CampbellReith
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Basement Impact Assessment Audit

11 Hampstead High Street, London NW3 1PY

For
London Borough of Camden

Project No.
13693-92

Revision
D1

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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 11 Hampstead High Street, London, NW3 1PY (planning reference 2022/0700/P & 2022/0710/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 BIA has been prepared by individuals who possess suitable qualifications.

1.5 It is proposed to extend the existing lower ground floor across the existing lower ground level courtyard situated to the rear of the property. The works will include cutting into the paved embankment and stairwell (that separates the site from the adjoining car park) and construction of a new retaining wall.

1.6 The maximum excavation depth and potential need for excavation/foundation deepening should be confirmed. The architect drawings should be revised to include existing and proposed levels.

1.7 It is accepted that there are no subterranean or surface water flow concerns regarding the proposed development.

1.8 Clarification is required regarding the potential removal of a tree and the Screening assessment should be updated accordingly.

1.9 The scoping assessment should be updated to ensure all identified impacts are addressed.

1.10 Ground model and associated geotechnical parameters are not presented and are required.

1.11 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 14th December 2022 to carry out a Category A audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 11 Hampstead High Street London NW3 1PX (reference 2022/0700/P & 2022/0710/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.
- Hampstead 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,

d) 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 two storey rear extension, following the excavation for a lower-ground floor* ex*tension to provide 1 x 3 bed self-contained flat*".

2.6 The Audit Instruction confirmed 11 Hampstead High Street involved, or was a neighbour to, a listed building.

2.7 CampbellReith accessed LBC's Planning Portal on 16th December 2022 and gained access to the following relevant documents for audit purposes:

- Design & Access Statement by CSM Architects
- Existing plan by CSM Architects dated June 2021
- Existing drawing by CSM Architects dated December 2021
- Existing site and roof plan by CSM Architects dated December 2021

- Site Location Plan by CSM Architects
- Proposed plans and elevation by CSM Architects dated June 2021
- Proposed floor plan by CSM Architects dated December 2021
- Proposed elevation drawing by CSM Architects dated December 2021
- Blue Roof Calculations Revision B by Brauder dated February 2022
- Phase I Geo-environmental Assessment (P21-270/P1) by 3econsult dated December 2021
- Phase II Geo-environmental Assessment (P21-270-3E-XX-XX-RP-G-9001) by Hydrock dated August 2022
- BIA Assessment (J22271) by Geotechnical & Environmental Associates Limited dated September 2022
- Response as per Appendix 1.

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?	No	
Are suitable plan/maps included?	No	The potential need for excavation/foundation deepening should be confirmed. Architect drawings should be revised to include existing and proposed levels.
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	However, a response mentions removal of small tree on the development site alongside the boundary wall, this should be clarified within the BIA.
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	
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	However, clarification required regarding the removal of a tree mentioned above is required.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	NA	No items taken forward from Screening.
Is factual ground investigation data provided?	Yes	Hydrock 3E Phase II Geo-environmental Assessment
Is monitoring data presented?	Yes	Hydrock 3E Phase II Geo-environmental Assessment
Is the ground investigation informed by a desk study?	Yes	3econsult Phase I Geo-Environmental Assessment
Has a site walkover been undertaken?	Yes	None included within the BIA assessment however, a ground investigation was carried out by Hydrock 3e in June 2022.
Is the presence/ absence of adjacent or nearby basements confirmed?	No	Needs clarification.
Is a geotechnical interpretation presented?	No	Not provided.
Does the geotechnical interpretation include information on retaining wall design?	No	As above.
Are reports on other investigations required by screening and scoping presented?	NA	
Are the baseline conditions described, based on the GSD?	Yes	Section 3.0 of BIA
Do the base line conditions consider adjacent or nearby basements?	No	As above.
Is an Impact Assessment provided?	Yes	Section 6.0 of BIA

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	NA	
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Clarification of basements within neighbouring properties required in addition to confirmation on impact to the garden wall along the west.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Section 6.0 of BIA
Has the need for monitoring during construction been considered?	NA	
Have the residual (after mitigation) impacts been clearly identified?	NA	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Clarification on neighbouring garden walls required along the western boundaries. Confirmation of proposed foundation depths and foundation depths of adjacent building not included in BIA.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	However, additional clarification required.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	As above.
Does the report state that damage to surrounding buildings will be no worse than Burland Category 1?	NA	
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Geotechnical & Environmental Associates (GEA) and the individuals concerned in its production have suitable qualifications.

4.2 The proposal includes a two-story extension and alterations to the lower ground floor and ground floor of the existing building to allow construction of two residential flats and remodel the existing HSBC bank. The new extension will be located within the existing lower ground floor courtyard situated to the rear of the property. The works will include cutting into a paved embankment and stairwell (that separates the site from the adjoining car park) and construction of a new retaining wall.

4.3 The BIA states the new lower ground floor extension is unlikely to result in a significant increase in foundation depth with respect to adjoining properties. The maximum excavation depth required and potential need for excavation/foundation deepening should be confirmed. The architect's drawings should be revised to include existing and proposed levels.

4.4 The BIA indicates that adjoining properties have similar foundation levels to the applicant's property. If deepening of foundation is proposed, confirmation of the proposed foundation levels is required along with the differential depth to any neighbouring foundation.

4.5 Potential need to underpin the garden wall along the west side of the site is referenced within a planning consultation response listed in Appendix 1. No mention of underpinning has been included within the BIA; this should be clarified.

4.6 A ground investigation (GI) has been undertaken comprising one rotary open hole borehole, one handheld mini percussive borehole and two hand excavated trial pits. The findings indicate that the site is underlain by Made Ground of variable thickness (ranging from 0.45m to 1.40m) over firm sandy clays of the Claygate Member. The London Clay Formation was encountered from 5.60m below the car park level, comprising stiff (becoming very stiff) silty clay.

4.7 Groundwater was not encountered during the GI but measured to be 4.45m and 4.54m below the car park level during later monitoring visits carried out 26th July and 28th July 2022.

4.8 The BIA does not include any details regarding to existing retaining wall running along the eastern boundary. The hand excavated pits along the retaining wall determined the foundations to be at least to 1.4m bgl and project 0.075m (as stated within the Phase II report).

4.9 The Subterranean Flow Screening indicates the presence of a Secondary A aquifer beneath the site. The Claygate deposits encountered during the ground investigation were predominantly clay and were assumed in the BIA to have the characteristics of non-productive strata, similar to that of the London Clay.

4.10 Historical borehole data shows a historical well situated 25m east of site associated with a former brewery. Records confirm the well targeted extraction from the chalk bedrock underlying the London Clay Formation and was decommissioned in the 1930's.

4.11 It is accepted that there are no hydrogeological concerns regarding the proposed development.

4.12 Surface flow and flooding screening confirmed no increase in impermeable area.

4.13 An independent check shows the site to be within an area affected by internal sewer flooding and a Critical Drainage Area within the figures included in the Camden SFRA; the BIA states that, in accordance with the CPG, a positive pump device and non-return valve will be installed as part of the development.

4.14 The land stability screening identified the site has an existing slope greater than 7 degrees at the rear of the property. As part of the construction a new retaining wall will be constructed, and the slope cut out. A ground model and associated geotechnical parameters (including those for retaining walls) should be presented in the BIA to inform the detailed design.

4.15 The screening states there are no trees within the vicinity of the extension however, a planning consultation response reported in Appendix 1 indicates the presence of a small tree on the development site alongside the boundary wall. Clarification is required.

4.16 A Ground Movement Assessment (GMA) is not provided at this stage. If it becomes necessary for underpinning to be undertaken along the party walls, a GMA may be required to ensure movements are limited within Category 1 damage of the Burland Scale to neighbouring structures and infrastructure. An outline structural proposal will also be required to inform the GMA.

4.17 No proposals are provided for a movement monitoring strategy during excavation and construction.

5.0 CONCLUSIONS

5.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Geotechnical & Environmental Associates (GEA) and the individuals concerned in its production have suitable qualifications.

5.2 It is proposed to extend the existing lower ground floor across the lower ground floor courtyard situated to the rear of the property. The works will include cutting into the paved embankment and stairwell (that separates the site from the adjoining car park) and construction of a new retaining wall.

5.3 The maximum excavation depth and potential need for excavation/foundation deepening should be confirmed. The architect drawings should be revised to include existing and proposed levels.

5.4 The BIA indicates that adjoining properties have similar foundation levels to the applicant's property. If deepening of foundation is proposed, confirmation of the proposed foundation levels is required along with the differential depth to any neighbouring foundation. It should be clarified if underpinning is required for the western party wall and construction method provided.

5.5 A ground model and associated geotechnical parameters are not presented and requested.

5.6 Clarification is required regarding the potential removal of a tree and the screening assessment should be updated accordingly.

5.7 It is accepted that there are no subterranean or surface flow concerns regarding the proposed development.

5.8 Subject to clarification on the extent of excavation and foundation depth of adjacent walls, it is likely that the proposed basement will not impact the stability of the neighbouring buildings.

5.9 A Ground Movement Assessment (GMA) is not provided at this stage. If it becomes necessary for underpinning to be undertaken along the party walls, a GMA may be required to ensure movements are limited within Category 1 damage of the Burland Scale to neighbouring structures and infrastructure. An outline structural proposal will also be required to inform the GMA.

5.10 No proposals are provided for a movement monitoring strategy during excavation and construction.

5.11 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

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Moran	14 Hampstead High Street	21/11/2022	Issues raised on works being carried out near to the resident's property (being a listed building), potential destabilising of the party wall and, removal of tree along boundary. The response references underpinning possibly being required beneath the party wall.	See Section 4.5 and 4.15

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Appendix 2

Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	Confirmation of the proposed foundation depth of the lower ground floor extension should be provided. Architectural drawings to include existing and proposed levels. If deepening is confirmed, resulting differential depth to neighbouring foundation to be presented.	Open	
2	BIA	Details of the foundation depths of the party walls to the west boundary is required. In addition, clarification regarding reference to underpinning of the western party wall is required.	Open	
3	BIA	If underpinning is likely to be required along the party wall, construction details and method is required.	Open	
4	BIA	Provide geotechnical interpretation including parameters for proposed retaining wall.	Open	
5	Land Stability	Clarification required regarding the tree removal referenced in one response is required.	Open	
6	Land Stability	A Ground Movement Assessment (GMA) is not provided at this stage. If it becomes necessary for underpinning to be undertaken along the party walls, a GMA may be required to ensure movements are limited within Category 1 damage of the Burland Scale to neighbouring structures and infrastructure. An outline structural proposal will also be required to inform the GMA.	Note Only	

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Appendix 3

Supplementary Supporting Documents

None

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