# **PRICE**&MYERS

## 3 Aldred Road, NW6 1AN

#### **Basement Impact Assessment Screening Summary**

#### Introduction

This report summarises the initial screening undertaken to assess whether a Basement Impact Assessment (BIA) is required in response to the guidance for basement and lightwell construction adopted by the London Borough of Camden (LBC) following the Planning submission for the works at 3 Aldred Road, in accordance with Camden Planning Guidance - Basements and Lightwells (CPG4) including Camden Development Policies DP27.

#### **Description Of Proposed Development**

The project comprises two aspects:

1) Works above ground in extending the existing kitchen and rear wing to provide larger internal rooms. The only increase in footprint is from the kitchen extension sidewards to the boundary line over the existing concrete footpath/patio area.

2) Extension of the existing lower ground floor cellar by approx. 1.3m downwards (to provide suitable clear-height and permit habitable use of the lower ground floor) and outwards beneath the existing front yard to permit installation of rooflights and provide direct sunlight access to the lower ground floor.

Structural works to part 1 comprise installation of new steel transfer structure to the building rear above ground level, with simple pad/strip foundations and ground beams as appropriate.

Structural works to part 2 comprise:

- Conventional mass concrete underpins installed on each party wall line to extend support to accommodate the proposed lower ground level.
- Reinforced concrete raft slabs and retaining walls will constructed within the underpins to prop and restrain the walls.
- Steel beams will be installed beneath upper ground floor to maintain support to the upper floors ٠ and prop the head of the RC liner walls (which will be extended to below upper ground floor level).
- Reinforced concrete underpins will be formed in a multi-level pour sequence adjacent to the public highway on Aldred Road to maintain support to the street and roadway throughout the works. (There is insufficient access for piling rigs and the small length required would be uneconomical.)

Indicative structural plans and outline underpinning sequences are attached as Appendix C.

#### Screening Exercise

The screening exercise in appendix A has been undertaken in accordance with the usual procedure for a full Basement Impact Assessment. References are attached as appendix B and the site specific geotechnical investigation is attached separately - see Aviron Geotechnical Ground Investigation Report 15-190.02.

## Conclusion Of Screening Exercise & Recommendation

From the screening exercise and site geotechnical investigation:

- The works proposed will not affect surface water, ground water or risk of flooding.
- The ground strata are typical for London, predominantly London Clay and no stability issues are expected.
- The modest extension to the existing lower ground floor to increase the storey height by 1.3m should not adversely affect adjoining properties.
- The construction proposal for mass concrete underpins and RC liner wall is a well-established method that has been demonstrated to work acceptably over many years.

Given the small increase in foundation depth and the conventional construction techniques proposed, together with the very low risk of surface water flooding it would appear that a full BIA is not appropriate for this project. We request that planning permission be granted without requirement for production of a full Basement Impact Assessment.

By: Checked: Date: Revision:	l Kisby MA MEng P Hudson BSc CEng MICE MIStructE July 2015 B
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## \* STRUCTURES 👃 GEOMETRICS 🌾 SUSTAINABILITY 🔘 INFRASTRUCTURE

## APPENDIX A

Table 1-Subterranean (Ground Water) Screening Chart

Impact Question	Answer (Yes/No)	Justification	Reference
Q 1a: Is the site located directly above an aquifer?	No	The site is not on or near an aquifer, and is at least 500m from any groundwater vulnerability zones	
		(Environment Agency shows the nearest aquifer is a minor aquifer approximately 500m to the northeast)	
Q 1b: Will the proposed basement extended beneath the water table surface?	No	Perched water was encountered near the surface but the permanent water table was not encountered by the exploratory borehole undertaken.	See section 2.4 Aviro ref: 15-190.02
Q 2: Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	No	No above ground water courses exist within 500m of the site. Colverted rivers have been checked against historical maps and the nearest underground river is	See section 1.3.1 Avir ref: 15-190.02
		the Westbourne approximately 200m South-East of the site	Figure 1 – Extract from
Q 3: Is the site within the catchment of the pond Chains on Hampstead Heath?	No	The site is in unproductive strata, and too far from the ponds to contribute.	
Q 4: Will the proposed basement development result in a change in the proportion of hard surfaced/paved areas?	No	The rear extension builds over paved areas only and the lower ground extension does not require creation of any additional hard landscaping to the front yard.	
Q 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)?	No	Neither the rear extension or lower ground extension change the volume of water run-off to the ground, and no soakaways/SUDS are proposed.	
Q6: 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 ponds chains on Hampstead Heath) or spring line.	No	The site investigation advises there are no local ponds to be considered and that natural ground water level is below the proposed excavation formation level.	See section 2.4 Aviro ref: 15-190.02

## Table 2 - Slope Stability Screening Chart

Impact Question	Answer (Yes/No)	Justification	Reference
Q 1: Does the existing site include slopes, natural or manmade, greater than 7°? (approximately 1 in 8)	No	<ul> <li>Aldred road is on a gentle slope, with circa 5m rise over the length of the street approx. 100m - a fall of approx. 1:20.</li> <li>The site itself has a natural fall across the site of 1:20 which follows the slope of Aldred Road. The fall from function for the street approx.</li> </ul>	Figure 2 – OS map ext
Q 2: Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7°? (approximately 1 in 8)	No	The proposed development will not affect ground profiles or levels.	
Q 3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°? (approximately 1 in 8)	No		Figure 2 – OS map ext
Q 4: Is the site within a wider hillside setting in which the general slope is greater than 7°? (approximately 1 in 8)	No	The wider area continues the gentle gradient of the road itself.	Figure 2 – OS map ext
Q 5: Is the London Clay the shallowest strata at the site?	Yes	The ground condition according to the British Geological Society records comprises London clay with no superficial (geological) surface deposits. This was confirmed by a site borehole: The surface strata comprises made ground/reworked	Figure 3 BGS extracts See Aviron Geotechr 190.02

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		<ul><li>clay with brick rubble onto undisturbed London clay at 3m depth below street level.</li><li>Trial pits confirmed the existing property founds directly onto clay. The London clay extends to 15m where the borehole was terminated.</li></ul>	Figure 6 – BH record below for ease of refer
Q 6: Will any tree/s be felled as part of the proposed development and/or are any works proposed within any tree zones where trees are to be retained?	No	The proposed Lower Ground floor extension is beneath the existing house and paved courtyard. No trees are present in the front courtyard.	
Q 7: Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?	No	No evidence of moisture induced ground movement was observed on site during our visit. The works would deepen the existing foundations providing greater resistance to such movement in future.	
Q 8: Is the site within 100m of a watercourse or a potential spring line?	No	No above ground water courses exist within 500m of the site. Colverted rivers have been checked against historical maps and the nearest underground river is the Westbourne approximately 200m South-East of the site	See section 1.3.1 Avir ref: 15-190.02 Figure 1 – Extract from
Q 9: Is the site within an area of previously worked ground?	No	The predominant ground condition is undisturbed London Clay extending to depth. A shallow band of made ground (clay with brick rubble) exists at the surface but this is typical for London and buildings of this nature. The proposed works would found onto the virgin clay.	
Q 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	The water table lies below the level of excavation proposed, and the geotechnical investigation states that no dewatering should be required during the works. Aviron Geotechnical Ground Investigation Report ref: 15-190.02.	Aviron Geotechnical ( section 3.1 Figure 5 shows no aqu
Q 11: Is the site within 50m of the Hampstead Heath ponds?	No	The closest Hampstead Heath Pond, north of South End Green is approximately 2.1km away	
Q 12: Is the site within 5m of a highway or pedestrian right of way?	Yes	The front of the proposed extension under the courtyard abuts the public highway pavement.	
Q 13: Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No	The party wall footings will be deepened by 1.3m using conventional mass concrete underpinning along the full building length to each side of the site. This is modest increase is standard practice and should not unduly affect the buildings. The deeper foundations would offer enhanced resistance to any moisture induced ground movement (heave/subsidence or shrink-swell).	
Q 14: Is the site over (or with the exclusion zone of) any tunnels e.g. railway lines?	No	All London Underground, Overground and Network Rail lines run at the surface in this area and do not affect the site. No other tunnels are expected.	

## Table 3 - Surface Flow And Flooding Screening Chart

Impact Question	Answer (Yes/No)	Justification	Reference
Q 1: Is the site within the catchment of the ponds on Hampstead	No	The site is in West Hampstead and the closest	
Heath		Hampstead Heath Pond, north of South End Green is	
		approximately 2.1km away. The property is outside the	
		area shown in figure 14 of The Camden Geological,	
		Hydrogeological and Hydrological Study	
Q 2: As part of the proposed site drainage, will surface water	No	The area of hardstanding on site is not affected and	
flows (e.g. volume of rainfall and peak run-off) be materially		ground surface profile will remain as at present. All	
changed from the existing route?		surface water run-off from and across the site will	

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quifer is present on site

		remain as existing. The proposed lower ground extension is below the existing footprint of the house and fully paved front yard area.	
Q 3: Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	No	As above	
Q 4: Will the proposed basement 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	As above	
Q 5: Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No	As above	
Q 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 it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?	No	The site is classified by the Environment Agency (EA) as being in an area of very low risk of flooding from rivers & sea, reservoirs, and surface water. It is flood zone 1 – low risk with no special consideration/measures required.	Figure 4 shows an ex While adjacent Mill Roa

tract from the EA surface water flood map. ad is low risk Aldred Road is very low risk.

## APPENDIX B

#### Images And References



Figure 1. Extract from 'The Lost Rivers of London' 'The Lost Rivers of London' (Revised Edition), Nicholas Barton, Historical Publications Ltd 2009





Figure 3a - Superficial Geological Deposits © British Geological Society



1000 ft © Environment Agency



<u>Aquifers</u> © Environment Agency

Figure 3b - Geological Bedrock © British Geological Society



Figure 4 Extract From Environment Agency Map For Surface Water Flood Risk

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Figure 6a-d) Bore Hole Record (extract from Aviron Geotechnical Investigation Report ref: 15-190.02)



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APPENDIX C

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