# BASEMENT IMPACT ASSESSMENT
# SCREENING DOCUMENT

**PROJECT:** **SAN HOUSE**
**HAMPSTEAD**
**LONDON**
**NW3 6AB**

**PROJECT NO:** **C769710 / REP / 03 / Rev B**

**DATE:** **May 2012**

vkhp-consulting
civil and structural

The Forge • Little Mount Sion • Tunbridge Wells • Kent TN1 1YS
**01892 521841** • Fax 01892 533149 • tw@vkhp.co.uk

340 High Street • Dorking • Surrey RH4 1QX
**01306 881012** • Fax 01306 881190 • dkg@vkhp.co.uk

Millstream House • 12 North Street • Storrington
West Sussex RH20 4NZ
**01903 740090** • Fax 01903 740091 • sto@vkhp.co.uk

vkhp-consulting
civil and structural

# DOCUMENT CONTROL SHEET

**Document Title:** **Basement Impact Assessment Screening Document**

**Document No:** **769710 / REP / 03**

**ISSUE RECORD:**

| ISSUE | ISSUE NOTE | DATE |
|---|---|---|
| - | Issued for Comments | 31 August 2011 |
| A | Issued for Planning | 14 September 2011 |
| B | Issued for Planning | 04 May 2012 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| Author: | Toby Robinson<br>Director<br>MEng CEng MIStructE MICE |  |
| Checked: | Toby Robinson<br>Director<br>MEng CEng MIStructE MICE |  |
| Approved: | Chris Phillips<br>Director<br>CEng MIStructE MFPWS |  |

# CONTENTS

# 1. Introduction

vkhp consulting ltd have been instructed by Jez San to carry out the initial screening process to address the points raised by Camden Planning Guidance in CPG4 for Basements and Lightwells.

This process has been supported by reports and investigations carried out on site by Card Geotechnics and Landmark Trees.

## Part 1: Ground water flow

**Question 1a: Is the site located directly above an aquifer?**

Answer: Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

**Question 1b: Will the proposed basement extend beneath the water table surface?**

Answer: The proposed basement works will be to a depth of approximately 89.350m AOD. The level of the water table is defined by Card Geotechnics in the separate Geoenvironmental and Flood Risk Interpretative Report.

**Question 2: Is the site within 100m of a water course, well (used/disused) or potential spring line?**

Answer: No. Figure 11 of the Camden Geological, Hydrogeological and Hydrological Study shows we are close to a tributary of the Westbourne, approximately half way down the hill to Finchley Road. This watercourse is at a level of approximately 70m AOD compared to the lowest point on site of 89.35m AOD. This is a distance of approximately 200m away. Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

**Question 3: Is the site within the catchment of the pond chains on Hampstead Heath?**

Answer: No. The site is well outside of the boundaries shown on Figure 14 of the Camden Geological, Hydrogeological and Hydrological Study.

**Question 4: Will proposed basement development result in a change in the proportion of hard surface/paved areas?**

Answer: There is no change proposed to the proportion of hard landscape.

**Question 5: As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?**

Answer: No. The intention is to restrict discharge to the sewers to present levels. Run off from any additional hard landscaping will be directed into on site soakaways to as near as possible replicate the present arrangement.

**Question 6:** **Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than the mean water level in any local pond (not just the pond chains on Hampstead Heath) or spring line?**

Answer: The local tributary of the Westbourne is about halfway down the hill to Finchley Road. This watercourse is at a level of approximately 70m AOD compared to the lowest point on site of 89.35m AOD.

The site is above all of the Highgate Chain (maximum crests of 81.75m AOD) and most of the Hampstead Chain of ponds with the exception of the Vale of Heath at 105.7m AOD and the Viaduct pond at 90.1m AOD.

These ponds are over 1km away and not expected to cause any risk of flooding to Arkwright Road.

## Part 2: Slope stability screening

**Question 1: Does the existing site include slopes, natural or manmade, greater than 7 degrees (approximately 1 in 8)?**

Answer: The existing ramp from the front of the property to the back garden is at a slope of approximately 1 in 8. In addition there are small localised areas of landscaping in the back garden where the ground slopes at greater than 1 in 8 over short distances. There are also a number of small garden retaining walls around the site.

**Question 2: Will the proposed reprofiling of the landscaping at site change slopes at the property boundary to more than 7 degrees (approximately 1 in 8)?**

Answer: No. The slopes at the boundary of the site will not be changed to more than 7 degrees.

**Question 3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7 degrees (approximately 1 in 8)?**

Answer: No.

**Question 4: Is the site within a wider hillside setting on which the general slope is greater than 7 degrees (approximately 1 in 8)?**

Answer: No.

**Question 5: Is the London Clay the shallowest strata of the site?**

Answer: No. The shallowest strata is the Claygate Beds. The London Clay is encountered at approximately 9-10m below existing ground level. Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

**Question 6: Will any tree/trees be felled as part of the proposed development and/or any works proposed within any tree protection zones where trees are to be retained?**

Answer: Yes, trees are to be felled. Please refer to the Arboricultural report and proposed landscaping layouts for further information.

**Question 7: Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?**

Answer: Yes. London Clay is known to cause shrink-swell subsidence locally. Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics. The structure will be designed to take account of the detailed recommendations given in the final site investigation report, to be provided by Card Geotechnics in due course, to negate the effects of shrink-swell.

**Question 8:** **Is the site within 100m of a water course and/or a potential spring line?**

Answer: No. Figure 11 of the Camden Geological, Hydrogeological and Hydrological Study shows we are close to a tributary of the Westbourne, approximately half way down the hill to Finchley Road. This watercourse is at a level of approximately 70m AOD compared to the lowest point on site of 89.35m AOD. This is a distance of approximately 200m away. Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

**Question 9:** **Is the site within an area of previously worked ground?**

Answer: The site is largely within the existing footprint of a building built in the 1800's.

**Question 10:** **Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?**

Answer: Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

**Question 11:** **Is the site within 50m of the Hampstead Heath ponds?**

Answer: No.

**Question 12:** **Is the site within 5m of a highway or pedestrian right of way?**

Answer: Yes. The site borders Arkwright Road.

The main basement works are within the existing footprint of the building and are no closer than the existing basement to the road and are some 9m from the kerb line.

There are limited works remodelling the existing lightwell locally which are generally no closer than 5m from the kerb line with the exception of a disabled platform lift which is 4m from the kerb.

**Question 13:** **Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?**

Answer: The new foundations will be piled to depth although the final form will be defined following the outcome of the site investigations. As such the building is unlikely to have a significant impact on the surrounding buildings. The foundations will be defined in accordance with the detailed recommendations of the final site investigation report provided by Card Geotechnics in due course.

**Question 14:** **Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?**

Answer: No. Please refer to the separate Geoenvironmental and Flood Risk Interpretative Report provided by Card Geotechnics.

## Part 3: Surface flow and flooding screening

**Question 1:** **Is the site within the catchment of the pond chains on Hampstead Heath?**

Answer: No. We are outside of the boundaries shown on Figure 14 of the Camden Geological, Hydrogeological and Hydrological Study.

**Question 2:** **As part of proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?**

Answer: No. The proposal is to utilise existing routes to the sewer.

**Question 3:** **Will the proposed basement development result in a change in the proportion of hard surfaced/paved external areas?**

Answer: No.

**Question 4:** **Will the proposed basement result in changes to the profile of the in-flows (instantaneous and long-term) and surface water being received by adjacent properties or downstream water courses?**

Answer: No. Catchment and distribution routes will fundamentally remain as existing.

**Question 5:** **Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?**

Answer: No.

**Question 6:** **Is the site in an area known to be at risk from surface water flooding, such as South Hampstead, West Hampstead, Gospel Oak and King's Cross, or is at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?**

Answer: A Flood Risk Assessment in accordance with the principles outlined in PPS25 has been included in this submission.

The Environment Agency maps show that this area is not considered at risk of flooding from either reservoir or rivers and the sea. However Arkwright Road is specifically mentioned in the roads at risk of flooding on Page 29 of CPG4.

**Prepared by**

**Toby Robinson**
MEng(Hons) CEng MIStructE MICE
Director

May 2012

## Appendix 1 Recommended Supporting Documents

This BIA Screening Document is provided as part of the overall planning submission for 9 Arkwright Road. The package includes the following which should be referred to in reading this document:

- Plans on the proposed development at Basement and Garden Levels, existing and proposed.
- Maps and Photographs of the Project showing the relationship with surrounding buildings and topography.
- Indicative Programme
- Arboricultural Impact Assessment Report – by Adam Hollis of Landmark Trees
- Geoenvironmental and Flood Risk Interpretative Report – by Card Geotechnics
- 769710 / REP / 04 - Flood Risk Assessment – by vkhp Consulting