

11 August 2015

26 MELVILLE ROAD LONDON SW13 9RJ

FLOOD RISK ASSESSMENT

Site details

The property is a two-storey late nineteenth century semi-detached house. It is located in Flood Zone Three on the Environment Agency map and is approximately 500 metres from the river Thames. The ground level in the adjoining road is 5.1M AOD. The ground floor level at the front of the property is approximately 300mm above the road and the garden is 100mm above it. The subsoil in this area is generally free draining compacted gravels which remain dry in normal conditions.

The risk in Flood Zone Three is 0.5% or 1 in 200 chance each year of flooding from the tidal river or sea if there were no flood defences in place, or if they were overwhelmed. On the SFRA (2010) Flood Hazard Map, the application site is within an area rated as low hazard.

Design

The main design issue, in our view, is a practical solution to cope with sudden large volumes of water from heavy storms. The proposed extension will be lower than the existing sewer outlet. However, the new structure will be protected with a free draining Delta membrane to BS8102 guaranteed for 30 years. This membrane will allow all ground water to drain to a sump and dual pump system, with backup battery power, high-water level alarm and also incorporating a non-return valve to prevent back flow from the main sewer. The light well will be the only route by which floodwater would enter the basement. The base of the light well will have a gully to channel surplus water directly to the pumping system. The volume of a small domestic basement extension is too insignificant relative to the ground it occupies to have any real impact on the overall drainage.

Conclusion

The flood defences for the capital are extremely robust so the chances of catastrophic inundation are minimal. Should the 1 in 200 event happen the proposed pumped drainage coupled with the high-water level alarm would mitigate the speed and level of inundation and the alarm would warn the occupants of any imminent danger. The internal stairway will provide a safe means of escape to ground floor level in such an event. The proposed basement extension will not incorporate any sleeping accommodation. Taking all the aforementioned into account, the risk to life is remote.