

**23-25 Argyle Square
London, WC1H 8AS**

**Basement Impact Assessment
Audit**

For

London Borough of Camden

Project Number: 13693-59

Revision: F1

April 2023

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Document Details

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Contents

1.0 Non-technical summary 1

2.0 Introduction 2

3.0 Basement Impact Assessment Audit Check List..... 4

4.0 Discussion 7

5.0 Conclusions 10

Appendix

- Appendix 1: Residents’ Consultation Comments
- Appendix 2: Audit Query Tracker
- Appendix 3: Supplementary Supporting Documents

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 23-25 Argyle Square (planning reference 2021/1719/P). The basement is considered to fall within Category A as defined by the Terms of Reference.
- 1.2. The Audit reviewed the Basement Impact Assessment (BIA) 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 proposed works involve demolition of the existing single storey extensions to the rear yard together with the two-storey back projections, excavation of the rear yard to allow an extension to the existing basement level to cover the full footprint of the rear yard.
- 1.5. The qualifications of the authors are consistent with LBC guidance.
- 1.6. Screening and scoping assessments are presented, supported by desk study information.
- 1.7. It is accepted that the development will not significantly impact the hydrogeology or slope stability of the wider area.
- 1.8. It is accepted that the proposed development will have no significant impact on the wider hydrological environment.
- 1.9. No site investigation has been undertaken; however nearby site investigation data were used to produce a ground model for the site. Further correspondence from the applicant indicates that the basement will be found in the London Clay.
- 1.10. The properties and boundary walls to either side of the site are indicated in the BIA to have foundations at or below the level of the proposed basement. Underpinning to the rear boundary wall of the property is proposed; however, it is accepted that this will not have a significant impact on neighbouring properties.
- 1.11. If excavation below the level of the existing foundations becomes necessary, additional assessment and revision of the BIA will be required.
- 1.12. The BIA is confirmed to meet the requirements of Camden Planning Guidance: Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on the 12th of May to carry out a Category A audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 23-25 Argyle Square, London, WC1H 8AS, planning reference 2021/1719/P.
- 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:
- Camden Local Plan 2017 - Policy A5 Basements.
 - Camden Planning Guidance (CPG): Basements. January 2021.
 - Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- 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 *"Reinstatement of the original sash windows to the front elevation; replacement of casement windows in rear elevation with timber sash windows; alterations to existing rear extensions at nos. 23 and 24 and erection of new ground floor/basement rear extension at no. 25."*
- 2.6. CampbellReith accessed LBC's Planning Portal on the 26th of May 2022 and gained access to the following relevant documents for audit purposes:
- Engineering Assessment and Subterranean Construction Method Statement by CSE Consulting, ref: 10-421380-ECMS01 revision P1 – Planning, dated 20 April 2022.

- Basement Impact Assessment by Soils Limited, ref: 19962/BIA, dated February 2022.
- Design and Access Statement by Tsuruta Architects, dated April 2021.
- Architectural Drawings by Tsuruta Architects, dated April 2021.
- E-mail correspondence from applicant.

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	Section 2 of Appendix 1 - Basement Impact Scoping Report
Are suitable plan/maps included?	Yes	All maps to support screening are included in the BIA.
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	Section 3.3 of Appendix 1 - Basement Impact Scoping Report.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.2 of Appendix 1 - Basement Impact Scoping Report.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.4 of Appendix 1 - Basement Impact Scoping Report.
Is a conceptual model presented?	Yes	Section 2.7 of Appendix 1 - Basement Impact Scoping Report. Clarifications requested.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of Appendix 1 - Basement Impact Scoping Report.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of Appendix 1 - Basement Impact Scoping Report.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of Appendix 1 - Basement Impact Scoping Report.
Is factual ground investigation data provided?	N/A	
Is monitoring data presented?	N/A	
Is the ground investigation informed by a desk study?	N/A	
Has a site walkover been undertaken?	Unknown	It is unclear whether a site walkover was undertaken.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 2.3 of Appendix 1 – Basement Impact Scoping Report
Is a geotechnical interpretation presented?	N/A	
Does the geotechnical interpretation include information on retaining wall design?	N/A	
Are reports on other investigations required by screening and scoping presented?	Yes	Engineering Assessment and Subterranean Construction Method Statement is provided.
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	Section 2.3 of Appendix 1 – Basement Impact Scoping Report
Is an Impact Assessment provided?	Yes	Section 5 of Appendix 1 – Basement Impact Scoping Report
Are estimates of ground movement and structural impact presented?	Yes	

Item	Yes/No/NA	Comment
Is the Impact Assessment appropriate to the matters identified by screening 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	Section 5.2 of the Engineering Assessment and Subterranean Construction Method Statement.
Have the residual (after mitigation) impacts been clearly identified?	Yes	No residual impacts.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Screening has not identified any impacts to stability.
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	Although no calculations presented, underpinning will not be lower than neighbouring building's foundations.
Are non-technical summaries provided	Yes	Non-Technical Summary of the BIA in Appendix 1 of the Basement Impact Scoping Report.

4.0 DISCUSSION

- 4.1. The BIA has been carried out by Soils Limited. The qualifications of the individuals involved in the production of the BIA meet the requirements of CPG Basements.
- 4.2. The subject properties under consideration are Grade II listed located in the conservation area of Bloomsbury, currently being used as hotel accommodation.
- 4.3. The properties have existing basements present below the full footprint of the buildings and extending part way into the rear garden as two-storey back projections. Beyond this to the rear of the building a further single storey extension is present at ground level, extending to the rear property boundary wall.
- 4.4. The proposed works include the demolition of the existing two-storey back projections and single storey ground level extensions. The area will be redeveloped with a two-storey extension at basement and ground floor levels. The extension will occupy the full area of the rear yard and will incorporate lightwells and a courtyard to provide amenity space for the hotel guest occupants.
- 4.5. Screening and scoping assessments are presented and informed by desk study information. Relevant figures/maps from the ARUP GSD and other guidance documents are referenced within the BIA to support responses to screening questions.
- 4.6. Groundwater levels collected from the historical boreholes suggest that groundwater is generally at depths of circa. 21m bgl within the granular beds of the Lambeth Group. The BIA recommends carrying out the excavations during drier months and the premises must be waterproofed and incorporate sump pumps.
- 4.7. The screening and scoping indicate that there will be no impacts to the hydrogeological environment. The site is underlain by low permeability London Clay, designated as Unproductive Strata, and the proposed development will not exceed the existing basement foundation depths. It is accepted that the development will not significantly impact the hydrogeology of the wider area.
- 4.8. The screening indicates that there will be no impacts to the wider hydrological environment. The site is located within Flood Zone 1, an area with low probability of flooding. The proposed development will increase the available permeable areas by introducing permeable paving and amenity grassland within the courtyard. It is accepted that the proposed development will have no significant impact on the wider hydrological environment.
- 4.9. No Site investigation was undertaken, the ground model was developed based on information obtained from the BGS website. Section 2.3 of the Basement Impact Scoping Report mentions

that 1.20m to 5.90m of Made Ground overlies 16.20m to 24.00m of London Clay. E-mail correspondence with the applicant (presented in Appendix 3) confirms that the founding stratum for the basement foundations will be London Clay.

- 4.10. The construction sequence to be adopted is described in the Engineering Assessment and Subterranean Construction Method Statement (CMS). Section 2.3.1 of the CMS indicates that a bearing capacity of 125kN/m² will be adopted for the 'gravel strata' for design purposes. This is further clarified in Section 4.3.1.8 to be the design bearing capacity for the London Clay.
- 4.11. The basement will be formed using traditional construction techniques. The BIA and CMS indicate that the adjoining buildings already have basements present to the same level or lower than the proposed basement development, based on reference to LBC planning records. As such, no impact to the neighbouring foundations is anticipated. If, during pre-construction trial excavations, this is found to not be the case along either of the side party walls, such that underpinning is needed below these walls, additional impact assessment relating to ground movement must be undertaken.
- 4.12. Underpinning is to be undertaken along the rear property boundary wall. The BIA and CMS indicate that the underpinning excavation will be less than 2m in depth, will be undertaken in bays between 1.00m and 1.20m wide, and will be formed by reinforced concrete retaining walls seated on a mass concrete base. The rear property boundary wall is shown in the site plan drawing to be located at least 8m from the nearest adjacent building, located east of the property. Given the minimal excavation required and the distance of potentially impacted structures, it is accepted that no significant ground movement impact will be caused by the proposed development.
- 4.13. It is noted that the fourth paragraph of Section 4.1 of the CMS states "*The foundations for the rear boundary and **side party walls** will be extended down below the proposed basement level in order to prevent excessive settlement.*". Subsequent clarification from the applicant, presented in Appendix 3 of this audit, clarifies that no underpinning of the side party walls will be undertaken. If underpinning is required to the side party walls, a ground movement assessment will be required to assess the impact of ground movement on the Grade II Listed buildings.
- 4.14. Appendix 2 of the CMS provides drawings showing the proposed construction sequence and temporary propping systems to be used to ensure support is maintained during underpinning.
- 4.15. Section 5.2 of the CMS describes a monitoring strategy to be implemented during the works, to monitor the movement of adjacent properties. While it is accepted that earlier sections of the CMS indicate that the proposed development will have no significant impact to neighbouring

structures, the monitoring proposals described are considered good practise and may be considered for inclusion as part of any party wall award.

5.0 CONCLUSIONS

- 5.1. The qualifications of the authors are consistent with LBC guidance.
- 5.2. Screening and scoping assessments are presented, supported by desk study information.
- 5.3. It is accepted that the development will not significantly impact the hydrogeology or slope stability of the wider area.
- 5.4. It is accepted that the proposed development will have no significant impact on the wider hydrological environment.
- 5.5. No site investigation has been undertaken; however, nearby site investigation data were used to produce a ground model for the site. Further correspondence from the applicant indicates the basement will be found in the London Clay.
- 5.6. The properties and boundary walls to either side of the site are indicated in the BIA to have foundations at or below the level of the proposed basement. Underpinning to the rear boundary wall of the property is proposed and it is accepted that this will not have a significant impact on neighbouring properties.
- 5.7. If excavation below the level of the existing party wall foundations becomes necessary, additional assessment and revision of the BIA will be required.
- 5.8. The BIA is confirmed to meet the requirements of Camden Planning Guidance: Basements.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

None

Appendix 3: Supplementary Supporting Documents

E-mail correspondence



FW: 2021/1719/P - 23-25 Argyle SquareAdam Greenhalgh to
'KatharineBarker@campbellreith.com' 13/06/2022 14:39

1 Attachment



10-421-ECMS01-EDCMS- Rev P1-04-2022.pdf

Hi Katharine

Please see email below from the engineer and response (in red) to your email requiring further information/analysis and assessment for 23 – 25 Argyle Square.

Sorry for the complexities with this BIA

Many thanks

--

Adam Greenhalgh
Planning Officer

Telephone: 020 7974 6341



The majority of Council staff are continuing to work at home through remote, secure access to our systems. Where possible please communicate with us by telephone or email.

From: Khalid Choudhary <khalid@cseconsulting.co.uk>
Sent: 13 June 2022 13:45
To: Adam Greenhalgh <Adam.Greenhalgh@camden.gov.uk>
Cc: 'Giovanni Di Popolo' <giovannidipopolo@hotmail.co.uk>
Subject: RE: 2021/1719/P - 23-25 Argyle Square
Importance: High

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Adam,

We would respond to the latest queries as follows in red font from Katharine from Campbell Reith.

I trust that our responses below now provide the required calcification and that the application can now be determined without further delay.

Regards,

Khalid M Choudhary
BEng [Hons] CEng MStructE FConsE
Director – CSEconsulting



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From: Adam Greenhalgh <Adam.Greenhalgh@camden.gov.uk>
Sent: 13 June 2022 12:03
To: Khalid Choudhary <khalid@cseconsulting.co.uk>
Cc: 'Giovanni Di Popolo' <giovannidipopolo@hotmail.co.uk>
Subject: FW: 2021/1719/P - 23-25 Argyle Square

Hi Khalid

Please now find the response from our Basement Impact Assessors, Campbell Reith, to your Basement report.

Further information, clarification and details of the ground, underpinning, movement and possible effects are required.

Kind regards

--

Adam Greenhalgh
Planning Officer

Telephone: 020 7974 6341



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From: KatharineBarker@campbellreith.com <KatharineBarker@campbellreith.com>
Sent: 13 June 2022 11:49
To: Adam Greenhalgh <Adam.Greenhalgh@camden.gov.uk>
Cc: camdenaudit@campbellreith.com
Subject: Fw: 2021/1719/P - 23-25 Argyle Square

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etc. Please note there have been reports of emails purporting to be about Covid 19 being used as cover for scams so extra vigilance is required.

Adam,

I am in the process of reviewing our audit for this property and have some additional question that need clarification before we can close out the audit:

Firstly, clarification of the founding stratum for the basement is required. The report suggests up to 5m of Made Ground or superficial deposits, but the Land Stability Screening Assessment suggests the shallowest stratum will be London Clay. The founding stratum should be clarified (noting that Made Ground is not an acceptable founding stratum). – The scoping study report clearly states that **for this site**, with reference to British Geological Survey (BGS), the site is located directly upon the bedrock London Clay Formation with no anticipated overlying superficial deposits. No made or infilled ground is anticipated at the site with reference to the Camden Geological, Hydrogeological and hydrogeological Study (GHHS), prepared by Arup. The reference to 5m made ground in the report was noted relating to a borehole data within 300m from the site.

Secondly, although the applicant stated in their e-mail (below) of 20th April that no underpinning would be used, the documents submitted clearly indicate significant underpinning is to be undertaken below the side and rear boundary walls. The Construction Method Statement (CMS) also provides details of Structural Settlement (Section 5.1) and Movement Monitoring (Section 5.2), both of which suggest that they expect the development to have a significant impact on adjacent structures. If this is the case, a full BIA would be required to fully assess the impact of the basement construction. It is noted that Section 5.1 of the CMS also suggests damage up to Burland Category 2, which is unacceptable according to LBC policy. – It appears that you may be reading a superseded report. A revised report was issued to you on 3rd May 2022 and a further copy is attached for information. This report clearly states that the expected crack widths will not exceed 1mm within the very slight category (I) as described by BRE Digest 251, Category 1. This is a conservative estimation and in reality the expected crack widths are likely to be Negligible (Cat 0) with crack widths < 0.1 mm. In this case, the fact that monitoring of the properties is proposed, at all, is an extremely conservative precautionary measure only.

Please can the applicant clarify where underpinning is to be used and provide further information to support the assertion that no impact to adjacent structures will occur. – It is clear from the drawings prepared and attached to the submission appended to the CMS that the only possible underpinning that would be required or is anticipated under the submitted proposals is to the rear boundary wall and NOT to the side party walls. The extent of the underpinning to the rear boundary wall is considered nominal and this in actual fact may not be required if it is found, at the commencement of works, that the existing foundation to the boundary wall extends down to the proposed slab level.

It may be the case that the property is a Category B after all, as there appears to be more underpinning than we were initially led to believe. **NOT CORRECT**– As clarified above, the nominal underpinning is limited to the rear boundary wall and then only if found to be required depending on the depth of the boundary wall existing formation depth.

Kind regards,

Kat

Katharine Barker
Associate

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Tel +44 (0)20 7340 1700

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----- Forwarded by Katharine Barker/CRH on 13/06/2022 11:26 -----

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