

Beginner's guide to **SELF BUILD**



Build It

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5 STEPS TO SELF BUILD SUCCESS

If you want to create your ideal home – tailored to your family’s lifestyle – then self building is the way to go. Here are *Build It’s* five golden rules to follow to ensure you enjoy a successful project

The fact that you have picked up this *Beginner’s Guide to Self Build* means that you’re probably one of around six million people in the UK (according to the National Custom & Self Build Association) who wants to build their own home. It’s easy to

plans are overly ambitious, the construction is fraught with disasters and the budget skyrockets. The truth about self building is very different, but you don’t see this on the box as – quite frankly – it wouldn’t make a very exciting show!

For every dramatic project, hundreds of others run smoothly. Most self builders will tell you it’s a fantastic experience that’s well worth the effort. Nevertheless, all projects have their challenges: some small; some more complicated to resolve. You can minimise the risk of things going awry by following our five key steps to success:

1 Set a realistic budget

Building your own home makes good financial sense. According to research compiled by Lloyds Banking Group in 2014, the average self build costs just over £255,500. So you can create a good quality home on a modest budget; and you’ll almost certainly make a healthy sum if you plan to sell it on. As a general rule of thumb, if you run a tight ship you could expect your house to be worth 20% more than it costs to construct.

Before you decide anything else – such as your route to delivery or construction system – you need to take a strict and realistic assessment of your budget. How much you have to spend will dictate your entire scheme, from the scale and style of the house to the quality of finishes.

In order to set a budget, you need to have a basic idea of the type of home you want to build. The size and overall design will be the main influence on the cost. Once you have found a plot you’d like to invest in, take your ideas to a local estate agent and check what the maximum value of similar houses in the same area is. This will give you an idea of what your finished property will be worth, based on their knowledge of ceiling prices in the catchment. If you subtract the land cost from this figure, you’ll be left with the maximum amount you should pay to create a new home.

For most self builders, the biggest individual cost will probably be attributed to the plot, which will account for 30%-40% of your total outlay. To get a sense of construction costs, obtain a few quotes from tradesmen or a package company for your project, giving them as much detail as possible – or check out www.self-build.co.uk/calculator. You should roughly assume 20% will be spent on materials, and a further 25% on labour. The rest of the figure will be dedicated to professional fees, insurance and utilities.



Martin and Karis Smith have built a unique modern home in Bolton, Greater Manchester. They took a great deal of time formulating their design plan – looking at American architecture for inspiration, and integrating this with some elements of Scandinavian design. The couple worked with Reid Architects to come up with a scheme – which they adore. Martin’s top tip for a successful build is: “Have a detailed cost plan in place from the beginning and track it on a weekly basis, including cash-flow forecasts for the rest of the build. Also, allow for a contingency fund. Ours was essential – we had a setback at the groundworks stage, for which we needed an extra £10,000.”

see why the prospect of creating a bespoke property is so appealing – not least because you’re afforded the opportunity to develop your dream home. Yet many people are scared-off the prospect by some of the stories they’ve seen on TV. These shows demand schemes where the

Setting aside a sensible contingency fund is essential. This should be a percentage of your construction figure, rather than the overall budget – and you should allow at least 10%. For more advice see www.self-build.co.uk/cost-finance.

2 Get the design right

While you may find it hard to track down a house that matches your tastes on the open market, creating a bespoke property will remove these limitations. Coming up with a design plan for your first self build project may feel daunting, but it will be a thoroughly enjoyable process. Start by looking through the pages of *Build It* and at our gallery of readers' homes on www.self-build.co.uk to gather inspiration and to highlight elements that you like – such as interior layout arrangements, external brickwork, glazing and even roof shapes. Make notes and take cuttings and use them to focus your project brief.

This initial plan is something that can be refined as your ideas progress. It should cover the key aspects required for your new home, such as the number of bedrooms and how you want to live – would you prefer open plan or cosy spaces for example? An architect or similar specialist can help you to navigate through the design process. They'll bring creativity to the table, while helping you to keep sight of your needs and requirements. To get the most from your project, employ someone who is professionally trained and qualified, but who is also on your wavelength and empathises with your tastes. The client/designer relationship should be a very close and personal one. You have to put a lot of trust in them – they are, after all, designing your dream home and they need to be able to translate your ideas.

The design professional's first task will be to collect as much information as possible about you and your plot (a good design will make the most of its individual site). Close attention should be also paid to the style of homes in the vicinity, to show the planning authority you have been considerate of the vernacular. This will also ensure that the house fits into its surroundings. For more design advice see www.self-build.co.uk/design-advice.

3 Be pragmatic about planning

Put simply, you must obtain planning consent before you build. If you don't have the necessary permissions in place prior to starting on site, you could face an array of legal charges. Applying for



Liam and Helen Collins couldn't find the right property to suit the needs of their large family, so they built a new bespoke home with package company Potton. Liam went to his local council prior to making a planning application to gauge what he would be able to build and to get some advice. The family worked with a local designer to create something to suit their needs, and Liam took on the project management. His top tip for a successful build is: "Be flexible, you need to work well with others in order to get the right results. Make sure you are available to be on site as often as possible, too, especially if you are organising the development."

and gaining consent is something you need to take seriously and the best way to prepare yourself for entering the planning system is to gather as much information as possible about local and government policy.

It's a great idea to go to your council for some preliminary guidance before submitting a formal application. Sketch out your ideas, take pictures of your site, have samples of materials to hand – share as much information as possible about your scheme and explain why you think it will suit the setting. Having a discussion at this stage about what the planners will accept (and the detail of what information they need to see) will put you in good shape for the formal application.

Once your application is submitted, and before it is formally registered, it needs to be validated. This is the stage where the council reviews what you have given to them and checks whether or not everything is exactly as it should be – before they make a decision. If something is missing, they will either call you or notify you by post.

All being well, you can expect a decision on your application within eight weeks. If you do gain consent, bear in mind it may have been granted with conditions attached. These stipulations are imposed to regulate certain aspects of a scheme, and are key to the consent. You must study the clauses carefully and comply with them fully. If you don't, the permission will be invalidated. Identify whether any conditions require you to submit



Steve and Dory Morris have built an elegant contemporary home on a picturesque plot in Dorset. They had a few initial worries about gaining planning consent so they set up a preliminary meeting with the council, where they were able to discuss what they should include in their application and what elements they should consider in order to gain approval – which served them well when their proposals went to the planning committee. Steve's top tip for a successful build is: "If your application is going to be decided by committee, take someone with you who will endorse your plans. A former parish councillor spoke for us, and I think that helped to swing things our way."

further details or information and a date/time when they have to be complied with. Some may need to be fulfilled before work starts on site. If you don't fully understand what any of the requirements mean, contact your council and get them to spell it out in a succinct way.

4 Decide who will manage your scheme

If you want to finish your project on time and on budget, your self build has to be well organised. You can be hands-on at every stage (although very few actually do any construction work themselves) or employ experts to deliver various aspects of the team (and deal with the stress).

Supervising your own scheme is a major commitment, which means it's vital to understand the full breadth of everything involved. Do not underestimate the size of the job, nor the value a professional will bring to your build. Essentially, a good project manager (PM) will take the scheme to a pre-agreed level (such as a watertight shell or the completed home). They'll draw up a schedule and costings from scratch. The job is a juggling act of contracting trades; scheduling orders and taking delivery of materials on site; paying sub-contractors; hiring plant; liaising with inspectors; and ensuring all aspects of the build run smoothly.

Coordinating what and who is on site – and when – is the secret to a well-run project. All

trades must arrive on time, in the correct order and have the right supplies to complete their particular tasks. Poor scheduling costs money: materials that arrive early and hang around can get damaged; whereas late deliveries will leave trades unable to progress and you're the one who will be left footing the bill for their wasted time. The key here is to be prepared – take heed of advice from your architect, builder's merchant or tradesmen to find out what's needed when and to get a good idea of any lead times.

So, who should take on this essential role? It's important to choose the right route for you. Contracting a package supplier or professional will remove a lot of the hassle, for example, and if you're working full time it may be the best option. If you don't feel you have the necessary skills – don't try to wing it! See www.self-build.co.uk/project-management for more advice.

5 Protect your project

To make sure your self build runs as smoothly as possible, you must have the right documents and insurances in place to ensure that your project is protected from all angles.

If costs start to spiral, work is completed later than anticipated or is not up to the standards you require, then a robust contract could go a long way towards remedying the situation. Drawing up clear and concise documents that specify who is responsible for what will ultimately benefit all concerned. Write down your list of terms for the job and share this with your chosen builder, and get them to do the same. When hiring individual tradesmen, this simple exchange (which lays out what is to be done, how much money it will cost and a date that payment is due) may be all that is required. When dealing with bigger jobs, or if you are hiring a main contractor, you should have something more detailed in place. The JCT small works contract suite offers a good starting point (check out www.jcttd.co.uk).

At the very least, these more comprehensive documents should include a detailed timeline of the works, how much each element will cost and dates when staged payments should be made. It's not always advisable to fill your contract with restrictive clauses (such as creating penalties for missing deadlines etc) as it may get you off on the wrong foot. However, preserving the right to retain around 10% of the overall price until snagging has been completed is commonplace.

BUDGETS & FINANCE

Self building offers excellent value for money – but it's important to keep on top of your budget. Find out how you should you split your funds and where you can look for suitable finance

If you are planning to self build, an essential aspect you need to consider is your budget. Without the correct funds in place, you won't be able to get your project off the ground. The first thing you need to do is work out exactly how you are going to finance the new development. The amount you have to spend will have a huge bearing on your entire scheme – from the scale of the house to the structural system, fittings and finishes.

You need to be realistic in terms of what you can achieve. Whilst self building does provide an

affordable route to delivering a fantastic and high quality home, you can't create something to suit champagne tastes if you have lemonade pockets. Don't underestimate how much this type of development will cost you in terms of time and money – you are, after all, building what will become a huge asset. Running out of funds mid-way through would be disastrous.

Here we are going to look at how to set a realistic budget, what percentage you should earmark for each key stage of the process and how you can use a specialist self build mortgage to help you along the way.

Design evaluation

Although you should always wait until you have secured a plot before setting out your detailed design plan, it's still a good idea to clearly think through what you want to achieve from your new home at this early stage. Decide what type of property you want in terms of general size and style – again, it's essential that you are realistic.

A good starting point is to look at your current home. List how many rooms you have and how spaces are arranged (eg open plan zones or cosy private rooms) then make a note of what you like and dislike about this. Try to think about the future, too. If you want to self build your forever home, you need to take into account



PHIL RABY

Sally and John Lane have built an energy efficient home in the Cambridgeshire countryside. Their chic new home has been valued at £700,000, which represents a profit of just under £100,000 compared to what they spent on the development. The plot itself cost £176,000, while the couple spent £430,000 on construction with package company Meisterstueck.

what your family's requirements may be in years to come. You might consider including bathrooms and bedrooms on the ground floor, for example, or a convertible loft space for potential extra rooms for a growing family.

Ceiling values

When it comes to finding a plot, you need to source something that is both affordable and suitable for the type of development you are proposing. Once you have identified something of interest, it's a good idea to take your plans to a local estate agent to discuss them. They will be able to assess the scale and quality of what you are hoping to create and guide you towards the market value of similar properties in the locale. This will provide you with an idea of the ceiling value of other homes in the vicinity. Use this as a guideline for the very maximum you should spend on your development overall. This will go a long way to mitigating the risk of falling into negative equity upon completion.

Take the figure that your estate agent has provided you with and subtract the cost of your plot. The sum you are left with can be used as a guide to how much you should budget to construct your new home. Realistically, the actual amount you'll spend will be significantly below this figure – especially if you want to turn a profit. Establish what you can afford based on your personal finances and mortgage funding.

Self build mortgages

One of the most common problems that self builders face is securing suitable finance. The banking industry has experienced some turbulence in recent years, which has been reflected in the construction sector through tighter lending – including in the self build market. Thankfully, due to government support and overall growth in the sector, things are on the up and we're now seeing healthy competition between lenders and wider provision of tailored self build mortgage products.

While many people embarking on this type of development will have a significant lump sum to get things off the ground, most will still need finance. A typical deposit would be 10%-15% of the overall project budget. Traditionally, a mortgage is secured against an asset – your home – and the loan is paid back to the provider (with interest) via regular monthly instalments.



Stephen Read self built his contemporary home in Maldon, Essex, in an exceptional location with glorious views of the coast. Now complete, the house has been valued at £895,000. His overall budget was £448,000, of which £220,000 went on land and £228,000 on the construction and internal fit-out.

Usually, the repayment tenure is 25 years, and if within that period the fee can't be made, the lender has the right to repossess your house and sell it to get their money back. This is, of course, the worst case scenario, but it helps to explain why things are different when loaning money on a self build. You will be asking your bank or building society to give you cash against a yet to be constructed home – in other words, the core asset they are using as security doesn't exist. So, if the mortgage defaults, there is an increased element of risk to the lender.

Specialist self build mortgages mitigate this risk by providing a stage payment system. This allows you to draw down set amounts at key points in the scheme. Typical stage payments are made in arrears of the completion of each phase. The standard points where the funds are released are: foundations; wallplate/frame erection; weathertight; first fix plumbing and electrics; and completion. Before you can access the cash, your lender will send a surveyor to value and sign off the relevant stage.

The alternative is to sign up to an advanced stage payment mortgage, a concept that was developed by BuildStore and is now available through them from a variety of banks and building societies. The benefit of this product is

that you are able to draw down cash prior to each phase commencing (so the money is in place to pay for the upcoming stage). Your lender will complete an in-depth analysis of your scheme's costings and cashflow from the outset. From here your funding schedule will be arranged and fixed to ensure you are getting the money you need at the right time – this is usually at similar points to the arrears product.

Whilst there are numerous lenders who will offer finance to you, the amount they will give (expressed as a percentage of the overall project cost) has reduced somewhat over the last few years. There was a time where 95% mortgages were readily available, but this is no longer the case. You will need a healthy cash sum available to get things off the ground. In fact, some banks and building societies may refuse to lend on land at all – so your choice of financier is crucial. Typically, self builders borrow 75%-85% of the land value/project price.

Splitting your budget

Once you have secured your finance and know exactly what you have to spend on your development, you need to have a firm idea of how much you need to set aside for the various stages of your project.

The biggest individual cost will probably be attributed to your plot. This will typically account for around 30%-40% of your sum – in some areas of the country (especially the south east) you should expect it to hit the higher end, or sometimes surpass this. When purchasing your land, think about the cost of utilities, too. On many urban sites, connection will be relatively simple with a low associated price tag (around 1%). However, for more remote rural locations, costs tend to be higher.

Add to this the finance and professional fees, which will take a significant chunk of money. Even the most basic project will require the services of solicitors, engineers, surveyors etc. On more complicated schemes, you may need to hire a planning consultant, and unless you want to take on the task yourself a project manager may be needed. Set aside at least 7% of your total budget to cover these fees.

For any type of construction project, but self building in particular, having a sensible contingency fund in place is essential. Problems will often start early on in the development,

particularly at groundworks stage. You can't predict with 100% certainty what you'll find when breaking ground, for instance – and you don't want finance issues to stop you in your tracks before you've even poured the foundations. A good rule of thumb is to earmark at least 10% of your construction costs as a contingency.

Obtain a few quotes from tradesmen or a package company for your project. Be specific and give as much detail as possible. No reputable contractor or company will give you a fixed price quotation based on poor quality information. Your builder should also be able to give you a reasonable idea of how much your material requirements will add up to. There are ways to save money here, but at this stage it's pretty safe to assume that at least 20% of your budget will be spent on construction materials.

Labour fees will come down to how much (if any) of the work you do yourself, as well as your geographical location. At this point, a good indicator of what you should spend on labour is around a quarter of your overall budget. Significant savings can be made by hiring individual tradesmen, as opposed to using a single general builder or using a turnkey package supplier – but the management and coordination side of things will be more complex.

Finally, arranging suitable site insurance and a structural warranty is extremely important, both for peace of mind and for financial security during the build and after completion. Plus it'll be near impossible to sell your property in the future if it doesn't have a warranty. Budget around 1% to cover these charges.

Getting back the VAT

When you buy a house on the open market, you don't have to pay VAT, whether it is new or has been previously occupied. Similarly, on a self build you are able to reclaim VAT on a variety of products and materials. Labour to create a new build property is always zero rated, so should never be charged, regardless of whether the tradesmen you use are VAT registered or not.

A common misconception is that all VAT on a self build project can be reclaimed. This is not the case – the tax due on professional or supervisory services like surveys, planning and tool hire is still due, for instance, as is that on non-fixed items such as white goods. The HMRC website explains what can and can't be claimed for.

Q&A: Self build finance

Rachel Pyne from specialist broker BuildStore answers your questions on self build mortgages:

Q Why am I struggling to obtain finance for my self build from any of the high street banks?

A The main issue with high street banks is that many simply don't offer this type of mortgage. Remember that you are looking for a specialist product to support your project. Many lenders do not deal with this kind of scheme on a regular basis and therefore probably won't understand any of the associated financial issues. Many won't have the experience to know what questions they should be asking to identify the key requirements in order to get the right finance in place. Therefore, it's a good idea to speak with a broker who knows the market and the self build process in general to get this type of loan arranged.

Q What are the benefits of an advance stage payment mortgage arrangement?

A An advance payment mortgage – such as BuildStore's Accelerator – releases the money for each building phase prior to work commencing on that stage. This really eases up your cash flow during the project – which can reduce your stress levels. It can speed up the build process overall, too, as you don't have to wait for the funds to be approved and released once the stage is completed and then inspected. Many self builders feel that it eases their relationships with tradespeople, too, as it means you can pay them quickly and at the right time – allowing them to continue with the project seamlessly.

Before you start the build, download the relevant pack from HMRC's website and then collate all of the receipts and invoices for the materials you will be claiming for as you go along. It is important that these are all original documents, have the supplier's VAT registration number, list the quantity and description of the goods and the price of each item. If the value of an invoice is more than £100, then it must show your name and address.

Anyone who buys eligible goods for your project can make the claim, so your builders can do some or all of the reclaim for you and simply not charge you the tax at all, which can really help your cash flow. However, it is frequently the case

that you will have bought considerable quantities of materials yourself and will want to make your own submission. Claims should be made at the end of the scheme, usually after building control has issued the completion certificate. You then have three months to submit your forms, which HMRC will acknowledge within 10 days and will usually settle within 30 working days.

Q I need to borrow money to secure a plot; do any banks or building societies lend on land?

A Many specialist lenders will allow you to borrow on land purchases, but there are a few who don't – so don't get caught out by this. You can usually borrow up to 85% of the plot value, depending on which lender you use. It's really rare to be able to borrow more than this. Be aware that your plot will usually be the single most expensive item you buy, so it will always be beneficial to have some savings to put towards this.

Q How is loan to value assessed on a self build?

A All lenders will rely on their own private valuers to give a current land price and to predict the estimated end value of a finished property. The amount that you'll be able to borrow will have many variables, including affordability. You'll also be assessed on how much you earn, what committed expenditure you have (ie credit card or loan payments) as well as lifestyle expenditure, including different assessments based on how many children you have and sometimes even the number of cars in the household.

Q Are lenders worried about the type of build system you want to use?

A Each will have a set policy on the type of system that they are prepared to lend on, and this can vary from firm to firm quite considerably. Some are only happy with the more traditional methods, whilst others are beginning to embrace and accept the more modern systems. You just have to search for the right match, and a specialist broker can help you with this, too.

CONTACTS

BuildStore 0345 223 4888 www.buildstore.co.uk

Holmesdale 01737

232310 www.theholmesdale.co.uk **HMRC** www.hmrc.gov.uk

Meisterstueck 0845 003 1383 www.meisterstueck.com

Potton 01767 676400 www.potton.co.uk

FINDING THE RIGHT PLOT

The first step to realising your custom home project is tracking down a site to put it on. *Build It's* editor **Chris Bates** explains how to give yourself the best possible chance of identifying a plot with genuine development potential



The Glovers lived in an end-of-terrace house that was a touch too small for their young family. Realising that the garden could be developed, they initially thought of extending the existing property – but switched to a self build scheme on the infill plot on the advice of their architect. Their 120m² new home was completed for just £108,250.

There's no doubt that finding a viable plot is one of the more stressful parts of the self build journey. It's not uncommon to spend upwards of 12 months hunting for the right site. Nevertheless, around 12,500 people successfully navigate the process every year. The plots are definitely out there – and there really is no better route to getting a home that's completely tailored to your family's requirements. In part three of our *Beginner's Guide to Self Build*, I'm taking an in-depth look at what you can do to make your hunt for land as straightforward as possible.

Money matters

As with any type of property purchase, it's vital to have your finances in place right from the start. If you need a mortgage to cover the land acquisition, then make sure you've got the agreement ready to go. With some specialist lenders you can borrow up to 85% of the plot's value. Speak to the experts at self build mortgage broker BuildStore or check out the previous article in this series for more advice on budgets. What you absolutely don't want to do is end up in a position where somebody beats you to your dream plot because you couldn't raise the funds quickly enough.

Land costs vary across the country, but as a rule of thumb, your plot might account for anything from 30% to 40% of the total project sum (including professional fees and build costs). In areas where sites are rare and property prices high, you can expect to spend towards the top end of that scale – or perhaps more – but it's important that you keep your budget in mind at all times. If you pay top whack on a beautiful piece of land but can't afford to develop it in a manner befitting its surroundings, you'll be compromising your investment.

Plot hunting basics

Every property search needs focus, so set out some fundamental parameters for your plot. What size of house do you want, for instance? Would you prefer an urban setting or a rural environment? How much garden amenity does your family need? Build up a list of the essentials and use it to assess any potential sites you come across – this way you'll quickly be able to sort the wheat from the chaff; although you should be prepared to make some compromises.

ALEX PRATT

Custom build: the new route to land?

A new wave of plots is now becoming available as so-called custom build opportunities, where an enabling council or developer makes viable sites – usually fully serviced – available for one-off houses or group self build schemes.

The land will come with planning permission in place, so you can be sure a project is viable, and in some cases the build itself will be pre-costed to different specification levels. You can usually commission a bespoke house, too, but it's likely to need to conform to an overall design code that restricts you to a certain palette of materials. Interesting schemes are popping up all over the country, but here are some of the leading lights:

Ebbsfleet, Kent Plot numbers unconfirmed

Still in its early stages, the new garden city at Ebbsfleet has been earmarked by the government as a hotbed for custom homes. A total of 15,000 houses are planned, but we don't yet know how many will be allocated to self build.

More info: www.ebbsfleetgardencity.org

French Fields, Cheshire 18 plots

This scheme is delivering a range of high-quality bespoke Potton homes on serviced plots with planning permission already in place. Guide prices for the sites range from £135,000 to £150,000, with only a few plots remaining.

More info: www.potton.co.uk

Graven Hill, Oxfordshire 1,900 plots

Enabled by *Build It* award-winning Cherwell District Council, this dedicated self build scheme is the biggest of its kind in the UK and will deliver a wide range of custom homes according to an overall design code.

More info: www.gravenhill.org.uk

Hempstead Green, Peterborough 11 plots

A development of detached three and four bedroom homes by custom build specialist, Urban Selfbuild.

More info: www.urbanselfbuild.com

Northstowe, Cambridgeshire 150 plots

A joint venture between the Homes & Communities Agency (HCA) and Gallagher, almost 10,000 new homes are proposed for this site five miles north-west of Cambridge. Phase one of the scheme (1,000 units) looks likely to include around 150 self builds.

More info: www.northstowe.com

Trevenson Park, Cornwall 54 plots

Custom build specialist Igloo will be offering over 50 self build opportunities on this HCA-enabled development. Purchase a serviced, shovel-ready plot and then choose one of the six shortlisted manufacturers to deliver your project.

More info: www.iglooregeneration.co.uk

Tell everyone you know that you're looking for land to build on – family, friends and colleagues can all make surprisingly useful sources of information. Local architects and planning consultants might also know of opportunities coming onto the market; while design and build firms such as Potton may offer plot finding services (or can at least help you judge the viability of any land you're considering).

Online search tools can work wonders, too. BuildStore's Plotsearch (www.plotsearch.co.uk) is probably the best of the dedicated services, with around 10,000 plots listed, but you can also try websites like Rightmove and PrimeLocation. If possible, note down the postcode and check the site out on Google Maps – this will give you a general overview of what to expect and help you to decide whether it's worth booking a viewing.

Don't rule out using an estate agent, either. Love or loathe them, they're often a seller's first port of call, so give them details of your budget and preferred locations so they can let you know if a suitable site comes up. Some agents will actively search for a plot on your behalf – though they may charge an extra fee for this service.

You can sometimes bag bargains at auctions, too. The most common opportunities available here include repossessed properties or fire-damaged houses that could be ripe for demolition and rebuilding. You may also find plots being auctioned where the planning consent is close to expiring.

Lesser-known routes

Some landowners don't realise they're sitting on a plot they could sell on. If you spot something that looks like it has potential, approach the owners to ask whether they'd consider selling – a letter through the door emphasising your interest and how much you and your family want to become part of the community is a good start. If you're struggling to identify the owner, try searching the Land Registry online.

Pub and shop owners in the area may be willing to let you put up notices in their windows free of charge. Dig through the local paper, too – there may be land listed for sale or you could even take out a 'plot wanted' ad.

It's also worth asking your local authority whether it runs any schemes for self builders – you can often find details on the council's website. Some initiatives are specifically aimed



This garden plot sits outside of the local development boundary in a small Essex village. Normally, there would be little chance of gaining consent for a self build project – but the council's housing policy doesn't meet government requirements to show it has earmarked enough land for a five-year housing supply that fulfils demand. "This could open the door for a scheme under rules that mean 'sustainable development' should be allowed where policies are out of date," says *Build It's* planning expert, Mike Dade.

at helping local first-time buyers or those who need access to affordable housing, while others offer a greater spread of custom home opportunities. Either way, most councils publish a list of recent planning applications on their websites. This can be an invaluable source of potential plots, and you may even discover that rare gem of a site that's about to win approval but isn't yet up for sale. The applicant's contact details will be on record, giving you an excellent chance to get an offer in ahead of the crowd.

Another interesting route to viable land has opened up recently, following the passing of the *Self Build & Custom Housebuilding Act* in 2015. This requires local authorities to set up and maintain lists of individuals and groups who want to self build – and to look seriously at delivering serviced plots at market value to satisfy demand. A number of councils and other enablers are already bringing forward custom build sites – see the box (opposite) for more on this.

Too good to be true?

There's a reason most plots on the market already have planning consent – and it's not just

because the owners can charge a hefty premium for their land. There are plenty of sites available at a snip that appear to be ideal for development at first glance, but bear in mind that if the planners will never grant permission for development then the land is basically worthless.

Generally, it's best to avoid sites listed as having 'planning potential'. If there was a realistic prospect of developing the site, the vendor would almost certainly have paid the £385 fee to obtain outline planning permission as this could add tens of thousands to the plot's value.

If you do want to make an offer on land that doesn't already have planning consent, be sure to do so on the strict proviso that you'll only complete the transaction if the council gives you permission to build your preferred design. You might need a solicitor to help you pen a suitable conditional agreement – especially if you want to buy an 'option' on the plot so that you can avoid being gazumped by another bidder.

On the other side of the coin, don't dismiss a site just because you're not keen on the permitted design. Even if detailed planning consent is in place, fundamentally all the

permission is doing is proving that the site can be developed in some way. If you choose to do so, you can submit a new application for a different design that better suits your needs.

What to look out for

Always do your research before buying a plot – even if it already has approval for a new home. The first thing to check is how long the consent is valid for; there's a three-year time limit on planning permission and, if it's about to expire, you may want to ask the vendor to renew.

Next up is to establish whether any politics were involved in obtaining the permission – were any parts of the approval contentious and could this be a consideration if you want to apply for something a little different?

Some sites come with covenants attached that restrict what you can build. Some of these may even preclude development at all. Common limitations might concern where access roads can be located or which elevations can be fitted with windows – all of which could affect your enjoyment of the finished design. So check whether any covenants are in place (they should be identified in the title deeds). If any would put your project in jeopardy, look into what it would cost to have them annulled.

It's a wise move to commission a survey of the plot before you buy. This may well identify the existence of any covenants, in addition to revealing details about the soil conditions, flood risk issues, any tree preservation orders on the land and other elements that may impact on your plans or the cost of building on the site. For instance, conservation area status and other designations could have an effect on the overall size and style of your new home.

Your plot doesn't necessarily have to have mains services like gas and electricity on site, but it will save you a pretty penny if they're already in place or at least easy to connect to. The further your site is from existing services, the higher the charges will be – so urban and suburban settings can prove easier to deal with. In some remote rural locations, service connection costs can run to tens of thousands.

Common opportunities

One of the best routes to a workable plot is the demolish-and-rebuild project, where you knock down a dilapidated or otherwise unsuitable

house (whether in the town, country or on the edge of a settlement) and replace it with something that fits your needs. Provided the residential use isn't considered to be 'abandoned' by your local council, you should find it fairly easy to get planning permission to replace a rundown building with a newer, better-designed and more sustainable home – and you can often increase the size, too.

If you're lucky, you might stumble across an 'infill' plot. This is basically a gap in the existing streetscene – such as at the end of a row of terraces or between detached houses. A lot of self builders use Google Maps to hunt for this kind of land, which might take the form of disused access, a former allotment or a similar site that's fallen out of use. But remember that just because a plot is empty, doesn't mean it's suitable for development – the council might have earmarked it as essential local amenity space, for instance, so it's vital that you check the facts before proceeding.

Completely virgin 'greenfield' sites are rare, but opportunities do occasionally come up. Check whether the plot you have your eye on lies within the local authority's designated development boundary. If not, gaining planning consent could be a struggle (although not necessarily impossible). You may also find that the council's planning policies reserve greenfield solely for affordable housing.

One designation to avoid is completely undeveloped 'green belt'. This type of land is fiercely protected, so it's only likely to yield opportunities for extensions or to demolish and rebuild existing homes. That said, there is a peculiar planning exemption that allows 'outstanding examples of contemporary architecture' to be built in such countryside locations. But unless you've got a big budget and don't mind gambling significant design and planning fees on what can often come down to a subjective decision about architectural merit, this route is probably best avoided.

In the past, garden sites offered fantastic potential for self builders. Their recent reclassification as greenfield, however, means they're not quite the sure thing they once were. It's still eminently possible to develop garden plots, but local authorities tend to prioritise brownfield (previously developed) land first in their planning policies.

DESIGNING YOUR DREAM HOME

If you want a house that matches your style expectations and will fit your family's lifestyle both now and in the future, then self building is the path for you. Discover how you can ensure your scheme's design meets your needs

The beauty of building your own home is that it offers the blankest possible canvas for your project. There are limits to what you can achieve, of course – you'll always have to balance what you want against the demands of your budget, your site's peculiarities, planning constraints and Building Regulations requirements. But provided you've got a good designer on board, there's no better way to create a unique, well-conceived home that suits your family's needs.

Choosing an expert

This stage of a project isn't just about paying someone to produce a set of drawings. A good designer will develop a scheme following an extensive and collaborative design process. Ideas will be sketched, discussed and redrawn in response to your requirements, the constraints of your plot and your budget – all with the goal of achieving planning consent for a unique home.

You'll want to work with someone who's professionally capable, can demonstrate they connect with your vision and – perhaps most importantly – is easy to get on with. Much rests on your initial meeting: are they a good communicator; are they asking enough questions about you (this is your home, after all); and do they seem proactive about taking your ideas on board? "I always strive to understand how clients live and work hard to establish a rapport with them," says Opinder Liddar, *Build It* expert and director at Lapd Architects.

You don't have to use someone based near your site, but it can be an advantage – they're likely to know the key figures at the planning office and might have an insight into what kind of schemes are likely to be favourably received. They may have contact with good local builders and suppliers, too. Do, however, check that the designer has experience in delivering the type of project that appeals to you. There's little merit in enlisting someone who specialises in contemporary homes if you've got your heart set on a chocolate box cottage.

Find out how many self builds your potential designer has worked on previously and ask for references. Talking to past customers is the best way to get a sense of how they work, whether they respond positively to clients' changes and how effectively they manage budgets. Check their track record of planning approvals, too – especially if you suspect that some aspects of your scheme might prove controversial.

Design routes

You don't have to use an architect to draw up the plans for a new house. In fact, there are a number of skilled professionals capable of delivering a high-quality service – and it's down to you to choose the one that best suits your needs. So what are the options?

Architect: Only those who've successfully completed seven years of formal training and are registered with the Architects' Registration Board (ARB) can call themselves architects. The best exponents create stunning, unique designs that can maximise the potential of a plot. There's no doubt their expertise comes at a higher cost than some of the other routes available to self builders – but very often they bring value for money in terms of the imagination and technical skill they can impart on a one-off project.

The ARB keeps an online list of pros at www.architects-register.org.uk. But the websites of the Royal Institute of British Architects (RIBA) or the Association of Self Build Architects (ASBA), whose members specialise in residential projects, tend to bear more fruit. These sites allow you to identify regional experts who are experienced in self builds and similar schemes.

Many architects offer a range of additional services – from obtaining planning consent and basic contract oversight, right up to full-blown

Closer look: Architect-led scheme



When Helen and Gordon Dougan bought a plot in the charming market town of Haddington, near Edinburgh, they quickly got in touch with architect Keith Renton to develop a detailed blueprint for their new home.

Keith had completed the original design work for the site's vendor, resulting in outline planning consent for a four-bedroom eco home, and the couple felt he would be an ideal choice to take their project forward. Their brief was for a warm, light-filled home that would be cost-effective to run. Keith is a specialist in ultra-sustainable passive houses, and his final design for an airtight, low-energy home hit the mark.

"Efficiency was important to us, provided it didn't compromise the architecture," says Gordon. "We wanted a crisp, contemporary look using glass, metal and wood."

The house is in a conservation area, so Keith's design took in the couple's wishes whilst also conforming with the planners expectations. East Lothian council required rendered walls, a slate roof and for the house to be no higher than two storeys – all of which was accounted for. "We had no problems obtaining planning permission," says Gordon.

The 245m², four-bedroom home cost £460,000 (£1,878 per m²) to build and is currently valued at £650,000.

project management. Retaining their expertise throughout the construction phase can be a real boon – especially on a complex or high-spec scheme, where their innate understanding of the design can help to ensure work is completed to the required quality.

House designer: This term covers a wide variety of individuals capable of providing a bespoke plan that responds to your brief. Architectural technologists, for instance, are qualified in the practical aspects of building design – and those of a creative persuasion sometimes gravitate towards developing one-off homes. While their academic education won't be as extensive as that of an architect, they can bring plenty of expertise and ideas to a self build scheme – and their rates may be more palatable for those on a tight budget. You can find a suitable pro via The Chartered Institute of Architectural Technologists (CIAT) website.

Package company: Design and build firms offer support throughout a project, allowing you to select the services you need. This makes them an excellent choice for first-timers who aren't confident they have the skills to deliver a solo scheme. Many have long track records of successfully helping people achieve their dream home, so they offer extensive design catalogues that could inspire your project.

"We call ours a book of ideas," says Paul Newman, self build director at Potton. "You might see something you simply want to tweak it, or you can use the book to show us what you do and don't like – and we'll either modify something to create a house that suits you, or come up with a unique design that fits your brief!"

You don't have to use the in-house service: most package suppliers are happy to work with your own architect. "Our Potton Select service is intended to accommodate this route. All that we ask is that there's clarity in terms of who has

Closer look: Using a house designer



Vicky and Simon Parker enlisted one of Oakwrights partners, architectural designer Pete Tonks, to create this contemporary take on a Wealden-style home. "We wanted a modern country house rather than a pastiche," says Vicky. "Looking at other Oakwrights projects helped us to identify what we did and didn't like, and we went from there."

The scheme won planning approval first time, thanks to Pete's careful design work and a comprehensive application, which was brought together by Vicky. "Pete did the drawings and I produced all the supporting documentation," she says. "I did a lot of research – if I saw a new house being built in the area, I would write down the address and check the planning section of the council's website to see how and why they'd been granted consent."

The frame and insulating encapsulation system were engineered and erected by Oakwrights for a set price. For the rest of the work the couple engaged a quantity surveyor to accurately cost the design. "He outlined exactly how many bricks, blocks and tiles we'd need, allowing us to get very precise quotes," says Vicky. "We only went about £5,000 over our original budget."

The 254m², four-bedroom house was completed for £600,000 (£2,362 per m²) and is currently valued at £1,200,000.

responsibility for which aspects of the project," says Paul. "Usually your architect would see the design through planning, at which point either they remain at the helm or we can take the project forward. What doesn't work is a hybrid situation, where they pass comment from the outside but have no contractual accountability for delivery, as this can get messy and frustrating for everyone involved – including self builders."

Developing a brief

The first step to your ideal design is drawing up the information that will help direct your chosen designer. "For me, knowing what's key to the self builder's lifestyle and what appeals to them comes well before the formal process begins," says Opinder. "The opportunity to build your own home doesn't come along often, so I aim to ensure my clients enjoy the process and look to lend my imagination to their ideas."

Paul Newman agrees: "This stage is all about meeting the customer and getting to grips with what they want," he says. "So our role is to listen to your wants, needs, likes and dislikes, extract that information and then play it back to you to check both parties are on the same page. The last thing we want to do is design a house that doesn't reflect what you want. Understanding your requirements is crucial."

The brief will cover key elements of the project, such as the number of bedrooms, whether you want open-plan living or individual rooms and if you want to take advantage of a particular outlook. This is the time to highlight any style or materials preferences you might have, and to make sure everyone's aware of which aspects of the project are must-haves as opposed to nice-to-haves. From here your designer can begin to develop a scheme that suits the site and your requirements. The brief

shouldn't be a static document, though. "It evolves and is continually refined as the design develops – particularly in response to planning requirements and costings," says Opinder.

Design influences

The designer's response to your brief will usually begin with one or more sketch concepts. This is an opportunity for you to gauge whether they've taken in your requirements – but it's also a chance for them to introduce ideas you might not have considered. As details are agreed, work begins on fleshing out a full scheme. It's worth noting, though, that there will always be compromises to make. Here are some of the major factors that can affect the finished design:

The setting

Analysing the plot is a crucial first step in developing a viable project – and you should expect your designer to make a site visit very early on. Ideally, they'll bring a camera along to capture the orientation, views and other key

features, and they may even draw up a few quick sketch schemes on the spot. Fundamental considerations include the scope of the plot, likely size of house you want and any immediately obvious geographical features – such as severe slopes – that could affect the design and impact on your budget.

"There's a whole host of elements to consider, all of which can have a huge impact on the scheme," says Opinder. "How would the building be best oriented on the site to maximise views and encourage energy-saving passive solar gain, for example? Could the presence of mature trees be worked to your advantage or do they risk restricting what can be built? Would a new house overlook neighbours or vice versa – a classic planning bugbear – and if so, how can this be overcome?"

The style and scale of neighbouring homes is also likely to come into play. If you're hoping for a full two-storey house but the rest of the street is full of bungalows, you'll probably have to think again. If you want to get the planners on side,

Closer look: Design & build package



When Jeffrey and Lorraine King bought a dilapidated bungalow in 2009, it soon became clear that knocking it down and starting again would be the most affordable route to getting the high-performance home they wanted.

The couple had encountered Potton back in the 1980s, while researching another project that ultimately didn't come to fruition. They became captivated by the idea of constructing a New England-style bungalow – and Potton's Hazelhurst design proved to be a great starting point.

"We borrowed elements from this and other styles in their ideas book for our bespoke home, and were able to adjust the

plan to pretty much exactly what we wanted," says Jeffrey. The Kings secured a fixed price of £91,000 for the Potton design, manufacture and shell erection package – including the insulation, windows and external doors. The company submitted a planning application on their behalf in February 2012. Despite the fact the new bungalow is twice the size of the original, its overall bulk has been reduced by sinking the structure further into the plot – a feature the planners loved. Approval was granted without a hitch in May that year.

The 204m², three-bedroom home was completed for £316,000 (£1,549 per m²) and is currently valued at £650,000.



Above: This 285m² home in the Isle of Man by Potton is a fantastic example of how working with a package company can result in a wonderful bespoke home

look to use materials that complement the surrounding architecture. This doesn't mean slavishly copying what's already there – your designer may be able to suggest creative ways to reference popular materials, for instance.

Planning constraints

Your council's planning department will likely have a big say in what you can and can't build. Local policies – and the officers who interpret them – can dictate the size, scale, position and orientation of your home. They can even specify which external finishes you need to use.

Arranging a pre-application meeting with the planners (you can do this whether you own the plot already or not) is a great way to get a sense of what they'll allow, and will save you wasting energy on developing a wholly inappropriate scheme. "The better we understand what the local authority is likely to want, require or tolerate, the easier it will be to deliver a scheme that meets your needs and ticks all the boxes for planning consent," says Paul.

Your budget

One of the biggest concerns for any self builder is keeping a lid on costs. Even if you're fortunate enough to have more cash than you need to dedicate to a project, you'll still want to avoid

overspending. A good designer will make a point of discussing project costs early on, as they'll be aiming to give you the best possible house at a price you can afford. "We're always conscious of working towards the customer's budget, because there's no point in us designing something you can't actually build," says Paul.

House size has a direct impact on price – and by using typical costs per m² you can get a sense of how large a floor area you can achieve. Try *Build It's* interactive guide at www.self-build.co.uk/calculator for a rough idea. Site features will have a role to play, too: steep slopes might demand lots of excavation, for instance, while poor ground conditions can require more expensive engineered foundations. If your designer is advising you during the plot hunting stages, they may be able to alert you to such issues – which could have a bearing on how much you choose to offer for the site (so you can retain more budget for the design and construction phases).

Some architectural features cost more to realise than others. A house replete with angled walls and cantilevered storeys will be much more expensive to construct than a rectangular box, for example. Simple plans don't necessarily have to be boring, though – intelligent use of proportion and clever integration of key high-quality materials can help bring a design to life.

Reviewing the scheme

Your designer should be in regular contact throughout the process, to ensure the plans develop in the right direction. Once they present the full scheme, give yourself some time to digest it and consider whether any final tweaks are needed. You'll typically be presented with dimensioned floorplans, a site plan and 2D elevations. Many professionals also offer artists' impressions or computer-generated 3D representations that show the house in context. These can be a fantastic visual aid to demonstrate to planners how the house would fit comfortably in its surroundings.

Check the scheme against your brief – does it deliver all the elements you and your designer had agreed on and does it address the potential planning issues highlighted by your pre-application meeting? And crucially, is it achievable within your budget? For more on this, see the 'Is my design buildable?' box (right).

Submitting a planning application

Many first-time self builders enlist their designer to take care of negotiating the planning application process, but it pays to know a little bit about how the system works. Submitting a scheme involves an array of forms, plans and elevations, survey material and any other supporting information that's needed to clarify the more contentious parts of your project – along with the council's fee. It's often worth slipping in a covering letter that briefly explains what you're aiming to achieve and why your scheme would benefit the area.

To save the hassle and cost of making numerous photocopies, most applications for new build homes are made online via www.planningportal.gov.uk. Once the local authority has verified that your application is all present and correct, it should reach a decision on it within eight weeks. At this stage, you'll either be granted approval, consent with conditions, or the scheme will be refused. In the latter case, the reasons for rejection should be set out in full – giving you an opportunity to either appeal or redress the issues with a revised application. For more on achieving consent, visit www.self-build.co.uk/planning-permission.

Design fees

Most architects and house designers work on a lump sum or percentage basis. As a guide, if you want sketches, planning and Building Regs drawings and guidance through the approval process, you can expect to pay in the region of 3%-6% of the total build cost for your project. But bear in mind that other preliminaries – such as party wall surveys and SAP assessments – often fall at the feet of your designer and are likely to bump charges up slightly.

Charges will grow according to the level of service you require. If you want your architect to double up as a project manager – arranging quotes, overseeing trades, ordering materials etc – then you can expect to pay in the region of 12%-15% of the final build cost.

With a package firm's design team, initial fees can be a little lower – partly because they're swallowed into the kit price. The supplier owns the copyright, so if you like the design you'll have to accept their materials package. This is a great option for first timers who want the reassurance of a one-stop-shop for their schemes.

Is my design buildable?

There's nothing worse than gaining planning consent for a scheme you love, only to find when you start to gather builders' quotes that your dream home is going to blow your budget out of the water. Here's a guide to what you can do to ensure your scheme stays on track at the design stage:

- Give your designer a solid idea of your budget right at the start of the process so you both know where you stand. A good professional will keep finances in mind when developing drawings and construction details.
- When following up references, make a point of asking how they performed in terms of reigning in costs. Did the project come in more or less on budget and, if not, was there a viable reason for overspending?
- Don't be afraid to check back regularly with your designer to ensure that they're still on track budget-wise. That cantilevered balcony may be a lovely feature, for example, but it's not likely to come cheap.
- Ask for a cost assessment on the design before the planning application is submitted. It's much better to find out that the proposed project is too ambitious now, rather than invest the £385 application fee – not to mention eight weeks waiting for a decision – into a scheme you won't be able to afford.
- If all else fails, go back to the drawing board. Work with your designer to reconsider which elements of the brief are essential, whether any aspects could be delayed until you can raise more funds (such as fitting out a habitable loft) and whether the overall spec for the project is right.
- Bear in mind that local authorities can impose conditions on planning consent that impact on the affordability of a scheme. High-spec cladding materials and roof coverings are two common culprits. Try to identify likely stipulations at the pre-application stage so that you can factor them into the design and budget right from the start.

CONTACTS

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TIMBER STRUCTURAL SYSTEMS

Offering a wealth of design options, competitive prices and quick construction times, timber frame is rightly a self build favourite. Find out why you should consider this method for your project

With a viable plot in the bag and planning permission secured, it's time to get started on the detailed structural makeup of your new self build home.

Ideally, your architect or designer will have given some thought to a potential construction method when drawing up the scheme. This is important because different systems lend themselves naturally to different design elements. Open-plan living is easy to achieve with timber framing, for instance, while you'll get best value with prefabrication techniques by working to standard panel sizes (much as you would with follow-on materials, such as plasterboard).

For many self builders, timber frame is a leading candidate for the structural shell of their home. It's straightforward and speedy on site, uses a natural product at its core and is suitable for pretty much any style of project – so there are lots of reasons to recommend this system. In this feature we're looking at why you should consider a timber build.

The basics

Modern frames comprise a series of storey-height structural panels, which slot together precisely on site to form a house's load bearing external walls. These engineered panels are made of studwork sheathed in a

wood-based sheet material, such as oriented strandboard (OSB). Insulation is packed into the gaps between the studs in order to create a thermally efficient walling element.

The internal partitions, first floor structure, ceiling joists and roof trusses will form part of the package, and the whole kit will usually be erected by the supplier's expert team or a recommended contractor.

The beauty of opting for a timber frame system, then, is that you get the shell of a house designed to your specification, delivered and erected on site all in one neat bundle – ready for you to finish inside and out. The skeleton of a fairly standard project should take around 12 weeks to produce and as little as one to two weeks to put up. So while there's a fairly hefty lead time, the frame will rocket up – whereas wet systems such as masonry will take much longer on site and tend to be more exposed to potential delays at the hands of the UK climate.

Given that this route offers such a sizeable suite of materials and services, it's no surprise that many suppliers operate as so-called package house builders. These companies can deliver a variety of services to assist you in realising your dream home. So on top of the basic structural design-and-erect bundle they may allow you to bolt on architectural services, oversight of planning and Building Regulations applications, supply of additional materials, project management and even – in some cases – full 'turnkey' delivery of your new house (right down to the internal fit-out). For more on selecting a design and build package, visit www.self-build.co.uk/package-houses-explained.

Cost-wise, conventional timber frame is on a fairly even keel with brick and block – so there's little to choose between them on this score. As the two leading structural systems in the UK, you'll be hard-pressed to find trades who aren't completely familiar with both, too. One thing to consider with panellised systems, however, is that they do require extreme accuracy in the foundations. A tolerance of plus or minus 6mm is fairly standard; if your ground-workers don't achieve this, the erection team simply won't raise the frame. So be sure to get the foundations checked and properly signed off before the kit is delivered.



MIKE BLACK

Architect-designed timber home

Lakeland Timber Frame produced the engineered timber shell for Elspeth Jones and Fiona Inglis's stunning contemporary house, according to their architect's design. Steel supports were inserted to carry the loads of the cantilevered first floor and the large overhanging eaves, as well as to allow for the dramatic corner glazing that makes the most of the surrounding views. The cladding is a mix of rendered blockwork on the ground floor and durable horizontally-laid larch on the upper storey. The three-bedroom, 267m² house was completed for £367,000 (£1,375 per m²).

You also need to consider the fee structure; the frame will be tailored to your scheme so it can't be easily resold. You should therefore expect to pay a deposit of around 30%-50% prior to manufacture and the rest on delivery/erection, so you'll need to ensure you've got funds in place at the right time.

Design flexibility

Most timber frame suppliers are more than happy to work with your own architect; although if you're partnering with a package company they may offer an in-house design service. With the latter route, typically you can either tailor an existing range or create a bespoke scheme from scratch. Both paths offer you the opportunity to create a unique, one-off home – so the choice really comes down to which professional designer you feel more comfortable with.

The scope and style of timber frame self build projects across the UK is breathtakingly varied. With a specialist company in tow, you can achieve anything from a simple box-shaped home right up to complicated schemes with clever cantilevered overhangs, unusual roofscapes, vaulted ceilings and other inspiring features. What's more, you can use the full gamut of cladding materials; subject to the planners' whims, you could go for wood boarding, render, brick, metal or any number of

options for the external finish of your scheme. So whether you're dreaming of a cosy brick bungalow or a contemporary glass-and-render super-home, this system can deliver.

Depending on the complexity of the project, load bearing internal walls can be pretty much completely designed-out, therefore allowing you the flexibility to choose either open-plan or partitioned layouts to suit your family's requirements. Your supplier should look to value engineer the frame as far as possible, but ultimately getting an economical result stems from a good working partnership between the manufacturer and your architect. If budget is a big consideration, for example, try to keep panel spans and storey heights within standard limits to ensure efficient use of materials. Measures such as this will minimise the requirement for any expensive reinforcing steels or similar supports.

Various technical decisions need to be made on timber frame projects that can help with the design and building stages of your project. For example, opting for metal web floor joists (which are super strong despite the open voids they contain) will make it easier to for your trades to run services and ducting. Up on the roof, standard trusses are the default choice – but if you want a habitable loft, you could upgrade to attic trusses to free up space. Some suppliers may also be able to

Timber frame package



MATT JOHNSON

Located on the edge of a conservation area, Jenny and Mark Wisdom's plot had a contentious planning history – but working together with the local council and their design and build package supplier, Potton, they came up with a bespoke scheme that fulfilled all the family's requirements. The brick-clad timber frame was delivered on a design, supply and erect basis and took around a week to go up, after which the Wisdoms managed the rest of the build themselves using Potton-recommended trades. The four-bedroom, 340m² house was completed for £340,000.

offer a hybrid of systems to suit your scheme – Potton, for example, works with both timber frame and structural insulated panels; with the latter being a great option if you want a pre-insulated room-in-the-roof.

Panel options

The two most prevalent forms of timber frame are open panel (sometimes known as open cell) and closed panel (or closed cell). The difference between the two comes down to

the degree of prefabrication involved while the components are still in the factory.

With open cell, the panels are delivered to site with the studwork, outer OSB sheathing and a layer of external breather paper in place. Breather paper is waterproof externally, but allows vapour to permeate from the internal side – so moisture can escape from the structural fabric rather than getting trapped. A similar membrane is applied to the roof, so you end up with a fundamentally weathertight shell. Apertures for doors and windows are pre-cut, with bracing and support beams designed-in where possible. Once the structural envelope is up, insulation is added to your or your architect's specification and the open side is closed off. Depending on the supplier, this might be achieved directly with a vapour control layer, battens (to create a service void) and plasterboard; or another layer of OSB may be included first.

There's little to choose between the two panel types, though you may find one more suited to your project. Opting for an open cell arrangement can be extremely cost-effective. It gives you slightly more control over sourcing the materials, a corresponding sense of more hands-on involvement in the scheme and offers a touch more flexibility. So it's a good choice if you can't quite decide where to locate electrical outlets and other services. However, it does require more labour on site.

Closed cell construction is broadly similar, but as a minimum the units come with both sides enclosed and the insulation factory-fitted. You can opt for even higher degrees of prefabrication – from pre-fitted door linings and service conduits through to panels with windows and doors already installed. The big plus with closed panels is that more of the work is completed off-site to computer-controlled degrees of accuracy, which makes for an ultra-fast build and takes a lot of the potential for human error out of achieving good insulation covering and air tightness.

One potential downside is that the initial costs will be higher (although a basic closed cell frame should come in at a similar price point to using open cell once labour is considered). You'll also need to stay very true to your original design – altering the panels on site to accommodate last-minute revisions

can be expensive and negates the point of choosing this system in the first place.

Energy efficiency

Whichever option you choose, a typical external panel will be around 140mm-145mm thick, to allow for enough insulation to meet modern standards of energy efficiency.

Part L of the Building Regulations requires designers and builders to work to overall efficiency standards for the entire fabric of a new home (governed by 'dwelling emission rates' that set a maximum level for annual CO2 emissions). Your architect or house designer should therefore take a holistic approach to energy performance – but as a guide, the regs set a notional U-value threshold of 0.18 W/m²K for walls, which is easily achievable with standard timber frame.

Deeper panels can accept more insulation and therefore deliver better performance – although it's more common to stick to 140mm and add another layer of protection internally once the main shell is up, prior to fixing the plasterboard. Taken from *The Build It House*, www.self-build.co.uk/build-it-house the section drawing (below right) shows 140mm-thick open panels filled with rigid polyisocyanurate (PIR) insulation – available from the likes of Kingspan and EcoTherm – with another 40mm of PIR applied internally. This extra thickness helps to reduce 'cold bridging', where useful heat escapes via studwork or similar elements crossing the structural fabric, by providing a near-

Alternative timber systems

Oak frame is a much-loved building system where posts and beams are either handcrafted or machined to create a load-bearing skeleton. Unlike many other methods, with oak the frame forms the core of both the house's structure and its aesthetic, as the characterful beams are usually left exposed internally to add natural warmth and character to the living environment. To conform to modern requirements for energy efficiency, most oak frames are encapsulated with insulating panels. Variations on the theme include Potton's Douglas fir system and the iconic glass-and-timber Huf Haus design.

Suppliers: Border Oak, Oakwrights, Welsh Oak Frame

Log construction is more traditionally associated with Scandinavia and North America, but has gained some traction in the UK. This type of house is typically constructed using whole or half logs, with the structure either manufactured or handcrafted in a workshop so that it will slot together neatly on site. You can usually choose between a kit to build yourself, a supply-and-erect service or a full turnkey package.

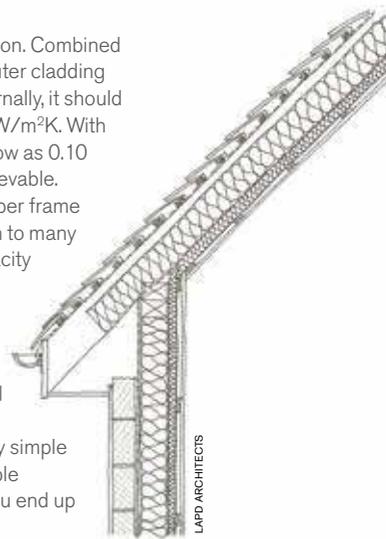
Suppliers: British Log Cabins, True North Log Homes

Structural insulated panels (SIPs) are similar to closed timber frame panels. They're formed of two sheets of OSB, sandwiching a core of injected insulation that bonds the panel together. This creates a strong, thermally-efficient structural element that can be used for walls, roofs and floors. The main advantage of SIPs over standard timber is there are no studs in the panels, which cuts down on cold bridging. It's also easy to make airtight. Energy efficiency is built in as standard, then, but SIPs do attract a 5%-10% price hike over conventional panels.

Suppliers: Kingspan TEK, Potton, SIPs@Clays

continuous layer of insulation. Combined with a render-and-block outer cladding and Gyproc wallboard internally, it should achieve a U-value of 0.14 W/m²K. With thicker panels, figures as low as 0.10 W/m²K are eminently achievable.

Another area where timber frame really shines in comparison to many other systems is in its capacity to achieve excellent air tightness. The prefabricated, precision-engineered panels help to ensure everything's level and plumb – which makes sealing the joins a relatively simple job. This can make a sizeable contribution to ensuring you end up with a low-energy home.



CONTACTS

Border Oak 01568
708752 [www.](http://www.borderoak.com)

borderoak.com **British Log Cabins** 0121
288 2840 www.britishlogcabins.com

EcoTherm 01702 520166 [www.ecotherm.](http://www.ecotherm.co.uk)

co.uk **Lakeland Timber Frame** 01524
782596 www.lakelandtimberframe.co.uk

Kingspan TEK 01544 388601 [www.](http://www.kingspantek.co.uk)

kingspantek.co.uk **Oakwrights** 01432
353353 www.oakwrights.co.uk **Potton**

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Clays 01756 799498 [www.claysllp.](http://www.claysllp.co.uk)

co.uk **True North Log Homes** 01727
851558 www.trueorthloghomes.com

Welsh Oak Frame 01686 688000

www.welshoakframe.com

MASONRY STRUCTURAL SYSTEMS

If you're looking for a solid, familiar material to form the core of your new home, building with blockwork could be the way forward

Masonry has played a major role in the UK's built heritage over the centuries, with both brick and stone structures making significant contributions to vernacular architecture up and down the country. While systems such as timber frame can be clad in the same materials, for some people there's something reassuringly familiar about putting these solid units at the heart of our homes – hence brick and block remains an extremely popular structural option.

The basics

There are a variety of masonry systems available (see the box on alternative products, overleaf, for a quick overview). This article, however, focuses on the most popular option: cavity walling. This is where two skins of masonry are separated by an air gap. Over time this has come to accommodate a layer of insulation to improve thermal performance. The internal blockwork takes most of the structural loads, while the external leaf predominantly serves as a weather barrier – as well as providing a decorative finish. The two skins are connected via wall ties to manage movement.

This system is solid, durable and surprisingly flexible, allowing for all manner of architectural styles and layout configurations. What's more, it's tried and tested – which means you won't have trouble finding designers and tradesmen who know how to use it to its fullest. So you can be confident you'll get an appealing, individual home that suits your family's needs.

The majority of brick and block homes are architect-planned and delivered by a main contractor. There's also a number of design and build specialists (also known as package home companies) to choose from – including the likes of CB Homes, Design & Materials, Feeling Homes and Revolution Homes. These firms will take care of the design and planning stages of your scheme and then either deliver a package of materials (including much of the internal joinery) for your contractors to assemble, or complete some or all of the work for you.

"Because we're builders as well as designers, we're able to guide our customers impartially," says Andrew Edwards, managing director at Revolution Homes, which offers a range of structural systems for its projects. "Sometimes brick and block is the best option; on other occasions the design might lend itself to timber frame or another technique. Our clients actually tend to have a bias towards one form of construction: if they want a solid box, with solid performance and one material, blockwork is a natural choice." There's one area in particular where Andrew is quick to point out the credentials of building with masonry. "It allows you to use beam and block floor structures at both ground level and for the upper storey, which will provide excellent sound insulation," he says. "For some people, that's the deciding factor between masonry and timber frame."

Design

One of the major advantages of brick and block is that it can easily be adapted to suit a wide range of house designs and lifestyles. Whether you're

Below: This heritage-style project features Southwold handmade units by Northcot Brick, from £950 per 1,000, which lend the house instant warmth and character



Alternative masonry systems

Solid wall construction This system uses a single skin of blockwork, with no outer leaf. Instead, the walls are wrapped in a layer of external wall insulation – usually as part of an integrated render or brick slip system. This creates a continuous layer of thermal protection, which minimises cold bridging (where structural elements cross the insulation, allowing heat to escape) and can offer a high level of air tightness. Because the blockwork remains internally, you still get the thermal mass benefits of masonry construction. Using thin joint blockwork can enhance the speed benefits of the solid wall systems.

Insulating concrete formwork With the ICF system, LEGO-like polystyrene blocks are stacked to create a formwork for a concrete pour. Unlike with other types of shuttering, the blocks remain in situ afterwards to provide an instant insulating wraparound. This provides a quick route to a highly efficient structural shell, offering good levels of insulation and air tightness straight out of the box. ICF competes well with timber

frame in terms of construction speeds, and is intuitive enough that some self builders have employed it on a DIY basis following short training courses. It is often specified for basements, as it can be relatively easily waterproofed. If you're using a main contractor, an ICF build is likely to cost around 5%-10% more than a standard brick-and-block scheme.

Pre-cast concrete More common for commercial-scale projects than domestic schemes, pre-cast concrete panels offer an ultra-quick route to a weathertight shell. Typically, the system involves using storey-height, twin-wall panels that can be craned into place on site. When used above ground, the intermediate floors will also be prefabricated, and fixed using special metal pins and bolts – but in most cases it's prohibitively expensive due to the manufacturing and plant hire costs. It is more viable for basement projects as it can be supplied in waterproof concrete, with relatively little work required on site to ensure the resulting shell excludes moisture completely.

after a faithful Victorian-style house or an ultra-modern home that combines smart finishes with lots of glass, you can achieve it with masonry.

In terms of finishes, the most affordable option is to leave the outer brick skin exposed, which will result in a durable and low-maintenance facade. You could opt for natural stone, an unusual brick blend or luxurious handmade units to add character. There's huge variety to be had here in terms of the laying pattern (bond) you choose and the colour and texture of the bricks. Rendering the outer skin (which is usually built in blockwork if you choose this route) will give you the opportunity to completely transform your new home's aesthetic. You can even go for timber cladding, while employing a mix of materials could help you achieve a unique finish.

When it comes to configuring your interiors, the advent of precast concrete floor structures (beam and block) has opened up a number of benefits for brick and block homes. This solid system has reduced the need for load-bearing partition walls; enabling the creation of largely open plan interiors. It's also a fantastic match for modern must-haves such as underfloor heating.

Coveted features such as wide spans of sliding or bifold doors can also be easily incorporated through the use of fairly standard lintels and detailing or – for more complex designs – structural steels. And there are advantages for fitting heavy furniture and the like, as you can plug and screw pretty much anywhere in the inner leaf of blockwork to provide a solid fixing.

All of this flexibility continues into the build itself, where – unlike with timber frame and other highly manufactured systems – there's plenty of scope for tweaks as work progresses. Internal walls can usually be moved without impacting on the structure's integrity, for example, while openings for doorways and windows can be shifted at comparatively little cost. That said, making late changes will always have implications for your budget and build schedule.

Sustainability

While its detractors point to this area as a potential weakness for brick and block, in fact the system can make a useful contribution in the quest for an efficient home that offers low heating bills. But as with any building technique, it's crucial to ensure the whole design works together to achieve the performance level you're aiming for.

One of the key factors, of course, is packing in plenty of insulation. "You could probably get through the regs with a 50mm cavity, but very few self builders want to scrape by at that level," says Andrew. "We typically build with a 100mm void in a 300mm-thick wall. The cavity is then partially filled with a 70mm-80mm layer of board material, such as Kingspan or Celotex, attached to the inner leaf." There's little to choose between this method and opting for a full fill of insulation in terms of performance, although leaving an air gap will mean that any moisture that does penetrate the brick facing is less likely to migrate into the building's structural fabric.

One option to beef up the system's thermal qualities is to swap dense blockwork for a thin joint inner leaf composed of large-format, aerated blocks – bedded in a skinny layer of special quick-drying mortar. This means the innate weak points – the mortar lines – are narrowed from the traditional 10mm to just 3mm. "We find this improves both thermal and sound performance by around 15%," says Andrew. "Our 300mm-deep walling system achieves a U-value (a measure of heat loss) of around 0.17-0.18 W/m²K, which is ideal for creating a sustainable home with reasonable running costs." This is well inside the Building Regulations threshold of 0.30 W/m²K. Even better performance is possible, right down to as low as 0.12 W/m²K, but will come at the cost of very thick walls that might limit floorspace.

One of the innate advantages brick and block is its built-in thermal mass. The inner concrete leaf and solid floor structures absorb warmth from the sun's rays during the day and slowly release it back into the house as temperatures drop. This helps to create a comfortable internal environment with an even heating and cooling cycle – which can contribute to reduced bills.

On the downside, the reliance on site detailing when building with masonry makes good air tightness trickier to achieve than with prefab methods, such as closed-panel timber frame or structural insulated panels. With cavity walling, air tightness is predominantly achieved using the wet plaster internal finish – so it's vital that skilled workers undertake this part of the project.

Considerations

While its familiarity means the construction process is pretty easy for self builders to follow, which can be a boon if you're managing the project yourself, there's no doubt that standard brick and block is slow to build with. It can take 20-plus weeks to complete a typical three-bedroom masonry project – and significantly longer should your scheme fall prey to the notoriously fickle British weather (most *Build It* readers' schemes come in at around six to 12 months). That compares to around 12-16 weeks for the quickest timber frame schemes (excluding lead times for fabrication of the panels).

Opting for the thin joint system will slash build times significantly – rivalling off-site manufacture for speed. "We can build more square metres of walling per day this way," says Andrew. "In fact, it's

so quick that – while the materials are more expensive initially – thin joint actually works out cheaper overall than dense blockwork simply because you pay for far less labour."

One issue to watch out for is that the availability of many types of brick has fallen in recent years. Production dropped during the recession and factories are struggling to keep up with demand from a resurgent construction industry. "Certain bricks are in short supply, but really this just means you need to wait a few weeks for them rather than a couple of days," says Andrew. "We get around it by planning ahead a little more and ordering the units about two months before you want to start on site." Major manufacturers, such as Wienerberger, are in the process of opening more UK sites, so this issue should turn around in the near future – but in the meantime it pays to keep an especially keen eye on your schedules.

Costs

With a vast knowledge base for designers and contractors to work from, it's no surprise that brick and block is one of the most economical building methods. On a straightforward project, you can expect to spend as little as £80-£100 per m² (of internal floorspace) on the insulated structural walls – ready to accept the roof and your choice of finishes inside and out. Only timber frame can compete with that in the affordability stakes.

That cost bracket includes labour and breaks down to around £20 per m² for the internal blockwork, £10 per m² for the insulation and £50 per m² for the facing brick, with an allowance for wall ties and other fittings. On top of this, beam and block floors will cost at least £35 per m², while single-leaf block partitions will come in at approximately £20 per m². Prices will rise considerably for higher-quality external finishes: standard facing units start from around £300 per 1,000, but you can expect to pay at least double that for handmade versions – and you'll need to add the bricklayer's fee on top.

CONTACTS

Bovingdon Bricks 01442 833176 www.bovingdonbricks.co.uk **Green Building**

Store 01484 461705 www.greenbuildingstore.co.uk **Ibstock** 0844 800 4575 www.ibstock.com **Northcot Brick** 0800 038 9575 www.northcotbrick.co.uk **Revolution Homes** 01323 886401 www.revolutionhomes.co.uk **Wienerberger** 0161 491 8200 www.wienerberger.co.uk

HEATING YOUR HOME

Creating a warm, cosy living environment that doesn't cost the earth to heat is likely to be a top priority for your project. **Chris Bates** explains the basics of choosing a system

Getting the central heating system right is a critical consideration for many self builders; but very few actually arrive at the drawing board with a specific setup in mind. Instead, they'll usually set a goal for the kind of living environment they want to achieve.

"Most people want to create an eco-friendly house with low running costs," says Tom Allen, self build consultant at Potton. "Normally, I advise them to take a fabric first approach. Getting high levels of insulation and air tightness in place means you can reduce your heating requirement. Having a good starting point gives you more

options when you come to specify the system, as it opens the door to renewables as an alternative to conventional boilers."

Initial planning

A lot rests on the early phases, when your architect or designer will look to dovetail your ambitions for your home's performance with the demands of the Standard Assessment Procedure (SAP). The SAP process sets out how the major structural elements – such as the floors, walls, roof and glazing – will work together with the primary and secondary heating to attain the required energy performance. Ultimately, this will establish whether the design is capable of passing the Building Regulations standards for CO2 emission rates; although most self builders aim to exceed the minimum threshold.

One of the first things to check is whether your plot has access to mains gas, as this remains the most affordable option for many households. "You'll struggle to score a pass on the SAP with oil or LPG gas unless you invest in a lot of other, relatively costly upgrades to the building's fabric," says Tom. "Most people aim to use conventional gas boilers if they can – but if the supply isn't available, it makes sense to look at renewable options. As a result, air and ground source heat pumps are becoming more mainstream."

Your architect or package house provider will usually do the calculations on your behalf. "We control the design and insulation levels according to your brief, so we can ensure the house achieves the right performance," says Tom.

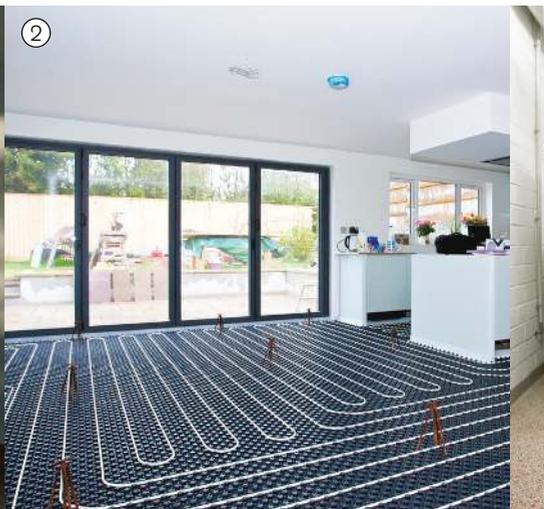
Underfloor heating vs radiators

Offering comfortable, gentle warmth, underfloor heating (UFH) is a self build favourite that transforms the entire floor surface into a low-temperature heat emitter. Water-based versions can offer minimal running costs and excellent efficiency, working particularly well in tandem with renewable heat sources. For best results, wet UFH is usually installed as flexible pipework bedded in screed – although slimline versions mounted on metal plates are also available. The discreet emitter also frees up wall space for fitted furniture. The slight downside is the cost, which can easily reach about £30 per m² of heated internal space.

"Nearly all of the self builders I've dealt with have fitted UFH downstairs," says Potton's Tom Allen. "It's probably about 50:50 as to whether they use it upstairs,

though, and if the basic thermal performance is there it won't really affect efficiency. Some people just like the idea of having a radiator in the bedroom – somewhere they can hang their clothes or towels to dry."

The main advantage of radiators over UFH is that they tend to offer a much faster response time; or in other words, they're able to heat a room up more quickly. This makes them a great choice in spaces where you only need short bursts of warmth, such as bedrooms and bathrooms. Style-wise, there's plenty of choice to be had, and designer versions can actually make a great contribution to your home's decor, even if they do take up wall space. Costs are low, too – a standard twin-wall steel model can be had for as little as £50-£100.



The finished SAP report gives an overall score as well as a breakdown of the elements involved, including details such as which boiler or solar thermal panels have been specified.

Detailed design

Once the fundamentals have been set out and your design achieves at least a pass on its SAP – or more likely reaches the higher rating you're aiming for to ensure low running costs – you can start thinking about the detail of your system. In most cases, you'll need to commission a professional heating engineer or plumber to help you determine the particulars.

"By this stage we'll have checked the design and advised the client on the main elements of the setup, so most people won't consult their specialist tradesperson until the project starts on site – although it can be useful to engage them earlier," says Tom.

As a rule, you should ask your engineer to provide floorplans with schematics for the pipework, outlet and emitter locations clearly set out. Armed with this, you can ensure all the trades know where they stand during the first and second fix stages (the former being when the infrastructure is fitted prior to plastering; the latter when radiators, taps and other surface fittings are installed). They should also supply a detailed breakdown of the appliances and material quantities required, along with the relevant costs, plus a schedule of works and a quote for labour.

Your engineer should double-check the appropriate output for your boiler or renewable system to meet space heating and hot water requirements. This is measured in kilowatts (kW) and should be indicated in the SAP report. This is a crucial part of the specification process – if the unit is too powerful, it won't run efficiently and will cost more up front. Too small and the appliance simply won't keep up with demand. The engineer will usually also need to size a cylinder to satisfy your household's hot water requirements. The average person uses between 35 and 45 litres per day. Factor in a contingency and a family of four would likely need at least a 200 litre tank. This should be factory-insulated to retain warmth and underpin the system's efficiency.

Programmable controls are a must, whatever tech you install. As a minimum, look for a product that allows you to set timings and temperatures for weekdays and weekends. If possible, go for a seven-day programmable timer. "Depending on the size of the appliance and its heating load, the operating efficiency of a condensing boiler can be significantly enhanced by up to 13% when installed with the correct controls," says Martyn Bridges, director of marketing and technical support at Worcester, Bosch Group.

Boiler-fuelled systems

Provided it's properly specified and installed, using a modern boiler remains one of the most cost-effective ways to supply heat and hot water



1 The Greenstar CDi Classic system boiler from Worcester, Bosch Group is available in 30kW and 35kW outputs.

2 Originally designed for retrofit applications, Nu-Heat's LoPro Max underfloor heating system is attractive for self builders, too, as its slim 22mm profile helps to maximise floor-to-ceiling heights.

3 The OctoPlus 22kW wood pellet boiler from Solar Focus includes an integral thermal store and a buffer with a dedicated coil, allowing it to be used in conjunction with solar panels.

4 Viridian Solar's Clearline V30 in-roof thermal panels, shown here configured as a 6m² array, are designed to discreetly preserve a roof's pitch with minimal height build up.

to a well-insulated custom home. Building Regulations require the use of condensing appliances for all new installations. These units capture and re-use latent warmth from exhaust gases to offer improved performance in comparison to older models.

There are three main types to choose from. Two of these – system and regular boilers – work in tandem with a suitably-sized hot water cylinder. Regular models can hog valuable space as they also require a header tank in the loft. System versions are a little dearer, but are quicker to install, with more components built into the box. They also deliver domestic hot water (DHW) at mains pressure. So they're a great choice for most new homes. The third option is to fit a combi boiler. This two-in-one appliance responds on demand to power your central heating or supply mains-pressure hot water. This means you pay only for what you use – but standard versions can only provide maximum flow through one tap or showerhead at a time, so combis tend to work best in small homes.

When it comes to pricing, as a guide a typical 30kW gas system boiler sized to suit a modern four-bedroom house is likely to cost around £900. You can expect to pay a premium of around £500 for oil-fuelled versions. Add in pipework, emitters, flues, controls and at least 10 days labour over the course of first and second fix, and the total price can easily rise to £6,000-£10,000 for a complete central heating system.

Renewable tech

If you're aiming for an ultra-efficient build – with excellent levels of insulation and air tightness – or your plot sits off the mains gas network, then it makes sense to explore sustainable sources. The main options for domestic energy generation are biomass boilers, heat pumps (both air and ground source) and solar thermal panels.

The government's Renewable Heat Incentive (RHI) – which offers quarterly cashback payments on this kind of installation for seven years – has made these products much more affordable, with greater uptake driving lower costs for the kit. To qualify, you need to ensure both the product and the installer are approved by the Microgeneration Certification Scheme (MCS).

Large-scale domestic biomass appliances burn wood pellets, chips or logs to generate warmth for central heating and hot water. The units are fairly bulky and, in the case of pellet models, tend to feature an even larger automated feeder (hopper) and store – so they're best sited in a utility, plant room or outbuilding. "It's quite common for self builders to include a utility, especially if they intend to stay in the house for the long-term," says Tom. Currently, RHI payments for biomass installations are set at 7.14 pence per kilowatt-hour (p/kWh), which according to the Energy Saving Trust (EST) can result in annual cashback of up to around £2,000. The downside to this tech – besides the need to regularly fill up the fuel store and empty the ashbin – is that the

Quick guide: Finding a heating engineer

- It's vital that you use a suitably-qualified professional to design, specify and install your central heating.
- Ask for recommendations from friends, family, fellow self builders or other experts working on your scheme.
- Failing that, go through one of the associations (see the points below) or try some of the more reputable online resources, such as ratedpeople.com.
- Ensure your pro is suitably qualified: those working with gas should be accredited by the Gas Safe Register, while those fitting oil appliances should be members of the Oil Firing Technical Association (OFTEC).
- If you want to take advantage of the Renewable Heat Incentive, be certain you're using someone registered with the Microgeneration Certification Scheme (MCS).

total cost for the boiler, hopper and installation can easily run to £20,000 or more.

Heat pumps are clever appliances that extract and concentrate low-level warmth from their surroundings, transforming it into useful energy for the home. Their low flow temperatures mean they work particularly well in conjunction with underfloor heating (UFH), although low-temperature radiators can also be used. Ground source versions (GSHPs) harness heat from the ground via a loop of buried pipework – which requires a decent sized garden (the loop can also be fitted into a borehole, but this increases costs). Prices can range from £11,000-£20,000+ for a typical system, with potential RHI payments (19.10p/kWh) of around £2,500-£4,000 per year, according to the Energy Saving Trust.

Air source heat pumps (ASHPs) absorb warmth from the air rather than the ground. They're cheaper and less disruptive to fit than GSHPs, but not as efficient. Nevertheless, they're proving popular due to their reliable results. "You can almost guarantee that a

standard timber frame home with an air source heat pump will pass the SAP test," says Tom. Only air-to-water versions feeding into central heating qualify for the RHI, with the EST estimating annual payments of around £1,000 at 7.42p/kWh. A complete ASHP installation will cost around £7,000-£11,000.

Solar thermal panels make for an excellent partner to both boiler- and renewable-based setups. To qualify for the RHI, which pays out at 19.51p/kWh for this tech, it must be used for hot water only. Available as either flat plates or evacuated tubes (the latter is slightly more efficient but also more expensive), these systems are best roof-mounted on south-facing elevations. They can provide most of your DHW during summer and make a significant contribution during the colder months, too. The panels must be plumbed into a twin-coil hot water cylinder, so consider investing in one of these even if you're not planning to install solar thermal immediately. The EST reckons a typical four-person household with a 4m² array will net £335 per year through the RHI, as well as £65 in fuel savings. Costs range between £3,000 and £5,000 for a standard system.

Other options

New homes are designed to be extremely airtight, which means there's very little leakage of heat via gaps in the structural fabric.

In most cases, these highly-sealed buildings will feature some form of mechanical ventilation to support a healthy internal environment. Mechanical ventilation and heat recovery (MVHR) goes a step further by extracting warmth from the outgoing stale air from kitchens and bathrooms and using this to pre-heat the incoming supply, which is distributed throughout the house via ducting. Systems are usually specified alongside a conventional heat source, but in some ultra-efficient homes, such as those built to Passivhaus standards, it's possible to maintain a comfortable climate using only the MVHR.

You may also want to invest in an individual heater to act as a centrepiece for your living space. Known as secondary heaters for the purposes of the SAP, these can have an impact on the overall performance rating. A range of options is available, from gas fires to open hearths, but the most efficient – and for many the most attractive – are woodburning stoves.

CONTACTS

Easy Fit Floor Heating 0800 5420 816

www.easyfitfloorheating.co.uk **Ice Energy**

080 8145 2340 www.iceenergy.co.uk **NIBE** 0845 095 1200

www.nibe.co.uk **Nuair** 029 2085 8200 www.nuair.co.uk **Nu-**

Heat 01404 549770 www.nu-heat.co.uk **Potton** 01767 676400

www.potton.co.uk **Solar Focus** www.solarfocus.com **Total Home**

Environment 0345 260 0123 www.totalhome.co.uk **Vaillant**

0845 602 0262 www.vaillant.co.uk **Worcester, Bosch Group**

0330 123 9339 www.worcester-bosch.co.uk

Note: RHI figures researched in October 2015

PROJECT MANAGEMENT

There are a variety of routes to successfully organising a self build, but how do you choose which will best suit your scheme? *Build It's* advice will help you decide whether to go it alone or leave it to the professionals

If you're thinking of building your own home, one of the biggest decisions you'll need to make is exactly what route to take and who will be responsible for delivering it. Every major project needs someone to manage it and utilise their skills, and those of others, to achieve the desired outcome. In this case, the goal is to

create a new house on time and on budget. There's a variety of ways to realise a self build, but the majority are centred on the fact that you're commissioning a new home – so don't expect to have to construct it yourself. In fact, relatively few intrepid individuals actually take a DIY approach to their schemes. Instead, most bring in some kind of hired help to take care of part or all of the work.

In this article we're exploring the key project management routes – from overseeing the trades yourself through to engaging a main contractor or package supplier to take care of everything for you – and explaining how you can decide which option best fits your needs.

Using the experts

The beauty of engaging an industry professional to run your scheme – whether it's an architect, project manager or main contractor – is that you'll have one key point of call throughout the process. If there's an issue with the work, materials deliveries or individual trades, your appointed PM and will deal with it on your behalf – often autonomously; after all, you're paying them to take on the stressful parts!



Above and left: Despite having misgivings about the mess and disruption of a self build, Jill and Lloyd Smith couldn't resist a beautiful village plot near Winchester.

Their desire for a fast, no-nonsense project and high spec led them to prefabricated timber frame supplier, Baufritz (www.baufritz.co.uk), which specialises in providing a complete design and build package (excluding the groundworks). The couple were flown out to Germany to select their fixtures and fittings at the firm's factory – in fact, the only element they had to source themselves was the kitchen. The contemporary 280m² house was completed in just 26 weeks for £800,000. The Baufritz package accounted for £600,000 of this total

Fundamentally, they're taking a portion of the risk and responsibility out of your hands and bringing their experience to bear on your scheme. That can save you time, reduce mistakes and – particularly if your project is large, complex or innovative – potentially save you money.

Professional manager

Most independent PMs operate on a fairly local patch. Usually, they'll look to agree a guaranteed ceiling price for the project with you and then take the job out to tender (invite trades to quote).

"We aim to tailor our service to what people want," says Brent Ackerman from Delta Project Management. "A lot of self builders have busy lives and want us to take on the whole scheme: getting quotes from sub contractors; preparing the programme; making sure health and safety is sorted; and everything else that's involved. The other main service is a watertight package, which includes the groundworks, foundations and erection of the structural shell." This means the heavy side of things is taken care of and you can concentrate on arranging the internal fit-out.

"We regularly work with preferred sub contractors, checking their prices against other people who want to quote," says Brent. "They're familiar with the way we operate, so you can almost guarantee you're going to get a high-quality house for the best possible price."

Some PMs charge a percentage fee (around 10%-15%) according to the total value of the contract, while others prefer to work to a fixed price for their services. "We typically quote a single fee either for the total build or a watertight package, which we feel is a transparent way of doing it. With percentages there's no incentive for the PM to stick to the budget, as the more expensive it is the more money they make," says Brent. "If someone simply wants us to set them up with a package of quotations and a build programme, we can agree a price for that – and if they want any additional technical advice during the works we can do that on a daily or hourly rate."

Architect or designer

If you've used an architect or similar pro for the design stages of your scheme, you'll usually be given the option to enlist them for a wider package. This might include obtaining planning and Building Regulations approval, selecting a main contractor and managing the project.



The advantage of this route is that nobody will understand the design and structural plans better than your architect. They'll be a lynchpin for your scheme, liaising with the builder on your behalf, dealing with technical issues and signing off work according to their understanding of your quality requirements. They're also likely to have a variety of beneficial contacts at their disposal, from planning consultants through to main contractors.

Architects tend to work on a percentage basis, with fees in the region of 12%-15%. The potential risk here is that they're incentivised to come up with a more complex scheme, thus pushing up your costs. But reputable practices – such as those affiliated with the Association of Self Build Architects – understand the importance of delivering good design within the client's budget.

If you're thinking of using a designer to manage your project, check they're fully versed in how to run a site and sequence trades. In some cases your architect might act as an overseer rather than a day-to-day project manager – leaving that side to the main contractor. This can still result in a hassle-free build, but the reduced level of service should be reflected in their fee.

Main contractor

This route involves engaging an experienced tradesman – usually a general builder – to oversee the work. They'll take on a number of key roles, including: organising and paying trades; scheduling and signing off deliveries; dealing with building control; and ensuring health and safety on site. Pretty much the only thing they won't do is

Above: Vincie and BJ Abbott invested a lot of time and effort into their 300m² scheme, which cost £446,500 to construct, and attended courses on the process at the National Self Build & Renovation Centre. They took on a general builder to oversee the procurement and labour – but BJ organised the lighting and plumbing. The main contract came to £351,900

Top tips: Managing your own scheme

- Set a realistic budget (try www.self-build.co.uk/calculator for a ballpark figure) and reserve a contingency of at least 10% to cover unforeseen issues.
- Keep on top of cashflow and ensure bills are paid on time, so trades are incentivised to maintain a good pace on site. Remember that labour should be zero-rated for VAT on a self build, but you'll need to pay the tax on materials up front and reclaim it at the end of the project.
- Draw up a comprehensive schedule of works so you know when labour and materials will be required on site. Architects, main contractors, package companies or even builder's merchants can help with this.
- Avoid making design alterations during the build, as these will inevitably lead to delays and extra cost.
- Be good to your neighbours. Explain what you're planning, how long any disruption will last and make yourself available to deal with any issues – after all, you'll be living alongside them once the project's done.
- When selecting trades, take recommendations from friends, family or trusted contractors. Follow up on references and be sure to put robust contracts (such as the JCT versions, www.jcttd.co.uk) in place.
- Look to appoint a principal designer and contractor to take responsibility for health and safety on site; this will be the simplest route to ensuring you comply with the new construction design & management (CDM regulations).
- Always take out site insurance. With any luck, you won't need to call on it – but a suitable self build policy will safeguard your project against everything from fire damage through to injuries to contractors and visitors.
- Provide copies of the most up-to-date plans and drawings in the site office. This way you can be sure that everyone is working from the same hymn sheet.
- Keep a site diary to log deliveries, work progress and whether there are any issues with quality that need resolving – and stay on top of receipts and invoices.

handle your budget. This is a largely hassle-free route, but most self builders who go down this avenue will visit the site at least once a week to check on progress and the quality of work.

The usual method of finding a main contractor is to put the job out to tender by inviting firms or individuals to quote in response to your brief and design drawings (usually on a fixed fee basis). Provided you get detailed breakdowns in reply, you can then compare like-with-like. The contractor's margin will be in the order of 20%-30% on any materials and labour they organise – which reflects the time and expertise they'll put into your scheme, as well as the discounts they've

secured after many years in the trade. Payment terms will typically be monthly in arrears. Many self builders see this as money well spent to take the stress out of a project.

A sound contract is crucial for both sides: the more detail you give in terms of what you want and the tighter the budget is controlled, the more likely it is that you'll get the result you want – and the less dispute there will be. Using a plain English small works contract from the likes of the Joint Contracts Tribunal (JCT) and Federation of Master Builders (FMB) is a great place to start.

Self-managing a scheme

For some self builders, organising the project is the one part of the process that seems eminently do-able – after all, many of us practice the basic skills required through our day jobs. If you can cope with stress, are an excellent organiser and a decent communicator, then you're halfway there.

Running your own scheme has the potential to save you significant sums of money (up to 40% on labour and materials compared to some routes). It can also be incredibly rewarding to know you've made the difference on your own build. But don't fall into the trap of thinking it's going to be an easy ride: you'll need to put a lot of time and commitment in if you're going to succeed, and there will be times when things don't go as planned. Expect regular site visits to check quality and weekly meetings (ideally on a Monday) to plan the coming work and ensure everyone's on the same page.

If that all sounds a bit daunting, bear in mind many self builders run their own projects with no prior experience of the industry. The trick is to surround yourself with a good team throughout the design and construction phases. You'll be working with people who build houses all the time – so take advantage of their knowledge to help you move things forward on site.

Coordinating who's where and when will be crucial: trades, materials and plant must arrive on time and in the correct order to ensure everything progresses on schedule. Your designer, suppliers and trades should be able to help you identify what's needed and how to negotiate issues such as lead times for materials.

If you want to top up your skills with a little insider knowledge, consider taking a project management course. "The two-day workshop I run at Potton's Self Build Academy gives a good



Left: Steve and Dory Morris took a truly hands-on route to their self build, even designing the house themselves using SketchUp (www.sketchup.com). They opted for a structural insulated panel system for their main shell, partly because their contact at SIPs Eco Panels (www.sipsecopanel.co.uk) provided helpful design suggestions. The couple took up references for suppliers and trades, which paid dividends throughout the project. The only real issues came with the plasterers and renderers, who were messy and difficult to manage. "The other tradesmen were good as gold," says Steve. The 375m² house was completed for £376,000

overview of what you're letting yourself in for," says Brent. "One of the key things we talk about is finance – as well as setting your budget, arranging quotations, deciding who to use and other elements." Good programming is vital, too. "Just because a bathroom suite isn't required until

the end of the job, for instance, doesn't mean you should wait to choose it," says Brent. "Factors decided at the start of the process, such as where waste pipes go, must be informed by where you're going to fit showers, baths and other items. So always plan ahead!"

Quick guide: Using a package company

Many self builders choose to tie up a significant portion of their projects into one neat bundle. The package route allows you to pick and choose from a suite of services offered by a single company. As such, it's ideally suited to people who need a helping hand along the way – such as first timers or individuals who are too busy with home or working life to devote their full attention to a scheme.

The standard option is the design, materials supply and erection of the structural shell to watertight stage, ready for you to clad externally and fit out inside. Beyond that, you can opt for anything from simply a kit of materials for you or your contractors to assemble through to a professionally managed turnkey build, where you simply agree a design and move in once it's been completed. One of the advantages of using a package supplier is that you'll have peace of mind that they know their own structural system inside and out. So your bespoke house design should translate into a viable, relatively straightforward build. You'll also get access to the company's trusted trades (whether in-house or recommended) and support.

Choosing a package route can help with cashflow: prices are usually fixed, so you'll know exactly what you're spending on a major element of your project. As a general guide, the bundle you choose will come in at an equivalent cost to using a main contractor for that part of the work.

Above: Liam and Helen Collins selected a structural design and shell package from Potton for their 350m², three-bedroom family home, before project managing the rest of the scheme themselves. The house was completed for £496,000, of which just under £74,000 was accounted for by the timber frame.



CONTACTS

Charlie Laing Project Management 01923 896550 www.charlielaing.com **Clearplan**

01923 896550 www.clearplanpm.co.uk **Delta Project Management** 07765 403545 www.deltaprojectmanagement.co.uk

National Self Build & Renovation Centre 0845 223 4455 www.nsbr.co.uk **Potton**

01767 676400 www.potton.co.uk **Self Build Academy** www.selfbuildacademy.co.uk

FINAL CHECKS: SNAGGING & MOVING IN

Build It's editor **Chris Bates** sets out the consents and certificates you need to get in place before you can start to enjoy your self build home, and reveals how you can ensure the finished house meets your expectations



As you approach the end of the self build journey, you'll no doubt be chomping at the bit to get into your new home. But before you can lie back on your new settee (assuming you've had a chance to move it in), you'll need to dot the i's and cross the t's. This means making sure all the necessary steps have been taken to secure what's known as formal completion – as well as putting measures in place to check that your home's been finished to a standard you're happy with.

Moving in

Formal completion basically equates to receiving sign-off from your local authority that your project accords with the planning consent, and that the house is safe and meets the minimum standards laid out in the Building Regulations. Typically, your main contractor, surveyor, project manager or package house supplier will sign off the property and apply to the local authority for a completion certificate. If you've managed the scheme yourself, then the responsibility for arranging this will rest with you.

The completion certificate is the single most important document you'll be issued with over the course of your scheme. This is the official written record showing that the house has been built and finished to a satisfactory standard and can be used residentially – so you should lodge a copy with your solicitor. It's also the trigger that allows you to apply to HMRC for a VAT reclaim on any eligible materials you've used.

Your new home will now become liable for council tax, so expect a band assessment to come through from the local authority within a few months. When your first bill hits the floor, it will be backdated to the completion certificate and could amount to a significant sum.

It is possible to move in before the house is 100% finished, provided it meets certain minimum criteria. To do this, you'll usually need to arrange an inspection with building control with a view to obtaining a habitation or temporary occupancy certificate that confirms the basics (hot water, toilets etc) are in place and the house is safe to live in. This will bridge the gap until you receive your formal completion certificate.

DAVID BARBOUR

You'll collect a number of other important documents over the course of your project, all of which should be filed for safekeeping. These will include various benchmark certificates showing that domestic heating appliances meet the required standards and final safety certificates from the Part P registered trades (eg for electricians). Unless one of your professional team is securing it as part of their responsibilities, you'll also need to commission an Energy Performance Certificate (EPC), which details how efficient the house is (this is required whenever a property is built, sold or rented).

Snagging

A custom or self build home is by definition a bespoke item, with a greater or lesser degree of hand building and finishing involved according to the structural system you've

selected. As a result, there will always be small defects that need sorting out along the way. If you or your project manager stays on top of things, most of these issues should be resolved as work progresses.

There will, however, always be some minor elements – known as snags – that are only identified as the build reaches its conclusion. This might include things such as unfinished edges, sticking windows, poorly hung doors and paint splashes. Snagging is the process of getting your builder to rectify these outstanding glitches at the end of the project.

The basics

Fundamentally, you'll need to produce a comprehensive list of all the things that need sorting out before you settle the final bill. Most self builders will hold back around 2.5%-5% of the agreed contract price to cover snags.

Previous page: Quality is subjective, so the snagging process can be contentious. For example, in a modern home such as this, crisp, clean detailing and smooth plasterwork are a must... Below:

...whereas this natural timber-and-straw-bale home almost demands undulating surfaces and wonky corners



MARGARET SODAWA



Checking the work

Your snagging inspection should take place at an agreed date after the completion certificate has been issued. At this point, you know the house already meets the Building Regulations, so there shouldn't be any major issues to address.

The process usually takes the form of a walkaround with your contractor – with both parties noting defects as they go. It typically takes a couple of hours for a three-bedroom house. If possible, have your architect or designer in tow as they may be able to help negotiate any contentious points. Be sure to clean up first, as dust and debris can disguise potential problems. Switch the heating system on, too, so any leaks are easier to spot. By the end you'll have a fair few snags to address (the average is about five per room).

Do remember that this is your chance to have genuine faults corrected – not a means to get the builder to do more work for free. If they've followed the drawings for elements such as light switch positions, door hanging etc and you change your mind, you'll have to pay a fair rate for the job.

One of the issues around snagging can be subjectivity: what might be permissible in the eyes of your builder might not match up to your own ideal. Industry standards aren't exactly tight when it comes to details like acceptable thresholds for uneven plaster – so the best way to overcome this kind of problem will always be to ensure your quality expectations are fully mapped out and agreed in the original contract.

Latent defects & warranties

Your new home is likely to be the biggest investment (both in terms of time and money) you ever make, so it makes sense to protect it.

The conventional route to guarding against hidden defects (those that appear well after the work finishes) is to take out a structural warranty. Providers include BuildStore (with its BuildCare product), CRL, NHBC, Protek, Selfbuild Insurance and Self-Build Zone. You need to arrange this before construction begins, as the provider will inspect the scheme at regular intervals; much like building control. It will issue certificates for each phase, as well as a final document on completion.

Above: Mark and Rhonwen Inderwick were largely happy with their builder's work. However, there were some elements – such as the floor tiling – they feel they should have used a specialist for. "Our builder was one of those people you can't negotiate with, so we wish we'd retained the services of our architect to check quality and assist with snagging," says Mark

This is an accepted part of the industry, but the retention needs to be pre-written into your contract with the builder – as it is with the small works agreements available from the likes of the Joint Contracts Tribunal (JCT).

As an example, say you've signed up to a £300,000 package with your general builder to take the project from groundworks through to completion – in this case, a 5% retention for snagging would equate to £15,000. The idea is that this should be enough of an incentive for the builder to come back and sort out any issues, usually within a six month liability period. The upshot is they get their money and you get what you paid for – so everyone should be happy.

If, for whatever reason, they don't finish the work to your satisfaction, you'll have a lump sum in the bank that you can use to pay someone else to remedy the situation – or you could net a little windfall by sorting it out yourself. Bear in mind that if you've project managed the build yourself and hired individual trades, then you'll need to negotiate the snagging process with each of them. Exactly when that happens – and who is responsible for certain faults – can be up for debate, especially if something has suffered minor damage after installation.

Most insurance-backed structural warranties last for 10 years. They will pay out to put right any damage caused by defects in the structure that become apparent over time – such as cracked walls and failed drainage – whether as a result of poor design, workmanship or components. Typical costs range from £1,500-£5,000, usually payable in a single premium. While that may seem like a big chunk of your budget, it will be essential should you decide to sell within that period. Most mortgage companies require this

as evidence of professional competence before they'll lend on the property – even if it has a normal completion certificate.

There is a slightly cheaper alternative available in the form of an architect's certificate, which most lenders accept. This will cost around £1,000 and is valid for six years – but it's important to be clear that it is not an insurance-backed warranty. If you do experience major issues, your only recourse will be to make a legal claim against the architect's professional indemnity insurance.

Quick guide: Snagging checklist

You'll probably have a good handle on the main niggles from having regularly visited the site. The trick is to bring these into a room-by-room checklist. Your architect or designer may be willing to help, or you can find a number of free snagging templates by searching online. Here are a few key areas to get you started:

EXTERIOR

- ✓ **Claddings & finishes** – neat, clean and properly aligned
- ✓ **Gutters** – secure, with no gaps between the fascia and the gutter
- ✓ **Gulleys & drains** – surface water flows correctly (test with a bucket of water)
- ✓ **Outdoor lights** – sealed and working
- ✓ **Turf** – evenly laid, no gaps
- ✓ **Patios/decking** – stable and level (with slight fall)
- ✓ **Fencing & gates** – correctly fixed and functional
- ✓ **Garage doors** – functional and secure

GENERAL

- ✓ **Walls & ceilings** – evenly painted, free from blemishes and neatly finished at coverings
- ✓ **Doors & windows** – check they open, close and lock properly
- ✓ **Mouldings** – skirtings, architraves etc well-fitted with no gaps
- ✓ **Floor coverings** – properly installed
- ✓ **Staircases** – no gaps or creaks, balusters secure
- ✓ **Loft** – access hatch operates well
- ✓ **Take meter readings**

HEATING & ELECTRICS

- ✓ **Power sockets** – properly seated and working
- ✓ **Light switches & fittings** – operating, with correct polarity
- ✓ **Heating system** – functional, all controls and emitters working
- ✓ **Fireplaces/stoves** – well-fitted and flues performing properly

KITCHEN

- ✓ **Cooker, hood & appliances** – working and undamaged during fitting
- ✓ **Sinks & taps** – operating with no leaks
- ✓ **Cupboards & drawers** – well-fitted, open and close smoothly
- ✓ **Worktops** – level, unblemished and with neat joints

BATHROOM

- ✓ **Sanitaryware** – no chips, well-fitted, secure and silicone sealed
- ✓ **Toilets, showers, basins & taps** – functioning with no leaks
- ✓ **Bath panels & enclosures** – correctly fitted and properly aligned
- ✓ **Tiling** – level, evenly spaced and properly grouted
- ✓ **Extractor fans** – working

CONTACTS

BuildCare 0345 223 4888 www.buildstore.co.uk **CRL** 0800 772 3200 www.c-r-l.com
JCT www.jctltd.co.uk **NHBC** 0800 035 6422 www.nhbc.co.uk **Protek** 0845 217 7059

www.protekarranty.co.uk **Selfbuild Insurance** 0800 230 0225 www.selfbuild.uk.com **Self-Build Zone**
0345 230 9874 www.selfbuildzone.com

TOP TIPS FOR A SMOOTH PROJECT

We reveal the tricks that will help you nip potential issues in the bud before they start to have a significant impact on your self build

If you're building your own home for the first time, you'll be embarking into the unknown – so it stands to reason that you won't get everything right straight off the bat. In fact, even the most experienced self builders will encounter a few bumps along the way.

Your job is to try to minimise the potential for things to go awry. For the most part that means employing a healthy dose of common sense – but it pays to tap into the knowledge of the experts you'll be working with, too. Mistakes will happen, but provided you follow the advice set out in this book, you're unlikely to encounter anything that puts your project in major jeopardy. Here are a few more tips to keep your scheme on track:

Engage the right people

Anyone undertaking a major project will run into a few headaches along the way. Some of these will come down to quirks of the site or your own inexperience; others might involve suppliers not delivering on time or contractors veering away from what's expected.

Getting a good team around you will help to minimise these issues – and that means taking care during the selection process. Whether you're hiring a designer, project manager or builder, always take references and follow them up. If they're any good, they should be happy to introduce you to past clients. Wherever possible, meet face-to-face to see how you get on and gauge whether they understand your vision. Some professionals will be able to provide assistance throughout your project. This will, of course, come at a price – but it's a great way to fill your knowledge gap with elements such as

scheduling works and lead times for materials. See www.self-build.co.uk/project-management for more advice. When it comes to signing on the dotted line, you may be drawn towards the lowest quote. Before you accept it, ask yourself whether it covers everything you need – and be especially wary of the one-line estimate. If the price is great and you're happy with the full breakdown of what it does and doesn't include, then great – but bear in mind another quote may be higher simply because they've itemised the work fully, to avoid springing any surprises further down the line.

Decide where to live

Where you stay during the project depends on a variety of factors – the two most pressing being your financial circumstances and how involved you want to get with the build.

Staying in your current home means you don't have to move more than once, but unless you're developing your current garden it may not be particularly convenient for site visits. Plus if you need to take out an additional mortgage to support your family, the interest payments that accrue could eat into cash that might have gone into building the new house. Selling up and renting can give you the opportunity to keep close tabs on the work; but again it can suck up considerable sums of money (both in the rent and in the deposit). Taking a smaller house or flat might reduce the monthly cost, but it could leave you paying to store some of your furniture – or perhaps provoke a bit of decluttering. Some landlords won't accept pets or smoking.

A lot of self builders choose to live on site. This might be in a static caravan, mobile home or even a garden room. It's a fantastic option if you're planning to be a fairly hands-on project manager, or if you want to save money to plough into the works. Be aware that you'll need to get clearance from your local planning authority. Temporary accommodation can often be sold on after the work's done. One alternative that's becoming more common is to include a detached garage with living space above in the plans. Build this first, and you can move into a dedicated mini house while the main dwelling is being constructed.

Before you decide to live on site, make sure everybody in the family is happy with it – being surrounded by construction detritus for a year or more isn't everyone's cup of tea. Remember, young children and building sites are a recipe for

Real-life tips

Build It readers share the lessons they learned from their self build projects:

“Don't be put off by an awkward site – we built our house into a slope and it offers us the most fantastic coastal views.”

Chris & Mark Barber

“Be aware that groundworks can eat into your budget. Our soil test revealed we would need 16 piled foundations, at a cost of £1,000 each, rather than standard trenches. Add the £25,000 cost of the concrete floor slab and we had a big dent in our finances right at the start!” **Matt & Jo Warnes**

See the Warnes' home online: www.self-build.co.uk/warnes

“Be determined with the planners and don't give up on your dream. The more persistent you are, the more chance you have of succeeding.” **Tony & Sharon Rees**

“Getting utilities connected can be tiresome and takes a long time. Plan them in early and chase the companies regularly to make sure they're on target. My phone line was installed four months later than promised.” **Andreas Adalian**

See Andreas's home online: www.self-build.co.uk/adalian

“Keep a tight eye on every single aspect of the project – especially when it gets on site. Mistakes will lose you both time and money if you're not there to monitor and resolve them swiftly.”

Mak & Maryam Baradaran

“It's easy to overspend once you get to the interior fittings and finishes stage, and those extras quickly add up. Make sure you have room in your budget for a sizeable contingency.”

Guy & Julia Seaton

See the Seatons' home online: www.self-build.co.uk/seaton

disaster – so if you must go down this route, be sure to securely fence off the working zones.

Get connected early

If you've moved house you'll know what a hassle it can be to sort out broadband. Unsurprisingly, services tend to be even more complicated for self builders. With gas, water, electrics, phone, internet and drainage to sort out, you could have six different companies to deal with. Get costs and timelines from each – ideally before you buy the plot, so you can factor this into the price you offer. Fail to do so and you could quickly see a considerable amount of your contingency sucked up before you've even broken ground.

If you're demolishing and replacing an existing dwelling, you'll often be able to isolate whatever services are in place and arrange for them to be reconnected to the new house. On blank plots in

built-up areas, utilities may be available from the street – but on virgin plots where there's no supply in place, the difficulty and cost of hooking up your home can be considerable.

Avoid money pits

One of the most exciting phases of a self build project can also be the most treacherous: the moment the first shovel hits the ground. This marks the culmination of what can be years of planning; but you can't relax just yet. If things go awry at the foundations stage, it could add £10,000s to your budget – so you should look to have a sizeable contingency in place for this.

In most cases, the goal is to excavate for straightforward, cost-effective strip or trenchfill foundations. On occasion the digging can unearth unexpected conditions that necessitate more expensive, engineered solutions, such as piling. You can get a good idea of what's likely to lie below the surface from the British Geological Survey website (www.bgs.ac.uk) – but rather than simply digging and hoping, your best option is to commission a specific soil survey. This will provide you with a much more informed view of ground conditions, reducing the chance of uncovering a nasty surprise (by which point you're likely to have spent much more than the £600 cost of bringing in a professional team).

Keep talking

Bad feeling can quickly sour a project, so it makes sense to get things off on the right foot. One of the first groups you need to keep sweet will be your neighbours – after all, few people fancy the idea of a messy building site across the street. It's a wise move to engage them at the planning stages by explaining how keen you are to become part of the local community. When it's time to start work, do them the courtesy of explaining what will be happening and how long it's going to take. Make yourself available to discuss issues, pass them your builder's contact details and don't be too proud to apologise if your scheme causes genuine disruption.

Your relationship with trades is similarly vital. If possible, hold regular site meetings – ideally at least once a week, on a Monday, so you can map out the week ahead. Make sure you're all working towards the same goal, too, not to mention off the same set of plans. Even if you're taking a hands-off route, you'll still want to keep tabs on progress,

check quality and discuss any issues. A well thought-out contract will help to head off problems. It should set out what's expected when and what the cost will be – plus an arbitration procedure in case of any disagreements.

Protect your investment

Getting a 10-year structural warranty in place is critical. This will pay out should any latent defects emerge in the house's construction. It will also be vital should you decide to sell in the future, as most mortgage providers require this as evidence the house meets current standards before they'll lend on the property.

Just as important is site insurance, which will protect your project against a range of risks throughout the works. This includes fire, damage caused by storms and floods, theft from the site and vandalism. A good policy will stretch to the associated works required to deal with these issues, such as fees for surveys and removal of debris. Beyond the structure and materials, it will typically also cover employer's and public liability, plant, tools, site offices, temporary residences, personal effects (both yours and those of employees) and legal expenses.

Well-known providers include BuildStore, CRL, Protek and Self Build Zone (all of which also operate in the warranty market). Common cover durations are 12, 18 and 24 months – though there's usually flexibility to extend should your project overrun. You may be able to convert the policy into standard buildings insurance once the house is complete. Most lenders require you to have site insurance in place before they'll provide a self build mortgage (for the latest options see www.self-build.co.uk/mortgages).

Get the VAT right

One of the things that makes self build such a competitive route to a new home is that it's zero-rated for VAT (normally charged at 20%). To count, your scheme must meet the rules in VAT notice 708. This means you need to be building a new dwelling – with any pre-existing structure on the footprint demolished to ground floor level (though there are some exceptions).



David and Dawn Howard's 278m² home was designed by Oakwrights, which also supplied and erected the green oak frame and insulating encapsulation panels. The couple then took on the rest of the scheme themselves, engaging an independent project manager to visit their site at least once a week and help ensure everything ran smoothly. "The 10-month build was finished on time to the high standard we were expecting," says David. "However, one thing we should have paid more attention to was the lighting. You need to decide on it at an early stage and think about how you want to use each room."

Labour is totally zero-rated as it's seen as work done in the course of construction. Make sure invoices don't include VAT for this, as it can be difficult to get it back. The reclaim part relates to materials, which as a rule must be integrated into the building. So you can claw back money on things like bricks, boilers, wood floors and fitted furniture; while free-standing cabinets, carpet and professional fees don't qualify. You don't necessarily have to claim the 20% back yourself – anyone buying eligible items for the project can do it, so some trades may not charge the tax in the first place. Keep all your VAT invoices, check they're valid and file them, or you'll be faced with a confusing mess at the end of your project.

You can only make one application to recover VAT, so don't do it too soon (or you'll miss out on the full claim) – and don't get it wrong. The form to claim (VAT431NB) contains several pages of more user-friendly guidance. If you're not sure how to proceed, seek advice from a specialist accountant – the cost of their time is likely to pale in comparison to the money you recoup. Once you receive the formal completion certificate from building control, you have three months to submit your VAT claim – and provided all's well it should be paid within 30 days of receipt.

CONTACTS

BuildStore 0345 223 4888 www.buildstore.co.uk **CRL** 0800 772 3200 www.c-r-l.com

Meisterstueck 0845 003 1383 www.meistertueck.com **Oakwrights** 01432 353353 www.oakwrights.co.uk

Protek 0845 217 7059 www.protekselfbuild.co.uk **SelfBuild Insurance** 0800 230 0225 www.selfbuildinsurance.co.uk
Self-Build Zone 0345 230 9874 www.selfbuildzone.com

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