increasingly fashionable as a new generation of homeowners become more environmentally conscious and realise the financial benefits of choosing smarter and greener options when it comes to deciding how to live their lives.

Although the initial costs of building to energy-efficiency standards such Passivhaus may

be slightly higher, these are often outweighed by the long-term cost benefits of installing high performance windows, thicker insulation and a ventilation system. As a result, ongoing operating costs are lower, resulting in significant savings in comparison to a traditional build.

With a new generation of first-time buyers keen to do their bit for the environment, developers have been forced to prioritise energy efficiency in homes to suit every budget. Whether the goal is upsizing, downsizing or buying for the first-time, eco-building brings a host of financial benefits — it is, however, a lifestyle choice which may need a period of adjustment if homeowners

are used to traditional heating solutions.

While self-builders typically have the freedom to incorporate whichever environmentally friendly options they choose, buyers of custom build new homes can focus on the bigger picture. Fixed-cost, yet flexible on choice, custom build homes offer the benefits of eco-efficiency and certainty regarding budget — the only surprise is lower bills.

In the past, eco-friendly, low-energy homes have been viewed as unobtainable, only found in self-build properties, however that is no longer the case. Graven Hill, a development containing a mixture of innovative custom and self-build homes in Bicester, Oxfordshire, is likely to contain the largest concentration of private Passivhaus dwellings in the country by the time of its completion. The 1,900-plot development works as an example of bringing the Passivhaus reality to the standard, affordable home. For more: www.gravenhill.co.uk. **H**



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PLACE	CITY	AVERAGE PRICE OF PLOT
1	Inverness	£91,062
2	Dundee	£95,000
3	Manchester	£112,090
4	Salford	£119,833
5	Durham	£128,684
6	Wolverhampton	£146,666
7	Southampton	£156,666
8	Plymouth	£170,000
9	Lincoln	£173,316
10	Newport	£195,500



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IAN ROCK is a chartered surveyor and director of www.rightsurvey.co.uk. He is currently extending his family home by 100m²

I'm taking on the smaller 'grey area' tasks to save time

Ian gets stuck into some of the extension's DIY projects while he makes key decisions on the new kitchen and Juliet balconies

After all the excitement of our (somewhat premature) 'extension warming party' weekend recently, the focus is now firmly on getting ready for the final building control inspection.

Before releasing any outstanding payments to contractors, you need to know that building control are fully satisfied and have issued your completion certificate. As it happens, we're still sitting on retention money (2.5% of the contract sum) that will shortly become due to the main contractor who built the shell of our extension. The payment will be made subject to them rectifying any defects that come to light during the six months' defects liability period since they finished. However, defining what precisely constitutes 'completion' at the end of a project can be something of a grey area. For compliance with the Building Regs, the sort of things that would be essential to someone moving into a new home, such as interior decoration, skirting boards and tiling the walls and floors, can normally be left for another day. What really matters at this stage is anything to do with safety — such as risks from falling, electrocution, inhaling poisonous fumes and ensuring occupants can escape from fire.

The main outstanding jobs, including fitting the new kitchen, I'd mostly planned to undertake myself with occasional back up from the student wing of the Rock family when they return home for the summer holidays. There are also a number of smaller bits and pieces that still need finishing, such as the staircase handrail and balustrades. But recently it's proved remarkably difficult to source suitable labour to mop up all the little jobs.

Jason, our joiner, is on holiday for the next few weeks and local handymen seem to be uniformly booked up for weeks in advance. This is one area where employing a main contractor to take responsibility for the whole project offers a distinct advantage. Since necessity is the mother of invention, I resolved to do most of this work on a DIY basis, which at the end of the day is often

simpler, and certainly cheaper, than laboriously tracking down local trades, negotiating prices and explaining what you want done.

Specifying the new kitchen

As big purchase decisions go, the process of choosing a new kitchen can actually be a bit of a minefield for the unwary. Perpetual sales promotions offering 'up to 50% off' are virtually universal and rarely constitute more than an attention-grabbing stunt. Look a little closer, however, and it soon becomes apparent that many competing retailers are selling pretty much the same stuff, just packaged differently. Nonetheless, it's possible to come up with a stylish kitchen without splashing out at the premium custom-made end of the market.

The first steps — designing the layout and planning the size and type of base and wall units — should be reasonably straightforward. Perhaps the harder task is divining the right 'look', since the primary role of the modern kitchen is arguably aesthetic. Decisions include whether to opt for

THE NEW KITCHEN
Ian specified his kitchen, complete with integrated appliances and oak worktops, from a local DIY shed. He duly fitted the kitchen himself — a task that took around a week.



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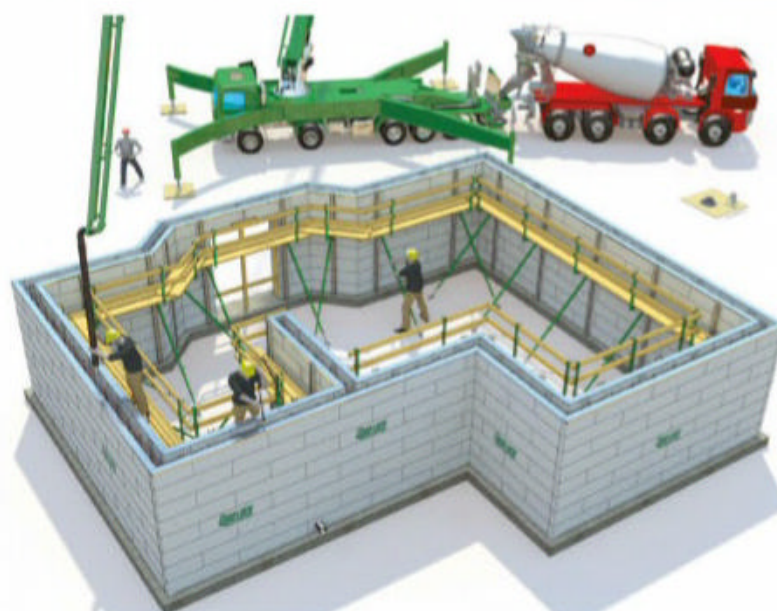


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The Build

handles or go handle-free, the choice of colour in gloss or matt, and the optimum mix of wide and narrow, doors and drawers. Once you've nailed all this, it's time to strike a deal.

One of the best kept secrets in retailing is the 'ready to fit' ranges in DIY outlets tucked away in fairly anonymous packaging. The glitzy in-store kitchen displays you see when you walk in usually feature more profitable high-end products complete with 'free' design and installation assistance, which cynics may regard as a sales ploy, but can add value for less experienced customers.

After much prevarication, the deal was finally done, including oak worktops and integrated oven, hob, extractor hood, sink and mixer. Factoring in trade discounts, we came away with enough spare change to pay for furnishing the extension.

The whole caboodle was delivered within a matter of days, and the process of fitting the kitchen took me less than a week, greatly aided by having perfectly level new floors and freshly plastered walls. It has to be said, however, that one area where more expensive handmade kitchen units definitely scores is the quality of solid wood carcasses, so in our case the wall units in particular needed additional support.

Making decisions on the balconies

The Juliet balconies for the two sets of first floor French windows have the potential to either flatter or scar the visual perception of the whole building, and this was yet another purchase decision we needed to make.

After various attempts at visualising how they'd look by superimposing images on elevation drawings, the decision ultimately boiled down to a choice of glass or steel. Glass has an inherent light and clean appeal but I took a shine to some German polished stainless steel designs until I noticed that the space between the bars was wider than the maximum 100mm UK Building Regulations stipulate. Part K of the Building Regs also dictates that the uppermost rails need to be a minimum height of 1,100mm above standing floor level.

We finally decided that traditional black 'Parisian' cast iron-style balconies would best suit the vernacular architecture of our extension. Although balcony railings are sold in a range of standard sizes, I wanted the one for our big side gable to be shorter since the cill is already set at nearly 800mm above floor level. To get this custom built, we placed an order with Iron Octopus blacksmiths in Yorkshire.



Completing the final insulation work

Not much progress had been made recently on the small single-storey extension to our existing kitchen since it was 'knocked through' a few months ago, so we now needed to bring this part of the build up to speed. The flat roof is constructed rather like a timber floor with thick insulation boards placed on top of the deck. While the structure was still exposed it made sense to boost the (already good) thermal performance by lining the undersides of the deck with rolls of multi-foil insulation. But that still left two potential cold spots — the twin rooflight 'turrets' poking up above the insulated deck. So prior to plasterboarding, we fixed strips of super-efficient aerogel blanket, one of the highest performing insulants on the market, around the upper rooflight reveals. Then came the hard graft lining the ceiling and walls with giant sheets of 2,400mm x 1,800mm 12.5mm-thick plasterboard — heavy work! At length, with the big steel beam clad with pink fire-resistant plasterboard, the kitchen extension was ready for plasterer Jamie to return and give it a quick skim.

While we were busy wrestling with plasterboard and fixing a couple of snagging issues that had come to light — the curiously warm toilet cistern and the violently gushing 'waterfall' basin tap — plumber Tony was beaver away installing the ensuite bathroom units and finishing some radiator pipework. Our endeavours kept being rudely interrupted by ear-piercing alarms set off by smoke from Tony's soldering iron. Flinging open the windows didn't help, and by the fourth false alarm of the morning I resorted to shrouding the smoke alarms with plastic covers, making a note to later strip them off, otherwise this would be a guaranteed 'fail' at the final building control inspection! **H**

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The multi-foil insulation (above) Ian has used alongside the aerogel blanket will improve the extension's energy efficiency. While Ian undertook the task of insulating the roof to the single-storey extension, Tony the plumber completed the final plumbing work (top).



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PAUL TESTA is the director of Paul Testa Architecture and has a special interest in sustainable design

Choosing our windows was an easy decision

Paul chooses roof and glazing suppliers for his EnerPHit remodel of a 1960s semi-detached house in Sheffield

When it came to the existing roof of the house, we have been very pragmatic and replaced the covering with new concrete tiles to match the original and our neighbour, but in a crisper grey tone. We insulated the roof extensively between and beneath the rafters to create a warm roof structure. (Insulation is one of the key ingredients to helping us achieve EnerPHit standard — the Passivhaus equivalent for existing homes.) This method isn't as efficient as ceiling level insulation but enabled us to design a vaulted space above the stairs which features two large Fakro triple-glazed electric rooflights for summer ventilation.

All of our roofing and tiled cladding has been expertly installed by Essential Roof Coverings. Their advice on the best approach to the glass reinforced plastic (GRP), roof falls, drainage and so on when constructing the flat roof for the single-storey extension, has been invaluable; it's one reason why it's a good idea to employ the best trades you can.

Choosing a window supplier

After a number of years working with them, choosing Green Building Store as our window supplier was a relatively easy decision. It's difficult to find an equal in terms of the balance between cost, performance and service.

At the time of specification they only supplied timber windows and doors, and we chose their cheapest 'performance' range of triple-glazed windows; this is the only one of the three ranges offered that doesn't come with a Passivhaus certified option. Although they are cheaper than their other products, the windows still outperform most on the market and are adequate for Passivhaus and EnerPHit projects as long as it is detailed carefully.

We wanted to make sure the detailing and installation of the windows and doors were as thermally effective as possible but also easily achievable on site. We've taken a different approach on the existing house and the extension. On the



existing house, the internal insulation has been wrapped around the window reveals to give thermal continuity and a good overlap between the window and insulation. The replacement windows are all outward opening so that the overlap on the inside can be as big as possible without interfering with the opening casements, and the primary protection is an outer mastic seal.

We have installed the extension windows to the outer edge of the timber frame and then overlapped the external insulation layer over the external face of the window frames; this means that the windows and doors of the extension are inward opening.

To give the very best weather protection at the edges of the windows there are two layers of edge sealing on each installation and there's secondary protection provided by an expanding foam strip between the window and structure.

The doors and windows have a quality feel and it's gratifying to see condensation on the outside of the glass after a cold night — it's something you only get with a high performance window. **H**

FLAT ROOFING

The newly built flat roof and terrace (above) are constructed with a structural OSB deck, a thick layer of rigid insulation and a glass reinforced plastic (GRP) roof covering.

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KATIE THOMASSON has renovated four period properties, taking on much of the work on a DIY basis

Treating the new windows on a DIY basis has been a long process

Katie rolls up her sleeves and gets involved with staining the windows for the cottages while the bifold doors are installed

Things are really starting to come along all of a sudden. The windows finally arrived at long last (they were made by a carpenter, who delivered them several months later than initially agreed). Before we started ripping out the old rotten windows, I began the process of protecting and finishing the new ones — they arrived untreated, as requested, to save a little extra money. This was a lengthier process than I'd imagined it would be, as I first had to treat the frames with a wood preserver before applying the final top coat. The wood preserver recommends that two to three coats are applied before applying the paint, but with each coat taking at least 48 hours to dry, it can take a week just to preserve them.

I chose to finish the windows in a wood stain, which could be mixed to any colour. This gave me the freedom to choose from an almost infinite number of colours, rather than the limited options that the exterior wood paints provide off the shelf. What's more, the wood stain leaves an opaque satin finish, which subtly shows the grain of the wood underneath, enhancing the natural material used to create the windows.

Although the wood stain is a little bit more expensive than the standard wood paint, it actually saved me some money and time overall — once you factor in that the stain doesn't require a primer (which can be just as costly as the paint itself). I also painted the two pairs of French doors in the same colour, tying them all in nicely.

Treating timber windows

While we worked on getting the house fully watertight, the corner bifold doors (right) were fitted at the same time. We're really pleased with the end result; opting for dark grey aluminium doors, we were a little unsure that they would fit with the aesthetics of the rest of the house, which is much more traditional in style. However, they really help zone the kitchen diner, and I think they will blend

seamlessly with the dark navy kitchen, which they will eventually sit next to.

With the superstructure now completely finished, we can bring down the scaffolding and tick off the last few internal snags from the 'to-do list', including erecting studwalls, scraping off the old woodchip wallpaper from walls to be plastered, and getting the final few doorways in place. Then we'll be ready for the first fix plumbing and electrics and plasterwork — all due to start in the next couple of weeks. **H**

PROGRESSING

Despite delays with the supplier, the windows have now been fitted and the two cottages Katie and Andy are renovating and extending are now weathertight.



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YURI & AUDRY GUPTA are renovating and extending a detached 1920s house in East Brighton



TAMARA HAMILL is renovating and extending a 1980s bungalow to create an accessible family home

We're finishing our build just in time for the arrival of our child!

We're in the final straight, and like any good grand design, we've found ourselves coordinating these last few months of the build with the arrival of our first child! It was actually a welcome respite — paternity leave provided the first two weeks in two years that I haven't spent day and night thinking about the house!

We're now well into second fix, and our vision from three years ago is really coming to fruition. We've agreed an end date with our main contractor and all the trades are pushing forward towards the finish line, working from top to bottom, with decorators putting the final touches to the top floor while tackers fix the basement. As soon as it is laid, the oak herringbone parquet is covered up for protection, so the whole picture will only be revealed when we move in. The glimpses are tantalising, and in addition to the spectacular sea view to the south, the view through the glass floor to the oak spiral staircase down to the basement below is equally impressive. Just one month to go!



Our project is moving along at quite a pace

The bungalow has moved on quite a lot in the last few weeks. The steels were measured, delivered to site, erected, and all the block walls are now built. The roof trusses are also on and roof now fully tiled. The roof along with the new soffits and fascias have already made a huge difference to the look of the bungalow.

The triple-glazed windows and large sliders were finally measured up and ordered and will become our longest lead-time item.

Converting the original integral garage into the master bed, and extending to add a study and further bedroom and en suite for our eldest son, is almost complete with first fix having taken place and the plasterboard going up. We designed in a rooflight in this space and it brings in lots of lovely natural light — definitely needed in this bungalow where the centre of the house can become quite dark.

We'll hold off completing first fix in the kitchen, garden room and porch until the external walls are down, the new floors are in and the windows and sliders are fitted.

So far the build has gone very smoothly, which is entirely due to our great building team who are forever telling me 'not to worry'! **H**

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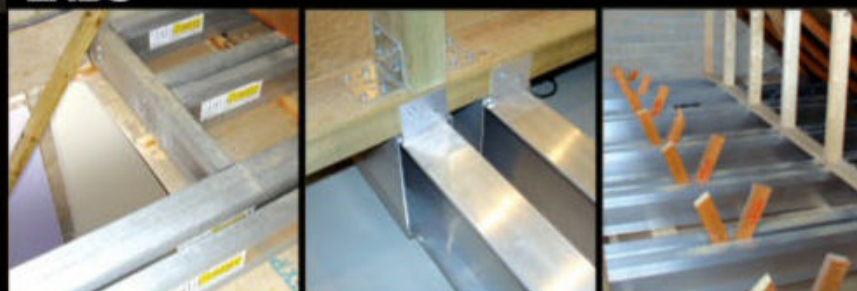
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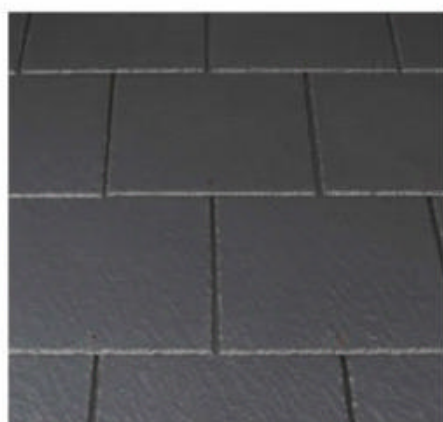
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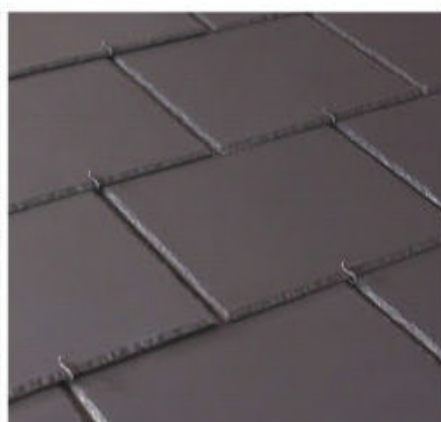


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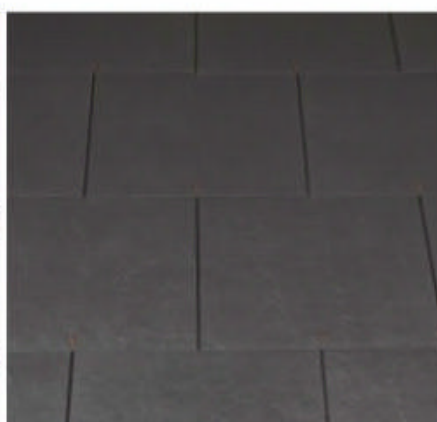
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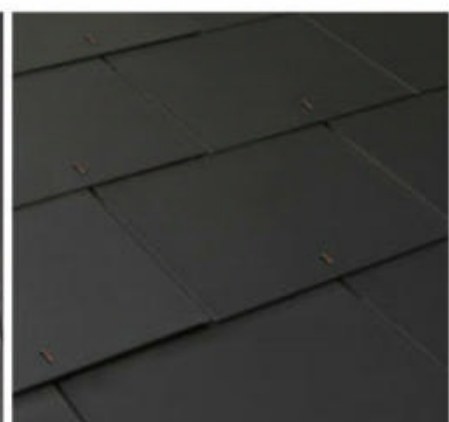
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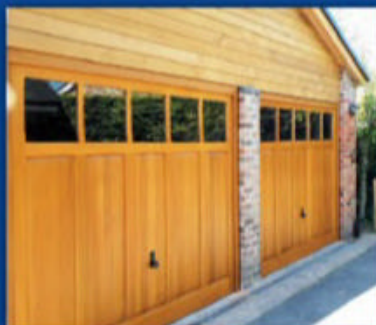
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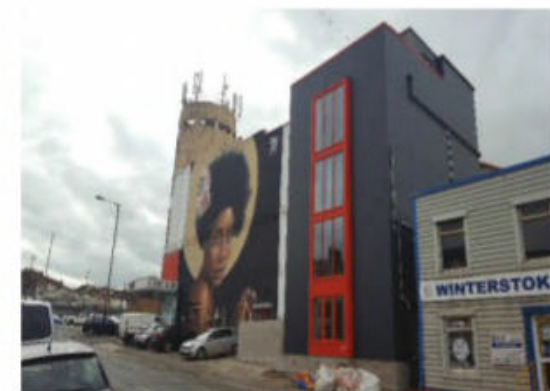
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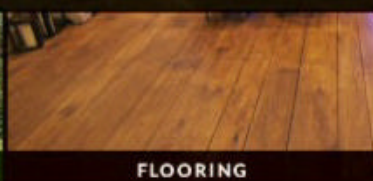
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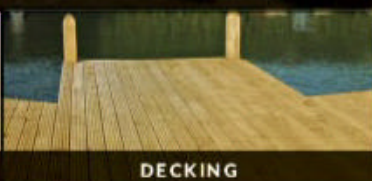
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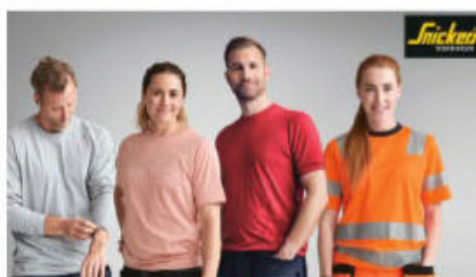
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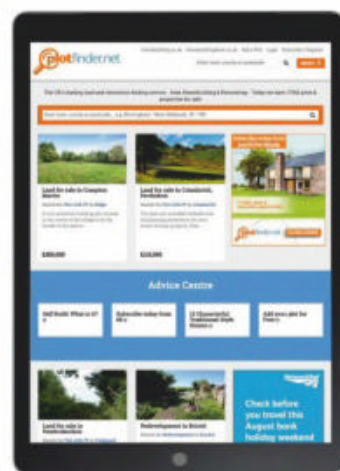
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Signing off...

What we've seen, recommend and love this month

ALL IN THE DETAIL

The design details and knowledge that went into the Landreth's house in this issue (page 182 and right) blew my mind! The house manages to merge contemporary and traditional design in a seemingly effortless way, with no fuss to detract from its breathtaking setting above the coast. Yet, having spoken to the architect, Stan Bolt, this 'simplicity' was only achieved by some very intricate and painstakingly executed design.

Natasha Brinsmead, Associate Editor

BUILDING A DREAM

From time to time, I think most of us can recall a dream we had as a child; whether it was to learn a foreign language, become a ballerina or to build the perfect home. But not everyone gets to say they have fulfilled their childhood dream. Richard Good-Stephenson's epic story (page 40), about how he built a life as a pilot before forging a new career in property development and supplying lime to the rich and famous to fund the restoration of a ruined castle on his family's land, is as inspirational as it is fantastic. Although not all of us are fortunate enough to own such a plot, Richard's determination to complete the mammoth renovation against all odds is something we can all strive to emulate, no matter the size of the project. As Richard says: "The more people tell me I can't do something, the more I decide I will do it." Amy Reeves, Editorial Assistant



WINNING OVER THE PLANNERS

The opening line of planning consultant Ken Dijkman's article this month (page 155) – "How on earth did they get planning permission for that?" – drew me in from the off; it's a phrase I know I've said before! Ken reveals how planning policies shape whether an application is successful, how this can change from area to area and why it pays to find out what these policies are to help planning applications win over the local planning office. A must-read if you're about to embark on a self-build or extension. **Michelle Guy, Assistant Editor**

ADVICE FOR PROJECT MANAGERS

Part of the challenge of project managing a renovation, self-build or extension for many of us is understanding who does what and in what order. There's a further piece to the puzzle, however — identifying the tasks which no one subcontractor is particularly responsible for and which subsequently fall between trades. Fortunately *Homebuilding's* David Snell, who's been building homes for the last 50 years, is on hand to explain the key 'grey areas' to which this applies and how to plan for these jobs. Turn to page 167 — it's an invaluable read if you hope to take on the role of project manager.

Claire Lloyd, Editor 

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