



Subterranean Structures

The freak storms are becoming more frequent and the associated flood claims have highlighted the high number of homes with vast underground structures in London. The Victorian drainage system, coupled with increased hard landscaping, lead to overwhelmed drainage systems looking for a path of least resistance which is often a basement. In this article, Mike Hurry, Technical Manager for Private Clients, and James Featherstone, Senior Associate Director at Brawdia building surveyors, discuss the issues and best solutions for dealing with basement claims.

The Dangers of Icebergs

Between 2008 and 2017, 4,650 basements were granted permission in just seven London boroughs.¹ Many of these basement structures (referred to as 'icebergs' by the press) have very high value contents and fittings such as entertainment areas, cinemas, swimming pools and treatment rooms. Crucially, almost all the plant that operates the whole house is contained underground too. The hi-tech mechanical and electrical plant is costly to replace and, if damaged, can render the whole house uninhabitable.

If the insured needs to move out of a residential property while the reinstatement work takes place, currently alternate accommodation costs remain high, with a lack of choice for those requiring higher specification properties. As a result, if only one area of the property is affected, alternative solutions should be considered e.g., if the kitchen is no longer functioning, a temporary kitchen

could be installed on site so the rest of the property can be continued to be used.

The type of water entering the basements can greatly influence how a claim is dealt with. During floods, the water entering buildings from sewerage system is foul which increases the cost of cleaning a property and can render more items beyond economic repair. The type of existing waterproofing for the building (coatings v egg crate systems) and whether insulation is present or not can also have an impact on how the property should be dried.

Access can be an issue with some of these big basement properties, particularly if terraced where the only way out of the property is either through the front door or a small lightwell window. Lack of side, rear and stepped access at the front can have a big impact on timings, and ultimately cost, of remediation works, not to mention the inconvenience to the policyholder should they remain in the property.

Mitigating Flood Risks

The speed at which flash floods occur make it difficult to implement any effective 'at the time of event' mitigation measures. However, there are considerations which can be made in advance by various parties involved in subterranean buildings:

- The drainage systems tend to rely on effective use of sump pumps to pump out groundwater and effluent into the sewerage system above. To prevent backflow, or sewerage surcharge entering the basement, non-return valves (NRV) can be installed in the drainage system. If these have been in place and failed, insurers will often investigate, with the loss adjuster, to find out why such devices failed to prevent the surcharge into the basement.
- Following the 2017 London floods, Thames Water installed FLIP devices (Flooding Local Improvement Project) to multiple properties where basements were affected by sewerage surcharge. A small, self-contained pumping unit is installed at the properties to transfer sewage and rainwater from private drains to the main sewer even during heavy rain. It is understood that the majority of these properties were protected in the July flooding from sewerage surcharge. Similar devices will be required in other properties affected by basement flooding.



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- Ensuring good building construction is key. For example, three recent flood properties we've seen all flooded through poorly sealed service penetrations, that exist for the likes of external electricity and gas cables to come into properties. One such three-storey basement had flooded via a four-inch duct where the electricity cables were coming into the property.
- Resilient measures such as door seals and flood gates should be considered. There is clever technology available which doesn't require 'at the time of event' action by the policyholder, such as air bricks that seal when they are hit by water, preventing water ingress to cavities beneath houses.

Conclusion

Many London boroughs have now banned more than single storey basement extensions, however the vast number already in existence must remain alive to the possibility of flooding. Its key when considering preventative measures that properties be assessed on a case-by-case basis, what's right for one property may not necessarily work on another.

It remains early days in terms of how these losses will impact on renewals, and the terms underwriters are prepared to offer, with a greater number of these risks being ceded to Flood Re, whose criteria for acceptance may then be reviewed. What seems inevitable is that losses of this nature will re-occur, and the insurance industry will inevitably realign its response.



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This article is a joint piece by McLarens and Brawdia, who offer a range of expert surveying services for commercial and residential property stakeholders and property insurance professionals.



[Brawdia.com](https://www.brawdia.com)

References

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