

Episode 100

Constructing Long Barrow Passivhaus

The show notes: www.houseplanninghelp.com/100

Intro: My guest in this podcast is self-builder and Passivhaus consultant Alex Baines. We've been following the progress of his build 'Long Barrow' since we spoke to him in episode 74. He had the support of the community and managed to jump through some massive planning hurdles here in the UK because he wanted to build in a rural area.

Now Alex is halfway through building his earth-sheltered Passivhaus and I started by asking him about the huge hole they'd dug, why it's so large and why there are steps going down into it.

Alex: We had to dig out a much bigger hole than we wanted to. Basically, because the period we were working in, we were working through January doing all of that. You're trying to avoid cave-ins effectively on the side, so any of the sides tumbling down. So you need these steps to have a decent length and a decent height. So to go down the 5 odd metres that we were going we actually had quite a few steps, 4 or 5 steps of down then along creating another shelf, then down a bit more, create another shelf, down a bit more. So in reality we've dug out almost twice, actually I think it's just over twice the volume to what we actually need to dig out.

Ben: How long does that take?

Alex: Well they did the dig out amazingly. I mean they've done it remarkably well, and it's stayed remarkably solid and it took them just under a month with 4 people on site which was quite an eye opener to say the least.

Ben: One digger, what were they using?

Alex: They had one chap who was overseeing the site who was very good. They had one twenty tonne excavator. They had an artic truck, and a roller to try and keep it compacted in the fields. And that was it. And they just kept it going. They kept it going the whole way through the winter so we've got footage of that just going on and on and on and then suddenly this hole just appearing out of absolutely nowhere.

Ben: And it's quite good that you weren't taking that anywhere. If you'd had to ship that off site would that have been a disaster in terms of cost?

Alex: As it was never an option I'd never really researched it, but all my friends that do, yeah. It's quite a bit cost to move that amount.

We've got a bit of land here that we could put it into, and then it meant we could also use it as backfill, which is why it's cheaper rather than take out the smallest amount, put in iron plates or something to support the sides. This was the easiest way and the cheapest way.

It also means that there are possible alternatives in the future. One thing arose just last week of a local stonemason I've been speaking to, came to site and saw the actual rock we'd taken out of the very bottom. And he now thinks that he can turn that into basins and possibly other fixtures and fittings around the house and around the land.

So there's a benefit to all of that but we've had this philosophy of we don't throw anything away on site, or get rid of anything, until it's absolutely proven that we cannot use it. And that's including all the earth. I've got a few, I've actually got a couple of a local farmer and another friend who actually want some of our clay to use to either line ponds and stuff like that. So for some of it if we don't use it will be going those ways as well.

Ben: Let's talk about ground water, because I don't fully understand this situation. When you dig into the ground, is there always going to be a level that the water is at or if you're up high would that change?

Alex: This is where you've got to speak to the engineers, because I don't always get it. We came across being told right we've got ground water at a certain height, and we dug a good couple or 3 metres past that level. So I'm sort of expecting this hole that's going to fill up the entire time. But it hasn't really. It's sort of had this dribble of water occasionally going into it in two corners of the site. When it rains, yes a fair bit of water gets trapped there.

But I think ground water, it depends on the strata of the rocks as to where it pools and where it collects. Or just to where it runs past and runs through and here we've got to know where it runs through but we are below that water table level. In theory.

So we've had to do quite a lot of extra, well not extra, but we had to know all about our waterproofing, what's going on below ground etc. But the water situation is one of those that if you do dig down you've got to be aware of. Now if we'd come across a place which filled up back to that level instantaneously, that could have scuppered the whole project completely. Well, because we're meant to have glass down there and we're meant to have opening doors down there so that would have been, not your traditional basement because it's exposed on that south elevation. If it was a traditional basement there is a way of tanking the whole building, it would make little difference. You'd reinforce the walls, you'd tank them, they're waterproof. So here we're lucky, there's not a vast amount of water coming into it. We are on the top of a slight hill. Sometimes hills do have water coming out quite close to the top. Water sources for rivers, so.

Ben: And the build system that you've got for this, does that mean that you're not quite so worried about water because you've got lots of concrete and, is it insulated concrete form?

Alex: Yes, so it's the ICF building. So what we've got is, I'm not worried, to be fair I'm not worried at all about water ingress into the building because underneath we've got a double layer of waterproof DPC effectively, wrapped up into a waterproof, sort of waterproof membrane that goes the whole way around the ground perimeter. But on top of that also, all of the concrete is waterproof concrete that we've used below ground so it's different to that that's being used above ground.

Ben: So concrete can't be relied upon to be that layer? You always have to have a damp proof membrane?

Alex: No, no, not at all. I think concrete can be relied upon to do that, but in this case we are doing belts and braces. We want to get everything right, we want to prove that everything works. And the main other reason to it, the concrete to me is the backup. I don't really want water running through the insulation, because that would reduce the effect of the insulation. So if there is a water path can get through it won't degrade the insulation as such, but it will pull the heat.

Ben: Tell me about this pump, because you had to install it in the end. Why?

Alex: We got a pump because we do have water coming into that hole. Absolutely, because we are below the water table. So not only is it

a big hole that collects water, so there's run-off from the field and everything else, but there is this constant drip. So that pump during the summer was hardly on but if we have a heavy rain storm it might after it's collected water about an hour or two later end up having to run for an hour or two to get rid of the water that's in there. Anything that's below ground generally we will have some sort of pump sump system, something that has to get the water out of that location.

At the moment I bought a remarkably simple, cheap pump from Screwfix, just to go through this construction phase before we put in a decent system afterwards. And it's held up remarkably well. I think it was £100 and it's now been going for a good 10 months and never really had an issue.

Ben: But this is an aspect that again, I don't know, would all cellars or anything underground, would you get a similar situation or is it unique to where you are and almost a safety measure as you say, throughout the summer you haven't got it doing anything?

Alex: Yes, so the pump is there, it is a safety measure. It's there to get rid of the water that I know that in the winter otherwise it would come up the windows. If we didn't have a pump there the water would eventually, over a certain period of time and I've no idea how long but it would fill up to that water table level.

Ben: But do you see what I'm asking here, I'm not sure of this myself, but when you dig down into the ground, would you always really need something to get this water away? Because I always understood it is you just dig into the ground and that's fine so long as you sort it out. Just seems crazy to have to pump?

Alex: Yes, it depends an awful lot on where you are. Absolutely. It also depends on what you're designing. So if we didn't have anything on our south face, any glass, if it was literally a proper basement, it could be sealed and then we wouldn't need anything.

Ben: Right, that's what I'm thinking of then. Okay, got that now.

Alex: But it effectively, yeah a lot of people do it and a lot of people don't have tanked basements they will have pumps. But depending on your rock strata, depending upon what the earth is around you, you may require it you may not. It depends upon your location.

Ben: Let's get out of the basement shall we! [Ben laughs.] So what happened after you laid those first few layers and is it just very very simple, you're almost putting your box down there, your ICF?

Alex: Yeah it was. Actually it was remarkably simple, and slightly novel to all of the design team. We basically put in a blinding layer which was effectively a very thin layer of cement, concrete on top of the earth. Actually it was on top of a little bit of hardcore down there just to get a level base. Because the one thing that I know from my experience is if you get the base wrong you spend the entire rest of the build trying to correct it as you go up and as you go up and as you go up.

So my main aim at that stage was to get everything absolutely spot on. Make sure we'd triple checked all of the measurements and the heights and everything was working. So we got this flat blinding layer down and it then meant that everything could be laid down on top of that really easily. So then you have the DPC on top of that, then we have the rest of the construction on top of that. But at that stage we had, what was new for me and most of the team, was we put the table down there and had our design team meeting in the middle of this hole, on the middle of site on rather a nice day! Which was a way of just sort of bringing it all together. It meant we could look at what was going on around us and appreciate it and be in the space. And it also means that now going forwards people can remember that starting point, that rather than meeting in the architect's office or somewhere else.

But from there it was very easy. We then put waterproofing line down, we put the insulation down, we poured the base. Then we had a period of a wait as we were getting the final steel design done. So we actually then built the east, north and west walls out of the ICF. Poured the concrete into those but we had to wait on the south side because we couldn't actually build the walls before the steels went in. Those steels went in, eventually after we'd agreed the design.

Ben: What are the steels doing? Are they for that first floor trying to support that because there's a lot of concrete up above?

Alex: The steels are really quite simply they're supporting any large openings. So windows can't support any structure above them so it is there to support the structure above them. Where we've got small openings, actually the standard concrete ICF works fine, but where we've got those two large openings on the south side, a steel

across there to put then the concrete planks on top of, was much easier and actually much more robust, structurally robust. Otherwise we'd have had to construct a deeper base for the concrete and it might have been quite tricky to build. So the steel holds that south elevation where all the glass will be and means that there's no weight load bearing on to any of the windows. That's the sole reason it's there for really.

Ben: Having just had a walk around on the first level, the basement and then up to where you'll have all the living space, it's still a lot of concrete isn't it? Does that play on your mind? It's a big space and a lot of concrete?

Alex: No it doesn't play on my mind at all. Because the design of the building, and the whole ethos of the building, is it's there to last for centuries. Having said that, that is the last of the concrete. All the internals is changeable. Everything from now on is stuff that we can put in and take out.

The whole concept and the reason we're using the concrete is two-fold. One, there are no internal load-bearing walls. There is no internal structure to this building whatsoever, meaning that as families develop and change, as people's living styles change in the centuries ahead, they can just move internal walls. They can put up new room dividers, they can take them down. So the advent of the whole sort of big open space living area that people now have, which didn't exist a hundred years ago, people are now knocking down walls to have that. Well here you can just take out a wall, which frankly would be for me half a day's work. And I have very little knowledge of actual labour. Putting up an internal dividing wall is not a big effort. So it means that we can chop and change.

It also means that we didn't know, and we still don't necessarily know, whether our family will get bigger or not. I'm planning on stopping at two but that may not be the case. But if things happen we can re-divide the space. We can change the space. My grandparents, this is another example, it's now quite likely that they will come and live with us. As such we need to reconfigure that part of the house. So where there was an office, where there was the simple bedroom, is now going to become almost a separate integrated flat for my grandparents. And we will reconfigure that but it's meant no impact on the design thus far because it's open span internal and that's because of the concrete.

The other benefit of the concrete is the mass. The heavy-weightiness. The actual absorbent effect of heat. And we're hoping

it's going to absorb heat through that late summer period, more autumn period and retain that heat through the winter, because it's the floors are connected into the walls, and the insulating effect of the walls mean actually it will release heat slower back into the space. That is an aspect which is still not fully researched and Loughborough Uni, they're installing a whole load of monitoring equipment on this to actually see exactly how it works and what the effect of an ICF system is in terms of the latent effect of heat in the building.

Ben: I don't know whether I raced through all of the construction part but it is quite simple, isn't it? If you understand the ICF product, it really just clicks together, you pour in the concrete - that's the walls, then you're layering on concrete - that's the next level, then you do the same again and then today as we record this they're putting on the roof. Have I just hugely oversimplified that or is that more or less what's happened over the last few months?

Alex: Yeah, I mean that is effectively what's happened. The only extra part, the only complication, is really down to the structural engineer who decides how much steel needs to go into the walls for reinforcement for the concrete. And that can speed up and slow down that construction of ICF quite dramatically.

We have quite a lot going in here. I can't necessarily comment on, I personally think it's too much but I'm not a structural engineer so I go with the structural engineer completely on this. But that's effectively all there is to it. The big advantage also to us is I don't have to do any more airtight membranes to the building, that the concrete itself is airtight so we've created our, effectively our airtight insulated building in one hit and all I've got to do is really pay attention to those junctions - the window junctions to the concrete effectively. Make sure the airtightness barrier is there, make sure the thermal bridges aren't there.

Ben: And when the floor for example was being put down as strips of concrete, they just put a little bit of concrete in between to join them up, is that more or less how it works to keep that continuous?

Alex: Yeah, so that one was a new one to me. So you've got these pre-cast planks get put in and they get put on the wall and when they first come in you walk on them, they bounce. Well that was, that was an interesting one for me! [Alex laughs.] You can literally bounce up and down and they move a little bit because they are pre-stressed and they are effectively curved end to end. So the middle is generally around 20 or 30mm higher than the edges. So it

is pre-stressed for any weight that goes on it etc. And so yeah, you walk on them and they individually move, but they tie them together by pouring a grouting mix in between them so they're keyed in the edges which means they can then pour this mix and it solidifies them all together. So suddenly you go from this slightly surreal moving concrete building to something that is absolutely rock solid because it locks them all in together. But yeah, that was not necessarily unnerving, but definitely sort of one of those turn up on site, it bounced, 'what, this is meant to be solid, how does this work?' type reaction. [Alex laughs.] It was quite fun.

Ben: That's definitely not something you expect. Windows are the other aspect that really stick out. You're obviously going to get a fantastic view and we know that's why you've got so much glass, but there's a lot of glass! How many square metres? Not only is it going to cost a fortune, but the shading aspect, so take me through all of this.

Alex: Yeah. I can't deny any of that! [Both laugh.] At all!

Ben: Maybe you don't want to take me through this?!

Alex: No, no. Well absolutely! There is, I would never ever have advised any client to ever put in anywhere near as much glass as is going into this building on the south side! There's not much on the north side at all. There is none on the east, there is none on the west. And those are more difficult to deal with in terms of shading.

In reality we were looking at putting this glass in and using external shutters. From a passive nature I'd much rather design the windows to be the right size that you don't actually need any external blinds or any improvement to the actual glazing in terms of improving its G-value for solar glare control. But here we do have the views, we do have the space and we do have the height. And architecturally and from being on the site it didn't make sense to restrict the window size.

And also we were trying to get in as much light and heat to actually get into the concrete core to hold that heat through to the winter, but controlled.

So the original plan is the large windows but external blinds to control that heat gain. That has slightly changed in recent weeks and we don't necessarily have a full solution yet but the windows are slightly larger in terms of the vertical height. Not that the overall window area is larger, just some of the opening windows go slightly taller so the windows above, that create the curve, are smaller.

That has had a knock on effect of we're now not sure how to put in the external shading. So we're now re-doing a number of calculations to see what we can do for that to deal with that overheating, because that is undoubtedly the single biggest problem on this site.

You're absolutely right. That's the bit that we've got to watch out for. It is a large cost. It is, but it creates the space, the large windows, especially in the main opening area. They create the feel of light and the actual view that you get here, because don't forget that the problem that you've got with this building is it's below ground. Even the upper floor is 1.5 metres below ground. So you've got to stop that feeling, that sense of being below ground.

So downstairs, we've got an extra foot of height in the downstairs area to what we'd originally planned much much earlier, before we went to planning. But we increased it because, it was either someone mentioned it or we'd seen it in a programme, that actually the difference of having the extra little bit of height made, it stops you making you feel as though you're below ground. There are two things that make you feel as though you're below ground, and one is a low ceiling and two is little light. And because we are below ground we wanted to obviously negate that aspect. So we've got a bit more height downstairs and we've got hopefully enough light. But upstairs you are below ground, and you do look out and you do look out at the surrounding grass level that's sort of chest height at points. So again, by having more light coming into that space, hopefully the aim is that mentally it'll get you over that *I am below ground* thought.

Ben: And on that basement level, are you concerned that it's too dark? I mean I sometimes look at earth-sheltered houses and they all seem to have this challenge of the light. Just the nature of what it is, so what do you think having seen it with the roof on?

Alex: I think you're absolutely right. I think they all do have that challenge. That's inherent in the design. I think we should be alright, because we've got one area that we've, I suppose a couple of things that we've got in our current design, is you've got the bits that are dark in the building downstairs. Well, there's the plant room, that certainly doesn't need any light. The bathroom, well how often do you use a bathroom and desperately need daylight? Yeah, debatable, it's nice but it's a nice to have rather than a necessity I would say. The bedrooms, well they're on the south side and they've got windows. They've got decent height. And the main entrance room for downstairs and the playroom for the kids as it is,

or whatever it may be in the future, as you come down the stairs, that's the only bit that's really the full width of downstairs and that's got the windows on the south side, but it's got the stairwell. And that was a later change in our designs in that the stairwell is now, it's been opened up for a potential lift for my grandparents for the house.

So we've got this place for a lift shaft, so it's 1m / 1.5m wide, and it's meant the stairs had to be built around it. But at the top of the stairs is the entrance hall. And that's got a lot of glass. And what it's meant is actually we've got a hole, quite a big hole, at the back of the building that has natural light coming down to it from that entrance hall, because you've got glass right over the top of the stairs straight down this area for this lift shaft, straight into that back area. So that's why I think it's going to work quite well. It was an architectural design that they actually wanted the light coming into the back. The rest of the building we don't need light at the back of the building. So it works okay.

Ben: But if you flip it on its head, and I sometimes bring this back to the planning, but let's just say you'd had a box two levels above ground, you could be having natural light down there, that wouldn't be electricity you're using. I sometimes feel I should be blaming planning, although it's given you the opportunity to build it's made you build a bigger house and go below which has given you issues and cost you more and the cost is something I want to come onto next!

Alex: It has, but I don't think I'd have it any other way necessarily because it works in terms of the flow of the building. It's meant that our upstairs is where our living space is. Downstairs is bedrooms for the kids, well they're normally in bed by the time it's dark. And yes, the central area play space but we're in the middle of the countryside. Their play space is really the outdoors. It's not downstairs. Downstairs is there for when it's raining and horrible and gloomy. Well when it's raining and horrible and gloomy, even in a daylight space, most people have their lights on. So I don't feel as though we're losing a huge amount there, and especially with the modern advent of LEDs and all the rest of it, it's not going to be difficult to light that space for basically no energy.

Ben: Let's talk about money then, because this is a big job that, you knew it was a big job when you started and I sometimes wonder whether you probably knew you'd be in this situation too, but how is the money side of all of this going?

Alex: It's intertwined with how's life in general going, I suppose. We got off to a difficult start. We always knew there might be a challenge with the ground, we weren't sure.

The contract for the actual shell is exactly as we thought it was. It's the budget we were given and we're working to so that's not a problem. But the contract for the shell was based upon providing a flat working area at exactly the right height. And the problem that we had was getting down to that level.

Item 1 was digging down and getting through the rocks, and actually having to get the excavator to then get a breaker on the end and a 20 tonne excavator with a breaker couldn't get through some of the rock, which took a bit extra. Meant the hire was longer, meant that things cost a fair bit more.

On top of that we had someone come in and tell us that we, even though, I don't know if I quite got this, but even though we had hit rock the earth underneath wasn't that far away and it was quite likely that we were going to have heave. Which is basically because we've taken off so much earth, what's underneath could push back up and basically push into that space.

And as a result we've had to spend a lot more in the basement of the building to reinforce that concrete to stop it from breaking us back if the earth did rebound. Frankly I can't see how it could, but the cost of that is a lot went into the ground which I suppose you probably would avoid if you didn't dig down.

Apart from that we are on track on the finances for that side. Apart from the fact that I then left my work about 3 months ago at the point where we were just starting on the actual proper construction phase of the building. That's obviously had the knock-on effect that I don't have the mortgage in place to finish it. So now the challenge is now that we're getting the roof on, I'm getting very close now to needing to go back to work to get the mortgage to finish the job. So there's been a few extra costs.

I was hoping that actually the money I already had saved up was going to get us to the watertight stage. It's not. It's not going to get the windows in. It'll get the rest of it done but not the windows because of the money that went into the dig-out and preparing the base. It's one of those things you deal with.

So my wife and I were perfectly prepared that things might prove difficult. It's going to take us a lot longer. We wanted obviously to be

in this year if we could. That's not going to happen. We're probably not going to have a number of items in the building that we wanted to have. Does that matter? No. The building's been designed from the outset as a building that can adapt and change and as long as we put in items in there that aren't things that can't be reused or recycled, then we're fine. We can put in a very simple, cheap, functional kitchen. Whether I get some more money in the future or someone eventually buys the house they can put in what they want at that stage. The space is completely adaptable. I don't need to kit out things with the very best. The things I need to get right and need to spend the money on is things like the MVHR and the plumbing and the electricity. Outside that, room dividers, well it doesn't really matter.

Ben: What are your options then when it comes to money? Do you have any or are you at full stop?

Alex: I have a bit left but that's really for this next stage so it will come to a full stop, probably in the next month and a half until I can get the mortgage to finish it. So at that stage we'll then see. So if I get myself back into work in a month's time there'll be a little bit of time with the mortgage company to finalise the details for the mortgage and for them to feel satisfied that it's obviously going ahead as planned before they release the funds. At that stage I will go straight ahead with ordering the windows. That's pretty much all detailed out and specced out so that will literally almost be pressing the button and just saying go. Same with the flooring that goes in upstairs and the ventilation system so actually that stage should then be relatively quick.

I've still got a few design items to nail out internally. We're trying to test out what we're going to do with the hot water distribution and go for a micropore system which we haven't fully finished designing yet. So there's certain things I can still do over the next few months to actually design those out and get that finished. But we can go ahead pretty quickly once we've got that to that stage.

Ben: You mentioned to me that you weren't interested in borrowing money from family, so why?

Alex: Yeah, borrowing money from family is an interesting one. Partly persuading them to do it shouldn't be necessarily difficult. I know that in my situation at the moment borrowing money from family wouldn't be necessarily be an option, but for another year anyway.

But it's more that historically I started my own company, must be 10/15 years ago now, which I closed a number of years later. And a number of family people had invested in that. We'd taken the difficult decision to close it which everyone agreed on and everyone understood, but I still feel beholden to them on that basis. And for me if I can avoid that aspect I think it's got to benefit everyone's relationships.

It's all very well saying to people I'll lend you the money that's absolutely fine, you'd do an agreement, but every time you see them, every time you speak to them, there is always that in the back of your mind - I've got to do that.

Well paying back the money, the mortgage equivalent, you pay back over 20 years. I'm not having a relationship with my family over the next 20 years of constantly being there just going I know that I've still got to pay this back to you and I know that I've still got this amount coming out this month to you. I don't think it's necessarily healthy for everyone. Certain situations, certain families who can afford that amount of money to not be an issue, yeah fair enough, possibly. But they are few and far between.

Ben: Are there any other money avenues, presumably the mortgage you're waiting for new work to be able to secure that? Is that what you mean?

Alex: Yeah, effectively. The mortgage company they just need confirmation that I'm now back in permanent employment so that they can see my repayment plan. That's basically all it is. It's nothing really much more complex than that. It's for people to get a mortgage they need to prove that they can pay it back.

Yes, there's a lot of extra complications but we've got enough here, we've got enough money already in the site to prove that we've got the collateral later on should I not be able to pay back. The value in the site is much more significant than the amount that we'd borrow on the mortgage. Apart from that, yeah, not so sure, that's the way that money goes.

Yes there are options to discuss with some of the suppliers. Again, and actually to be fair some of the suppliers have discussed options with me, I wouldn't want to enter any form of agreement unless I can see definitely how it's going to get paid back. So I mean if I know the mortgage is coming in, a month's time, two month's time, fine. I can pay them at that stage and we've agreed that there'll be a payment at that stage that's fine. But saying it's going to happen

next year when I've got my job, what if something happens to me in the next couple of weeks and I can't get the job, or something like that. Okay, we're left with a big empty hole but we're not left with a debt which will be saddled on the rest of my family for the next number of years.

Ben: Thank you for being open about that, just because I feel it will help other people who are in a similar situation. It just does happen, life happens, we all know that.

My one question would be about this planning. I'm sorry if I'm blaming it all on planning, but if you'd set out to build a smaller house with just as good credentials, could you have completed it do you think with the budget that you had so far or am I just confusing this whole matter?

Alex: Oh no, undoubtedly no you're not. Not at all. You can build, if you get a budget and you've got the right team and the design behind it you can build to that budget. And I've seen it on countless projects I've worked on in the past, of building to a budget. And we've built large schools that have come in on time and on budget. And you're absolutely right, we could have come up with a design we'd have ended up yes, with a smaller design, probably with a design of a cottage.

Ben: Would you have wanted that though? I still get confused, because you're building in a rural area where you've had to convince the whole community almost to support you, where is your dream in all this?

Alex: Would we have wanted that? Yeah, we wanted a house to live in. It's not you know Grand Design which this has sorted of turned into, but it would have been a home and that's ultimately what you want is you want a home in a location that you love and enjoy.

So the design has caused that conflict but at the same time the planning would never have happened for a standard building in this location. It was never even an option on the table. If we wanted to build here we had to build something unique. We had to go into planning under the NPPF under para 55. We didn't have that option.

If we had a bit of land in a village, absolutely we'd have had that option and we'd have gone for that option. But, the problem with that is because it's in a village we'd have spent all the money in buying land so wouldn't have been able to build the house anyway.

So we're sort of in a catch 22 in that situation! [Both laugh.] You're sort of okay one way, okay the other way.

Ben: Just to explain Alex's house is beside your mother isn't it, so...?

Alex: Yes, I probably ought to clarify.

Ben: No, no that's been brilliant! As you say you've had the land to be able to do it. But yeah, swings and roundabouts.

Alex: We've had the land to be able to do it and we took a risk on the land and the whole planning was a massive risk. But because there was the land we could take that risk and go through and spend the money on the planning application. It would have lost us a bit had we had to try and find a house to buy, but we couldn't find a house to buy in the local area so we thought well we're going to go for it. See what we can do.

The upshot of it is now that that land is worth significantly more because it's got planning. So it's got a building going into it. We'd never have been able to do it, we didn't have to buy that land in the first place. And actually I bought the land from my mother, but it cost pittance because it was not land that you can build on.

And that was the risk of the planning. So where other people would be spending £100k plus on land or £200k, or in certain locations £300k or £400k. And we've found out that this plot of land is now £300k. It was £16k before it got planning. I mean the scales are completely different. Well there's 99% of my budget gone in buying the ground, so it's swings and roundabouts. You do it one way or you do it the other way. You've just got to bite the bullet and do it.

Ben: Well let's end on a high because you've been able to spend a lot more time here, so on-site during the day. How has that been to watch it come into place?

Alex: That is a remarkably difficult question. Purely because I'm not entirely sure how to verbalise it. It's been incredibly useful both in my professional career and in my personal life. The personal life is probably easier to say. I've got a lot more buy-in to the actual building that yes I know that we're designing it and all the rest of it but I've been able to see every step of it. I've been able to help, I've been able to make sure that all the details are absolutely right, I've been convinced that the work that I've put in over the last number of years, not only to my professional work and knowledge base is right. I've seen how it's been executed on site.

I've also learnt things on site that being a consultant, unless you're on site every day you just don't get to see. And that is also invaluable. And you're speaking to people about how would you do that detail, how could you do that detail, how could you change it, but not just for my particular build but for any build because you sort of you look at this and go right we've done that and that's really easy for this, we've solved that problem. But if we'd done that, how could we have done it? And you're dealing with people who are very practical in that sense and have worked on buildings day in day out and who deal with different problems to what a consultant would deal with. So from the professional side that's worked really well.

And from the personal side, on my benefit it's really really helped. But actually to be slightly really personal about it, the bit that's been the best, I've been at home to see my children in the first two years of their life as they grow up to really get to know them. I've seen my youngest start walking and change on a basis which I just didn't even conceive with my eldest when I was at work every day. So it's given me a much greater appreciation for that as well. And when you put that into well this all the house for them for the future, I don't know.

For some reason to me I would never have changed what I've done over the last three months. So actually, if I'd gone back to work early and I'd gone back to work after and month and a half, which was the original plan, I wouldn't have seen that, I wouldn't have felt that, I wouldn't have got the knowledge from the site, I wouldn't have got the connection for the early stages of my kids. For some reason it creates something extra for the whole build, for everything else and okay, three or four months delay on the building. I can live with that. It's annoying, it's infuriating at times, but we'll get there in the end. And actually there are things that have gained out of it that I actually don't want to give back.

Ben: Well said! And we will catch up with you again another time. Alex, thank you very much!

Alex: You're welcome. Thank you very much. Good to see you again.