An Introduction to Self Building

An eBook from **Allan Corfield Architects Ltd**

Allan Corfield Architects
Custom & Self Build Experts

2019 EDITION

Atrium, Amor House, Gleneagles

Allan Corfield Architects
Custom & Self Build Experts

Thanks for downloading our introductory guide to Self Building eBook (updated in May 2019). Whether building your own home is something you have considered for a long time now, or you have only just developed an interest, this eBook will explain the key areas of Self Building, and help you get your dream home on its way.

So, who are AC Architects, and what do we know about the Self Build process?

Allan Corfield Architects Limited, an RIBA Chartered Practice, has been growing steadily since 2009. Aiming to continue this growth, ACA has become a specialist in the design of one-off, energy efficient homes throughout the UK. Having worked on over 300 developments and projects, we have a broad knowledge of what is involved in Self Building.

Our team, a talented bunch, have many years of experience behind them. Completing a Self Build will be one of the biggest challenges you will ever take on, so, allow us to impart our wisdom to you in the form of this guide. We've dealt with a variety of clients, and we've witnessed many of the 'do's' and 'don'ts' of Self Building.

ACA aim to provide you, as a prospective Self Builder, with the inspiration, support, and education you require to build your cost effective, energy efficient, dream home. Nothing can quite match the amazing achievement of designing and building your own home, so hopefully our Self Build guide can answer some of the big questions you might have, as well as some of the nitty-gritty ones.

Thanks again,

ALLAN CORFIELD

Director, Chartered Architect and Self Build Expert
Allan Corfield Architects

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FOREWORD

Building your own home is an idea that has captured the public imagination and according to Nationwide Building Society, it is a dream shared by over 60% of the adult population. Yet each year as few as 13,000 succeed in making that dream come true – equivalent to just over 1 per cent of annual home purchases and less than 7% of new home completions. Meanwhile overseas, on average 40% of new homes are commissioned or built by the people who will live in them, giving them opportunity to influence the design and for those with the time and skills, to reduce costs through DIY.

The UK has a long way to catch up, but at long last policy makers across the UK are recognising that supporting Self Build improves housing choice and affordability. Difficulty finding a building plot is the biggest challenge and this is why the National Custom and Self Build Association (NaCSBA) has been campaigning to get planning policy changed across all of the home nations to make sure the needs of those who want to build their own home are taken into account.

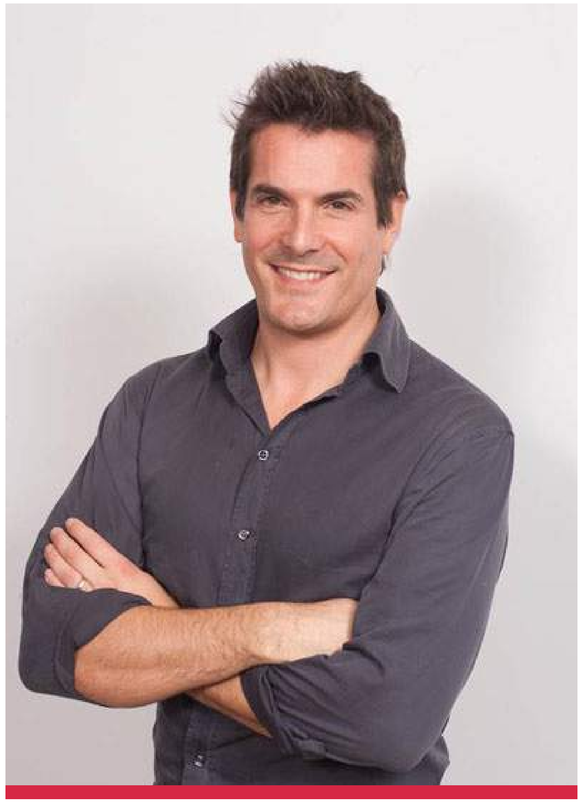
It's still early days, but the response has been positive. In England, The Right to Build requires councils to keep a register of people who want to Self Build and to permission enough serviced plots to meet demand on the register (find your register at righttobuildportal.org.uk). Self Build Wales is an initiative that will help anyone who can raise a 25% deposit on the cost of a plot to build their own home, supported by the Welsh Development Bank and councils across Wales.

Whether you plan to commission an architect to design an individual home, or plan to build your home from the ground up on a DIY basis, you'll find it one of the most exciting, rewarding and empowering experiences – so much so that many, including myself, go on to do it again. Talk to anyone who's built their own home and you'll discover that despite the effort and inevitable times of stress - it's one of the few things in life that's really worth doing.

ACA's eBook serves as a useful starting point on the journey – and one that should help to set you out in the right direction.

MICHAEL HOLMES

Director of Content for Homebuilding & Renovating Magazine
Chair of National Custom and Self Build Association (NaCSBA)



"Building your own home is one of the few really worthwhile things to do in life – it's exciting, challenging and immensely rewarding."

Michael Holmes, Chair of NaCSBA

Why Self Build?

Amor House,
Gleneagles

Amor House,
Gleneagles

As rent and house prices continue to rise, finding value for money in property seems to be getting more and more difficult - especially for first time buyers.

There is also a desperate need for new housing across the UK, as older properties are either unavailable, or are not providing suitable levels of energy efficiency.

This lack of adequate housing is turning many prospective homeowners towards Self Building.

With over 40,000 people registered for the Right to Build in England alone, and with the development of Custom Build sites such as Graven Hill, the number of Self Build homes in the UK continues to grow each year.

Choosing the option of Self Build is not only better value for money – but it allows you to break away from the mainstream and take full control of your future home.

You can build a home for your family, designed to your specific requirements. Why settle for an uninspiring house that doesn't meet your expectations as a home?

Worried you don't have the required experience in the construction industry? It doesn't matter; taking on a Self Build project is a chance to test and improve your management skills. If you don't want to go down the road of physically building your own home by hand, you can hire a specialist builder while you project-manage the build.

The finances and time you have available may dictate which route you take when building your dream home.

Your Self Build Options

With the following figures based on a generic house design, with a medium specification, built on a flat, level site with services – the main routes to build a house are as follows:

Top: SIPs, Panel Construction
Bottom: Laying Foundations

Going for a traditional approach, you might hire a **Main Contractor** - this was once seen as the typical way to realise your new home ambitions. You have responsibility for appointing your professional team to complete the design and approval work, before appointing a builder to carry out the complete build in a 'Turn Key' solution.

Should you choose to follow this route, it is recommended you budget around £1,600 to £2,000 per square metre for your build costs.

This is not 'Self Building', and is only included as an option if you have the money to pay for a contractor to complete your home without your input.

The most popular method in recent times is known as the **Part Self Build**. The Self Builder gets more involved in the design process, and works more closely with the professionals in obtaining approvals.

The Self Builder would then interview a number of sub-contractors responsible for separate packages of works - for example, the groundworks, the kit (building fabric), windows and doors, roofers, joiners, plumbers and electricians.

By separating each of these disciplines, the main contractor's profit is taken out of the picture (on average 10-15% on each trade). The Self Builder would then run the management of each trade and program the work schedule.

This might seem daunting, however, if you have ever managed staff, or teams, within your professional life - or have run a household - then managing a building project is just as achievable.

By separating the trades and running the build yourself, you can get the build budget (for the same specification house) down to around £1,400 per square metre!

The most ambitious go for the **Full Self Build**. This is very similar to the Part Self Build, however, the Self Builder would start to split the services of the sub-contractors up into labour and material quotes.

You can often find great deals for materials via unconventional purchase methods – by searching on eBay, at auctions, and by purchasing at trade shows. This is not for everyone, and will take a lot of research time, however, there can be big savings.

In addition to shopping around for materials and negotiating on labour costs, you would also take on a number of the basic building tasks. These can include: basic joinery work, fitting plasterboard, timber cladding or finishing works. In order to make considerable savings, some Self Builders can complete first fix electrics and plumbing works (pulling cables or loose fitting pipework), but it is always recommended leaving second fix and all commission works to the professionals.

By completing these steps, Full Self Build can reduce the price to around £1,000 per square metre – a massive saving on traditional build methods. The total costs of a Self Build home can be significantly less than buying ordinary property outright, with the UK average value per metre squared at over £2,500. Despite some misconceptions, Self Builds are available to people of all ages – those nearing retirement aren't the only ones who can build their own homes!

Rendered Image,
Self Build, Worcestershire

Completed Project Photo,
Self Build, Worcestershire

Self Build Resources

Expert's Talk,
Homebuilding Show

Exhibitor's Stand,
Homebuilding Show

Self Build
Resources

The Importance of Research

Embarking on your Self Build journey can be a bit daunting without having the right information behind you. Despite interest in Self Building rapidly growing, not knowing where to find the appropriate facts and figures can throw even the most determined people off.

At ACA, we've worked on a range of great Self Build projects - and, with no two clients ever the same, we've witnessed some of the best and worst ways clients approach their build. A Self Build project is a big commitment - one that requires a lot of dedication from the individuals involved - so thorough research is fundamental to its success.

When it comes to starting out, knowledge really is power, so here we'd like to point you in the right direction with some really valuable advice and resources.

Paying for the following resources could save you a lot of money further down the line. Without an investment in quality information, you could end up making poor decisions, or might miss out on easier, cheaper methods. With the Self Build industry constantly developing, there are really only a handful of relevant books out there worth considering.

The UK's best-selling Self Build guide is **Mark Brinkley's** Housebuilder's Bible, which is now in its eleventh edition. Whether or not this is your first Self Build project, the Bible takes you step-by-step through the Self Build process - highlighting the potential problems, and how to avoid them.

Another book comes from the UK's Self Build Champion, Kevin McCloud. His book, Grand Designs Handbook: The Blueprint for Building Your Own Home, explores beyond the Self Build homes featured on McCloud's television programme of the same name.

This book is packed with answers to the bigger questions about design and architecture, and is a good read for inspiration from one of the UK's foremost Self Build experts.

Self Build Magazines

With a large selection of Self Build magazines available, subscribing to a couple can be really beneficial. Publications such as Homebuilding & Renovating cover all the bases - from 'How To...' articles, to the latest design trends.

One of the greatest advantages of a magazine subscription, is the fact that the information is very current; the issues are right up to date.

You'll find case studies from previous Self Builders - highlighting issues with costs, design, energy-efficiency and planning permission. On top of this, there are lots of tips from professionals across the industry, as well as interviews with some of the most experienced Self Build experts.

Lindsey Davis and **Claire Lloyd**, from the editorial team at Homebuilding & Renovating Magazine, offer some wise words for new Self Builders:

"There's a widely held misconception that building your own home is going to be very difficult and very expensive.

Add to this that planning permission is believed by many to be incredibly hard to gain, and it is a wonder anyone tries to build their own home.

However, the truth is that a well-planned Self Build project can run as smoothly as buying an existing home, and by equipping yourself with knowledge of the industry you can navigate any potential problems.

We always advise our readers to do their research — find out how the planning process works; look at homes in the local area to get an idea of what could work; talk to people who have used the professionals you plan to hire; and above all come up with a realistic budget."

Other magazines also can be a great way of finding a design style you like, or the type of plot you might like to find.

See below for a selection of the UK's most popular Self Build magazines:

- Homebuilding & Renovating Magazine
- Real Homes Magazine
- SelfBuild and Design
- Your Build Magazine
- Grand Designs Magazine
- Homes & Gardens
- Ideal Home
- House Beautiful
- I-build Magazine

Self Build Shows

The best value-for-money research you can possibly get is from attending a Self Build exhibition show. There are a host of shows to choose from, from Grand Designs Live, Build It Live!, and the Homebuilding & Renovating Show.

The Homebuilding & Renovating team thoroughly recommend new Self Builders also get themselves a ticket to their nearest exhibition:

"Attending a dedicated Self Build show can be an excellent means of research. Many shows, such as the National Homebuilding & Renovating Show at the NEC, Birmingham, offer an extensive seminar programme, providing an insight into the Self Build process – from financing the build to achieving planning – as well as giving you the opportunity to get your questions answered by independent experts.

What's more, you'll be able to meet suppliers face-to-face and see products first hand — from windows, insulation to roof tiles and timber frame systems, to kitchens and bathrooms."

Held across the country - almost every month of the year - there is nothing better than having all of the required professionals under one roof.

Whether you need help with planning permission, advice on ventilation, or interior design tips, you'll find the right expert at one of these Self Build shows.

Brian Singleton - of ventilation experts ADM Systems - gives a great summary of why you should definitely consider attending the likes of the Homebuilding & Renovating Show:

"ADM have been exhibiting at the Homebuilding & Renovating Shows all over the country for many years. Whether you're at the very early stages, or if you have had some outline proposals and wish to discuss further, the exhibitions provide an excellent platform to meet up with exhibitors and other professionals.

Expert advice is freely available, together with seminars, workshops and masterclasses. My advice, particularly for the larger shows, is to have a good idea of which products, services and seminars are most important, and make them your priority to visit."

Many of the shows take place over a weekend, and it's really worth making the effort to go for the duration.

You can spend a day listening to the great talks and seminars, then another speaking to the exhibitors – from kit builders, window suppliers and even Smart Home Automation specialists.

The Self Build shows cover all areas in the UK, so have a look through the following to find your nearest one:

- Homebuilding & Renovating Show
- Build It Live!
- Grand Designs Live
- The National Self Build & Renovation Show
- SelfBuild & Design Show

Top: Allan Speaking, Homebuilding & Renovating Show, Edinburgh
Bottom: Expert Consultations, Homebuilding & Renovating Show, London

National Self Build & Renovation Centre

Top: National Self Build & Renovation Centre
Bottom: National Self Build & Renovation Centre - Main Hall

Another place that is definitely worth a visit for every Self Builder is the National Self Build & Renovation Centre. Situated in Swindon, it is the UK's only permanent venue where you can get independent advice and support.

The NSBRC has a wealth of information for people who dream of building their own home and much like the homebuilding shows, you can visit over 250 manufacturers and suppliers and find out about the latest innovative technologies and products in the Trade Village.

The NSBRC also includes:

- Free independent advice on everything from choosing a construction method to heating systems and the latest legislation affecting your Self Build.

- A team of experienced and enthusiastic experts will be on hand at the Technical Expert Hub, to provide help, advice and inspiration.

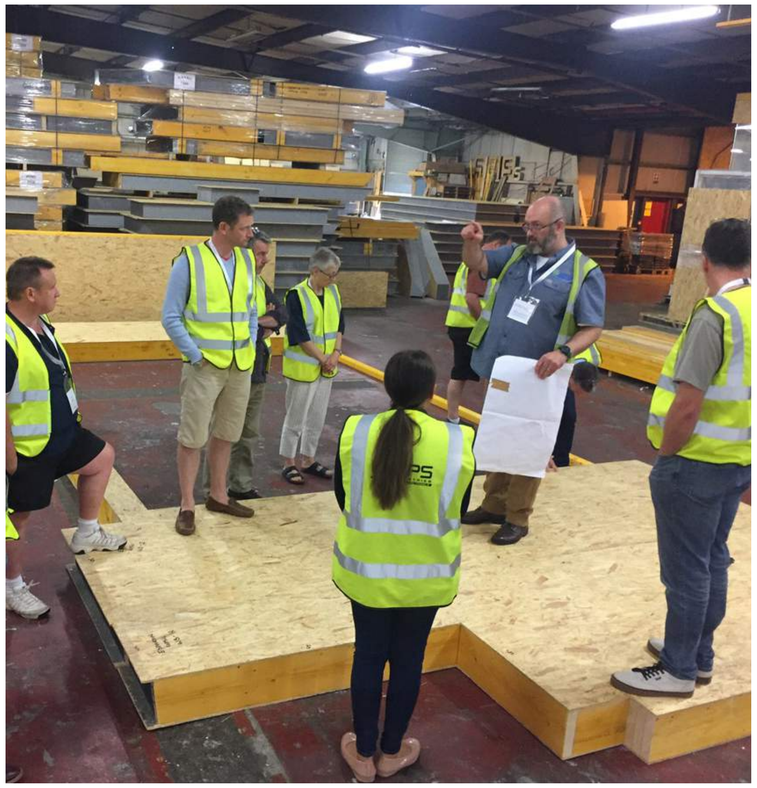
- A variety of walking tours in the Self Build educational zone that explains the most important stages of a Self Build project.

- A full sized show house, created by the experts from Potton, which will leave you inspired and motivated.

- If you are seeking the perfect plot for your future home, the specialists from PlotSearch can help you find a site that will meet your expectations and help you avoid any risky investments that may result in more money and stress.

- Moreover, one of the most important opportunities offered at NSBRC is free advice from BuildStore on financing your project. They will provide exclusive mortgage schemes individually tailored to suit your needs.

- Throughout the year you can sign up for a range of events such as Eco, Design & Build and Passivhaus Workshops.



Top: SIPs Industries' Factory Tour

Bottom: Self Build Seminar at SIPs Industries

Self Build Seminars

ACA contribute to the Self Build Seminars hosted by our friends at SIPs Industries (book at: www.sipsindustries.com/seminars).

These are full day seminars held throughout the UK, and at the SIPs factory in Dalgety Bay, Fife.

The seminars offer a great opportunity to consult with experts in the field of architecture, engineering, building, finance and ventilation.

A typical seminar covers the following elements:

- Cost vs Design
- Thermal Strategy (Windows, Vent Systems, Doors, SAP Calc., Detailing)
- Structural Strategy (Engineering & Problems in Design, Structural Solutions)
- Project Management
- Working with Contractors (Groundworkers, Scaffolders, Kit Suppliers, Roofers, Plumbers, Electricians, Joiners)
- Tips on how to build the most energy-efficient home without paying more than you need to (incl. MVHR and Renewables)
- Finance & Insurance
- Inspiration for your kitchen and bathroom finishes

A supportive network of fellow Self Builders can be beneficial to your project in a number of ways including an opportunity to share ideas and experiences, and get a sense of typical timescales and generally what to expect.

Research is key to the success of your Self Build and you, as the Self Builder, must take on the role of project lead. This is, after all, your home you are building.

Attending seminars, researching online, and surrounding yourself with the right people will be invaluable to the success of your project.

Gathering recent testimonials from everyone you want to work with will ensure you get the right people on your team.

Also, make sure you enquire about the times when things went wrong; finding out how problems were dealt with is often the most important detail of all.

"Challenges will arise – no matter how well you plan your Self Build!"

Allan Corfield, ACA

SIPs Self Build, Biggar

Finding Your Dream Plot

Foundations, Gleneagles

As more and more people become interested in building their own home, additional help is being offered to support potential Self Builders in their pursuit of plots.

Councils are releasing serviced plots in some areas to encourage the Self Build industry – but what if the area you want to live in doesn't offer these? What route can you take to find the ideal plot for your Self Build dream?

Identify Your Location

Having a good think about where you would like to Self Build is the best place to start. Giving yourself too wide an area to search for plots can be overwhelming, and may sap a lot of your time and energy through travelling around and researching individual plots.

If you can identify a specific and practicable area to search thoroughly, you can concentrate your effort on finding a plot in an ideal location for your family's Self Build project.

To help outline an area, there are many websites available listing plots of land by region in the UK. With information on prices and planning permission, alongside pictures of the plots, these web pages are a solid starting point for your search. A particularly useful website for accessing plot information is www.plotsearch.co.uk.

PlotSearch from BuildStore is the UK's leading online land finding portal, with thousands of genuine Self Build plots, renovation and conversion opportunities available. What's more, planning permission is guaranteed.

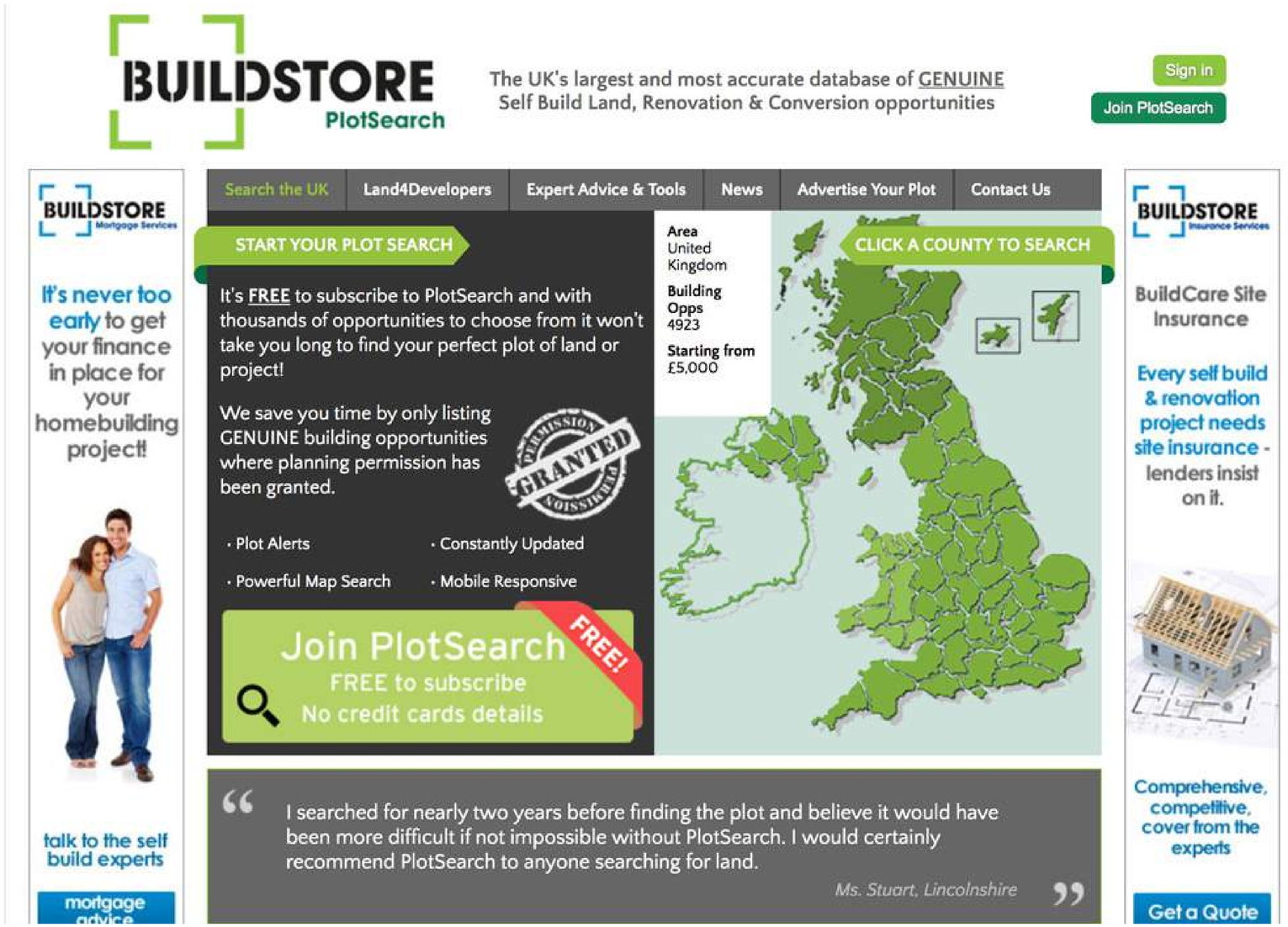
Once you have settled on your areas, spend time visiting them to get a feel for the location. Score the specific areas on aspects that matter to you – for example, is it important to be secluded, or near a town or village? Are there accessible commuter links to shops, restaurants and pubs, for example?

The location of your Self Build is just as important as the design, so it is worth approaching these questions as early as possible to get the most out of your new home.

"My top tip to those starting out would have to be: be patient! It may take several years to find your ideal plot. Take as much advice from the professionals as you can, and make sure the price is within your budget!"

Colin Amor, Self Builder

Bottom: BuildStore PlotSearch website



Contact People In The Know

Alternatively, registering your interest with estate and land agents in your favoured area can have a successful impact on your Self Build plot search.

By staying in touch with local surveyors and architects, you might be able to receive information about new plots very early and as they become available. Contacting people with experience in property auctions can be beneficial to finding the right plot for your Self Build too.

There are a number of websites offering updates on forthcoming auctions – and consulting them is useful to gauge what type of plots go out to auction. Plots suitable for single houses are regularly sold at auction, and tend to be brownfield sites which suit renovation projects, or require demolition before new Self Builds can begin. Popular online auction sites include www.allsop.co.uk, and www.savills.co.uk.

Do It Yourself!

Taking a hands-on approach to finding a Self Build plot can be fun and quite motivating, but bear in mind it may be a little time-consuming.

Exploring the area you would like to build in gives you the opportunity to look at potential plots that might not be available through mainstream channels.

Looking into overgrown side gardens, disused garage blocks and other derelict properties can open up potential plot opportunities.

By using Ordnance Survey maps, or online services such as Google Maps, you can gain insight into boundaries.

Calling or writing to locals with enquiries about parts of their land can often be a great way of unlocking a previously unavailable plot for your Self Build.

Have Fun On The Way!

The more unorthodox methods for finding sites include putting 'Land Wanted' adverts in local newspapers – or appealing to locals with leaflets enquiring if they have extra land available suitable for a new home.

Owners may never have realised they were sitting with a source of income for themselves until somebody states an interest.

It's always worth asking if you find a plot you think might work for your project! Some real adventurers have even gone to their local helicopter flying school to hire a helicopter for an hour.

It can be surprising how out of date Google Maps can be in some areas, so getting a good look at a large area in a helicopter can be a valuable investment at around £200 for an hour!

Plot Hunt via Helicopter!

The Things To Remember

Due to the high number of protected areas across the UK, planning regulations have had an effect on the greenfield sites available to potential Self Builders.

Many greenfield sites have already been picked up by housing developers, meaning that the plot options available, in high-demand areas, tend to come in the form of previously developed brownfield sites.

When budgeting your Self Build, the amount you set aside for your plot will be the largest single purchase you will make.

Your budget can play a significant role in what type of plot you are able to acquire, meaning the design you perhaps envisaged might have to be compromised if you can't afford a site to suit your original plan.

Finding a suitable and affordable plot can be difficult in certain areas, so looking into a group Self Build project on a larger plot can sometimes be a cheaper alternative to doing it alone.

If you require a mortgage to fund your Self Build project, we recommend that you speak with BuildStore Mortgage Services sooner rather than later. Have a chat with their experts about your mortgage options, how much you could borrow and really ensure that you are in the best position while looking for your plot. Upon finding a plot you might like, have it properly surveyed by a fully-qualified land surveyor, especially if the site does not have planning permission.

It is always a good idea to have the boundaries checked, as doing so could save you from any costly neighbour disputes further down the line.

Finding the ideal plot for your dream Self Build takes time, and there can be several frustrations along the way – but by planning carefully and consulting the variety of options available, you might just find a Self Build plot for a bargain, or a site that captures your imagination.

The perfect plot for you might be right under your nose – so get searching!

Colin Amor, one of ACA's former Self Build clients, talked us through his experience of finding a plot of land:

"When starting out on my plot hunt, I did a lot of web-based research, subscribing to such websites as Plotfinder, and registering with estate agents.

It was difficult to comprehend the amount of time it would take to find a suitable plot, and one of the most frustrating aspects was dealing with incompetent developers and solicitors.

My top tip to those starting out would have to be: be patient! It may take several years to find your ideal plot.

Take as much advice from the professionals as you can, and make sure the price is within your budget!"

Plot, Gleneagles

Modern Eco Home, Perthshire

Finance & Budgeting

Eco Self Build Home, Biggar

Self Build, Shepperton

Organising your funding may not be the most exciting part of your homebuilding project, but it's one of the most important.

Before you get carried away with the design, build system and materials, it's important to know how you are going to fund the build and how much you have to spend.

Working out your budget and costs

To work out your budget, you must calculate how much money you already have and how much you can borrow.

Your contribution to the build must be accessible cash, so if the money you wish to use is tied up in property, this must be released. How much you can borrow depends on your individual financial circumstances. As with any mortgage, lenders will look at your income and outgoings to calculate how much they are willing to lend.

A standard Self Build mortgage will typically enable you borrow up to 75% of your project costs, while others mortgages available through BuildStore offer increased borrowing of up to 85%, and in some cases 95% of your costs.

If you already own your plot, it may be possible to borrow enough to fund your build costs in full.

Your build costs will depend on a number of different factors, for example the size of your new home, location, design, construction type and internal specification.

When calculating your costs, you must include the plot purchase price (if applicable), estimated build costs, associated fees, plus a 10-20% contingency.

Establishing your cashflow

Positive cashflow is key to any successful Self Build and the availability of your borrowed funds during the build must be a factor when choosing your borrowing solution.

When buying a property using a traditional mortgage, your priorities will be a low interest rate, minimal fees and the total loan amount.

With a Self Build your priority should be your cashflow, and ensuring sufficient cash is available to complete each stage of your build.

Your mortgage must be tailored to suit your financial circumstances, build and payment schedule. It's not just about how much you can borrow, but when that money is available to you throughout the build to allow you to pay your

tradespeople and suppliers – whether that's monthly, weekly or daily!

Stage Payment Mortgages

As your Self Build home will be paid for in stages, rather than borrowing funds using a traditional mortgage, a specialist borrowing option is more suitable.

Self Build mortgages release funds in stages – in arrears or in advance. Depending on your individual circumstances, your stage payments will either be guaranteed based on your costs, or rely on an uplift in value at each stage.

A **valuation based** mortgage releases funds to buy the plot, and then after each stage of works are complete - where a valuation has taken place showing an uplift in value. This can cause problems because there is a risk of the property being devalued during the build.

BuildStore's unique **cost based** mortgages provide guaranteed stage payments based on your build costs either before or after each stage of works, depending on your payment schedule.

This way you will have certainty in your budget, and peace of mind knowing you'll have the cash you need, when it's needed.

If you've chosen an off-site manufactured building system like a timber frame, SIPs or ICF where you may be required to pay for your system in full before it even leaves the factory, a cost based mortgage ensures you'll have the cash to meet your supplier's payment terms.

What's more, as a cash buyer you can take advantage of the best deals and time restricted offers on materials.

Other Borrowing Options

If you have enough equity in your current home or own it outright, you could remortgage or secure a bridging loan to pay for the plot, fund your build costs or both. Then when your new home is finished, you can sell your old one to pay off the loan. This way you can stay in your current home during the build and avoid the upheaval of moving, living onsite or renting during the build.

When it comes to funding your Self Build, it's important to speak with an expert mortgage adviser like **BuildStore**, who can look at your financial circumstances and build requirements to recommend and tailor a borrowing solution to suit you and your new home.

Before you apply for funding, here's our top tips for getting prepared!

- Discuss your borrowing options with a specialist mortgage adviser, like BuildStore
- Work out your budget and costs early on
- Make sure your chosen build type and design is mortgageable
- Have a clear and realistic build cost breakdown
- Check your credit score before the lender does
- Clear any credit cards and overdrafts where possible
- Make sure your bank statements show a responsible spending pattern

Top: SIPs Roof Goes On
Bottom: Finished Self Build, Northumberland

Amor House, Gleneagles

Ask the Expert – BuildStore Mortgage Services

AC Architects work with BuildStore Mortgage Services, the UK's leading Self Build mortgage experts.

With over 20 years' experience and over 25,000 homes built, their specialist mortgage advisers will recommend and tailor a borrowing solution to suit you and your new home.

BuildStore have access to a range of borrowing solutions including exclusive mortgages offering higher borrowing amounts, competitive rates and guaranteed upfront payments.

We put our questions to **Rachel Pyne**, Operations Director at BuildStore, to give you an expert's perspective on how to fund a Self Build.

When is the right time to think about funding my Self Build?

"When it comes to funding your homebuilding plans, it's important to fully understand your borrowing options and know your budget early on.

It's particularly important to know this before you engage with designers, architects or project management teams, as you need to know that your plans are affordable and mortgageable.

Think of it this way, if you're buying an existing property, you need to know how much you can borrow before you start looking.

It's no different when it comes to Self Building, it's actually even more important!"

Should I use a mortgage adviser to arrange my finance?

"The short answer is yes. When it comes to funding your Self Build, there are many factors and borrowing options to consider.

It pays to speak to an expert mortgage adviser like BuildStore, who can look at your financial circumstances and project requirements, to recommend and tailor a borrowing solution to suit you and your new home."

How does a Self Build mortgage work?

"Self Build mortgages release funds in stages – in arrears or in advance.

Depending on your individual circumstances, your stage payments will either be guaranteed based on your costs, or rely on an uplift in value at each stage.

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A valuation based mortgage releases funds to buy the plot, and then after each stage of works are complete - where a valuation has taken place showing an uplift in value.

This can cause problems because there is a risk of the property being devalued during the build.

Typical Self Build stages are:

- *Foundations*
- *Wall plate / frame erected*
- *Wind & watertight*
- *First fix & plastering*
- *Second fix & completion*

With BuildStore, the stage payments from your mortgage will be tailored to suit your specific payment schedule, as it's not just about how much you can borrow, but when that money is available to you throughout the build."

Which Self Build mortgage is right for me?

"You're building a bespoke home and just as no two projects are the same, there's no one-size-fits-all solution. The right mortgage for you will depend on your individual circumstances, build and payment schedule.

At BuildStore we can tailor your funding to suit your payment terms and your project costs."

How much can I borrow?

"It depends on your financial circumstances and how much you can afford. As with any mortgage, lenders will assess your income and outgoings to calculate how much they are willing to lend you.

However, unlike a traditional mortgage, your borrowing is not limited by the plot or property's current value.

With a standard Self Build mortgage you can typically borrow up to 75% of your project costs, while with BuildStore's higher lending percentages you could borrow up to 95%, or 100% if you already own your plot, with a maximum of up to 85% of the expected end value of your new home."

Top: Under Construction
Bottom: Foundations

I've heard that the construction method we choose may impact our ability to get a mortgage. Is this correct?

"The construction method you choose for your new home won't necessarily affect your ability to obtain a Self Build mortgage, but it can limit your borrowing options.

Self Build mortgage lenders are complex in nature, with each lender having its own conditions when it comes to the design, build system and materials used for your new home.

Typically, most traditional and modern building systems are acceptable to the majority of lenders. Criteria tends to be more restrictive when it comes to the material used for the outer skin of the build, as this is what protects your home from the elements and is key to its visual appeal.

Your mortgage lenders main concern is that your new home provides them with suitable security and is capable of being re-sold and maintaining or increasing in valuation over the term of the mortgage.

So, when it comes to the outer skin, lenders tend to insist on standard materials that are durable, have a long life expectancy, and are visually appealing.

With timber cladding for example, some lenders will not lend on this due to its limited life expectancy of 20 to 30 years, though there are lenders who have

no issue with this, and others who will restrict the amount of timber used to a maximum of 25-50% of the overall cladding.

Before deciding on your build system with your architect, it's important to get specialist advice early on to ensure it's acceptable for mortgage purposes."

Do I need to sell my existing house before my Self Build is complete?

"This depends on how you fund your build and how much cash you have in savings.

If you choose a valuation based stage payment mortgage, you'll need a minimum deposit of 15% of the plot price, as well as money to pay for the early stages of the build. If you don't have sufficient savings, you may decide to sell your current house to release the equity before starting your new project.

If you don't want to sell your current house and move into temporary accommodation before your new build is complete, the BuildStore cost based mortgage may be right for you.

The higher lending percentages and advance stage payments during your build will ensure that cashflow is not an issue, so you can continue living in your current house until you're ready to move."

Generally what costs are involved when Self Building?

"Your build costs will depend on a number of different factors, for example the size of your new home, location, design, construction type and internal specification.

When calculating your costs, you must consider the fees involved and deduct these from your overall budget."

Typical Fees:

- Legal Fees

- Mortgage Fees

- Planning Application Fees

- Architectural Fees

- Surveying Fees

- Building Regulation Fees

- Interim Inspection Fees

Fees can range from £10,000 to £20,000 in total. A contingency of around 10-20% of your build cost budget is recommended to cover any unexpected costs.

Work On Site Under Way

Insurance & Warranties

Building your own home involves a lot of time, effort and cash, so it's important that you have adequate site insurance and structural warranty policies in place to protect your home, both during and after the build.

This is why we decided to ask **Ronnie Mitchell**, Insurance & Warranty Specialist at BuildCare from BuildStore Insurance Services, to share his expert insight on the important things to remember about site insurance & structural warranties.

Site Insurance

Site Insurance provides cover for all aspects of your site during the course of your build - every project needs it, and mortgage lenders will insist on it.

If your project is hit by flood, fire or theft – or a member of the public, or one of your tradespeople, has an accident on-site – it can seriously affect your ability to finish your new home.

Site insurance provides you with protection and financial recompense so that, if the worst does happen, you have the peace of mind, and the funding, to continue your project as planned.

Your policy should cover all works in progress, materials, plant tools and equipment on site, as well as cover for public liability, employer's liability, personal possessions and personal accident. The Cover should start from the point you are responsible for the plot or property – that's the point when you become liable for any injuries to members of the public on your site, even before the building works start.

The amount of cover required is based on the professional reinstatement cost of the new works and must be enough to cover the total rebuild of the property when complete.

Don't rely on your builder's insurance as it's likely that they will only have public and employer's liability cover, which doesn't include the build itself, any ongoing works or the site when they're not there.

For absolute security, it makes sense to arrange your own site insurance to ensure you have adequate and continuous cover throughout your project.

Structural Warranty

A structural warranty policy protects your new home against defects in the design, workmanship or materials, typically for a period of 10 years from the completion of works.

Your policy should be in place before works start onsite because a surveyor is required to carry out a series of technical audit inspections throughout the build, to ensure works are being completed to the required standards.

If you're using a Self Build mortgage to fund the build, your warranty inspection certificates can be used to confirm the stage that your project has reached, allowing you to request your next stage release of funds.

Bottom: Site Inspection

Rendered Image, Stowgate

Plus, a typical BuildCare 10 Year Warranty, can include building control (England & Wales only), which reduces the number of inspections onsite – saving time, hassle and money.

Most mortgage lenders will insist on either an architect certificate sign off or structural warranty policy being in place before works commence.

However, an architect's certificate only states that your house has been built to the required minimum standard. Should a structural fault arise, it's down to you to take legal action – a lengthy and expensive process.

A structural warranty, on the other hand, provides full, comprehensive cover, and it's much simpler and more effective to claim.

If you decide to sell your home in the future, potential purchasers will need to know that the property is covered, as many lenders are unwilling to provide funds on properties less than 10 years old, unless covered by a structural warranty.

Legal Expenses

Legal Expenses, often referred to as professional fees insurance, is an often overlooked element of cover and provides protection for disputes with contractors, professionals and suppliers that arise during the course of the project.

A legal helpline provides assistance in the event of a dispute occurring, and the service is backed by the legal cover, so where there is a good prospect of success the legal team will pursue the dispute.

It is important to bear in mind that a contract must be evidenced in writing and without one, you will have no protection - which is why the use of contracts is so important.

Party Wall Liability (For Work in England & Wales)

If you are carrying out work within 3 or 6 metres of a party or boundary wall, you will invariably have to consider your liability under the Party Wall Act 1996.

Under the terms of the Act, your neighbour has a right to be compensated for any loss or damage caused by your relevant works.

So, should you cause damage to the neighbouring property inadvertently, public liability does not provide protection as it is a foreseeable loss.

However, cover for your contractual liability can be included under Site Insurance as an option on any project where you have evidence of a party wall agreement in place.

Log Home, Ratho

Timescales & Programming

SIPs Home Construction, Burntisland

Once you have your land, and a better understanding of your financial situation, you can really start looking at a schedule for your Self Build.

Being organised at an early stage is crucial, as you want to know who is responsible for each job, and when it is due to be done.

Programme and time management are key areas where Self Builders can replace a professional, and save a huge amount of money in the process!

However, this is also an area where things can go badly wrong - if you choose to project manage the build, and cannot commit enough time to the task, then important aspects can be missed out, and the potential for issues on site increases dramatically.

You should not be scared of taking on this role (as long as you have the time to do so!), as most people will have had experience of running some sort of project.

This could include running a busy household and family, organising a team at work, or even carrying out some smaller scale renovations on your property - the majority of people can do it!

The main part of programming the Self Build is understanding the trades you require, what the scope of their works is, when they need to start, and when they propose to finish.

When you strip it all back, the vast majority of contractors are really only interested in getting the job, completing the job, getting paid and moving on to the next one.

If you keep this in mind when programming and negotiating prices, you should be able to work well with them - and have happy workers!

Always keep in mind that if you negotiate too far on price (i.e. only consider the lowest price), then don't be surprised if your contractors push your job back for another one, or that they are reluctant to help when you need a favour!

A detailed programme of works will allow you to anticipate when to order materials, and can help you monitor your cashflow forecast.

Putting a work schedule together can be tricky, as you need to get all of your professionals around the one table to determine which dates suit each party.

So, what are the essentials for programming a Self Build Project?

You should split the programming up into two key sections.

The first covers the overall high-level planning of the project - from starting with an architect, right up to the site completion date.

The second part focuses on the onsite management of the build itself.

High-Level Programming

It's really important to remember when you start out on your Self Build journey that the overall project may take up to 14 months to complete - and you could add 3-6 months on to this if you have a difficult Planning Approval process!

SIPs Home Construction, Edinburgh

The average Self Build construction time is around 9 months, but this can be completed quicker with the right planning.

However, it can also take double the time if you are doing the work yourself! The best way to plan out your overall project programme is with a simple Gantt chart (see image).

These can be created in Microsoft Project or SG Project Pro for Mac. These cost effective and simple programmes allow you to enter all of the necessary project stages, with associated tasks, and assign each of them with a time value.

The tasks are all linked, so if you change the length of time for one stage, it pushes all of the other stages along too.

Creating an accurate programme is vital, and you should get as much input from your professionals as possible. The main milestones that need to be reached, pre-site, are: confirming your initial design, obtaining planning approval, obtaining building standards approval, and completion of the construction drawings.

Set achievable timescales for each task, as well as working out a completion date from this - rather than working back the way.

It's not uncommon for Self Builders to pick a big birthday, or even Christmas day, as a completion date.

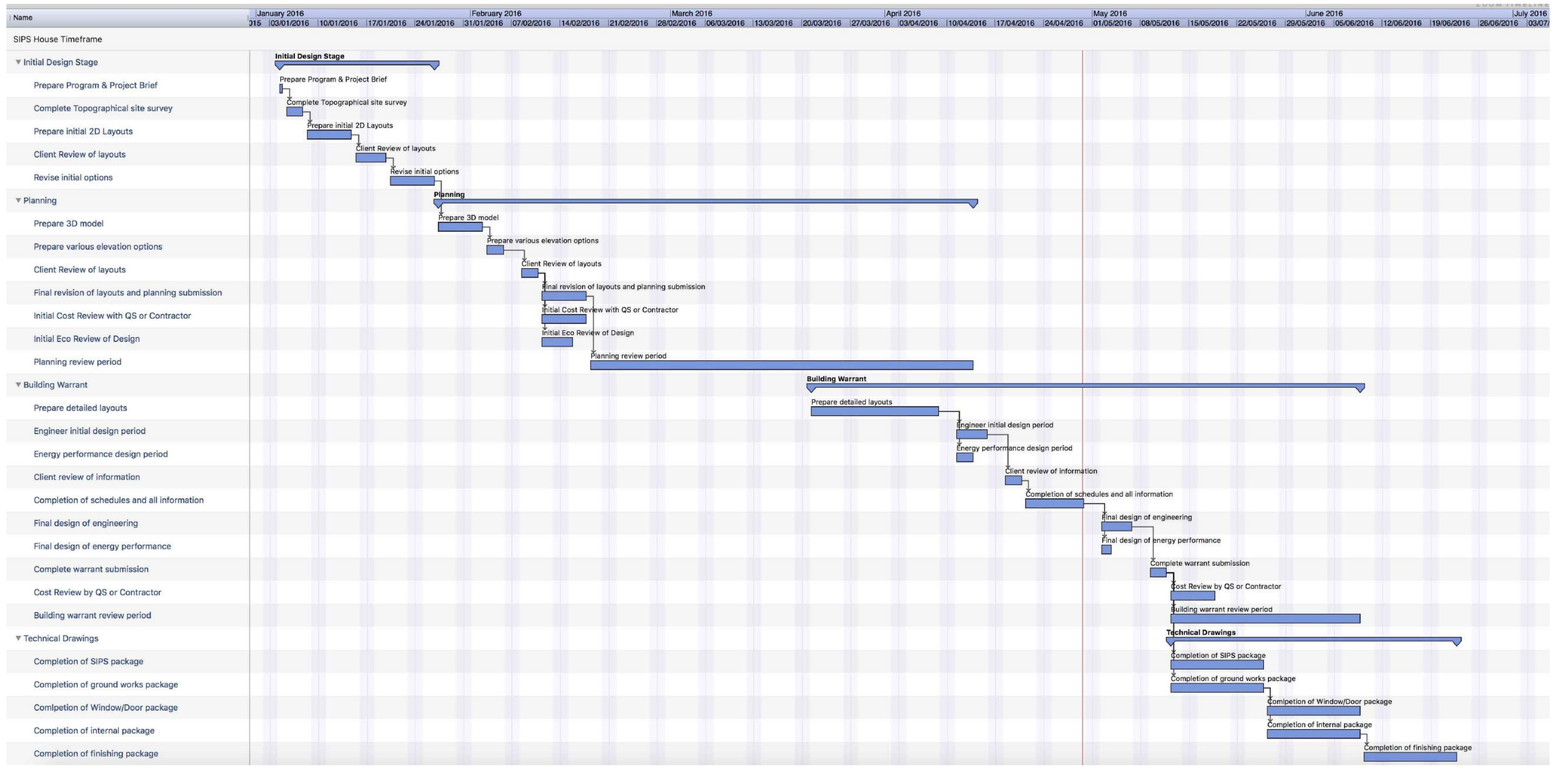
This isn't a great idea; trying to fit everything in - rather than sticking to the realistic timescales - will, without doubt, end in disappointment!

One way to reduce the pre-site programme, is to run the Planning and Building Warrant applications in parallel (this can save between 4 and 8 weeks).

This should only be considered if you have had pre-application discussions with the Planners, and have a level of certainty of success.

Traditionally, you would wait until full Planning has been determined before starting the Building Warrant design drawings. The key to a successfully managed programme is accepting that there will be delays and challenges.

Bottom: Gantt Chart, High-Level Programme, ACA



"A detailed programme of works will allow you to anticipate when to order materials, and can help you monitor your cashflow forecast!"

Allan Corfield, ACA

Top: Modern Eco Self Build, Duns
Bottom: Modern Eco Self Build, Northumberland

Giving some room after each stage will allow for most delays - but you must be able to work around problems, and keep the programme fluid!

Onsite Programme

Once you secure the Planning and Building Regulation approvals, you can start to really think about the main part - building your dream home!

The main challenge with site programming is working out when trades need to be on site, how long they need to be there, and if they'll have an impact on the work of other trades.

By discussing with your chosen contractors exactly what they are going to do and how long it will take, potential mishaps can be avoided.

We would suggest appointing all main trades before you go on site, and get them all around a table for a 'pre-start site meeting'.

The basic trades that need to be appointed (on a standard build) are usually - ground workers, kit manufacturers, roofers, joiners, plumbers, electricians, heating engineers and plasterers.

At this meeting you can agree each contractor's responsibilities, and who they are handing over to.

Make sure you minute this meeting, and issue it out to all parties as a record of what was agreed.

This minute of agreement can be invaluable at a later date if any problems do arise!

So, you have everyone in place, and you know how long their jobs will take and in what order they are due to commence - you now need to add this in to your Gantt chart.

We have added a basic one (page 33), which gives rough timescales for some of the key elements you might find at the very start of the Self Build process.

Once you have the dates of when key items start - for example, the fitting of the windows - you now need to look at the lead-in-time for these elements.

If you are building with a factory-built kit (like SIPs or Timber Frame), then you will want your windows to be installed straight after the kit goes up.

Windows take on average 6-8 weeks to be fabricated and delivered to site, therefore you would look at the end of the kit erection, and go back 6-8 weeks.

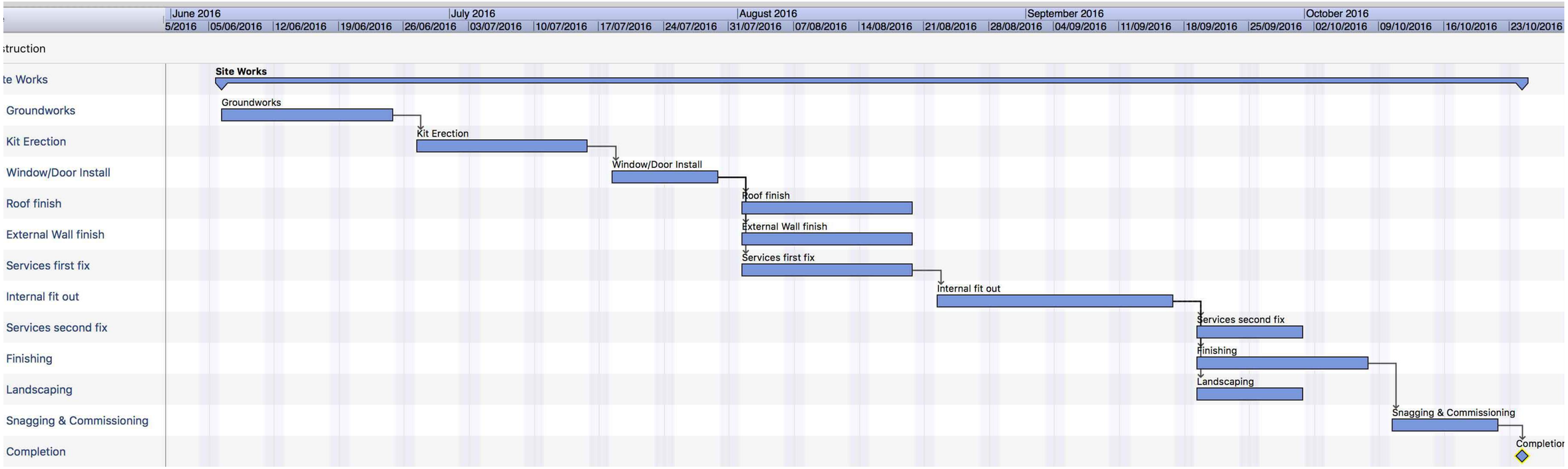
This gives you the date you must order the windows by!

This rule applies for all items, whether it's big items - like your kitchen, or the choice of external brick.

Moving back a step further, the windows need to be ordered from a window and doors schedule (provided by your architect), and this must tie in with the kit manufacturing drawings.

Therefore, the importance of completing a detailed programme as early as possible is vital!

Another key part of programming is working out who can be on site at the same time; you don't



Top: Gantt Chart, High-Level Programme, ACA
Bottom: Fabric First Self Build, North Bedfordshire

want to have an over-crowded site which slows everyone down.

However, with a bit of clever planning, you can have the roofer working on one side of the building, and the joiner fitting external cladding on the other - but this must be discussed with the relevant trades so that they are aware of the situation, and any potential dangers.

Internally, plumbers and electricians can work together completing the first fix, but make sure the works are co-ordinated.

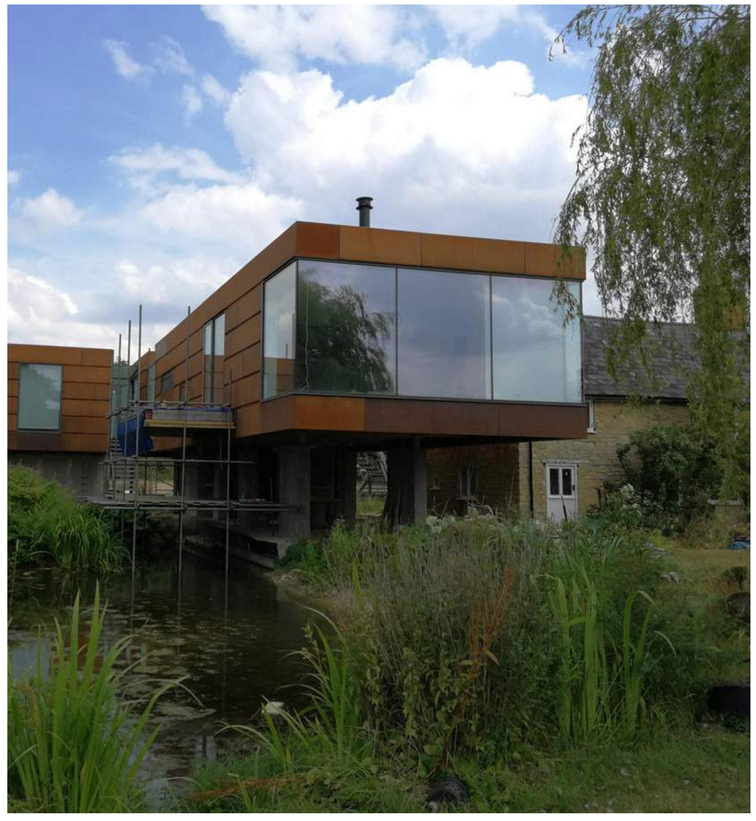
As you will have appointed all of your contractors individually, it is really important to keep them advised on how the project is progressing - as soon as you think there will be a delay you must inform them!

This is so that they can reorganise their other projects accordingly.

Keeping your trades happy will make your build easier, and will help the overall process run smoothly.

Creating a programme will seem scary, but work with your professional team, and liaise with all of your contractors.

The more people that are involved and informed about the programme, the easier it will be for everyone to stick by it - and remember, effective communication throughout the project (by all) will eliminate any potential for big problems!



Modern Eco Home, Suffolk

Choosing The Right Team

Work On Site, Biggar

Work In Progress, Worcestershire

When laying out the plans for a dream home, sometimes enthusiasm can get the better of Self Builders.

Giving in to temptation, and taking on the role of project manager, can sometimes hamper progress, and can have an impact on the overall costs if the Self Builder lacks the required experience. In assembling a team of qualified professionals to help with your Self Build, you can have direct input in the design and planning of your home, whilst benefitting from the diverse industry experiences your professionals have to offer.

You can still have an active involvement in the building of your own home, without the added time and stress that comes with taking on the project management entirely by yourself.

Initial Professional Help

As we've previously touched on, before starting your Self Build, having the right funds behind you is crucial.

Whether you have organised the sale of your existing home, obtained a Self Build Mortgage, or have savings behind you, seeking the help of financial professionals should be very near the top of the list.

Working out a budget is crucial before you even think about looking for land or starting designs. Once you know what you'll be able to afford, acquiring a plot of land comes next. Paying a land surveyor to assess the plots you like is recommended before buying.

This ensures that the land you're potentially buying is suitable, and has all of the necessary services connected - such as drainage, water and electricity.

Having the land surveyed by professionals can also help to confirm the boundaries of your Self Build plot.

Architects: Relationship First, Self Build After

Other than the financing of your Self Build, hiring the right architect is a hugely important aspect of your project. You want to be able to trust an architect with delivering designs that meet the needs of you and your family.

Approaching a specialist Self Build architect offers many advantages - and it is always worth remembering that the architect you choose will be part of your life for at least 18 months.

So how do you decide which architect to work with in the first place? And what can you do to get them on board?

Being an organized client is a sure way to get the right architect for your project.

Just as you would expect to trust your architect to work to your needs, it always helps when an architect finds a client they feel motivated to work hard for.

Before you hire an architect, you need to prepare a design brief for them to work with. Creating this brief is really important, and not taking time to consider it carefully can be detrimental to the success of the project.

The brief is an ever-evolving document, which first sets out a ‘wish list’ of priorities your dream home should include.

As a minimum, it should cover your design basics - such as the number of rooms required, or the architectural styles you like (or dislike!), for example. How you and your family live in your home is an important factor to keep in mind too.

For instance, do you come home from work and all congregate around a breakfast bar in the kitchen – with the kids completing homework whilst mum and dad cook dinner?

These types of scenarios are fundamental to thinking out your design brief criteria.

Consider how your Self Build will function as a family home, and what spaces need to be your priority.

Left: Rendered Image, Self Build in Craobh Haven
Right: Rendered Image, Self Build in Glenfarg

Example Client Scenarios

We've put together a mixture of some of the typical requests our Self Builders have asked us to provide over the years - think about what your priorities are, and be as detailed in the scenarios as possible:

1. Can we have a TV/PC screen in view for news, internet, etc.

2. Can we have a kitchen space allowing others to prepare a meal - e.g. a chef preparing food while we entertain guests?

3. BBQs - Can we have a sheltered seating area outside, fitted with a mains gas fire pit and BBQ - as well as access to storage for tables and chairs, garden toys/games?

4. Breakfast - Include a large breakfast bar for eating, preparing food, doing homework, etc.

5. Walking/biking - Where would we enter and leave dirty kit? How would we get clean, and clean the bikes and dogs?

6. Access to kitchen - Home with shopping: how easily can we get from the car to the kitchen?

7. Early morning rises - requires showering and dressing without disturbing my partner.

Can the en-suite and wardrobe be soundproofed, and be situated away from the bed?

"Creating this brief is really important, and not taking the time to consider it carefully can be detrimental to the success of the project!"

Allan Corfield, ACA

Left: Kitchen, Amor House, Gleneagles
Centre: Atrium, Amor House, Gleneagles
Right: Bathroom, Amor House, Gleneagles

It is also recommended you match the scale of your project with an Architectural practice with the required experience. For example, if your project has the potential to be a large-scale one, finding an architect with a good track record of bigger projects is sensible.

Then, consider the exact level of service you will require from your Self Build architect. You may be an architect yourself, or already have some drawings prepared, and are just looking for someone to lend a hand with project-management. As well as producing drawings and 3D models which give an image of the proposed dwelling, specialist Self Build architects are also capable of organising Planning Permission - which is a legal requirement.

Planning Permission is granted by your local authority, so despite being unable to guarantee that you obtain it for your plot, the experience of a specialist Self Build architect - who knows what the authorities might expect - will go a long way when submitting an application. Self Build architects are quite versatile with regards to the types of buildings they can design and project-manage. Whether it is a new build or a renovation, an extension, or an eco-friendly project, practices specialising in Self Builds have that extra bit of know-how when it comes to each individual stage of the build process.

What Are The Fees Like?

As a guide, the Royal Institute of British Architects suggests that a full service for a new build home is approx. 8% of the total construction cost (not your Self Build budget).

Top: BIMx Model, SIPs Self Build, Biggar
Bottom: Almost Completed Home, SIPs Self Build Biggar

However, you should look for a practice who offer a fixed rate, rather than variable %.

For example, unlike most architectural practices operating on a percentage of construction cost, ACA's fee proposal is based on a fixed and itemised cost – meaning the Self Builder knows from the beginning how much to expect to pay at particular stages of the project, and can therefore budget accordingly.

Keeping an eye on the budget is difficult, so hiring an architect who gives you the numbers upfront can really make a difference.

Later in this guide we will give you an example of the relevant fees for your project.

Appointing Your Architect - Officially!

If you can find an architect who takes an interest in your ideas, and shows that they want to learn more about your lifestyle, the better your chances will be of achieving your Self Build just the way you dreamed.

By selecting to hire a Royal Institute of British Architects (RIBA) chartered practice, the management of your Self Build project will be in very safe hands.

Complying with strict criteria, RIBA chartered practices ensure that insurance, health and safety, and quality management systems are factored into the services they provide. It is also widely suggested that Self Builders form a shortlist of these firms before approaching with their design plans.

Amor House, Gleneagles

The RIBA offer their own ‘Find an Architect’ service, which is a useful tool for shortlisting local chartered architects in your area.

When appointing an architect, or any professional for that matter, it is important that the agreement to work together is confirmed in writing.

There are several ways to do this, but the most formal approach is for the architect to provide a RIBA Standard Agreement Contract.

This is filled out by the architect and the client, and forms a legally-binding contract.

The other widely-used method is via an exchange of letters. The architect would provide the client with a letter of intent – or ‘fee proposal’ – which the client then agrees to in writing.

Both of these methods form a contract as they confirm the main areas required as follows:

1. Who the contract is between

2. What it is specifically for

3. A time period for the service to be completed

4. The cost of the service

However you decide to appoint your professionals, it must be in writing!

By hiring a specialist Self Build architect, your project can benefit from the expertise of someone who is used to working with one-off homes, and is experienced in the different stages involved. From applying for Planning Permission, to creating the initial designs - and from engaging with subcontractors to working to your budget - a Self Build architect has a breadth of experience to guide the Self Builder through their project.

These architects can add that crucial personal touch to your project designs, planning a bespoke home that is tailored to all of your requirements.

But What If It All Goes Wrong?

If your choice of architect isn’t the right one, then make a change!

All too often the relationship between architect and client becomes a very close one, and the client might not wish to take the required action if the project is not working out.

There are a number of things to consider if it gets to a point where you can no longer work together:

- Have you or the architect met the obligations of the project?
- Have you advised the architect (on more than one occasion) that you are unhappy with the service they have been providing?
- Have you given the architect a chance to resolve the situation?

At ACA, we would always suggest speaking to your architect face-to-face, to try and iron out any issues before taking steps to dissolve the relationship.

If all else fails, the next step might be to ask advice from the RIBA, RIAS, or ARB, to review whether you have grounds for terminating the contract, as it is a legal agreement.

After this, if it is found that you do indeed have grounds for terminating the contract, again you should put this in writing.

If emailing, always ask for a response, and if sending a hardcopy, use recorded delivery for posting.

Who Else Do I Need On Board?

After finding the right architect, next on the list is a structural engineer. As the Institution of Structural Engineers explains, structural engineers are involved at every stage of a structure's realisation, and they play a key part in design and construction teams.

These engineers use structural analysis to understand the effects of loads and stresses caused by gravity, the users of the structure, and the widely varying climatic conditions and ground conditions around the world. Choosing appropriate materials for the structure is also an important feature of the structural engineer's work.

Throughout a Self Build project, they are usually called upon at the detailed design stage, and are required for the Building Warrant approval.

Your engineer will also check the ground conditions of your proposed site, which will define the foundation design.

If the site is remote and not serviced by main drains, they will need to assess the porosity of

"Communication is really vital, and developing a good working relationship between all parties from the offset can make a huge difference."

Darryl Bailie, Future Space Structural Consultants Ltd

As a rough guide, a Structural Engineer will charge between 0.8 and 1.2% of the total build cost.

Below: BIMx Images, Various ACA Designs

Top: Before SIPs Panels Go Up

“Once the right professionals are in place, you can take a more relaxed position, and can enjoy the experience of having your own home built for you.”

Allan Corfield, ACA

the ground – determining issues such as whether surface water can drain into a soakaway, for example.

The only other main consultant that would be required is an energy consultant for a Standard Assessment Procedure (SAP).

These professionals work with the architect to score the energy performance of your proposed home.

They take all of the construction elements, from the wall build-up to floor make-up, add this to the location and heating sources, and work out the building’s overall performance.

This information is used to estimate the heating demand and costs for the proposed building, and is included in the Energy Performance Certificate (EPC).

The EPC is required by law and must be completed in draft format before construction, as well as upon completion.

If possible, look to hire an architects firm who offer this service ‘in house’, this will cut down the wasted time going from company to company.

Whether it is you, your architect, or a separate project manager running the Self Build management, a builder will need appointing at some stage.

If you hire a main contractor, these professionals effectively project-manage the build process for you – which again means one less procedure for you to worry about.

Keep in mind that this is not Self Building!

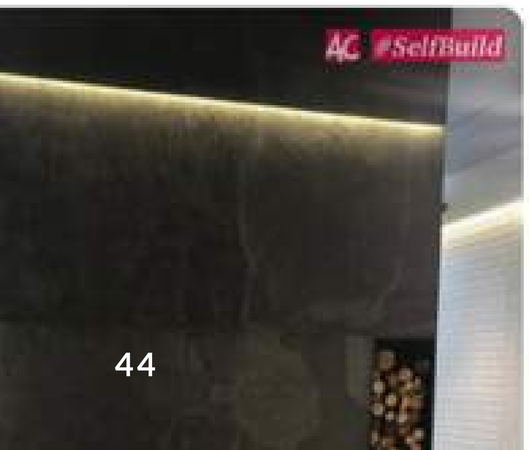
Hiring separate builders for different stages of the Self Build will work out cheaper, however, there are no guarantees the build quality will be consistent.

Seeking professional help in the management and building of your Self Build project can save you a lot of time, stress and money – as you have more chance of things being done correctly the first time of asking.

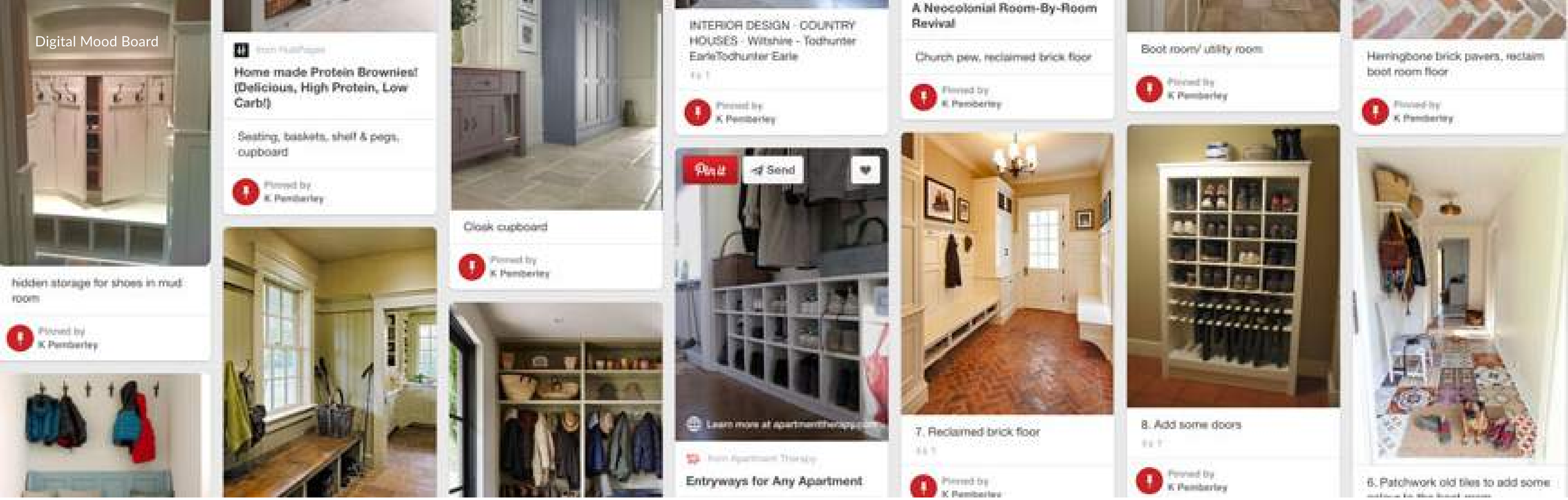
The part you play is in building a team of professionals you can trust to run your project the way you want.

Master Bedroom, Amor House, Gleneagles

Design:
A Case Study



Digital Mood Board



Generating ideas for your dream home can be the easiest part of the Self Build process - one of the trickiest, however, is getting those ideas down on paper as designs. So how do you communicate your inspiration to your new architect or designer?

Traditionally, Self Builders might opt for a 'mood board'; this is typically a collection of pictures, or scraps and samples of materials, which represent the Self Builder's tastes in architectural and interior styles.

The mood board can give architects an insight into the Self Builder's interests, and the kinds of styles they might want included in the design of their home.

What we've found, though, is that Self Builders tend to have a lot of ideas; it can be a bit cumbersome lugging a suitcase of samples and scrapbooks around when you want to discuss your ideas with your architect!

At ACA, we've been encouraging our Self Builders to think outside of the box - or board - and collaborate with us in a more efficient way. Using sites such as Pinterest, mood boards can now be created digitally, and accessed remotely by everyone who needs to see them. It has taken a while to get going, but now a few of our clients are really getting the hang of it.

It's easier for them to find inspiration, and it's easier for our architects to access the sources as designs are being put together.

One of our clients, Kay Austin, used Pinterest to create a digital mood board for her Self Build project, and she really enjoyed the experience:

Before using Pinterest, had you used a traditional mood board for conveying the styles and designs you liked?

"When we moved into our previous, Edwardian home, we undertook a great deal of renovation.

This was in the dim and distant past, when 'web' had more to do with spiders than a means of communication and education.

My mood board for the house consisted of scrap books with images pulled from interior magazines and builders catalogues, paint cards from DIY stores, fabric swatches from department stores, and a small A5 ruled notebook - 'the bible'.

I still have 'the bible' which is now held together with an elastic band. It is bulging with notes on the finished rooms as we progressed round the house

during the initial restoration, followed-up by subsequent rounds of redecoration and changes over the years."

How has Pinterest made it easier for you to communicate your inspiration to ACA?

"I discovered Pinterest through magazines, and I became immediately hooked. I have worked in the art world over a number of years, and visual images are my main form of inspiration.

The joy of Pinterest is that it allows you to find images which reflect your desires.

My Pinterest boards had been separated into various headings - all under the label Ideal Home - so that our architect at ACA could access them, and appreciate what we are trying to achieve in all areas.

This included exterior styling - including an element of garden design, interior detail for ceilings, architraves, windows and mouldings - right down to lovely little details which would be good to have, but maybe not possible to achieve.

The point of these Pinterest boards was to communicate to ACA the accessibility and warmth we hoped to achieve in our home.

I did worry that our dream might be a little too traditional for a modern SIPs build, and a young firm of architects, but they appeared to be right behind us!"

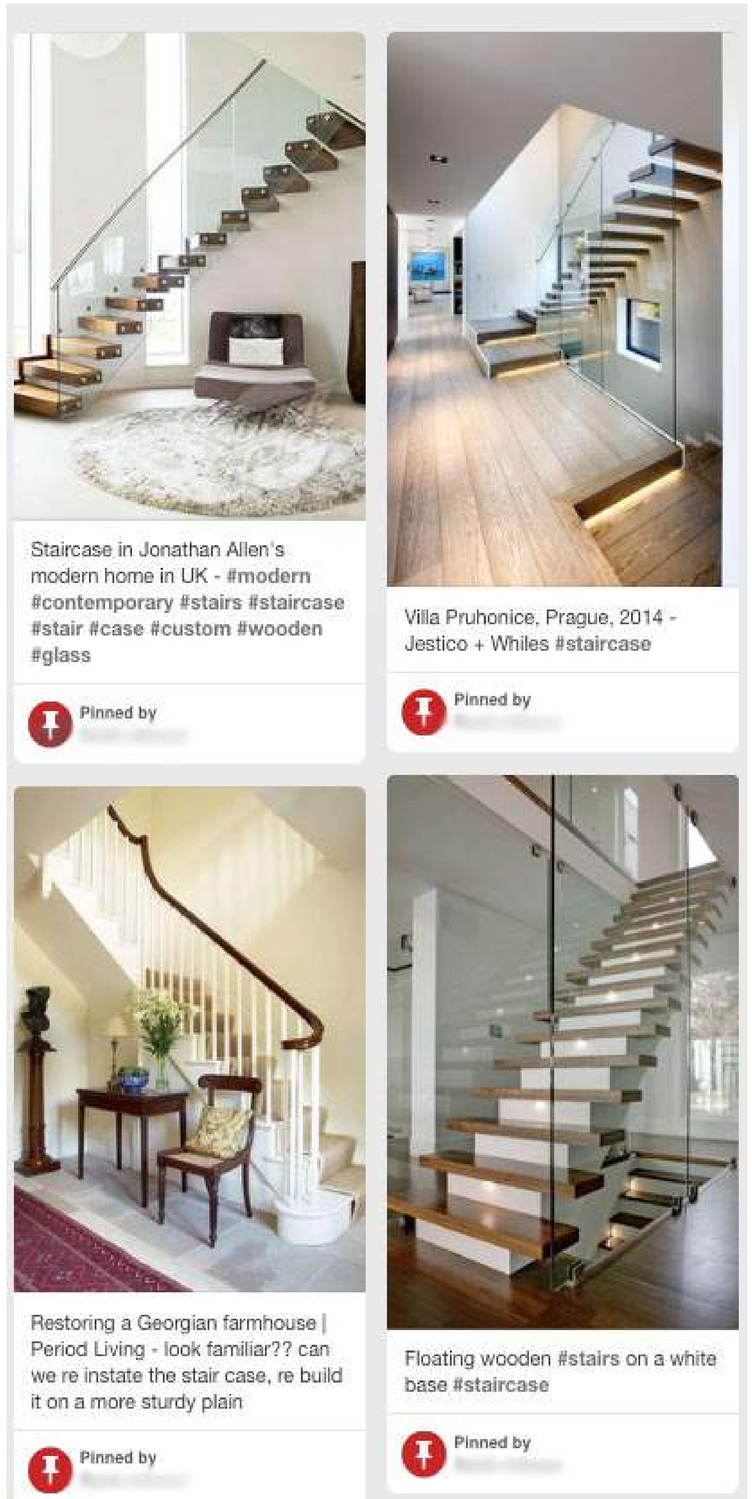
What are the benefits of using Pinterest, and would you encourage other Self Builders to use Pinterest as a digital mood board?

"I would not only encourage others to use Pinterest, but I would say it is a necessity!

It is much easier to share your ideas with a relevant image in front of you, than any amount of rough drawings or waving of hands can express.

ACA's Top Tips for Using Pinterest:

1. **Make a separate Board for each area- e.g. 'External Finishes', 'Stair Ideas', 'Kitchens & Bathrooms.**
2. **Add a note to describe what you like and why you like it.**
3. **Add a 'dislike' board for anything you really don't like.**
4. **Share the board with the design team!**



Top: Mood Boards, ACA's Pinterest
Left: Contemporary Style Self Build, Lundin Links

Communication with your partner is less tense, and trying to explain "I want one of those pointy bits above the window" to your architect is a doddle when you can share your Pinterest board named 'Window Pediment'."

The Architect's View

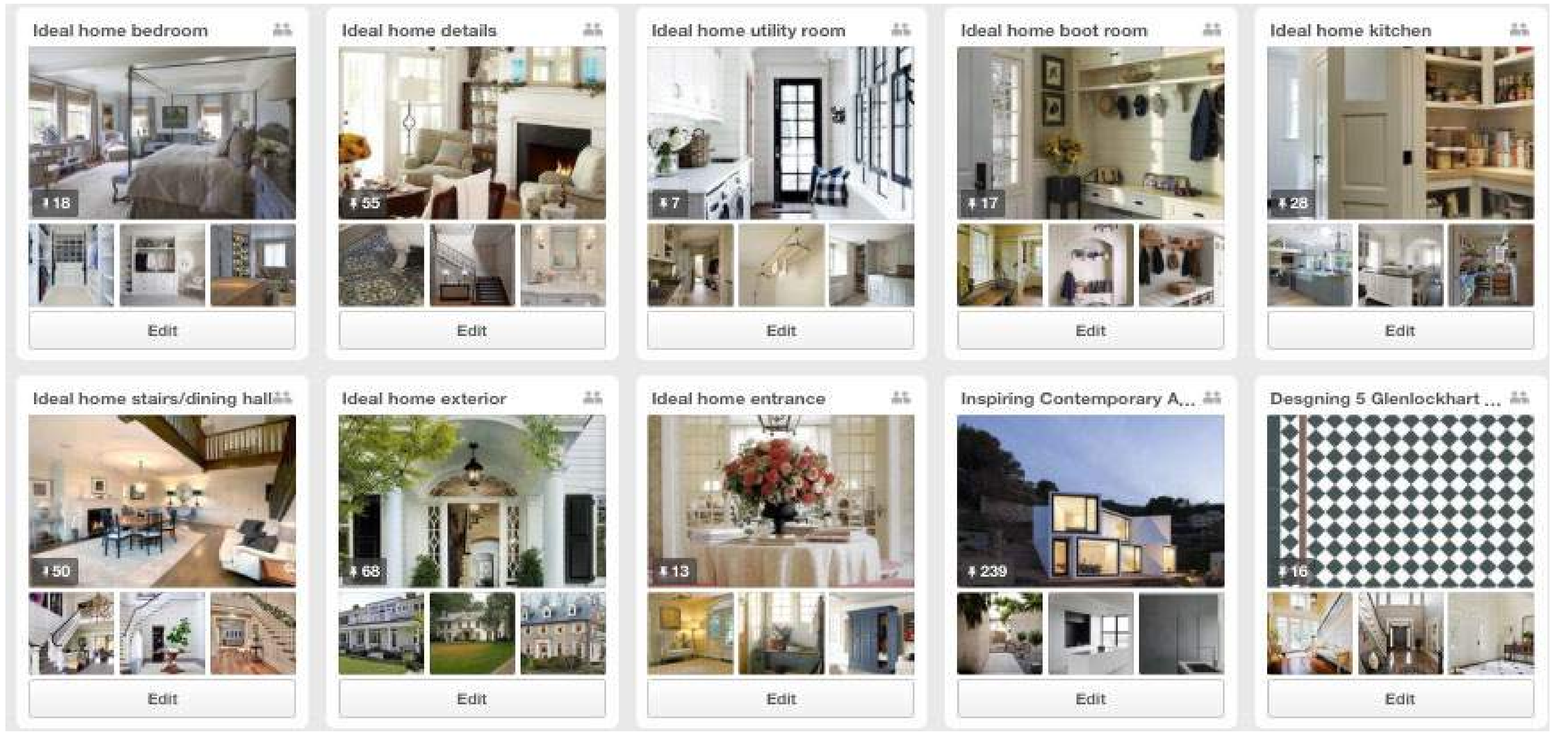
From Kay's point of view as a client, Pinterest is a great tool for expressing creativity. What's it like from our architects' side though? Our architect worked on Kay's designs, and had access to the Pinterest mood board.

They believe Pinterest can play a key role in architectural design, as it challenges the architect to interpret images and look for the 'mood' within the images selected by the client:

"As Pinterest is mainly an image-based website, it's much easier to visualise our client's ideas with digital images, than through words, or hand-drawn sketches.

The exciting challenge lies in the interpretation of the chosen images; finding the specific 'mood' means reading beyond the pictures, and designing something original from a concept - instead of just imitating the design style.

The best aspect of Pinterest is the sheer number of images available. It's really user-friendly, and the search functions are great. I would encourage clients to use Pinterest for creating mood boards - it's free and is a lot easier and quicker to put a mood board together. No more cutting and pasting from magazines!"



Top: Fabric First Self Build, Bedfordshire
Right: Mood Boards, ACA's Pinterest

Rendered Image,
Modern Eco Self Build, Burntisland

Finished Project,
Modern Eco Self Build, Burntisland

Design:
Construction Styles

Log Home Construction, Ratho

Once you've set out your design brief with an architect, the construction method you select for your Self Build will have a strong influence on many other aspects of the project. It can affect the speed of the build, the overall costs, as well as the energy efficiency.

There are many construction methods to choose from, and picking the right one for you will depend on your finances, planning permission, and design criteria. Here, we try to give you a broader understanding of which construction methods are available.

Brick and Block

One of the most popular construction methods in the UK, Brick and Block consists of a traditional-looking outer layer of brick, with an inner structure of concrete block.

The cavity between the two layers is then filled with your preferred insulation – making the Brick and Block method a safe way of ensuring Self Build homes have very strong walls with sufficient thermal and excellent sound-proofing qualities.

The airtightness of Brick and Block has been questioned in recent times, with Timber Frame and Structural Insulated Panel methods proving stronger performers.

With the Government backing a significant increase in the airtightness of homes, special tapes and membranes have been developed to ensure Brick and Block's popularity is supported by its efficiency as an airtight construction method.

Many Self Builders buy their bricks in installments as and when they are needed, which is particularly useful when dealing with a Self Build mortgage issued in stages.

These lower initial costs contribute to Brick and Block's continual popularity.

Built completely on site, the Brick and Block construction method is a much slower build process than the likes of a Timber Frame or a Structural Insulated Panel route, however, there is less of a delay in acquiring the materials and having them on site.

SIPs Low Energy Home Construction, Glenfarg

As Brick and Block is a traditional construction method, local tradesmen with the required experience are readily available, and Self Builders keen to get stuck in can help with bricklaying after a small amount of training.

Pros: Cost Effective

Cons: Slow Build Time, Poorer Airtightness Levels and skill shortage across UK.

Top: Brick Home

Timber Frame

Prefabricated off-site in your choice of style, the Timber Frame construction method has a quicker on-site build time than the Brick and Block process.

The Timber Frame acts as a superstructure, which supports your Self Build home entirely.

Removing the need for any internal load-bearing walls, the Timber Frame is ideal for Self Builders keen to fulfil any open plan designs.

In the UK, many of the timber-framed homes are built using either Open or Closed Panel Systems.

'Open Panels' consist of a softwood stud frame which is backed with a layer of sheeted timber.

The panels are manufactured following the house design specifications, before being delivered to the site and fixed together to form the structure of the house.

'Closed Panels' are similar, but are taken a step further in the factory prefabrication process.

Insulation and vapour barriers are added, with plasterboard fixed to the frame in order to 'close' the panel.

Timber Frame homes are star performers when it comes to high thermal insulation, airtightness, and soundproofing.

In addition to this, the lightweight frame means foundation specification can be reduced.

The insulation options differ depending on the infill method you choose for your Self Build home.

Pros: Cost Effective, Quick Build Time

Cons: Not as good as Closed Panel Systems for Airtightness

Top: Timber Frame Home

Structural Insulated Panels (SIPs)

One of the most cost-effective and energy-efficient construction methods for Self Builders is the Structural Insulated Panels system.

As SIPs Industries explain, these panels are made as a composite through layering a rigid insulating material between outer boards. The most common materials in SIPs manufacturing are Oriented Strand Board (OSB) with a core of Expanded Polystyrene (EPS), although a range of other materials can also be used.

Whether opting for a traditional oak frame with SIPs as your infill choice, or if you decide to use SIPs as your construction method from the beginning, the benefits of selecting Structural Insulated Panels include a sturdy, airtight structure for your home, with excellent levels of insulation already built in.

These highly insulated wall and roof panels are now typically 217mm thick, offering a U-Value of 0.13.

The SIPs method has a significantly higher upfront cost, but due to such energy-saving properties, your Self Build home can benefit from greatly reduced energy bills in the future.

In a similar fashion to a Timber Frame, SIPs are prefabricated off site in a factory.

Although lead times may be significantly longer than traditional methods such as Brick and Block, the SIPs construction method makes up for this through its speedy 10 to 12 days on-site assembly – reducing labour costs considerably.

SIPs offer benefits to the design of your Self Build home, as roofs can span 4.8m without any additional support – meaning large, open spaces can be achieved.

As well as this, there is no need for any roof trusses – allowing vaulted ceiling features to be added into designs at no extra cost.

As a widely popular method of construction, Building Control and Mortgage companies acknowledge the Structural Insulated Panels system.

Pros: Excellent U-Value & Airtightness, Quick Build Time

Cons: 5-10% More Expensive than a Timber Frame Equivalent

Top: SIPs panels

Insulated Concrete Formwork (ICF)

An alternative construction method to using timber or brick is Insulated Concrete Formwork (ICF).

First used in Germany during the 1970s, ICF has been a successful construction method all over the world, in a variety of climates.

This is a highly versatile method, and also provides exceptional built-in insulation to the structure of your Self Build.

ICF consists of hollow polystyrene blocks, interlocking together to create a mould into which ready-mixed concrete is poured. This ultra-fast build method allows more adventurous designs to be achieved, whilst tackling the insulation at the same time.

Curved structures can be easily formed using ICF, and suppliers tend to offer some training to the Self Builder, so that they can get very hands-on and help with the building work.

Despite costing around 5% more than the traditional Brick and Block method, Insulated Concrete Formwork constructions can be erected in a matter of days.

This makes labour costs considerably lower – and with the insulation incorporated into the structure, ICF can save a great amount of onsite build time.

However, the concrete mix and pour is the crucial stage of this construction method, and finding experienced ICF builders locally is not the easiest process. With superior airtightness levels to traditional construction

methods, ICF is a great system when aspiring to meet Passivhaus standards.

It provides excellent protection from fire, and is even able to withstand flood damage effectively.

ICF walls require very little maintenance, and are unaffected by rot, vermin and termites.

Recognised by the Council of Mortgage Lenders as a standard form of construction, ICF is also accepted by major warranty providers – such as NHBC.

Pros: Excellent U-Value & Airtightness, Quick Build Time

Cons: Specialist Installation, Very Expensive to Correct if Damaged During Construction

Cross Laminated Timber (CLT)

CLT is one of the most energy-efficient building materials, and although there are several award-winning Self Builds in Britain that feature CLT, the growth of Self Builders using this solution in the UK is markedly slow.

CLT is renowned for its low carbon footprint, strength-to-weight ratio, speed and ease of construction, which in theory provides a very tempting alternative for Self Builders aiming for a quick and low energy construction.

The accuracy achieved in the design of the panels is one of the main advantages of CLT, which in turn improves the level of airtightness and thermal performance.

Top: Insulated Concrete Formwork Pour
Below: Cross Laminated Timber Home Build

CLT is a very eco-friendly construction method from a managed sustainable source, providing a positive CO2 balance.

Building a house using CLT is quick, clean, and the panels are easy to assemble on site. A detached CLT three-bedroom house can be built in five to eight days.

The main problem with CLT is that there are currently no CLT manufacturers in the UK.

This means that if you want to build your house with this material, you need to import it from Europe (the majority of CLT manufacturers are based in Austria).

This will result in increased costs for the transportation of the materials.

However, many of the CLT producers own or cooperate with British installers who provide CLT related services.

As with any factory manufactured method, the Self Builder will need to ensure that the site can provide sufficient access for an articulated lorry and mobile crane.

Once the CLT superstructure has been installed, another company will need to be employed to fix the external insulation of the house.

Pros: Excellent U-Value & Airtightness, Quick Build Time

Cons: Very Expensive to Correct if Damaged During Construction, Not good for tight sites

Log Homes

A slightly rarer – but intriguing – construction method is the Log Home.

Timber logs have been a popular method of building homes in the likes of Canada, America and Scandinavia for many years – but here in the UK, our log buildings are usually smaller-scale holiday homes in the form of lodges or cabins.

As a building style, log homes tend to be more expensive than using traditional construction methods, but, if designed and built properly, the result can be simply stunning.

Depending on the system selected when building a log home, there can often be scope for hand-crafted aspects of the building.

The unique elements brought to the project by your selected craftsmen can really add something special to your home's design.

ACA's own Log Home specialist, **Robin Gray**, advises you spend some time thinking about which construction system you think will benefit your log home design.

If you opt to use full logs, as opposed to standard milled or engineered logs, your project might take longer and could incur higher labour costs.

Robin also points out that local planning authorities tend to look favourably on log homes, due to the use of very sustainable materials.

As long as you take time to educate Building Control about the special requirements of log homes, most departments are co-operative, and genuinely interested in log home projects.

Pros: Individual Style & Amazing Carpetry

Cons: Slow Build Time & Can Be Very Expensive

"By building a log home, you are opting to build a house that will last a very, very long time."

Robin Gray, ACA

Bottom: Log Home, Ratho

Atrium, Amor House, Gleneagles

Design:
Fabric First Approach

Eco Houses, Cannock

There is a set of basic design principles (or rules) you must follow in order to achieve a Fabric First design.

At the heart of your Self Build design will be a highly insulated building envelope with limited cold bridges and high specification windows and doors.

You need to use airtight membranes and tapes in order to limit the air leakage from your building at all construction junctions.

When you create an airtight home you must install an MVHR system, this will provide fresh heated air throughout the home.

In order to maximise the sun's natural solar gains, you have to make sure that the house's design and orientation make the best use of the site.

Finally, and only once you have got the fabric bit right, you start looking at the renewable heating options, which we will look at in the next section.

The Key Elements of the Fabric First Approach

CONSTRUCTION TYPE

There are many different construction types that will provide an airtight, low-energy house, but there are some construction methods that achieve it in a simpler, more cost-effective way.

You need to choose a construction type which is naturally airtight, highly insulated and ideally produced in a factory environment rather than on site.

We recommend you choose one of the following types, all can easily achieve a u-value of 0.10 to 0.15 W/m2k:

- Timber frame – although it is a traditional construction method, it is cost-effective and can be easily used to achieve a low energy house. It is advised to add extra airtightness membranes and external insulation.
- SIPs – is a rigid system with insulation bonded to OSB. This is a very airtight product.
- ICF – is a really good product for achieving an airtight low-energy house. When using ICF you create a large area of thermal mass.

The thermal mass in ICF will effectively store the heat during the day and then release it throughout the night. Material with low thermal mass will just transfer heat, instead of storing it.

If you use timber frame or SIPs, you can compensate for this lack of mass by using the concrete floor slab.

If you design your building correctly to the Fabric First principles, you may only need to heat the ground floor, with no heating required on the first floor.

AIRTIGHTNESS

Firstly, let us put to rest one common misconception with Airtight homes. Many people think: 'I have got an air-tight house, so I must close my windows and doors all the time' – this is not true!

Modern Eco Home, Edinburgh

Top: Low Energy Home, Edinburgh

In a passive house, the method of ventilation in summer is purge ventilation i.e. opening your windows or doors.

In order to increase airtightness, we advise that you tape the junctions of the panels on the external walls. Also, tape around the windows and door reveals.

Then, you can wrap the whole building in an airtight membrane (increasing the airtightness of a timber frame construction type). It is important to communicate to all the workers on your site, that if they need to make a hole in the building, they need to advise you so that you can seal it.

Remember, that the squidgy foam used around the windows has no airtightness, so those areas have to be taped with the correct products.

LIMIT COLD BRIDGING

Cold bridges or thermal bridges are areas where construction elements have direct contact from the inside to the outside, for example, a timber batten in an external wall. These elements are usually poorer performing elements and can create heat transfer through the building.

So, if you want to have an energy-efficient house, you need to eliminate or reduce cold bridging as much as you can.

One easy way to reduce this is to go from Timber frame construction to SIPs, as the SIPs construction has twice as few poor performing timber battens (timber batten centres are generally 600mm and SIPs are 1200mm).

In order to achieve a design where thermal bridges are limited, your architect will need to detail all of the major construction elements.

VENTILATION STRATEGY

If you want to create an airtight house you have to manage the ventilation, you cannot just rely on the old fashioned trickle vents.

Traditionally, windows have little holes with plastic covers in the top frame. We open and close

Bottom: An Airtight and Well-Insulated House

Top: High Specs Glazing

them in order to bring cold air into our house. It is impossible to precisely manage this process.

However, with a heat recovery system, you can manage and control the amount of heated air which is moved around the house.

It allows you to recirculate the air up to 10 times more than through trickle ventilators, which means much cleaner air in your Self Build home.

Mechanical Ventilation with Heat Recovery (MVHR) system is usually recommended when you are planning to build a low-energy home, but it is important to make sure that you have appointed a professional to install and commission it.

SOLAR GAIN

The next crucial part of designing a low-energy house is solar gain. It is important to correctly orientate the building, ensuring there are large openings on the southerly windows, with smaller openings on the north side.

It may not be practical to design all your views to the south, but you need to have a trade-off between how energy efficient you want to be and making the most of your views.

We would also recommend you to consider the accommodation of shading or brise soleil as even the UK can experience overheating during the summer.

Over the last few years, there have been incredible developments in glazing – with increasingly wider use of triple glazed units.

Due to its increased density, triple glazing can help reduce noise and can regulate solar gain, whilst increasing thermal comfort.

However, triple glazing is still approximately 10-15% more expensive than a double glazed window.

Unless specifically needed – as in a Passivhaus design (see our service section), for example – stick with high-performance Argon or Krypton filled double glazing units. These give the best trade-off between cost and performance.

If you follow all the stages of the Fabric First approach to your Self Build, you will achieve a low-energy home for a reasonable cost.

And if everything is applied correctly, your effort and investments will payback in low energy bills and the satisfaction that your home is good for the environment.

Right: Modern Eco Home, Perthshire

Modern Replacement Dwelling, Edinburgh

Heating Strategy & Renewables

Solar PV Before Installation

Low Energy Self Build Home, Edinburgh

No matter what system you choose, we suggest that from the outset you include a Plant Room in the design.

This dedicated room can house the controls from your heat source, hot water cylinders and an MVHR unit. It is also a good idea to extract your heat recovery from this room – as it will become quite hot!

If you follow our advice on creating a Fabric first home (previous chapter) then you may only need a heat source of around 5kW. Also, you will only need to heat the ground floor, as the heat will rise in your airtight home.

Solar Photovoltaic Panels (PV)

Solar Photovoltaic systems are the most common form of renewable energy systems. They convert sunlight into energy. If you want to gather all the energy for your home from PV, you will need to install storage batteries.

The installation of a PV system is cheaper than it was previously, but the Feed-in-Tariff (FiT) payment is not as attractive as it used to be.

Installation of PV is a good option if you plan your lifestyle and energy consumption to maximise the use of generated electricity.

We have outlined below our recommended set up for our average Self Builder:

Heat Source – if you have mains gas, then use a small boiler. If not, either an Air or Ground Source Heat pump. With any of the space heating options, Solar Thermal panels can be added to provide a renewable hot water source.

Emitter – wet underfloor heating system, ground floor only and towel radiators in the wet rooms.

Ventilation – MVHR system, with a pre/post heating element and summer bypass function.

Power – connect to the grid if you can and integrate 2-4kw of PV roof mounted panels. Battery storage is becoming more cost effective and usable, given the emergence of electric cars.

Secondary Heat Source – if you are considering putting a solid fuel stove in, then make sure it is room sealed (vents externally) and is controllable. The heat output can't be any more than 5kw (or you will need to open the window to use it).

Solar PV Costs

For a 4kW unit, you will need spend around:

1. **£6,000-£7,000 for the installed cost of on-roof panels.**
2. **£7,000-£8,000 for in-roof panels.**
3. **£8,000-£11,000 for more discreet slate-type individual panel systems.**
4. **The inverter unit will need to be replaced after 10+ years (£600-£1,000).**

Solar PV require fairly low maintenance and planning consent is not usually needed. Solar arrays need to be south-facing, on the correct angle and free from shadows in order to provide the optimal efficiency.

With the solar panels installed, you will be able to save on average about £500-£600 per year.

Bottom: Solar PV

This means that it would pay back the £6,000 installation cost within the first 10-12 years.

You could therefore enjoy 8-10 years of free energy with profit.

Heat Pump

Another way to heat your home, whilst making the most of natural energy, is through the use of a heat pump.

This system is most easily described as a fridge in reverse. The heat pump uses the refrigeration cycle to move heat from the air or the ground, which can then be used to heat your home.

There are two main types of heat pump technology:

- Air Source Heat Pump – the unit extracts heat from the air, and runs it through a heat exchange. The appearance is similar to an external air conditioning unit.
- Ground Source Heat Pump – the unit extracts latent heat from buried ground collectors, such as coils installed in trenches in your garden. If your garden space is limited, boreholes can be drilled vertically into the ground.

Air source heat pumps are reasonably straightforward to install, making them cheaper than the ground option. Ground source systems require either a large amount of space in the garden to install the coils within the ground, or a number of boreholes drilled into the garden. However, lasting around 25 years, these energy efficient heat pumps require almost no maintenance. They can also operate in summer to cool your home down as well.

When installing heat pumps, you will need a supplementary heat source, ideally this would be a solar thermal array or an immersion heater running on dual-tariff electricity.

Heat Pump Costs

The cost of installing an air source heat pump is about £5,000 as the base plus £500 per kilowatt.

For a Ground Source Heat Pump, you will need to pay between £1,500-£2,000 per kilowatt.

Bottom: Air Source Heat Pump

These would be the most economical solutions. You can seek energy consultation to ensure that your heat pump will be sized correctly to your house.

Biomass Heating

Biomass heating is the combustion of grown products. Usually wood based pellets, logs, and woodchips.

Wood pellets are clean and easy to use but expensive. Logs are cheap, but require more effort and are messy. Woodchips are used in very big boilers (over 50kW) and need a lot of space.

Both pellet and log devices are available as boilers or stoves with back boilers. However, only pellet machines work as a principal heat source. This is because pellets have a standard calorific value and are continuously added to the burner. This lets you to maintain the same level of heat output.

With logs, the situation is different as you throw them into the boiler, the heat output varies depending on the quality and quantity of logs in the stove.

A gasifying log batch boiler will work sufficiently as a principal heat source, but they still require logs to be loaded manually.

Wood pellet boilers are automated, but come with a higher price. Biomass boilers have quite a long life of over 20 years. This heating solution is good for larger homes with a higher heat demand, where your renewable incentive payments will be higher than the cost of buying and installing a boiler.

Biomass boilers also require more room than a conventional boiler.

Biomass Costs

Log batch boilers cost around £5,000-£10,000 depending on the quality and capacity. The cost may also depend on the capacity and quality of thermal stores and the complexity of the integration of the system.

Pellet boilers cost around £6,000-£12,000 depending on the boiler's quality and the complexity of the flue and pellet store.

Top: Biomass Boiler

Solar Thermal

Solar thermal systems use the heat from the sun to heat the hot water. They are powerful, effective and relatively cheap.

There are two types of solar thermal systems:

- Solar Evacuated Tubes – these are more expensive but are slightly more efficient.

- Flat Plate Systems – these are the cheaper option and if the roof is close to due south then flat plate can be as good as evacuated tubes.

These systems, in most cases, do not contribute to the central heating, as there is less solar resource during the heating season.

Solar thermal systems don't work with most combi boilers as they need a large hot water storage tank to store the energy produced.

Solar Thermal Costs

You should expect to pay about £5,000 for a two-panel flat plate system and about £1,000 more for a similar capacity evacuated tube system.

Bottom: Solar Thermal Panels

You don't need to get planning consent for their installation unless, your house is in a conservation area or near listed buildings.

Wind Turbine

The next method of renewables converts the wind's kinetic energy into mechanical energy.

Although it is not as popular as Solar PV or Heat pumps, a small 1kW-2kW wind turbine combined with battery storage (like Sunamp or Tesla) may be a viable option for some Self Builders.

Wind turbines won't be effective until the annual average wind speed is over 5 metres per second (m/s).

To install a turbine, you will probably have to get planning consent for a turbine larger than 1kW, and it will have to be situated away from buildings, trees and cannot cause offence to your neighbours, listed buildings or national parks.

Additionally, in some areas you will have to perform bird or bat survey or an environmental impact assessment.

Wind Turbine Costs

1kW wind turbine will cost you about £1,000 pounds, 2KW double the price.

However, if you want to install a 5kW system, the price will go up to around £30,000-£40,000 as you will have to get planning permission and site preparation and installation will be more complicated.

Top: Wind Turbine

Hydro Power

For those Self Builders who are lucky enough to have their plot close to a stream or a river, there is a unique opportunity to use micro hydro technology in order to generate power.

This is the most efficient renewable technology, and a hydro turbine of just 500W is able to provide power for an energy-efficient home.

A hydro turbine can have a useful lifespan of up to 40-50 years and requires little annual maintenance.

There are two important factors that determine the effectiveness of this method, and it depends on the water stream on your plot.

The first is 'head' – the vertical distance between the highest and lowest points of the streams.

The streams that have lower head schemes (less than 5 meters) are often uneconomic as they are less productive and more expensive.

The second factor is 'flow' – which is the amount of water passing a point, measured in litres per second.

It is good to remember, even streams with a really high head need to have a good flow rate to be effective. This can be established by conducting a site survey.

Hydro Power Costs

Each scheme design is tailored to the specific stream and price may vary hugely.

Top: Hydro Turbine

Photovoltaic Thermal (PVT)

PVT is a combination of Solar Photovoltaic and Solar Thermal technologies.

It is similar to standard PV array but produces both electricity and hot water.

Extracting the heat makes the PV element more efficient, which in turn increases electricity production.

As with PV, arrays need to be south-facing, on the correct angle and free from shadows.

However, PVT is no longer eligible for Feed-in Tariffs or Renewable Heat Incentive payments.

Therefore, this solution will work for people who want to invest in minimising long-term running costs by producing as much energy as possible on site, at the lowest possible unit cost.

Photovoltaic Thermal Costs

The unit will cost between 1.5-2 times more than an equivalent rated solar PV system.

Right: Self Build Eco Home, Northumberland
Bottom: Photovoltaic Thermal

CDM 2015
& Your Project

Low Energy Self Build, Perth and Kinross

When carrying out your Self Build research you may have come across the CDM 2015 regulations and probably found out that you can't ignore this.

Construction Design Management (CDM) Regulations were released in 2015 by the Health and Safety Executive (HSE) of the British Government.

Its aim was to improve health and safety in the built environment and to protect all those involved in building projects.

If you are designing your dream home, extension or any kind of building for that matter, your Architect/ Designer/Builder should be talking to you about CDM 2015 as a matter of importance.

Health and safety applies to your existing site conditions and buildings, the planning of your proposed design, its erection on site, its maintenance once completed and perhaps even its deconstruction. How will you keep yourself and those who work for you safe and healthy on your project?

Who is responsible?

The CDM 2015 regulations place responsibility for managing the health and safety of a construction project on three main duty holders.

The **client** has overall responsibility for the successful management of the project and is supported by the **principal designer** and **principal contractor** in different phases of the project.

The principal designer and principal contractor have an important role in co-ordinating health and safety. All three duty holders must have good working relationships from the outset if the project is to be delivered safely and without harm to health.

The client ensures that the construction project is set up so that it is carried out from start to finish in a way that adequately controls the risks to the health and safety of those who may be affected. There are two types of clients:

Commercial clients have construction work carried out as part of their business. This could be an individual, partnership or company and includes property developers and companies managing domestic properties.

Domestic clients have construction work carried out for them but not in connection with any business. Usually the work is done on their own home or the home of a family member.

The Principal Designer (Regulation 11) plans, manages and monitors health and safety in the pre-construction phase of a project.

The role extends to the construction phase through the principal designer's duties to liaise with the principal contractor.

Guidance on this stipulates that the principal designer must have the relevant technical knowledge of the construction industry, along with the skills, knowledge and experience to understand, manage and coordinate the pre-construction phase, including any design work carried out after the construction begins etc.

The Principal Contractor (Regulation 13) plans, manages and monitors the construction phase of a project. This involves liaising with the client and

Bottom: Self Build Under Construction, Perth and Kinross

principal designer throughout the project, including during the pre-construction phase.

Guidance on this expresses that the Principal Contractor must have the skills, knowledge, experience and the organisational capability to carry out their role effectively given the scale and complexity of the project and the nature of the health and safety risks involved etc.

What are my duties as a Self Builder?

CDM 2015 does not require domestic clients to carry out client duties as these normally pass to other duty holders:

- If a single contractor project, then the Contractor must take on the legal duties of the client in addition to their own as a contractor.
- If more than one contractor, the PC must take on the legal duties of the client in addition to their own as PC. If the domestic client has not appointed a PC, the client duties must be carried out by the contractor in control of the construction work.
- On a project with more than one contractor, where the client has appointed an architect (or other designer) they can ask them to manage the project and take on the client duties instead of the PC by way of written agreement.

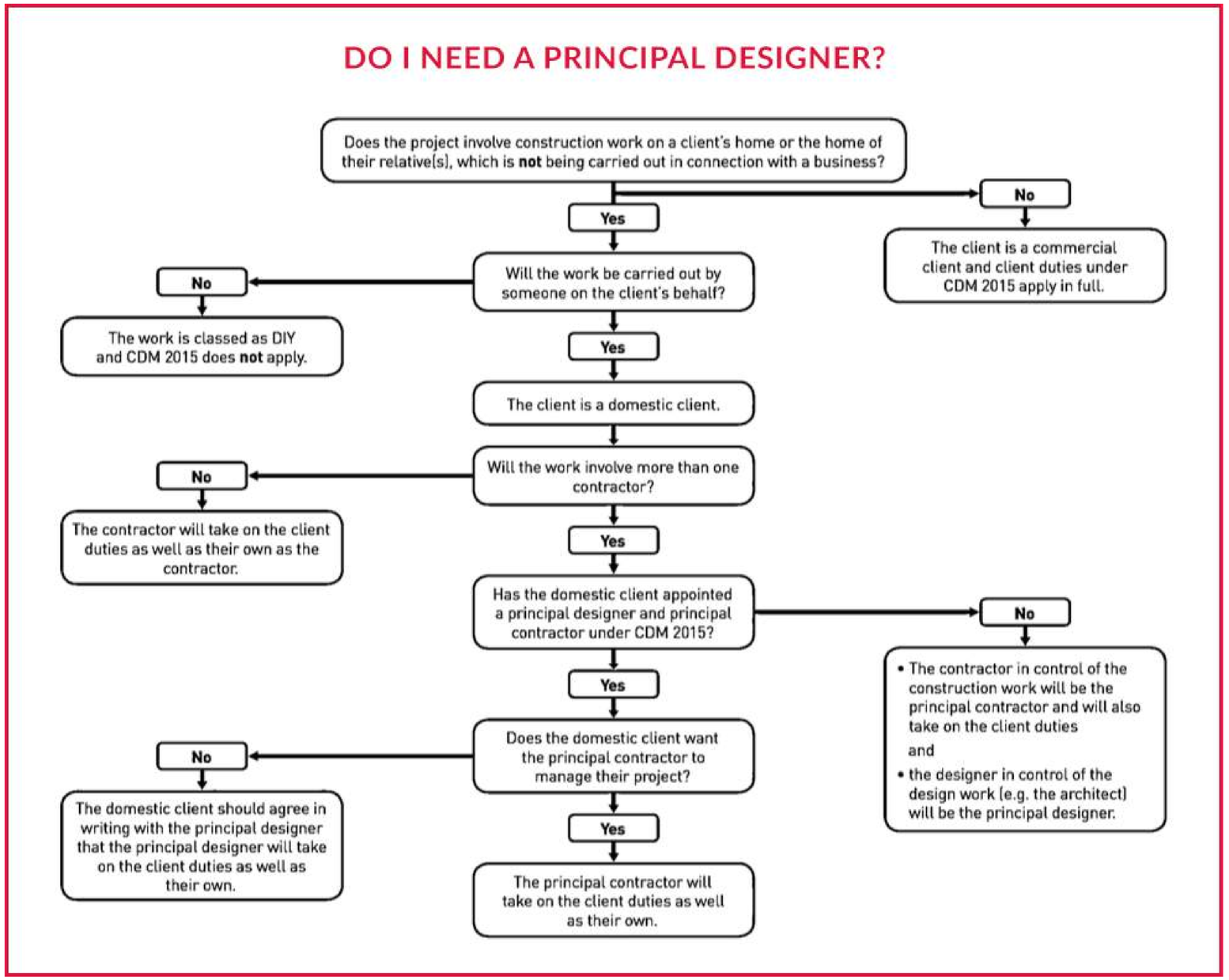
Any designer in charge of coordinating and managing a project is assumed to be the PD.

Your Architect is likely to add CDM services as an extra fee on top of design work.

Do I need to inform the HSE about my project?

If the construction work is predicted to last longer than 30 working days and will involve more than 20 workers at any one time (or where the work exceeds 500 individual worker days), then you must inform the HSE about your project, prior to work starting on the site. This is set out as a duty for the client in a commercial project, the PC where the client is domestic or the PD where the client is domestic and has requested the PD takes on their duties.

Notification is carried out by submitting an F10 form. Once complete this form should be displayed in the construction site office.



What ACA Offer

ACA's Project

Amor House, Gleneagles

After making the bold decision to build your own home, realising your dream can be a difficult process – especially if you lack experience in the construction sector.

Finding the right people to help you design and construct your Self Build is hugely important, as you want to know your new home will develop as successfully as you imagined.

At Allan Corfield Architects Limited (ACA), we provide a tailored service to suit our clients' needs.

Each project differs as each client has their own individual requirements. Therefore, developing a close working relationship with our clients is paramount to the success of the Self Build project.

This relationship begins with a free initial consultation, as we feel it is important to meet with all potential clients and develop an impression of what their dream home consists of.

In understanding the way our clients live, ACA can deliver a bespoke proposal to match your specific wishes.

However, at ACA we also understand the difficulties faced by the first time Self Builder, and we endeavour to guide them through each stage of their project – offering a service that goes well beyond the initial design process.

From the traditional parts of the architect's role – such as the planning, building control and technical drawings for the Self Build – right through to developing a build schedule and engaging with sub-contractors, ACA assist and educate the Self Builder throughout the build process.

Since 2011, ACA's services have evolved to support and educate Self Builders. We find working closely with Self Builders great fun, and we enjoy overcoming the challenges the Self Build process brings.

Self Build with ACA

The close relationship that develops throughout each project is hugely satisfying too – wherever that project might be.

Based in Scotland, but working throughout the UK, ACA's personal approach is never compromised - with a large portion of our projects being delivered in the South of England.

Utilising the best 3D drawing software available - ArchiCAD by Graphisoft - at ACA we show our clients the proposed designs in a standalone 3D model.

This is a user-friendly, digital walk-through service, which our clients can access easily via computer, TV, mobile device and Virtual Reality. This BIMx model evolves throughout the project, and for our clients who are further afield this is a great modern tool for visualising their 'Grand Design'.

Unlike most architectural practices operating on a percentage-of-construction cost, ACA's fee proposal is based on a fixed and itemised cost – meaning the Self Builder knows from the beginning how much to expect to pay at

particular stages of the project, and can therefore budget accordingly.

The typical stages involved in ACA's Self Build service may include the following:

1. **Initial Design Options (usually 2 or 3).**
2. **Planning Permission Application.**
3. **Building Warrant Application.**
4. **Preparation of Technical Drawings and Specifications.**
5. **On-site Supervision and Certification (Building control & finance)**
6. **SAP + EPC**

As a guide, the RIBA suggest that a full service for a new build home is approx. 8% of the total construction cost.

Shortlisted in 2014 for BuildIt Magazine's 'Best Self Build Architect' and 'Best Eco Home' awards, ACA take great satisfaction in providing the Self Builder with a home design which is not only stunning aesthetically, but also extremely energy efficient.

With the design standard for residential properties moving towards the 'Passive House' design principle in 2016, ACA have become a leader throughout the UK in providing energy efficient, low-cost housing.

With this commitment to promoting environmental and sustainable design principles in each and every project undertaken, ACA are also a specialist practice in the design and technical delivery of Structural Insulated Panels (SIPs) homes.

ACA have delivered a vast number of projects throughout the UK built using SIPs, and we are also a member of the Structural Timber Association.

Our efforts were recognised in 2018 when three of our projects were shortlisted for BuildIt Awards. One of them won in 'Best SIPs House' category.

Our practice was included in Urban Realm's Top 100 Architects ranking in 2018. We were ranked number 87 out of approx. 1,400 practices across Scotland.

The ACA team has the skills, knowledge and experience to take on a vast variety of Self Build designs.

Our services have been honed to benefit the Self Builder, with the aim of providing you with the necessary skills to have a real involvement in the day-to-day management of your project.

To give you an indication of how the costs are made up on an average Self Build project, we have based this example on a 4 bedroom 2-storey 200sqm house. Budget approx. £280,000 (Zero VAT rated):

Stage 1: Initial Design Development – £5,500 (ex VAT) or 25% of total fee
Stage 2: Planning Submission – £5,000 (ex VAT) or 20% of total fee
Stage 3: Detail Design Development – £6,500 (ex VAT) or 30% of total fee
Stage 4: Production Information – £5,000 (ex VAT) or 20% of total fee
Stage 5: On site Supervision – £250 per visit (optional)
Stage 6: SAP & EPC - £500 approx.

Total Fee: £22,250 (ex. VAT and optional services)

Note – Application costs and other consultant fees are excluded and paid direct by client.

Top: Rendered Image, Low Energy Self Build, Fife

Passive House Design & Certification with ACA

You may have come across the term ‘Passivhaus’ when researching energy efficient homebuilding methods.

Originating in Germany during the 1990s, the Passivhaus Standard aimed to vastly reduce the energy usage of homes, by focussing carefully on the design and construction stages of the build process.

It purposefully narrows concentration towards getting the fabric of the building right, in order to significantly lower the building’s energy usage.

It is worth bearing in mind that to achieve Passivhaus standards, it’s not about buying lots of fancy renewable energy gadgets; the focus is on changing the way we approach building.

During the design stage, it is crucial to consider ways of radically reducing air leakage, getting rid of thermal bridges, increasing insulation levels, and making good use of glazing for solar gain.

Throughout the build stages, achieving Passivhaus depends on the construction team working closely with one another – so that each stage is completed without costly mistakes.

For those undertaking a retrofit, the Passivhaus method can be applied through a more recent and less-demanding standard, called EnerPHit.

This has been devised by the Passivhaus Institut specifically for retrofit projects.

In order to complete a Certified Passivhaus you must engage a Certified Passivhaus Designer, who specialises in designing and certifying houses.

A Certified Passivhaus Designer will be an additional professional required on your project and will typically add £5,000 to your professional fee costs.

Budding Self Builders can aim to follow the principles of Passivhaus without gaining the certification, as some Passivhaus requirements – such as triple glazing – might be outwith some budgets.

Aiming to have as airtight a property as possible will go a long way in building an energy-efficient home.

Any architect with experience in designing energy-efficient homes will always recommend investing in this Passivhaus or ‘Fabric First’ approach, before turning to energy saving technology. As stated before, this approach aims to minimise your Self Build’s reliance on energy consumption, by concentrating solely on getting the most out of the fabric of the building.

Allan Corfield Architects provide a full range of architecture and design services for people who would like to cut out the middle men, increase the efficiency of their construction project and go straight to the source for Passive House expertise.

Here at ACA we have the skills and knowledge required to take your project from conception through to completion.

Applications for planning permission and building warrant are completed with the Passive House criteria given the foremost consideration at every stage.

Our in-house Passive House expert Steff Bell obtained his Passive House qualification through the Certified European Passive House Designer Course (CEPH) at the Energieinstitut Vorarlberg in Austria.

Bottom: Low Energy SIPs Home, Crieff

Since his return to Scotland he has been working in the Passive House and Low Energy sector and helping to implement the Passive House standard in the U.K.

Our Passive House Services

1. PHPP – Passive House Planning Package

The PHPP is a sophisticated design tool specifically developed by the Passivhaus Institut (PHI) for the accurate planning and calculation of Passive House buildings.

The PHPP is similar to SAP however, PHPP is considerably more advanced, with the ability to provide accurate results that have been proven through extensive monitoring of existing Passive House buildings across Europe.

Generic Fee Proposal

Initial PHPP
Basic PHPP calculation
with e-mail + telephone feedback - £500 (+VAT)

Full PHPP Calculation
Detailed PHPP calculation, PHPP report + 1x consultation - £1,350 (+VAT)

2. Passive House Design

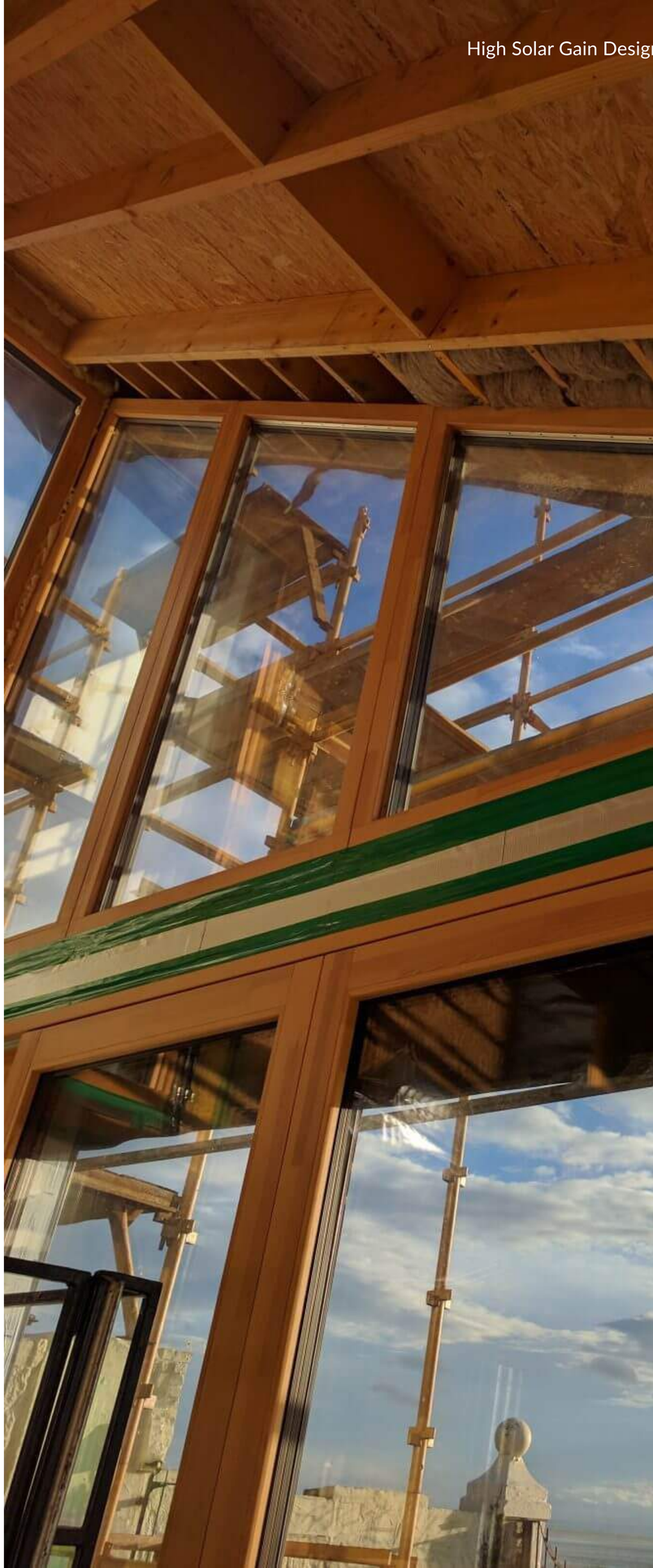
If you would like to build your very own Passive House/Low Energy building or have a plot of land and need help getting the project off the ground, please contact our office to set up a meeting to discuss your project further.

The first meeting is free of charge and we are always interested to hear from people who would like to build, live or work in a Passive House building.

Cost Example
Fee based on project build costs: 5-10% of build costs + additional service as/ when required. Architecture fee + appropriate constancy option.

Additional Service/Requirements:
Additional Consultancy – £75 (+VAT) per hour
PH Certification – £2,000 (+VAT)
Thermal bridge Calculations £200-£500 (+VAT) per calculation
Site Management/Inspections £200-£450 (+VAT) PH Toolbox Talks/Training £200–£450 (+VAT)

Work by external consultants:
Air-Tightness Test (2-3 required throughout project)
Thermal Imaging



Principal Designer Service

As an Architectural practice, ACA endeavour to help our clients find the safest route forward for their project.

We aim to gather all the necessary information in order to, as far as reasonably possible, prevent anything untoward happening during the construction phase of the project or when the building is in use.

You can read more about the CDM regulations in the previous chapter.

As your designer, we will have a legal duty to identify the Principal Designer (PD) and Principal Contractor (PC) for your project before we proceed with the project.

As a practice ACA are able to provide Principal Designer Services and would be delighted to do so for your project.

Our service would include the following:

- Providing pre-construction information to all appointed designers and contractors
- Pre-construction information
- Gathering/preparing information for the Health and Safety File (Associated Risk Assessments & Method Statements from other designers and contractors)
- Liaising with the Principal Contractor
- Construction Phase Plan in which design work is carried out after the construction phase has commenced
- In the event that there is only one contractor and you do not wish the PC to take on client responsibilities, you may choose to enter into a written agreement with the PD to take on their client responsibilities.

Fee amount: £1,550 (excluding VAT at 20%)

Rendered Image, Low Energy Self Build, Denny

Left: VR Session, VR Home Tour
Centre: VR Session, Interior Walk-through
Right: VR Session, Street Scene Visualisation

Virtual Reality Home Tour Service

As of March 2019, we have been able to offer our clients an exclusive service of experiencing their future home in a fully immersive Virtual Reality.

The equipment we have is so advanced that it allows you to walk around your future home, whilst changing materials, furniture, lighting and even the weather!

This is an amazing design tool and together, whilst standing in your future home, you will be able to complete the final tweaks.

Experiencing your new home in VR with ACA, will be an add on service, available to all our clients, and we would love you to experience it.

We have one main service which, once completed, can be complemented with additional visits, these are outlined in the table on the right.

Option 1 (required) – Your home in VR

- Upgrade & transfer of your current Archicad model into Twinmotion
- A brief intro and training to VR
- Access to our VR suite with your designer for up to 4 hours
- Real-time design changes completed whilst on site

Upfront cost from £600 (+ VAT) – (depending on size/complexity of house design)

Option 2 (add on) – Your home in VR

- Access to our VR suite with your designer for upto 4 hours
- Real-time design changes completed whilst on site.
- Ideal for final design tweaks, material choices etc

Cost per visit £200 (+ VAT)

Option 3 (add on) – Your home in VR

- Access to our VR suite for up to 4 hours
- Ideal for spending more time in the space or showing family members around

Cost per visit £120 (+ VAT)

SIPs Self Build, Edinburgh

Your Next Steps

Eco Self Build, Whepstead

SIPs Self Build, Burntisland

So, if you're thinking that you're cut out for Self Building - what steps do you take now that you are ready to commit?

If you choose to go with AC Architects, for example, we will arrange an initial phone call, in which we will discuss your potential project in detail over the course of an hour. This is where we try to ascertain what is going to be important for you and your family from your Self Build.

If you are still at the stage of searching for a plot to buy, we will carry out a free initial review on any plot (known as a desktop study), and advise whether we believe it's the right one for you. We will review any of the planning issues, the value, as well as the plot's suitability to your ideas.

Once you have your land purchased, we will arrange to visit you and your plot.

At this preliminary stage we will evaluate the site and also take enough information from you to prepare the all-important project brief.

This brief will include your budget, the types of rooms and sizes required, as well as how you and your family will live in your new home.

After we have this brief, that's when you can rely on us to create something really special that meets your requirements.

If you've been reading through this eBook and you've started to have doubts about whether or not Self Building is for you, then it's probably a good time to review your options.

If you don't think you could manage the day-to-day management of the project by yourself, then you might want to consider the Main Contractor route, as previously mentioned.

You choose the professionals you want to run your project, before appointing a builder to complete the entire build in what's known as a 'Turn Key' solution.

This is fairly different from Self Building, and is only really an option if you have the money to pay for your contractor - it's normally recommended you budget in the region of £2,000 per square metre for your build costs.

If the prospect of building a new home just isn't the right option for you, but you still need

to freshen up your home or create more space, then extending is a great alternative.

At ACA, we provide a great tailored service to clients in Central Scotland on various projects – this includes sun room extensions, attic conversions, garage conversions and large 2 storey extensions.

This bespoke service provides initial design options in our 3D drawing package, Planning & Building Standards approval, and we can then help clients find a suitable contractor.

Our expert knowledge of the latest Permitted Development Planning Guidelines allows us to take you down the easiest route to extending your home.

“We only take designs through to build stage once our client loves the design - cutting corners or half-hearted acceptance of plans should not be tolerated!”

Allan Corfield, ACA

SIPs Self Build, Biggar

Self Build Case Study

Amor House, Gleneagles

In 2013, retired aircraft pilot, Colin Amor, appointed ACA to design his new Self Build home, after an extensive search and interview process with various national architects.

The work on the site in Auchterarder – near the Gleneagles Golf Course – had been started by a previous developer, who had solely completed the foundations prior to running out of money.

This meant that ACA had to design a bespoke home which met the client's brief, but also fitted on to the existing footprint – a new and exciting challenge for ACA.

Colin was keen to create a large open-plan house, flowing from space to space, which all centred around a double-height atrium – featuring a linking bridge that cut across the central atrium on the first floor.

The house was built with Structural Insulated Panels (SIPs) from SIPs Industries, and featured a wide range of renewable energy technologies, including: a Daiken air-source heat pump, Paul Mechanical Ventilation Heat Recovery, triple-glazing from ADW, and 4Kw of PV panels.

Due to the airtightness, high insulation values, and the renewable heating sources put in place, Colin has yet to receive an electricity bill – and has made back on average £400 per quarter from renewable heat incentive payments.

The large dwelling of around 350sqm has five bedrooms – all with en-suite – and a large family bathroom.

The main central atrium creates a family dining space – and on the first floor, a lobby seating area allows views across the rolling countryside, which can be enjoyed over the double-height atrium.

The atrium has a feature staircase that is cantilevered from the internal load bearing walls with glass balustrades and open timber treads.

The key spaces in the house are a storey and a half in height, with the master bedroom suite featuring a glazed gable - which gives a different, but equally stunning view of the sprawling countryside.

Colin also wanted to future-proof the house. If its occupants could only use the downstairs spaces in later life, an accessible family bedroom, with en-suite and all of the other necessary accommodation, was added into the ground floor design. The build was project-managed by Colin throughout, taking twelve months to complete

Amor House, Gleneagles

the house. The building was wind and watertight within four weeks of starting on site.

The project was completed for £1,100/m^2, giving a build cost of around £450,000 - with the completed house being valued at £750,000.

ACA thoroughly enjoyed working with Colin, and here are his reflections on his Self Build experience:

What was your favourite part of the Self Build process?

Seeing the SIPs frame go up was a memorable moment but there were many others throughout the build.

Project managing the whole build was a very enjoyable experience. Finally getting my hands on the Completion Certificate was cause for a little celebration!

What might you do differently on another project?

My next project would proceed along the same lines with a little more research into suppliers, timescales for delivery, and new technologies - such as wind generators and storage batteries.

Top: Amor House, Gleneagles
Bottom: The ACA Team

I would spend more time educating the different trades on the concept of achieving a zero running-cost home, and how they can contribute to that in the way they carry out their trade.

What was it like working with ACA, and would you recommend their services to new Self Builders?

Working with ACA was a pleasure right from the first meeting.

From the off, we discussed my needs, and my desire to design and build a home with zero running-costs.

I highly recommend Allan and his team, as their in-depth knowledge of eco-homes and everything that goes into them cannot be surpassed.

The house was featured by Homebuilding & Renovating Magazine in their December 2014 issue.

It was also used by Homebuilding & Renovating Magazine as their marketing for the Homebuilding & Renovating Shows throughout 2015.

The house was also shortlisted for "Eco House of the Year for 2014" and the completion of the project led to AC Architects being nominated for "Self Build Architect of the Year".

Amor House, Gleneagles

Rendered Image, Self Build, Rosewell

THANKS!

We hope you have found this eBook a useful resource for getting to grips with the early aspects of Self Building.

Building your own home is a big challenge, but an extremely rewarding one when planned thoroughly and researched properly. Take control of where you want to live, and build a home that suits your specific lifestyle.

Self Building is your chance to create the home you've always dreamed of. It's a big task, but help is very much available.

For full advice on all things Self Build, Allan Corfield Architects are always keen to talk to prospective Self Builders, or anyone who has already started a project, to help guide them through the process as smoothly as possible.

Get in touch if you'd like to attend a Self Build Seminar, hosted by our friends at SIPs Industries.

The seminars are very popular, and it's a fantastic way to access practical knowledge from construction professionals, and your fellow Self Builders too.

Thanks for taking the time to read our eBook, and good luck with your Self Build!

Follow ACA across all of your favourite social media channels, for all the latest news from the Self Build Industry!

Acknowledgements & Useful Links

ACA would like to thank the following people for their fantastic contribution and expert advice throughout the production of this eBook:

- Colin Amor, Self Builder
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- Tom McSherry, BuildStore
- Ronnie Mitchell, BuildStore
- Tim Pullen, Eco-Homes Expert
- Brian Singleton, ADM Systems

We would also like to leave you with this list of our favourite online resources, to help you throughout your Self Build project:

National Custom & Self Build Association:

www.nacsba.org.uk

The Self Build Portal:

www.selfbuildportal.org.uk

Homebuilding & Renovating Magazine:

www.homebuilding.co.uk

Build It Magazine:

www.self-build.co.uk

And finally, our website:

www.acarchitects.biz

Allan Corfield Architects
Custom & Self Build Experts