

**Basement Impact
Assessment Audit**

Flat A 17 Chesterford
Gardens, London, NW3 7DD

For
London Borough of Camden

Project No.
14006-15

Date
July 2023

Campbell Reith Hill LLP
15 Bermondsey Square
London
SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com
W: www.campbellreith.com

DOCUMENT HISTORY AND STATUS

Revision	Date	Purpose/ Status	File Ref	Author	Check	Review
D1	12/07/2023	For comment	AAkb-14006-15- 120723-Flat A 17 Chesterford Gardens- D1	AA	EMB	EMB

This document has been prepared in accordance with the scope of Campbell Reith Hill LLP's (CampbellReith) appointment with its client and is subject to the terms of the appointment. It is addressed to and for the sole use and reliance of CampbellReith's client. CampbellReith accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of Campbell Reith Hill LLP. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document are not to be construed as providing legal, business or tax advice or opinion.

© Campbell Reith Hill LLP 2023

Document Details

Last Saved	13/07/2023 13:37
Author	A Ashraff, B.Eng. GMICE
Project Partner	E M Brown, BSc MSc CGeol FGS
Project Number	14006-15
Project Name	Basement Impact Assessment Audit
Revision	D1
Planning Reference	2022/4911/P
File Ref	AAkb-14006-15-120723-Flat A 17 Chesterford Gardens-D1

CONTENTS

1.0	NON-TECHNICAL SUMMARY	4
2.0	INTRODUCTION.....	5
3.0	BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST	7
4.0	DISCUSSION	11
5.0	CONCLUSIONS.....	13

APPENDICES

Appendix 1	Consultation Responses.....	14
Appendix 2	16
Audit Query Tracker	16
Appendix 3	Supplementary Supporting Documents.....	18

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 Flat A 17 Chesterford Gardens, London NW3 7DD (planning reference 2022/4911/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 (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 authors of the Basement Impact Assessment (BIA) do not fully meet the qualification requirements of CPG: Basements. The BIA does not refer to the neighbourhood Plan.
- 1.5 The proposed scheme involves extending the existing basement. The new basement area will be supported by a reinforced concrete retaining wall formed using underpinning techniques in a hit and miss sequence. The external wall will be underpinned where necessary.
- 1.6 The structural information should be updated to show the extent of underpinning consistently.
- 1.7 Insufficient information has been consulted to fully complete the screening assessment. The scoping exercise and impact assessments should be reviewed once the screening assessment is complete.
- 1.8 It is accepted the basement proposal will have no impact on surface water.
- 1.9 Additional information is required to justify the structural proposals and their impact on all neighbouring properties.
- 1.10 It cannot be confirmed that the BIA complies with the requirements of CPG: Basements until the queries raised in Section 4 and Appendix 2 are addressed.

2.0 INTRODUCTION

2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 14/06/2023 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for Flat A 17 Chesterford Gardens, London, NW3 7DD (Planning Reference No. 2022/4911/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.
- Redington and Frognaal Neighbourhood Plan

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 "Extension of existing basement and installation of new low level window on side elevation."

2.6 The Audit Instruction confirmed Flat A 17 Chesterford Gardens did not involve, nor was a neighbour to any listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 15/06/2023 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by Cooper Associates, dated May 2023, Ref No. CA6669, Rev. A
- Basement Structural Report by Cooper Associates titled "Consideration of requirement for a Basement Impact Assessment", dated March 2023, Ref No. CA6669, Rev. A

- Design and Access Statement by Edward Rutherfoord Architect, dated 14th October 2022, Ref No. – unknown, Rev – unknown
- Planning Application Drawings by Edward Rutherfoord Architect:
 - Site Location Plan, dated December 2021, Drg No. CFG/PL/100
 - Existing Plans by Edward Rutherfoord Architect:
 - (i) Basement floor Plan, dated March 2022, Drg No. CFG/PL/09
 - (ii) Ground floor Plan, dated December 2021, Drg No. CFG/PL/01
 - (iii) South Elevation, dated December 2021, Drg No. CFG/PL/04
 - (iv) Section AA, dated December 2021, Drg No. CFG/PL/07
 - Proposed Plans by Edward Rutherfoord Architect:
 - (i) Basement floor Plan, dated March 2022, Drg No. CFG/PL/90
 - (ii) Ground floor Plan, dated March 2021, Drg No. CFG/PL/91
 - (iii) South Elevation, dated December 2021, Drg No. CFG/PL/94
 - (iv) Section AA, dated December 2021, Drg No. CFG/PL/97
- Site Photographs by Edward Rutherfoord Architect, dated October 2022, Drg No. CFG/PL/101
- Structural Details Basement Drawing by Cooper Associates dated February 2023, Drg No. - CA6669/B01.
- Consultation responses.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	Authors do not have satisfactory qualifications for Hydrogeology and Land Stability. Refer to CPG: Basements
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?	No	Maps for flooding and surface water features are not consulted.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	No	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 4.2 of BIA. Questions 7, 8 and 13 should be reviewed.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 4.1 of BIA. Question 2 to be reviewed following reference to appropriate maps.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 4.3 of BIA Response to Question 6 does not refer to all recommended maps and data sources.

Item	Yes/No/NA	Comment
Is a conceptual model presented?	No	No conceptual model is provided.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	None provided
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	No	None provided
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Although not all data sources for surface water flooding were consulted, it is accepted that the proposed development will not impact surface water flows.
Is factual ground investigation data provided?	No	Trial pits undertaken; however no quantitative information on soil properties established.
Is monitoring data presented?	No	No monitoring undertaken.
Is the ground investigation informed by a desk study?	No	Desk study provided is not complete and does not consider surface and subterranean water features.
Has a site walkover been undertaken?	Yes	Refer site photographs by Edward Rutherford Architects.
Is the presence/absence of adjacent or nearby basements confirmed?	No	
Is a geotechnical interpretation presented?	No	
Does the geotechnical interpretation include information on retaining wall design?	No	No design parameters are provided for retaining walls

Item	Yes/No/NA	Comment
Are reports on other investigations required by screening and scoping presented?	No	To be confirmed on completion of screening and scoping exercises.
Are the baseline conditions described, based on the GSD?	No	As above
Do the base line conditions consider adjacent or nearby basements?	No	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	No	Not provided.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	It requires to be confirmed that impact assessment is adequate.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	To be confirmed on completion of screening exercises.
Has the need for monitoring during construction been considered?	Yes	Section 5.0 of BIA.
Have the residual (after mitigation) impacts been clearly identified?	No	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Further justification for structural scheme and performance required.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	No	Screening and scoping exercise does not consider subterranean water features.

Item	Yes/No/NA	Comment
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	As above.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	No justification provided.
Are non-technical summaries provided?	Yes	Section 7.0 of BIA.

4.0 DISCUSSION

- 4.1 The Basement Impact Assessment (BIA) has been carried out by Cooper Associates. One of the individuals involved in its production holds a CEng MICE qualification. Input from an individual holding the CGeol qualification has not been provided and is required in line with CPG Basements.
- 4.2 The BIA has not referred to the Neighbourhood Plan for the Redington and Frognal area.
- 4.3 The Design & Access Statement confirms that 17 Chesterford Gardens is not a listed building.
- 4.4 The proposed scheme comprises the enlarging the existing basement beneath a portion of the building footprint. The basement floor level will be unchanged but the underside of the new basement slab will be 200mm deeper than the existing. To construct the new basement space, the external wall will be underpinned and new retaining walls constructed using underpinning techniques in a hit and miss sequence.
- 4.5 The structural and architectural plans and sections include partial dimensions sufficient to allow the extent of the new basement to be understood.
- 4.6 The hydrogeology and land stability screening questions concerning the proximity of the site to a watercourse, well or potential spring line should be revised with reference to the relevant maps from the ARUP Guidance for Subterranean Development report and Neighbourhood Plan.
- 4.7 Question 7 of the Land Stability screening exercise relates to subsidence in the local area. A number of planning consultation responses refer to historic underpinning of the applicant's property and other properties. The response to this question should be reviewed or further justification provided. Q13 relates to adjacent neighbouring properties which should include other flats at No 17 Chesterford Gardens and any others defined by Camden's planning guidance.
- 4.8 The surface water screening does not consider all the sources of information necessary to complete the response to Q6. However, it is noted that the basement proposals will not impact surface water flows.
- 4.9 The BIA does not consider the presence of any basements in the vicinity of the host property. The Redington and Frognal Neighbourhood Plan encourages applicants to consider impacts to and from basements within 20m or 4 times the basement depth (whichever is greater) in the scoping exercise and impact assessment.
- 4.10 The BIA does not include a scoping exercise or impact assessment, however it is acknowledged that some of the detail provided in the screening table in Section 4 of the BIA includes these stages of assessment. The scoping and impact assessment should be updated in line with the completed screening assessment.

- 4.11 Section 3.8 of the BIA indicates that three trial pits have been undertaken to confirm ground and groundwater conditions. No quantitative information regarding soil properties has been provided. The underpins will be founded on top of the Claygate Member. Further justification is required to confirm that the ground conditions are adequate for the proposed foundations and retaining walls and to allow their impact to be assessed.
- 4.12 A construction sequence methodology is outlined in Section 5.0 and 6.0. However, it is noted that no structural load takedown has been considered and design parameters for the retaining walls have not been included. No temporary works plan has been provided and the extent of underpinning shown in Appendix G of the BIA differs from that presented on drawing CA6669/B01. Clarification is requested and information should be presented consistently.
- 4.13 The BIA states that 'the neighbours will have no damage'. Further justification is required for this statement considering the definition of neighbours/neighbouring structures in the Terms of Reference for BIA audits and the Neighbourhood Plan and the requirements of Camden's planning guidance.
- 4.14 Proposals are outlined for a movement monitoring strategy during excavation and construction activities.

5.0 CONCLUSIONS

- 5.1 The Basement Impact Assessment (BIA) has been carried out by Cooper Associates however the individuals concerned in its production do not fully meet the qualification requirements of CPG: Basements. It does not refer to the Neighbourhood Plan for Redington and Frognal.
- 5.2 The proposed scheme involves extending the existing basement. The new basement area will be supported by a reinforced concrete retaining wall formed using underpinning techniques in a hit and miss sequence. The external wall will be underpinned where necessary.
- 5.3 Limited desk study information is presented to inform the screening assessment. The screening, scoping assessments should be updated with reference to the maps presented in the Arup Guidance for Subterranean Development report other Camden planning guidance and local information provided by neighbours. The scoping exercise and impact assessment require to be reviewed once the screening exercise has been completed.
- 5.4 It is accepted there will be no impacts to surface water flow.
- 5.5 It is reported that the new foundations will bear on the Claygate Member. Three trial pits have been undertaken which appear to confirm this. No groundwater was encountered.
- 5.6 Additional information is required to justify the proposed retaining wall and foundation design and their performance. Contradictory information is presented regarding the extent of underpinning and this should be clarified.
- 5.7 Further justification is required for the building damage assessment and it should be confirmed that all neighbouring properties have been considered.
- 5.8 It cannot be confirmed that the BIA complies with the requirements of CPG: Basements until the queries raised in Section 4 and Appendix 2 are addressed.

Basement Impact Assessment Audit
Flat A 17 Chesterford Gardens, London, NW3 7DD

CampbellReith
consulting engineers

Appendix 1

Consultation Responses

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Markus	Unknown	27/11/2022	Subsidence, structural damage and ground movement	This has been queried in the audit.
Odemis	Unknown	12/12/2022	Historic underpinning and subsidence issues	This has been queried in the audit.
Hughes	Unknown	12/12/2023	Historic underpinning and subsidence issues	This has been queried in the audit.

Basement Impact Assessment Audit
Flat A 17 Chesterford Gardens, London, NW3 7DD

CampbellReith
consulting engineers

Appendix 2

Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA Format	Authors do not have qualifications as per CPG Basements	Open – Section 4.1	
2	BIA Format	BIA does not refer to Neighbourhood Plan	Open – Section 4.2	
3	Screening	Screening questions to be reviewed and updated or further justification provided. Impact assessments to be provided/updated where necessary.	Open – Section 4.6 – 4.9	
4	Land Stability	Further justification required for adequacy of bearing stratum and performance of proposed foundations and retaining walls.	Open – Section 4.11	
5	Land Stability	Retaining wall geometry and underpinning should be presented consistently.	Open – Section 4.12	
6	Land Stability	Justification required to support damage assessment for neighbouring properties and confirmation that all neighbouring properties have been considered.	Open – Section 4.13	

Appendix 3

Supplementary Supporting Documents

None

London

15 Bermondsey Square
London
SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Bristol

Unit 5.03,
HERE,
470 Bath Road,
Bristol BS4 3AP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

Campbell Reith Hill LLP. Registered in England & Wales. Limited Liability Partnership No OC300082
A list of Members is available at our Registered Office at: 15 Bermondsey Square, London, SE1 3UN
VAT No 974 8892 43