

## TRANSCRIPTION:

### **BUSINESS-SCIENTIST EXCHANGES: MAKING YOUR PROPERTY RESILIENT (PART 1)**

**Exchange between Anthony Stockman (Businessman in Tewkesbury) and Dr Jessica Lamond (Building Resilience Specialist at the University of the West of England, Bristol)**

Jessica Lamond: Hi, I'm Jessica Lamond from the Department of Architecture and the Built Environment at the University of the West of England and I've spent many years thinking about buildings and water and the way that they interact in floods. I've looked at it from some of the experiments that go on in labs, in the theory, but also, more importantly, how it really happens on site with real buildings and real floods. So, I've come to talk to you today because, as I understand it, your business premises here have been flooded in the past and you've done some things to prevent damage in the future.

Anthony Stockman: Yep.

Jessica Lamond: Could you start by telling me where we are and how long you've been here?

Anthony Stockman: Yes. I've been in this area for the last forty-two years. I've had this business for forty years. It is a low lying area which does flood. Traditionally, Tewkesbury is well known for flooding and we have been flooded badly as you know, in 2007, to a depth of about five feet where we're standing and, as a result of that, we had a lot of damage and we put some things in place to lessen that damage should it flood again, which it undoubtedly will.

When I built this building in 1996, I took into account that the likelihood was that we *would* flood (we didn't know how badly), which is why you will see that the electrics around here are all at high level (clearly, we don't want electrics down low). These lifts will be replaced eventually by lifts similar to the two over there, whose electrics and hydraulics are higher up.

Jessica Lamond: How did you decide how high to lift them?

Anthony Stockman: Well after the 2007 flood, where we're standing, you'd have been alive; I'd have been breathing water! We knew that this lift suffered, that one suffered, all the hydraulics (the motors) had to be rebuilt and these two here and the one next door didn't suffer because most of it was above the water level which wasn't a problem. Clearly, with the sheer volume of water and the speed that it came in, this business - had it been watertight - the building would have collapsed. So we have to accept that water will come in here and we have to minimise the damage that it will do. Hence this structure here and the rails that slide back into each other, that centre post lifts out, there's a clear area up there. We are purchasing, basically a cherry picker-type of equipment (scissor lift), where we can

lift up tool boxes, other portable stuff, all the MOT equipment can go up and can be quickly stored upstairs, along with computers and bits and pieces from the office, so that we can minimise the damage that's done. Clearly, we can't move the heating system, but that's probably a small price to pay in terms of reducing the risk. We can't get rid of everything. The other thing is, of course, we've got to take vehicles off the site and get those to higher ground so that that lessens that effect as well.

Jessica Lamond: So that accords with the guidance I've seen, which suggests that you should only defend a property up to 300mm, unless you've had structural guidance or an engineer looking at it to say that it is safe to go further than that. Obviously there are some materials that are very strong, like concrete, and others which are fairly strong like masonry, bricks and mortar and they would resist the hydrostatic forces. You mentioned those too. Hydrostatic forces are the pressure that a wall of water puts on a building, a sideways pressure that is massive actually when you consider how much water is out there in the fields that's pressing on your building. So, perhaps the sort of walls that you've got here, you could tell us a little bit about that and how you decided that it would collapse under a wall of water.

Anthony Stockman: I can, because this is a lightweight portal frame structure and between the uprights and the purlins, there is a lattice system of cables. But, basically, the cladding is screwed with Tek screws to either side of galvanised frames, which are made up from 16-gauge galvanised steel, so not terribly strong. Great from a wind-resistance point of view, but not much good for flooding, because, as we've discussed, the sheer mass of water would just collapse these panels inwards and flood the building. We'd rather it wouldn't do that, because that means a lot of extra work, which would mean re-cladding most of the building, at which point you'd have to make the decision... well do we pull this building down and start again because the framework is the simple bit. It's the cladding and what you do with it and the insulation that takes the time and the money. The other most important thing is you keep a rainy day fund. We had a rainy day fund, which I've never touched, of £30,000. The idea being that, if we hadn't had that money, we would have been out of business. They said, how long are you going to be out of business? I said two weeks and, two weeks to the day, we opened the shop for business.

Jessica Lamond: So let's talk about that clean-up exercise and the sort of materials that enabled that to be easy to do.

Anthony Stockman: We sprayed all the electrics. Believe it or not, you can do this. We sprayed all our soaking wet electrics with WD40 (no trade names!) and my electrician said just switch it all on. So we did.

He said, "Any fuses blown?"

"No."

"Earth leakage trip gone?"

"No."

"Good, he said, "You're in business."

And we were, but, unfortunately, our MOT computers were destroyed and things like that. But, again, now that we know what we're likely to expect, we've lifted everything up to a point, which is why you'll see all the strip lights and everything up off the ground. So all we can do is accept that it's going to happen again (we know it's going to happen again), but we can reduce our costs by getting everything that's perishable or damageable up to a higher level. When we extend this building, which we're going to do within the next two years, we will put in more four-post lifts (probably two more), because we can put a platform across the four post lifts and then we can pile an awful lot more stuff on there, lift those up out of the way and, with a bit of luck, we could probably get our damage down to under £5,000. That's worth doing. There is no way that we could stop the water coming in here without massive expenditure. You'd have to ask yourself, is this viable? No, not from a financial point of view.