

46 Avenue Road

Non-Technical Summary of the evidence gathered against each Stage of the BIA.

Introduction

The basement proposal is for the formation of a new single storey basement beneath the existing property combined with a two storey basement beneath a large extent of the garden area behind the property.

This non-technical summary is necessarily a simplification of the full BIA process and further reference should be made to the full documents which naturally take precedence. The evidence gathered at each of the five stages of the BIA process, as defined in CPG 4, is summarized as follows:

Stage 1: Screening

The matters of concern identified at the Screening stage, prior to further examination, and through the CPG 4 flowcharts were:

The property is close to where old Tyburn River tributaries cross Avenue Road and this was identified as requiring specific attention for the subsequent stages of the work and in case there might be higher than expected subsurface groundwater flow.

In addition the presence of the proposed new basement in the garden area indicated that the way in which surface water flow was currently attenuated or carried to sewers need to be closely addressed in relation to the new proposals. It was also known at this early stage that the London Clay rises close to the surface and therefore since this most usually blocks water flow much of the surface water locally must presently find its way quite quickly into local sewers. Furthermore, Avenue Road is identified as a street at risk of flooding in CPG4.

The ground surface in the area on and just around the Site slopes by no more than 3.6 degrees which is sufficiently small that no particular broad land stability questions are raised for the London Clay. There are close neighbouring properties on either side on Avenue Road with anticipated higher foundations and the impact of the whole basement installation work would need to be considered carefully with respect to these buildings.

Stage 2: Scoping

The identified matters of concern were further considered and this included the writing of a “Desk Study” by which publicly available information was studied on local geology, ground and surface water, services and the local building and land history using old maps. This then informed design of the Site Investigation. The key questions affecting potential impacts were clearly going to be how high the London Clay came to the surface; whether it contained continuous permeable layers and so whether groundwater could move rapidly through or above it.

Stage 3: Site Investigation and study

Three deep boreholes were carried out across the Site with local inspection pits near the surface and indeed the London Clay or old building work that included this clay (Made Ground) was found consistently within about 1m of the surface. Recovered samples of the London Clay below 1m depth

were closely inspected in the laboratory and no permeable silt or sand layers were in evidence. The evidence therefore supported the already expected likelihood that surface water would tend to stay above this layer and as is often found.

While digging the inspection pits a small depth of around 300mm of groundwater was found overlying the Clay at the lower end of the Garden area with builder's pea shingle above this and it seems that this area picks up some of the rainwater runoff from the higher end of the Garden where the clay rises to the underside of the topsoil. Again this strengthened the reasonable expectation that the groundwater runs over the London Clay surface.

Stage 4: Impact Assessment

The key findings of the previous stages of work in relation to the scheme impact were:

The ground was essentially London Clay beneath a zone of up to around 1m of disturbed ground;

While groundwater was found just beneath the ground surface its flow was taken to be over the surface of the Clay.

The consequences of the findings were examined carefully and showed:

Surface water may presently have some degree of storage within the thin zone of ground above the London Clay. The proposed design provides a similar depth of granular material just beneath the proposed new topsoil and above the garden section of the new basement. The clay does not absorb groundwater well but the overall loss of surface area exposed to infiltrating surface water is small. Changes to water flow crossing the site boundaries is negligible.

A flood risk assessment indicated that while Avenue Road itself is at risk of flooding, the built portion of the Site which is at a slightly elevated level, is above this. Nonetheless precautions will need to be taken in the detailed design to ensure that flood waters cannot overtop entrance points to the basement by guaranteeing a minimum level as established.

The proposed basement is formed with a piled wall at the perimeter. The local ground movement effects of pile installation, excavation and basement formation were assessed and the impact on the adjacent structures of numbers 44 and 48 Avenue Road. These structures are set back from the new basement perimeter line and the assessment indicated for both of these that the potential damage was no greater than 'negligible' according to the Burland scale and assuming good construction practice.

Stage 5: Review and decision making

The details of the BIA with respect to surface water issues and drainage were discussed with Planning representatives and following initial submission and the revised and final BIA was accepted without independent assessment and following its initial Application in 2011.

Dr Adam Pellew, RKD Consultant Ltd, 28th March 2014