conisbee | Consulting Structural Engineers
Consulting Civil Engineers

24 Narcissus Road,

London NW6

Basement Impact Assessment – Screening and Scoping Report.

London
1 – 5 Offord St London N1 1DH
Telephone 020 7700 6666

Norwich
2 Woolgate Court
St Benedicts Street
Norwich NR2 4AP
Telephone 01603 628 074

Cambridge
47 – 51 Norfolk Street
Cambridge CB1 2LD
Telephone 01223 656 058

design@conisbee.co.uk
www.conisbee.co.uk

Ref: 140766/HH

Date: 21 October 2014

Rev No: -

1.0 INTRODUCTION

1.1 It is proposed to extend the existing basement to the rear and in a stepped manor to the side to no 26 Narcissus Road to avoid undermining the party wall. A relatively shallow light well / extended bay will be formed to the front to allow natural light.

1.2 This report has been prepared in response to Paul Tichener's letter dated 14th Oct (Ref. 2104/6201/INVALID) and Camden Development Policy DP27. With reference to the letter stating a stage 3 BIA is not expected in the instance, and paragraph 27.3, it is noted that this proposal is a relatively modest scheme, without reducing the basement level beyond the existing single storey basement and keeps the basement within the footprint of the existing building, with the exception of the modest light-well, which remains external.

1.3 Following the format guidance in Camden Planning Guidance CPG4, the stages for a Basement Impact Assessment are:

- Stage 1 - Screening;
- Stage 2 - Scoping;
- Stage 3 - Site investigation and study;
- Stage 4 - Impact assessment;
- Stage 5 - Review and decision making.

This report follows the Flow Charts and uses the Figurative information given in the Camden Geological, Hydro-geological and Hydrological Study to submit data with relevance to the small scale of this project to address stages 1 and 2.

1.4 The Flowcharts of Appendix E to the Camden Geological, Hydro-geological and Hydrological Study are completed in table format in section 3 of this report and form the screening element of this report, including:

- Surface Flow and Flooding Impact Identification
- Subterranean (groundwater) Flow Impact Identification
- Slope Stability screening flowchart

1.5 24 Narcissus Road, NW6 is located with an arrow on the relevant Figures of the Camden Geological, Hydro-geological and Hydrological Study, appended to this report, Appendix A.

1.6 The street was not flooded in 1975 or 2002 and it is not in an area deemed to be at risk of flooding therefore a Flood Risk analysis is not required.

1.7 Again reflecting the size of the scheme, a brief scoping report is provided in section 4, to be commented upon by Camden. It is hoped this and the FRA will satisfy the requirement of DP27 in terms of consideration to the Geological, Hydro-geological and Hydrological effects of the development.

2.0 INFORMATION ON THE SITE

2.1 The terraces forming narcissus Road were built circa 1880's, they are difficult to identify on historic OS maps, being at the corner of four maps, however it seems the area of park / farm land prior to 1860's and built up heavily between then and the turn of the next century.

2.2 There are several railways near too, though not very close to the site, and the West End Lane sidings lay south of the site, however the site has not been for industrial use.

2.3 Geological maps of the area indicate the area is underlain by London Clay.

2.4 The neighbouring properties are nos 22 and 26 Narcissus Road. Both these properties have part cellar/basement areas, the 22 & 24 sharing a party wall which is founded below the existing basement level. No reduction in the level is proposed. It is understood that other properties in the street have full basements.

3.0 PROPOSED SCHEME

3.1 It is proposed to extend the existing basement to the rear and in a stepped manner to the side to no 26 Narcissus Road to avoid undermining the party wall. A relatively shallow light well / extended bay will be formed to the front to provide natural light to the basement room.

3.2 The rear wall of the basement will need to be formed in a staged construction, or battened back, to avoid undermining the rear foundations.

3.3 The front bay wall will need to be underpinned (however not to full depth as the light well is some one metre before the finished external level).

3.4 Underpinning and staged construction will follow a sequence similar to that shown on the attached Arups figures, with reference to Figs. 19 & 20.

3.5 As mentioned in 2.4 the wall between No 22 and No 24 Narcissus Road will be unchanged.

3.6 The light-well wall will be a reinforced concrete retaining wall to ensure the front garden/patio area will be suitably retained, however is above a 45 degree line from the garden wall / pavement footings, so this wall is not expected to be undermined in forming this wall.

3.7 A structural scheme had been prepared for the proposed development and alterations to the basement. A structural scheme and temporary works information is appended to this report, Appendix B.

4.0 RESPONSE TO BIA SCREENING FLOWCHARTS

Appendix E: Camden geological, hydrological and hydrology study: Guidance for subterranean development.

4.1 Surface Flow and Flooding Impact Identification		
4.1.1	**Is the site within the catchment of the pond chains on Hampstead Heath?**	**No, refer to Figure 11 appended.**
4.1.2	**As part of the site drainage, will surface water flows (e.g. rainfall and run-off) be materially changed from the existing one?**	**No, the area of hard- surfaced areas remains the same.**
4.1.3	**Will the proposed basement development result in a change in the proportion of hard surface / paved external areas?**	**No, the existing front area is mainly paved and this remains so once the light well is formed.**
4.1.4	**Will the proposed basement development result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?**	**No – there is no runoff towards neighbouring terrace properties.**
4.1.5	**Will the proposed basement development result in a change to the quality of surface water**	**No. Any excavation will be into London Clay, which is impermeable and therefore should not affect downstream**

	being received by adjacent properties or downstream watercourses?	**watercourses.**

4.2	**Subterranean (groundwater) Flow Impact Identification**	
4.2.1	**Is the site located directly above an aquifer?**	**No, the site lies over London Clay, designated 'unproductive strata' on Figure 8, attached.**
4.2.2	**Will the proposed basement extend beneath the water table surface?**	**It is unlikely the basement lies within the water table, being London clay and with little evidence of a water table or water flows into /around the existing masonry basement.**
4.2.3	**Is the site within 100m of a watercourse, well (used/disused) or potential spring line?**	**No, refer to Figure 11,appended**
4.2.4	**Is the site within the catchment of the pond chains on Hampstead Heath?**	**No, refer to Figure 14 appended**
4.2.5	**Will the proposed basement development result in a change in the proportion of hard surface / paved areas?**	**No – the site is currently hard-surfaced, and remains so.**
4.2.6	**As part of the site drainage, will more surface water (e.g. rainfall and run-off) than present be discharged to the ground? (e.g. via soakaways and/or SUDS)**	**No – see above & the local ground conditions are not suitable for soakaway systems.**

4.3	**Slope Stability screening flowchart**	
4.3.1	**Does the existing site include slopes, natural or manmade, greater than 7 degrees (approx. 1 in 8)?**	**No.**
4.3.2	**Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7 degrees (approx. 1 in 8)?**	**No, none proposed.**
4.3.3	**Does the development neighbour land, including railway cutting and the like, with a slope greater than 7 degrees (approx. 1 in 8)?**	**No.**
4.3.4	**Is the site within a wider hillsetting in which the general slope is greater than 7 degrees (approx. 1 in 8)?**	**No.**
4.3.5	**Is the London Clay the shallowest strata at the site?**	**No – the clay over lays a thinner layer of Lambeth group formations – refer to figure 7, attached, however there is not a thinner layer of strata above the London Clay.**
4.3.6	**Will any tree/s be felled as part of the proposed development and/or any works proposed within any tree protection zones**	**No.**

	where trees are to be retained?	
4.3.7	**Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects on site?**	**London clay has high shrinkage potential, so it can be concluded there is a potential for seasonal affect depending on nearby trees. The depth of the proposed underpinning should take the foundations out of the influence of nearby trees.**
4.3.8	**Is the site within 100m of a watercourse or potential spring line?**	**No, refer to Figure 11.**
4.3.9	**Is the site within an area of previously worked ground?**	**No – from historical maps, narcissus Road was farm/park land prior to the terraces being construed in the 1870/80's.**
4.3.10	**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?**	**No, refer to figure 8.**
4.3.11	**Is the site within 50m of Hampstead Heath?**	**No.**
4.3.12	**Is the site within 5m of a Highway or pedestrian right of way?**	**Yes, the site is bounded by the highway to the front. However as discussed in 3.6 above the garden wall should not be undermined by the formation of the lightwell**
4.3.13	**Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?**	**No. Refer to 3.1 & 3.5 above.**
4.3.14	**Is the site over (or within the exclusion zone of) any tunnels, e.g. railways lines?**	**No.**

5.0 SCOPING

5.1 The screening undertaken on the proposed development has highlighted only one element which will need to be taken into account during the design and construction of the basement. This is, plus appropriate engineering issues:

5.1.1 *Proximately to the highway.* Whilst relatively close to the highway, the shallow new light well and stepped construction will ensure that the wall is not undermined. Refer to SSK001 appended.

5.1.2 *Underpinning.* Some walls that are not party wall will require staged construction / underpinning, as discussed above this is to be designed and constructed with traditional underpinning techniques in made that a competent contractor should be able to carry out.

5.2 In conclusion, the items of consequence may be addressed in the detailed design and considered construction of the basement.

Signed

Helen Hawker
MSc BEng MIStructE