

**Basement Impact
Assessment Audit**

13 St Mark's Crescent,
London, NW1 7TS

For
London Borough of Camden

Project No.
14006-11

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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 13 St Mark's Crescent (planning reference 2022/5539/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 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 Basement Impact Assessment (BIA) has been conducted by engineering consultants Lustre Consulting Ltd, with qualified individuals involved in its production.
- 1.5 The proposed development includes lowering the existing lower ground floor by 400mm, necessitating underpinning for construction.
- 1.6 Further information is to be presented to demonstrate the depth of neighbouring basements and foundations in relation to the proposed development.
- 1.7 The site's location within the Primrose Hill Local Flood Risk Zone is acknowledged, however, as the proposed development will be within the existing building footprint without changes to hardstanding, the risk of surface water and groundwater flooding is low.
- 1.8 A Structural Strategy Report (SSR) is required to provide a construction method statement, underpinning sequence, and monitoring regime.
- 1.9 Subject to the SSR and evidence relating to neighbouring properties foundations, Ground Movement Assessment (GMA) may be required to ensure demonstrate movements from underpinning do not exceed Category 1 damage to neighbouring structures on the Burland Scale.
- 1.10 The stability of the surrounding slopes to the development site is accepted.
- 1.11 Compliance with the requirements of CPG: Basements cannot be confirmed 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 12/05/2023 to carry out a Category A audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 13 St Mark's Crescent, London, NW1 7TS and Planning Reference No. 2022/5539/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 "Erection of single storey rear extension with roof terrace above, involving lowering of lower ground level. Associated works including alterations to rear bay and side elevation."

2.6 The Audit Instruction confirmed 13 St Mark's Crescent did not involve, nor was a neighbour to, listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 23/05/2023 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by Lustre Consulting Ltd, dated October 2022, Ref No. 4358.
- Design, Access and Heritage by Statement by Stylus Architects, dated December 2022.
- Planning Application Drawings by Stylus Architects:
 - Location Plan, dated 25th October 2022, Rev P01, Drg No. – 565 P01.

- Existing Plans including Sections and Elevations, dated 5th April 2022, Rev A.
- Proposed Section, dated 11th October 2022, Rev A.
- Proposed Floor Plans Sheet 1, dated 14th April 2023, Rev B.
- Proposed Elevations, dated 14th April 2023, Rev B.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Section 2.1 of BIA.
Is data required by Cl.233 of the GSD presented?	Yes	Section 3.0 of BIA.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	No	Structural Strategy Report not presented. Depth and presence of neighbouring basements/foundations not presented.
Are suitable plan/maps included?	Yes	Within Appendices of 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?	No	Section 4.3 of BIA. Question 13 will need to be reviewed to consider presence of neighbouring basements/foundations.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4.2 of BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4.4 of BIA.
Is a conceptual model presented?	No	No ground investigation undertaken to present model.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	Section 5.0 of BIA.

Item	Yes/No/NA	Comment
		Question 13 will need to be reviewed to consider presence of neighbouring basements.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 5.0 of BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	No	None taken forward to scoping and clarification to response in question 6 is requested.
Is factual ground investigation data provided?	No	None undertaken.
Is monitoring data presented?	No	None undertaken.
Is the ground investigation informed by a desk study?	No	None undertaken.
Has a site walkover been undertaken?	Yes	Mentioned in Section 2.2 of BIA.
Is the presence/absence of adjacent or nearby basements confirmed?	No	Not presented.
Is a geotechnical interpretation presented?	No	No ground investigation undertaken but desk study data provided.
Does the geotechnical interpretation include information on retaining wall design?	No	No ground investigation undertaken.
Are reports on other investigations required by screening and scoping presented?	No	
Are the baseline conditions described, based on the GSD?	No	Presence and depth of neighbouring basements/foundations not presented.

Item	Yes/No/NA	Comment
Do the base line conditions consider adjacent or nearby basements?	No	As above.
Is an Impact Assessment provided?	No	None presented.
Are estimates of ground movement and structural impact presented?	No	No. Structural Strategy Report to be presented to address sequence of underpinning and construction methodology.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	No	None presented.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	None presented.
Has the need for monitoring during construction been considered?	No	
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	Movements caused by underpinning will need to be considered and Structural Strategy Report is required to address the structural scheme.
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?	No	As above.

Item	Yes/No/NA	Comment
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	No	Not Provided.
Are non-technical summaries provided?	Yes	Section 1.0 of BIA.

4.0 DISCUSSION

- 4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Lustre Consulting Ltd and the individuals concerned in its production have suitable qualifications.
- 4.2 The site is roughly rectangular in plan and occupies an approximate area of 0.02ha. The site currently comprises a four-storey semi-detached residential property. The property fronts onto St Mark's Crescent on the south eastern boundary and the Grand Union Canal on the north-western boundary. The Design & Access Statement identified that 13 St Mark's Crescent is located in the Primrose Hill Conservation Area.
- 4.3 The proposed basement consists of a single storey construction formed by lowering an existing lower ground floor by 400mm in a traditional underpinning technique, with internal reconfigurations proposed. Additionally, it is proposed to add a rear extension at lower ground floor level at the same finished floor level. The proposed extension will incorporate the footprint of the existing conservatory and extend across the whole of the rear elevation, extending c.3.10m from the rear elevation of the original property.
- 4.4 At the time of writing, a ground investigation has not been conducted. However, information obtained from a desk study includes the consultation of historical borehole records located 100 meters southeast and 100 meters northwest of the site. The findings from these records indicate the presence of Made Ground ranging from 1.20 to 3.30m below ground level (bgl), underlain by London Clay Formation to depth.
- 4.5 The BIA reports there are no recorded groundwater monitoring records, and since the London Clay Formation is considered an unproductive stratum, it is unlikely to hold significant volumes of water.
- 4.6 The excavation works will potentially result in differential depths between neighbouring foundations. Therefore, it is necessary to review Question 13 of the Land Stability assessment to address the presence of neighbouring basements and foundations and account for the potential impact of these differential depths. Additionally, the founding stratum of the proposed underpins will need to be confirmed.
- 4.7 The site is located within a Critical Drainage Area and falls within the Primrose Hill Local Flood Risk Zone. However, considering that the proposed development will be contained within the footprint of the existing building, it is recognized that the surface water regime will not have an impact on the site or neighbouring properties.
- 4.8 Additionally, it is important to note that approximately 70% of the site consists of hardstanding, while the remaining 30% is soft landscaping. Therefore, it is acknowledged that the proposed development will not have any significant impact on the wider hydrogeology.
- 4.9 A Structural Strategy Report (SSR) is not provided; however, the BIA notes the lower ground floor will be constructed in an 'hit and miss' underpinning sequence. A construction method statement, sequence of underpinning and monitoring regime will be required.

- 4.10 Subject to the SSR and evidence relating to neighbouring properties foundations, a Ground Movement Assessment may be required to ensure movements from underpinning are limited to Category 1 damage of the Burland Scale to neighbouring structures.
- 4.11 It is accepted that there are no slope stability concerns regarding the proposed development and it is not in an area prone to flooding.

5.0 CONCLUSIONS


- 5.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Lustre Consulting Ltd and the individuals concerned in its production have suitable qualifications.
- 5.2 It is proposed to lower the existing lower ground floor by 400mm and it is understood underpinning will be required to facilitate the construction.
- 5.3 Further information is to be presented to demonstrate the depth of neighbouring basements and foundations in relation to the proposed development.
- 5.4 The site's location within the Primrose Hill Local Flood Risk Zone is acknowledged. However, as the proposed development will be within the existing building footprint with no changes to hardstanding, the risk of surface water and groundwater flooding is low.
- 5.5 A SSR is not provided at this stage and is required to present construction method statement, underpinning sequence and monitoring regime.
- 5.6 Subject to the SSR and evidence relating to neighbouring properties foundations, a GMA may be required to ensure movements from underpinning are limited to Category 1 damage of the Burland Scale to neighbouring structures.
- 5.7 It is accepted that the surrounding slopes to the development site are stable.
- 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.

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Appendix 1

Consultation Responses



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Residents' Consultation Comments

None relevant to the BIA.

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Appendix 2

Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Land Stability	Presence and depth of neighbouring basements/foundations will need to be confirmed. Founding stratum of the proposed underpins is requested.	Open – See Section 4.6.	
2	Land Stability	A Structural Strategy Report will be required to present sequence of underpinning, construction sequence and monitoring regime.	Open – See Section 4.9 and 4.10.	

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Appendix 3

Supplementary Supporting Documents

None

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