

1 December 2023

To: Emilie Bateman  
Planning Officer  
Planning, Regeneration and Environment  
Central Services  
Hillingdon Council

Ref: 80690L1  
Subject: [Basement Impact Assessment: 148 Pine Gardens, HA4 9TH](#)

Dear Ms Bateman,

GeoSmart were appointed to undertake the surface water and groundwater flood risk aspects of a Basement Impact Assessment (BIA) for the Site of 148 Pine Gardens, Ruislip, HA4 9TH. This letter briefly sets out the findings of the BIA and the response to the latest council comments dated 7<sup>th</sup> of November 2023.

The report was instructed to support the retrospective planning permission of the waterproof tanking of an existing level basement level beneath the garden room outbuilding at the southern boundary. It is understood that this feature was excavated two years ago, only requiring the final design aspects.

The data used to compile the assessment included information from BGS mapping, the Thames Valley Model, the Environment Agency, the Client and GeoSmart's Groundwater Flood Risk Mapping. Whilst it is noted that no Site-investigation or borehole data was available within the vicinity, given our understanding of the geological setting the Site is underlain by the Lambeth Group bedrock which is unlikely to contain significant groundwater. Groundwater seepage from isolated permeable horizons within the bedrock may be encountered and while this should be monitored it is unlikely to be a significant flow.

Based on information from the Client it is understood that as part of the construction of the basement a series of waterproofing and flood resilience measures will be incorporated within the design, including:

- The wall floor junction installed with a dry lining system with overlaps sealed used sealing rope.
- A damp proof membrane has been installed beneath the concrete slab.
- A drainage channel has been installed of assumed sufficient capacity and fall proposed to discharge to a soakaway. This includes an Aqua channel at the floor junctions at the base of the wall to further facilitate the positive drainage of the development.
- A drainage pump has been added to the existing sump at the entrance to the basement discharging via the aforementioned route.

Based on information from the Client for the entire two year period of the basement being excavated no groundwater flooding has been experienced.

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Based on our understanding of the geological setting and the measures already incorporated into the design, we are of the view that further investigative works are unlikely to be necessary or result in a conclusion which differs from the above.

Furthermore, in regards to the potential increasing of flood risk to other recipients; given the detached nature of the basement, depth of aquifer and assumed limited groundwater present the disruption of any flows is not deemed likely.

Providing the waterproofing and flood resilience measures are correctly installed, in-line with the manufacturers guidance it is unclear what further recommendations may be implemented into the design and therefore should not be deemed a necessary stage.

I trust the above sets our position clearly, if not please don't hesitate get in touch.

Yours sincerely,



James Robinson  
ENVIRONMENTAL CONSULTANT