



**1 RANULF ROAD  
LONDON  
NW2 2BT**

**BASEMENT IMPACT ASSESSMENT  
SUMMARY**

UM/PC/8776 – Version 1.0

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## 1.0 INTRODUCTION

- 1.1 This document has been provided as a further clarification and information requested by LBH Geo is part of the review of the BIA document submitted. The report is based on Section 2.10 of CPG4 Camden Planning Guidance – Basements and Lightwells (September 2013) for a summary of the Basement Impact Assessment (BIA).
- 1.2 The document also summarises in a non-technical way the information that has been gathered and the technical analysis undertaken to show compliance with Camden Development Policy DP27 Basements and Lightwells.
- 1.3 The proposed development comes within the category of “smaller schemes” as described in DP27 Section 27.3 as it clearly makes a distinction between deeper to shallow basements. Such schemes require the submission of a lower level of assessment by a professionally qualified experienced engineer that the proposed development will not harm the built and natural environment or local amenity.
- 1.4 Council policy DP27 in conjunction with CPG4 sets out each step to be followed in the preparation of a BIA. This summary document will outline each of the stages considered in the TWS BIA report:
- Stage 1 – Screening
  - Stage 2 – Scoping
  - Stage 3 – Site investigation and study
  - Stage 4 – Impact assessment
  - Stage 5 – Review and decision making.

## 2.0 CONSULTANTS

- 2.1 The principal consultant is appointed on the basis of a "smaller scheme" as Chartered Engineer and his extensive experience in dealing with similar schemes in the locality (including Hampstead Village) and in Central London:
- Simon Lane B.Sc.(Eng), CEng, FICE, FStructE, FConsE of Taylor Whalley Spyra (TWS). Copy of CV attached under Appendix A.

There is clearly no need given the size and depth of the project to employ a geotechnical consultant.

## 3.0 THE BIA PROCESS

- 3.1 This section of the summary provides an outline of the stages decision making process.

### STAGE 1 – SCREENING

- 3.2 Screening is the process of identification of matters of principal concern necessitating further investigation viz:
- Groundwater flow
  - Land stability
  - Surface flow and flooding.
- 3.3 The BIA screening confirmed that each of the 3 above issues are low risk and no further investigation is needed as the depth of excavation is only a further 1.0m below the existing foundations and there is no impact on next door property.

- 3.4 The screening process comprises a flow chart in which a series of questions relating to the site and the surrounding area are posed. The answer "Yes" within any category of questions establishes the need for an evaluation of the risk imposed.

### **STAGE 2 - SCOPING**

- 3.5 This stage evaluates the potential impact identified within each element of the screening process and leads to a determination of the further investigation required. As the basement is considered a "smaller scheme" a ground investigation and trial holes were carried out locally to check impact on next door property and extent of work.

The rear extension is not considered a basement area as the majority of the structure is above ground.

### **STAGE 3 – SITE INVESTIGATION AND STUDY**

- 3.6 This stage has resulted in investigating the depth of existing foundations and ground conditions with the following information:

- A topographical survey of the site clarifying boundaries and the changes in level both across the site and from the rear to the front.
- Ground investigation comprising 3 No. trial pits and subsequent monitoring for any ground water levels.
- Search of historic ordnance maps and geological maps identifying water courses in the locality.
- Reference to recorded boreholes.
- Identification and location of utilities within the site and the public highway.
- Review of the Camden Geological, Hydrogeological and Hydrological Study - particularly watercourses, Camden surface water features, Hampstead Heath surface water catchment and drainage, flood maps and slope angle map.
- Engineering solutions for the temporary and permanent conditions to address site conditions and to ensure that the effect on surrounding structures is acceptable.
- Preliminary design calculations to look at the design of the walls and stability of the site.

### **STAGE 4 – IMPACT ASSESSMENT**

- 3.7 This stage evaluates the data that has been collected and sets out the implications of the project.

#### **Drainage & Surface Water Flow Appraisal**

- 3.8 The BIA sets out the site conditions and results from the trial holes. The conclusion is that the depth of excavation is low and there is no detrimental influence on the new basement area and neighbouring properties in respect of groundwater.

#### **Land Stability and Sequence of Works**

- 3.9 The construction sequence and impact on neighbouring properties were considered, in particular excavation depth and movements. See Appendix B for drawings.

- 3.10 **CPG4 paragraph 2.31** sets out Camden's policy as regards the degree to which adjacent properties can be adversely affected by a basement development. The BIA complies with these requirements in all respects. In summary there are two main elements viz

- a. degree of cracking predicted in adjacent structures.

- b. where water ingress to neighbouring gardens or properties is predicted to be damaging to residential amenity.

- 3.11 **Degree of Cracking** - The policy relates to the Burland criteria and permits damage not exceeding the category of "slight" being cracks up to 5mm in width. The engineers can predict the degree of cracking that will arise by assessing the degree to which the walls of the basement will deflect under load. However, as excavation is small and next door neighbours also have a basement, the degree of movement is expected to be "negligible".
- 3.12 **Risk of Water Ingress** – the design eliminates this risk by providing a granular material below the slab to permit the natural ground water flow to continue through the site without being dispersed laterally onto adjacent land.

### **Surface Flow and Flooding**

- 3.13 Surface flow and flooding are substantially unaffected by the proposed development as the new basement area and the rear extension with its paved areas will have a similar site coverage as the existing house.

### **STAGE 5 – REVIEW AND DECISION MAKING**

- 3.14 Extensive research of historical records and current projects within the locality and investigations have all contributed to enable a BIA to evolve that contains the essential elements to achieve compliance with planning policies DP27 and CPG4.
- 3.15 The BIA is not a detailed design but provide substantial technical detail and engineering application to establish that the development:
  - a. Is capable of being safely constructed without undue risk either on site or to neighbouring properties.
  - b. Will not adversely affect any aquifer.
  - c. Will include measures to maintain current groundwater flows through and across the site in both the temporary and permanent state.
  - d. Will be compliant with the requirements of Thames Water as regards groundwater and surface water run off and will not increase the risk of flooding in the area.
  - e. Will not result in damage to neighbouring land and buildings beyond that predicted in the Burland classification viz acceptable tolerance.
- 3.16 The BIA emphasises the need for continuous monitoring and observation of both land and buildings to ensure that all movement is controlled to within strict parameters.

For and on behalf of  
TAYLOR WHALLEY SPYRA



SIMON LANE  
BSc(Eng), CEng, FICE, FStructE

**APPENDIX A**

**SIMON LANE CV**

## **APPENDIX B**

### **DRAWINGS**