The Building Sustainably Podcast

Episode 3: What you need to know about the flood risk sequential test with Chris Patmore and Jonathan Morley

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Intro - 00:00:05: Welcome to The Building Sustainably podcast by RPS. Sustainable, resilient development demands a new approach to how we plan, design, and build. We invite you to join us as we explore real-life case studies and offer practical guidance. Here's your host, Emily McGee.

Emily - 00:00:26: Welcome to today's episode in the Building Sustainably podcast series. Today's topic is hydrology, sequential test essentials. I'm here today with Chris Patmore and Jonathan Morley. Welcome both. We'll start with introductions. So, Chris.

Chris - 00:00:39: I'm a Technical Drector at RPS, joined earlier this year. I've been doing sort of flood risk and sustainable drainage for about 30 years. The idea of the sequential test has sort of come out of that. I do quite a bit of expert witness on flood risk mainly, and more recently on Sequential Test.

Jonathan - 00:00:58: Hi, I'm Jonathan Morley. I'm also a technical director with RPS. I've been with the company about 17 years now, and I've been involved in lots of flood risk assessments across the country and some international, specialising in the energy and major infrastructure sector, of which we have been party to some sequential tests and been involved in some high-risk developments.

Emily - 00:01:22: Fantastic. Thank you both for joining today as well. So, I think it's best to start with what is sequential testing or the sequential test.

Chris - 00:01:30: Yeah, so I think just sort of even have to say, sort of go back a little bit and start with, you know, the flood risk concept in general. And the flooding in 2007, resulted in the Flood and Water Management Act, which then resulted in a lot of legislation being passed and was also fed back into the National Planning Policy Framework (NPPF) planning guidance. And it's out of the NPPF that the sequential test evolved as a way of steering development away from areas of flood risk. And over the years, that has evolved to be a bit more specific, whereas originally it was based on the flood maps for planning, which is flood zone one, two and three. Now it's more defined as any form of flood risk. And that's really where it's come to its fore at the moment and why we're probably talking about it today.

Emily - 00:02:19: So you mentioned previously about the NPPF, so the National Planning Policy Framework. Are there any requirements, updates or guidance on this that people can follow?

Chris - 00:02:30: There's actually always updates, and the last update, the main update that we reference is the 2023 update to the NPPF. But it was really sort of 2022 that the idea of all sources of flooding came in, which has really kicked off a sort of a debate about how far do you go with a sequential test and who deals with it? And that's really where we're at and has caused a lot of confusion.

Emily - 00:02:56: So that's why we've got the sequential test as the hot topic at the moment and with the increased sort of scrutiny or legal challenges that we've got.

Chris - 00:03:05: Absolutely. So one of the things is that the sequential test is, as I mentioned, to try and steer development away from areas of flood risk. So initially it was defined as flood zone one, which is sort of areas of country with low or little fluvial or tidal flood risk. But now it also includes surface water flood risk. It includes reservoir flood risk, groundwater, sewer flooding, all sources of flood risk. The main reason it's become a hot topic is primarily around surface water, because there are parts of the country where a site is in flood zone one. But if you take into account sources of surface water, then it becomes a very different beast and the site can be quite heavily impacted by surface water flood risk.

Jonathan - 00:03:49: As I say, I think one of the challenges has been over the years is the ambiguity within the legislation and the guidance. So historically, as Chris mentioned, there was a sort of focus on flood zones, which would be the river flooding and tidal flooding. However, that has in a couple of years been applied to all areas of flooding, which was then, as Chris mentioned, strengthened within the NPPF. But as there was some lingering ambiguity, that has led to, as you mentioned, Emily, some legal challenges and being progressed through the courts, which has sought to deal with some of that ambiguity, but in some areas hasn't quite cleared it up.

Emily - 00:04:26: So with that, in terms of the legalities and with sort of linking to case law examples like that, do you have any case law examples that you can relate to? I know that you previously mentioned the reasoning why it's come about, but any other decisions that can relate to the sequential test?

Chris - 00:04:45: Yes, I think as Jonathan said, there's a lot of ambiguity. And even in the decisions that are made, there's some ambiguity and some disagreement about those. There's two cases that were brought together that made it all the way to the high court where the sequential test was being tested. So it was two companies, Mead and Redrow, were both put together to challenge one of the planning regulations, but it encompassed sequential test. And there was a lot of questions about things such as what is a reasonably available alternative? And also things like, do you consider every single site? Can you break your development up into little parcels that are all less flood risk? Is that the same as your original plan? Are there elements of your scheme that can only be achieved in the whole? And if you take them apart, you lose that integrity. And so, all those kind of debates are taken through in the case law. And the general consensus seems to be moving towards you do have to take a reasonable test that your site has particular elements to it that you can't provide by breaking it up into very, very small pieces. So there's a limit. So the Red Row scheme, for instance, suggested that plus or minus 25% of your site area or your site capacity, whether it's solar panels or battery storage or residential development, which is what it was in both these cases, that's a reasonable size band to compare your site with. But if you fragment it into 10% of your site, are you providing all of the other stuff that you might be providing like care centres or public open space, biodiversity net gain, maybe even a school site that all the bigger sites can provide that the smaller ones can't? So, it's helped to try and hone in on those particulars about your site that means that you don't have to compare it with every single dwelling extension or little bit of infrastructure.

Emily - 00:06:43: And you've obviously spoken about the challenge of the ambiguity, and we've gone through this definition and path within discussing case law that’s also associated. But what is the practical application with it?

Chris - 00:06:57: So certainly the way that we're approaching it, it's got to be a team effort because it can't be done by, say, a flood risk guy on their own or a planner necessarily on their own or a client wanting to do the whole thing on their own. It's got to be a collaborative effort between the flood risk engineers, the drainage guys, the master planners, and the client themselves. But even beyond that, there's a collaboration required between the client team, the developer, and the local planning authority. Because ultimately, they've got to agree that you are assessing what you're assessing against a reasonable database if it were. And things like the local plan, and certainly I think a lot of people know that at the moment, local plans are sort of all over the place at the moment. That there are draft local plans, then there are adopted local plans, then there are local plans that have just started, all of those things. So, there's data in there, but it's getting hold of it and making sure that you are comparing. You know, eggs with eggs, etc. It's the collaboration that really needs to help right from the start. So, we usually work with planners to define the search areas and then

feed that back to the local planning authority to agree that we're looking at the right area, the right type of development, and that we're not. Although we are excluding other types of development, it would be unnecessary to assess and try and get that collaborative thing up front.

Jonathan - 00:08:19: One of the other, touching on one of Chris's points, is other material considerations as well. So, there may be other material factors beyond flood risk that steer a development to a specific location. So, there may be areas of outstanding natural beauty that prohibit development in that location. There may be ecological factors or alternatives such as road transport routes or housing requirements, etc., that may limit where that search area is or those reasonably available sites. Some of the sites may be discredited due to those other material factors, which then locates a potential development at an area of higher risk than you would prefer to have.

Chris - 00:08:58: So I think it's back to it's not just a hydrological site location that the NPPF may suggest that it is. There are other factors we've got to work in parallel. And, you know, other examples are grid connectors and various other things. They really need to be near the grid. Locating them in a completely different area and having to have a grid connecting or a connection point that's 10, 20 kilometers is not engineeringly the best sustainable solution. So, getting that definition of the project right up at the beginning and agreeing that helps to define and it does smooth out the sequential test process.

Jonathan - 00:09:36: And I think as Chris mentioned as well, we've assisted on clients which have actually been subject to legal challenge where an application has gone through judicial review requiring a sequential test. An inadequate sequential test would hinder development and impact on developers' program as well as development costs because you're just continually having to go through the JLT. In order to facilitate the development, kitchens are long grass and costs developers a significant amount of money and impacts on the investment long-term profile. So it is best to undertake an adequate, appropriate sequential test where deemed necessary, upfront as soon as you can really, in my view.

Chris - 00:10:17: That's actually quite a good point that not all sites appear to be subject to a sequential test. The NPPF suggests every site should be, but not every local planning authority. It actually requests that right at the beginning and there are plenty of examples where you either get challenged and you can get challenged by a whole host of different people and bodies. I mean, in some cases it will be competitors. If you haven't submitted that sequential test right at the beginning, then say a supermarket may challenge another supermarket's application on the grounds that it's not been sequentially tested. And the same for other developments. So, it's getting an understanding at the beginning whether or not, the local authority has, say, a track record of applying sequential tests. That's quite handy and useful. But if they don't apply it, what's the risk that somebody else is going to come in at any stage through the planning process and demand that you've done one? And doing it retrospectively is quite a hard task.

Emily - 00:11:17: So, with that sort of approach with it, do we have any project example that either of you both have been through as part of that?

Jonathan - 00:11:25: We've been involved in quite a number of sequential tests, some of which I've done quite a few, a number for energy schemes, whereas Chris touched on, the site has been located in an area of flood risk, and what we have done is then undertaken a sequential test. One of the overriding material considerations for that is proximity to the grid connection. So that was upfront and foremost the driving factor. That then defined our search area for which we would assess what would be the reasonably available sites of equivalent size in order to deliver the project. That then informed the sequential test, which we identified a number of sites, a number of alternative reasonably available sites were discounted on other grounds, other environmental grounds and logistical grounds, which then steered us to the application site we were developing. Which was fortunate, but we ran with it and that was approved via the inspector, and later permission was granted, and I'm now under the understanding that that particular development is up and running.

Chris - 00:12:31: There is another site, a residential site, that I worked on a couple of times, and we did the sequential test, but the area or the scheme was about 50% of the site was residential development with a care home access, etc. But the rest of it was going to be given over as a public country park. But in this particular case, that country park area was subjected to pretty much every source of flooding. It had fluvial surface water and there was a little bit of reservoir tucked in there as well, for good measure. But if you sequentially test the whole red line boundary against other sites, it would fare very poor. And there was a point where we were considering the fact that we may have to take the country park out of the application, because if you included it, the sequential test just on the drainage side of it, would rule that site out, whereas all the development was located in the non-risk areas. So then that was a sort of a hybrid approach where we agreed with the local authority, you know, the country park was an essential part of the scheme, but if the sequential test ruled it out, that was a nonsense of the process. So, there was an agreement that we would look at what was the risk of just the development bit, and then against the whole red line area. And that was a bit more sensible, a bit more logical, and, you know, that one has... has got approval now and is under construction.

Jonathan - 00:13:52: I think that's another good point. I think what you touched on there, Chris, is the challenge because one of the other things that has been of interest is how the rhetoric behind the sequential test is applied. So different local authorities and different officers interpret the sequential test and writing slightly differently. So, as you mentioned there, like some will adopt a sequential approach to locating development within a redline boundary in a site and approve that, where others can be a bit more, add a bit more scrutiny and won't accept that approach. So I think, one of the other challenges that I've experienced is how it is being applied and viewed at an authority level. And that sort of creates some ambiguity on top of the ambiguity we've already mentioned within the text itself. So, I think half of it would be getting a consistent approach from the local authorities on how they wish to see applied. And that could only be supported by strengthening of the NPPF and the text within it and the associated guidance and local policies.

Chris - 00:14:53: So off sort of the back of that, I mean, everybody kind of knows that the NPPF is up for review and modification at the moment. But also fairly recently, there was additional guidance sent out to local planning authorities from DEFRA Environment Agency that actually did have a sort of caveat in there, which was along the lines of if your development has allocated areas of flood risk for open space, Biodiversity Net Gain, public immunity, i.e. Not built development, then you may not need to do the sequential test. So that one is kind of rippling through, although because we've got the NPPF and then we've got the policy practice guidance that goes with it, and then we've got these standing advice notes, they've all got different levels of legal standing. So, what we're waiting for is to see that if that kind of statement can get rippled back into the NPPF, that would be handy for a lot of developers and make the sequential test functionable.

Emily - 00:15:55: So, you know, during the conversation that we have had during this podcast, it's that we've discussed the best approaches and obviously your takeaways from what's been going on with previous projects or case law that is emerged, staying informed about emerging guidance along with the NPPF framework bringing to it and the update that's going to come through for it. Would there be any other sort of top highlights that we may have already discussed and sort of gone into detail, but as before you're going to do sequential tests, what would be the hard-hitting points that you would do beforehand?

Chris - 00:16:32: Make sure there's collaboration going on and that you're not losing or deferring the preparation of the test between different disciplines. Getting the definition of the project right so that everybody agrees what it is and what, you know, as Jonathan said about grid connections or maybe you've got a medical center or something, something that's unique, potentially unique, that defines your project and that defines the search area. Agree that search area. Then it becomes kind of a two-part assessment from our point of view as flood risk engineers. We would look at comparing that site to all of the other potential alternatives and then you might end up with a big long list of 200 sites or whatever and you come, I don't know, 12th in that big long list and then, as we said earlier about, is it reasonable to include all of that 200? And then you look at maybe the size doesn't work, in which case your list then goes down to 50 perhaps. And then you look at other things such as your uniqueness and then that might rule out a few others. And

then it's really over to the planners and the clients to then look at what sites remain and then do the assessment of what's available, what's reasonably available and then that gets you down to that really short list of the, Sequentially preferable or not sites. So as long as it's done rigorously and in the methodology of the sequential test with case law behind it, then that's where you really need to go.

Jonathan - 00:17:58: For my input, I would say I would be mindful of the sequential test at the due diligence stage. If you're looking at a new site, be mindful that if you are looking at a site, that this may need to be applied and an awareness that you don't want to get down the track and find that you still need to apply this. And at that point, when you've invested a significant amount of funds into developing a concept for the site, a layout and everything else that you need to undertake a sequential test. And at that point, you establish that there is, in fact, a reasonably available site and you could effectively be challenged upon it. So that initial awareness, I would say, as part of this podcast, we're aware that the sequential test is becoming more of a hot topic. Then the scrutiny being applied to it is at the forefront. So, for any developers moving forward with this site. As I say, an awareness that this test may be required and having that ready is, I think, the best advice.

Chris - 00:18:53: We have heard of cases where nobody did a sequential test and it wasn't until the site went to appeal that the inspector raised the question himself. And that is really sort of last minute.

Jonathan - 00:19:03: And at that stage, just adding to Chris's there, it can cause lots of procedural issues. Whether you can actually apply new information such as a sequential test to the application or whether at that point, depending on the type of application, the whole thing needs to be withdrawn and then started all over again, which you can probably appreciate is significantly costly.

Emily - 00:19:23: So I suppose we're nearing the end of today's podcast, but I did want to highlight that as well as this podcast, you both had actually partaken in a webinar as well that's also available, where you've probably gone into a bit more detail than the time that we've got today.

Chris - 00:19:37: Yeah, it's part of the RPS Leading Minds program. That was at the beginning of October. So I think there'll probably be a link available.

Emily - 00:19:45: There were a few questions near the end of that webinar that came out where there were quite a few interesting answers, which I think we'd probably add to this podcast. So one of the questions that we had was, have you encountered instances where climate change modelling necessitated a redefinition of flood signs, specifically flood site warning this one, as requested by the Environment Agency for a particular site?

Chris - 00:20:10: Yes, this does crop up because a developer, as Jonathan says, spends an awful lot of money looking at the master planning and site layout. And they may well commission a flood model to be done because there's some dubiousness about the mapping that goes behind it. And they might end up redefining floodplains within their red line area or maybe the locality of it. The issue with the sequential test is that you don't have the ability to do that with all of the other 200 sites. There has to be a methodology that is the same for every site. So, unless the local authorities agreed otherwise, I think you've got to look at the available mapping of the flood zones, the available mapping of the surface water zones and all those and compare every single site the same way. Then it's a true comparison. And only then can you start looking in the same way as the uniqueness of the site. You can then look at, well, actually, even though it's come, I don't know, 15th in the list, you've actually got a different flood zone. And if you looked at flood zone, at the flood zone differently. And we have done this on a couple of occasions. We've looked at it differently. You then have another entry in that league table and you may be ninth because your flood zones have been redefined. So then you present that data as well.

Jonathan - 00:21:24: It can come a bit of a challenge as well because the local plans are normally defined or assessed against a strategic risk assessment within which the local authority may have done some site local specific hydraulic modelling, which is normally focused on urban areas where they're looking to develop

in larger conurbations. When if you're looking at, say, a residential development, which is further out in a more urbanised area, that modelling is pretty sparse and may not have been undertaken, which there, as Chris says, leads you a bit of a challenge between what information do you have available and what are you comparing against, what reasonable available sites and the modelling information that you have. So that's another challenge which we've got to overcome in the sequential test.

Emily - 00:22:07: And another question that we had from the webinar was, does the sequential test requirement potentially contribute to viable development sites remaining unused due to other locations being deemed more favourable from a flood risk perspective?

Chris - 00:22:19: Absolutely. I'm sure that there are many occasions where you can look at a site and if you're applying the sequential test in a black and white sort of manner, then it will present with a site that's logically sensible to develop not being developed because the sequential test says not. But hopefully local plans and local planning policies would have measures that would overcome that.

Jonathan - 00:22:43: Yeah, I think it'd be also supported by, as we mentioned earlier in the podcast, the other material factors which underpin the site allocation and what's reasonable. So if there are other considerations, such as, as we mentioned, transport, local amenities, all the rest of it, which would potentially, beyond hydrology and flood risk, bump those sites up, then they should be deemed as viable if the evidence supports it.

Emily - 00:23:10: And the final question that we've got, kind of a double question. So the first half would be, should greater emphasis be placed on a sequential approach to development within site boundaries as a key factor in effective spatial planning? And the second part, given the need to promote development to meet national targets, is there a risk that sequential test is being used to obstruct rather than facilitate development?

Chris - 00:23:31: We've probably touched on both of those with the elements of designing sequentially within the red line boundary, which most master plans, if not all master plans, should be doing and should be looking at. And maybe the NPPF doesn't really emphasise that enough at the moment that that's what should be happening. The second point we've also sort of mentioned about obstructing applications by objecting to the sequential test being undertaken or not undertaken or not covering a certain flood risk aspect that's certainly come up. And maybe in cases local planning authorities have a list of objections to a particular site. It's another thing that can be added to that list of objections to give it some more weight. So there's planning. So there's a lot of give and take and competing issues that need to be weighed up.

Emily - 00:24:20: Well, we've reached the end of the podcast for today, but I'd like to thank you both for your time.

Chris - 00:24:24: Thank you.

Jonathan - 00:24:25: Thank you.

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