Drying-out clinic

In the first of two articles on flooding, Andrew Bussey and David Gabriel consider the assessment of flood damage to buildings and subsequent clearance and drying-out works

The floods of 2007 saw unprecedented levels of involvement for surveyors, loss adjusters and contractors with damaged buildings. Unfortunately, with most properties now fully repaired and reoccupied, it is emerging that not all buildings have been appropriately stripped, dried and repaired. This article gives an insight to the principles of this work and the processes with insurers who are usually responsible for funding it.

After any major flooding, property owners, occupiers and insurers are, unsurprisingly, anxious to immediately progress repairs. But until the emergency services, local authorities and highways authorities have cleared the flood waters, there is little that loss adjusters and surveyors can do.

At the initial damage assessment, it's important for a surveyor, while remaining professional, to empathise with property owners and occupants. Everyone's patience is stretched, with families moved to alternative accommodation, or even struggling to find it, and businesses heavily disrupted.

Unless absolutely essential, and only with appropriate risk assessments completed, the temptation of inspecting with flood water *in situ* should be avoided. Flood water often poses health and safety risks if contaminated with sewage, but perhaps more hazardous is the risk of displaced inspection chamber lids and drainage grills lurking invisibly in the water.

Following basic strip-out works, a drying company will install dehumidifiers

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Specialist drying

When the property becomes available, the first phase should be clearing the water-damaged contents that will be retaining moisture, and insurers or loss adjusters will usually arrange specialists to inventory these items and dispose of or salvage them for restoration. These specialists will often also install initial drying equipment and complete a basic strip of the building (usually including skirtings, low-level plaster and kitchen plinths) which is essential in removing saturated materials and preventing moisture from penetrating further into the building structure.

When assessing and repairing flood damage to buildings, surveyors should initially consider what further strip-out works are necessary to ensure the building dries out efficiently and to ensure there are no potential concealed problems that could manifest themselves in the future, i.e. trapped moisture could lead to long-term rot.

Typical strip-out works include removing second fix joinery to check for trapped moisture and lifting suspended timber floors to assess the underlying structure. Don't forget to strip out pipe boxings, stair soffits and impervious floor coverings to dry out concealed areas.

Plaster is often removed to help the substrate behind dry out. But in circumstances where a lime plaster or a more robust sand/cement render have been used, it may be possible to leave these *in situ*.

Watch for tracking

Surveyors need to consider where flood waters may have reached within the building, while noting the likelihood of capillary action and 'tracking' (gypsum plaster and plasterboard will often act like a wick to draw up moisture), and ensure these areas are assessed and dried accordingly. This may confirm areas have been unaffected by flood waters and the temptation to strip buildings unnecessarily should be avoided.

Surveyors will often liaise with drying companies to bolster the initial equipment installed. These companies will then be responsible for monitoring their systems and their effect on the building's moisture content. It is essential that a drying certificate is ultimately obtained, confirming that pre-damage moisture content levels have been restored. There are different systems for measuring moisture content: the safe benchmark for timber is 16% wood-moisture equivalent or if using a Protimeter MMS device in 'search' mode, less than a 160 reading.

Surveyors should always ask the drying companies to highlight areas with high moisture readings. Even if these don't relate to flood damage and may be a pre-existing damp problem, e.g. failed dpc, the surveyor

should consider repairing this to prevent problems from occurring in the future. However, it is highly unlikely that works relating to an inherent problem would be funded by an insurer.

To help identify the cause of a problem, it is important to look at its age. I recall seeing major rot to floor timbers that a policyholder claimed had only occurred due to recent flood waters. This was simply not the case, with the rot having been evident for years previously.

Many drying companies are briefed by insurance companies or loss adjusters to simply restore the building to its pre-loss condition and are under no obligation to raise high damp readings with a surveyor. Hence, many repairs have been completed under the premise that the building was completely dry, and inherent damp problems have since recurred to the frustration of property owners. As a minimum, surveyors should look to bring these problems to a property owner's attention and give them the opportunity, albeit at their own expense, to make repairs.

Don't underestimate drying times

It is essential that surveyors and drying companies do not underestimate the time needed to fully dry a property following major flood damage and they will need to carefully manage the expectations of insurance companies, adjusters and property owners. While minor flood damage can be dried in as little as 2-3 weeks, properties with thick masses of construction, such as old farm houses, will take many months to dry out.

With drying equipment in demand during major flooding, and property owners anxious to get their buildings repaired and re-occupied, there is inevitably a temptation to cut short the drying process, but this is clearly not recommended. Professionals involved in advising flood victims need to explain this reasoning delicately as individual's homes and livelihoods are at stake.

Where drying is likely to take months rather than weeks, drying companies have specialist equipment that can rapidly dry buildings. But this can cause cracking to materials due to excessive drying, unless the internal conditions are precisely controlled using temperature and humidity thermostats and automatic adjusters. A rapid drying system should always be used with caution.

Another lesson from the major floods in Carlisle was not to be influenced by others who are assessing and repairing adjacent properties. Property owners will inevitably talk to their neighbours and wonder why certain actions have been implemented, or not. If a surveyor assesses a property methodically, they should stand by their approach unless the situation dramatically changes.

I can recall examining the middle of three Victorian villas. The buildings either side were virtually identical but the restoration teams provided quotes of £20k on one side and £300k on the other to fully reinstate the buildings. These were completely at odds with my figure of £100k. The reason for this variation was never fully established but probably related to complete ignorance of flood damage on one side and a very high contractor's quote on the other. I needed to thoroughly justify my intended actions to my client to address their doubts about this cost disparity. The final account was settled at around £100k.

The main message with stripping and drying is do not leave anything to chance as the potential later repercussions of rot, decay and further repairs will be unwelcome. Always investigate everything and make sure the flood water damage has been adequately dried and take into account any pre-existing damp concerns.

With thanks to David Gabriel, a Director of Davies Chartered Loss Adjusters, for his input to this article.

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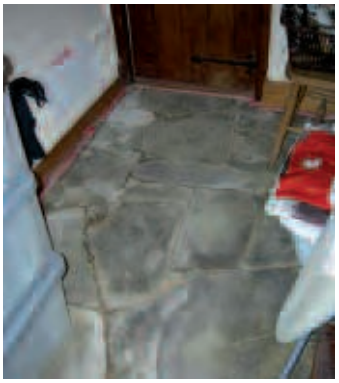
page 14 – How homes can be made more resilient to flood damage at the design stage

The June 2008 edition of *RICS Building Conservation Journal* had a 'Flooding' theme, *www.rics.org/journals*

Flood Damaged Property is available from *www.ricsbooks.com*

Exposing rubble walls to aid drying



Inherent damp problems with no DPM to stone flag floor

case study

A prime example of cutting short the drying process is a former mill building with stone walls some 750mm thick. The drying company, seemingly under pressure from the owners and wanting to use their equipment elsewhere, declared the building dry after a six-week 'traditional' drying operation involving dehumidifiers and air movers. The property owner then arranged their own cosmetic repairs under the impression that the building was dry.

However, some 12 months later, flood water began leaching from the walls and is now affecting the internal plaster and decorations. These areas may need to be completely stripped and allowed to dry out again, hence double the costs and disruption. This is likely to be funded by the drying company as their assurance over the condition of the property led to early inappropriate repairs by the building owner. I have known other similar properties to take as long as six months to fully dry out using traditional methods.

The drying company involved with the mill building claimed their six-week readings did confirm the building was dry, but this was literally within hours of their equipment being removed. They should always allow a 'cooling off' period (say, 10-14 days) after their equipment removal and then return to the site when equilibrium conditions have been restored to ensure genuine moisture content readings are obtained.