

**40a Parkhill Road
London NW3 2YP**

**Basement Impact Assessment
Audit**

For

London Borough of Camden

Project Number: 12727-55

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May 2018

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1.0 NON-TECHNICAL SUMMARY

- 1.1. CampbellReith was instructed by London Borough of Camden, (LBC) to carry out an audit on the Basement Impact Assessment submitted as part of the Planning Submission documentation for 40A Parkhill Road (planning reference 2017/5523/P). The basement is considered to fall within Category B as defined by the Terms of Reference.
- 1.2. The Audit reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development in accordance with LBC's policies and technical procedures.
- 1.3. CampbellReith was able to access LBC's Planning Portal and gain access to the latest revision of submitted documentation and reviewed it against an agreed audit check list.
- 1.4. The BIA was undertaken by Southern Testing Environmental and Geotechnical, and the Structural calculations were prepared by Krystal Engineering. The authors hold suitable qualifications in accordance with LBC guidance.
- 1.5. The BIA has confirmed that the proposed basement will be founded within the London Clay. Appropriate interpretative geotechnical information has been provided.
- 1.6. It is likely that perched groundwater will be encountered during excavation for the basement. However, there will be no impact to the wider hydrogeological environment.
- 1.7. Appropriate structural information has been provided, including proposed temporary works.
- 1.8. A ground movement assessment (GMA) is presented that includes a damage impact assessment of neighbouring structures. A maximum of Category 1 (Very Slight) damage is predicted and impact to the highway is assessed as negligible.
- 1.9. An appropriate structural monitoring strategy should be adopted during the works to ensure movements and impacts are maintained within the predicted limits.
- 1.10. There will be no change in impermeable site area. The proposed development will not impact the wider hydrological environment.
- 1.11. The proposed development is an area subject to flooding historically although the site itself is indicated to be at low risk of flooding. Standard flood risk mitigation measures should be adopted.
- 1.12. The BIA meets the criteria of CPG Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 28/02/2018 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 40A Parkhill Road, London, NW3 2YP.
- 2.2. The Audit was carried out in accordance with the Terms of Reference set by LBC. It reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development.
- 2.3. A BIA is required for all planning applications with basements in Camden in general accordance with policies and technical procedures contained within
- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
 - Camden Planning Guidance (CPG): Basements.
 - Camden Development Policy (DP) 27: Basements and Lightwells.
 - Camden Development Policy (DP) 23: Water.
 - Local Plan Policy A5 Basements.
- 2.4. The BIA should demonstrate that schemes:
- a) maintain the structural stability of the building and neighbouring properties;
 - b) avoid adversely affecting drainage and run off or causing other damage to the water environment;
 - c) avoid cumulative impacts upon structural stability or the water environment in the local area, and;
- evaluate the impacts of the proposed basement considering the issues of hydrology, hydrogeology and land stability via the process described by the GSD and to make recommendations for the detailed design.
- 2.5. LBC's Audit Instruction described the planning proposal as *"Proposed construction of a basement below the main house and below the front garden of the property. The existing front lightwell would be widened to accommodate a fire escape ladder and grille along with a new skylight, proposed behind the existing security door."*

2.6. CampbellReith accessed LBC's Planning Portal on 19th March 2018 and gained access to the following relevant documents for audit purposes:

- Design and Access Statement Report dated September 2017, by Design for People.
- Structural Calculation dated July 2017, by Krystal Engineering.
- Basement Impact Assessment Report (Stage 1,2 & 3 dated 12 April 2017, by Southern Testing Environmental & Geotechnical.
- Ground Movement Analysis dated 29th September 2017, by Southern Testing Environmental & Geotechnical.
- Planning Application Drawings consisting of:
 - Location and Block Plan (Document Ref: AED000-RevB).
 - Existing Plans (Document Ref: AED001-RevB).
 - Existing Elevation (Document Ref: AED002-RevB).
 - Existing Sections (Document Ref: AED003-RevB).
 - Proposed Floor Plan (Document Ref: PD001-RevC).
 - Proposed Elevation (Document Ref: PD001-RevC).
 - Proposed Sections (Document Ref: PD003-RevB).
- Planning Comments and Response dated February 2018.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
Is data required by Cl.233 of the GSD presented?	Yes	
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	
Are suitable plan/maps included?	Yes	
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Is a conceptual model presented?	Yes	Suitable description provided.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	
Is monitoring data presented?	Yes	
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	Yes	SI, GMA, Structural Proposals
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	Yes	GMA
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	
Has the need for monitoring during construction been considered?	Yes	A detailed strategy should be designed and adopted during the works.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Suitable temporary propping to a high stiffness (as specified) to be adopted during the works.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

- 4.1. The Basement Impact Assessment (BIA) and the Ground Movement Assessment (GMA) has been carried out by Southern Testing. The individuals concerned in its production hold suitable qualifications.
- 4.2. The structural calculations for the proposed basement are provided by Krystal Engineering.
- 4.3. The site is located in the Parkhill conservation area and the building under consideration is not listed. The nearest listed building (Grade II category) is 80m away from the development area.
- 4.4. The proposal comprises the construction of a basement which extends below the front garden of an existing two storey coach house. The primary aim of the construction is to provide additional living space for the occupants. The proposed basement can be split into two general areas: the main basement living space, and the area beneath the front of the site (with car parking at street level) which will be used as the utility room. The proposed formation level varies between 3.15m and 3.43m bgl.
- 4.5. The site investigation comprised of 2 No. boreholes up to 6.5m below ground level (bgl) and, in order to expose the existing foundations, 5 No. trial pits were excavated. Groundwater monitoring wells were constructed within the boreholes.
- 4.6. The site investigation has identified that the existing reinforced concrete ground slab is underlain by Made Ground, underlain by Head deposits, below which lies the London Clay Formation. Groundwater seepages were encountered during the site investigation and monitoring indicates perched water in the Made Ground.
- 4.7. Appropriate structural information has been provided, including proposed temporary works. The basement retaining walls will be formed by reinforced concrete underpinning constructed in a hit and miss formation. The L-shaped reinforced concrete retaining walls to the front of the existing property will be formed in a similar sequence. The structural engineer has specified that in the temporary case stiff temporary propping must be utilised. In the permanent case, reinforced concrete basement and ground floor (driveway) slabs will be adopted at the front of the property, with reinforced concrete basement slab and timber ground floor joists.
- 4.8. It is likely that perched groundwater will be encountered during excavation for the basement. Appropriate dewatering techniques should be adopted to prevent any instability during underpinning. However, there will be no impact to the wider hydrogeological environment.
- 4.9. The basement will be founded within the London Clay. Appropriate interpretative geotechnical information is provided for foundation and retaining wall design.

- 4.10. A ground movement assessment (GMA) is presented that includes a damage impact assessment of neighbouring structures. The assessment provides a range of predicted movements which are considered reasonable and in line with expectations for a basement construction of the proposed scale and depth. A maximum of Category 1 (Very Slight) damage is predicted and impact to the highway is assessed as negligible.
- 4.11. The BIA recommends that structural monitoring is undertaken. An appropriate structural monitoring strategy should be adopted during the works to ensure movements and impacts are maintained within the predicted limits.
- 4.12. There will be no change in impermeable site area. An appropriate drainage strategy should be agreed with Thames Water and LBC. The proposed development will not impact the wider hydrological environment.
- 4.13. It is accepted that there are no slope stability concerns regarding the proposed development.
- 4.14. The site is located at Parkhill Road (NW3) which was historically recorded as 'flooded street'. The BIA states that the site is not identified with the SFRA as being within the area of concern. Environment Agency data confirms that the proposed development is an area subject to flooding although the site itself is indicated to be at low risk of flooding. Standard flood risk mitigation measures should be adopted.

5.0 CONCLUSIONS

- 5.1. The BIA authors possess suitable qualifications.
- 5.2. The BIA has confirmed that the proposed basement will be founded within London Clay. Appropriate interpretative geotechnical information has been provided.
- 5.3. It is likely that the perched ground water table will be encountered during basement construction. There will be no impact to the wider hydrogeological environment.
- 5.4. Appropriate structural information has been provided, including proposed temporary works.
- 5.5. A ground movement assessment (GMA) is presented that includes a damage impact assessment of neighbouring structures. A maximum of Category 1 (Very Slight) damage is predicted and impact to the highway is assessed as negligible.
- 5.6. An appropriate structural monitoring strategy should be adopted during the works to ensure movements and impacts are maintained within the predicted limits.
- 5.7. There will be no change in impermeable site area. The proposed development will not impact the wider hydrological environment.
- 5.8. Standard flood risk mitigation measures should be adopted.
- 5.9. The BIA meets the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
CAAC	Contact Camden	22/02/18	No Objection.	-

Appendix 2: Audit Query Tracker

None

Appendix 3: Supplementary Supporting Documents

None

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