

56A King Henry's Road
London, NW3 3RP

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12985-50
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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 (BIA) submitted as part of the Planning Submission documentation for 56A King Henry's Road (planning reference 2018/5547/P). The original appointment was to carry out a Category A BIA audit. However, after the review of the BIA, 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 LBC Instruction to proceed with the audit identified that the basement proposal neither involves, nor is neighbouring to, a listed building.
- 1.5. The proposals include the construction of a basement underneath the footprint of the existing building and extending into the rear garden. A lightwell is proposed at the front of the property.
- 1.6. Considering the revised submissions, a desk study, Screening and Scoping assessments have been provided in accordance with Camden Planning Guidance (CPG) Basements.
- 1.7. Sufficient Plans and sections showing the proposed development been presented along with site investigation and interpretative geotechnical information in the revised submissions.
- 1.8. An outline construction methodology, programme and monitoring strategy have been provided in the revised submissions.
- 1.9. In the revised submission, an assessment of impacts from ground movements on neighbouring properties and infrastructure is provided and it is accepted that the proposed development will have a negligible impact on land stability.
- 1.10. In the revised submissions, consideration of the hydrology at the site has been provided and appropriate mitigation using an attenuation tank system has been presented.
- 1.11. Appropriate management procedures to mitigate the potential stability impacts during construction are presented.
- 1.12. A non-technical summary is presented.

- 1.13. Queries and requests for information are discussed in Section 4 and summarised in Appendix 2. Considering the revised submissions, the Addendum BIA meets the requirements of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 17 April 2019 to carry out a Category A Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 56A King Henry's Road (planning reference 2018/5547/P). Following review of the BIA and associated documents, the basement is considered to fall within Category B.

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: Basements, 2018.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- Local Plan 2017: 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 *"Excavation of basement level and elevational alterations including the installation of balconies at ground and first floor levels."*

2.6. The audit instruction also confirmed that the proposal does not involve any listed building.

2.7. CampbellReith accessed LBC's Planning Portal on 13 May 2019 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by Ecos Maclean Ltd (ref: 18024), dated January 2019.
 - Design & Access Statement by Ecos Maclean Ltd.
 - Basement Impact Assessment review by H Fraser Consulting Ltd (ref: 30356TN1, dated April 2019).
 - Basement Impact Assessment review by Ground and Project Consultants Ltd (ref: 50364, dated April 2019).
 - Basement Impact Assessment review by Betts Hydro Consulting Engineers Ltd (dated April 2019).
 - Ecos Maclean drawings, dated November 2018:
 - Existing and Proposed Front Elevation (18024-06)
 - Existing and Proposed Rear Elevation (18024-05)
 - Existing and Proposed Section A-A (18024-04)
 - Existing and Proposed Ground Floor (18024-01)
 - Proposed Basement Plan (18024-03)
- 2.8. CampbellReith issued a BIA audit report (rev. D1) on 20 May 2019 raising queries on the above relevant documents.
- 2.9. The following revised reports and additional documents were received in October and November 2019 in response to the raised queries:
- Addendum Basement Impact Assessment by Gabriel GeoConsulting (ref: GGC19779/R1), dated October 2019.
 - Structural Information to Support Basement Impact Assessment by Inertia Structures Ltd (ref: 19079/SMS/01), dated October 2019.
 - Inertia Structures Ltd Drawings:
 - Planning – Existing Structures & Ground Conditions, 19079-P-100-P3, 16/10/19
 - Planning – Proposed Basement Plan & Sections, 19079-P-200-P4, 19/11/19
 - Planning – Indicative Temporary Works Plan & Sections, 19079-P-300-P2, 08/11/19
 - Attenuation Tank Design by Inertia Structures Ltd (ref: 19079, rev 1), dated 1911/2019.
 - Topographical Survey by Cadmap (ref: CM19514), dated August 2019.
 - Outline Construction Programme.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Present in Addendum BIA (October 2019)
Is data required by Cl.233 of the GSD presented?	Yes	Present in Addendum BIA (October 2019)
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	Drawings provided.
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	Provided in Addendum BIA (October 2019)
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Provided in Addendum BIA (October 2019)
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Provided in Addendum BIA (October 2019)
Is a conceptual model presented?	Yes	
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Provided in Addendum BIA (October 2019)

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Provided in Addendum BIA (October 2019)
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Provided in Addendum BIA (October 2019)
Is factual ground investigation data provided?	Yes	Provided in Addendum BIA (October 2019)
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	56 and 56b are reported to having a basement already. However, basement levels are unknown.
Is a geotechnical interpretation presented?	Yes	Provided in Addendum BIA (October 2019)
Does the geotechnical interpretation include information on retaining wall design?	Yes	Provided in Addendum BIA (October 2019)
Are reports on other investigations required by screening and scoping presented?	Yes	
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	Revised assessment provided in Addendum BIA (October 2019)
Are estimates of ground movement and structural impact presented?	Yes	Provided in Addendum BIA (October 2019)
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	See above.

Item	Yes/No/NA	Comment
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Provided in Addendum BIA (October 2019)
Has the need for monitoring during construction been considered?	Yes	Section 5.3 of the BIA and Section 10.7 of the Addendum BIA.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Revised assessment provided in Addendum BIA (October 2019)
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	SUDS proposals provided
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. CampbellReith was instructed to carry out a Category A Audit on the Basement Impact Assessment (BIA). However, following review of the BIA and associated documents, the basement is considered to fall within Category B, as defined by the LBC terms of Reference.
- 4.2. The original Basement Impact Assessment (BIA) was undertaken by Ecos Maclean. The individuals concerned in its production hold BSc (Hons), BA, MEnv, Eng, MICE. The authors of the Addendum BIA hold CGeol and CEng qualifications.
- 4.3. The LBC Instruction to proceed with the audit identified that the basement proposal neither involves, nor is neighbouring to, a listed building.
- 4.4. The application property is a 1980's terraced single family dwelling town house, one of eleven terraced houses. The property has one parking bay at the front of the property, while at the rear is a garden sloping down to the top of a retaining wall which supports a railway cutting. The proposals include the construction of a basement underneath the footprint of the existing building which extends into the rear garden. A lightwell is proposed at the front of the property.
- 4.5. Both the screening and the scoping sections of the original BIA did not identify all the ground risks related to the proposed development and did not consider the presence of the railway retaining wall. The Addendum BIA (October 2019) and drawings provided by Inertia Structures Ltd address these issues, including updated assessments and provision of desk study information broadly in accordance with LBC guidance.
- 4.6. The site is sloping in south to north direction. However, the slope angle is not clearly stated in the BIA. The Addendum BIA (October 2019) provides further assessment of slopes at the site. It is accepted that the proposed development will not impact on slope stability.
- 4.7. It is understood that a trial pit was undertaken in August 2018. However, investigation details were not presented in the original BIA. Subsequent site investigation was carried out and the findings included in the Addendum BIA (October 2019). The property and neighbours are identified as being supported on piles with a thickness of Made Ground overlying the London Clay formation.
- 4.8. The addendum BIA includes sufficient geotechnical assessment and structural information, including sequencing and propping, to demonstrate feasibility of the proposed scheme. The piles will remain in place during the temporary works, with new retaining walls and basement slabs being tied to the piles foundation in the permanent case.
- 4.9. Proposals for managing groundwater ingress as part of the temporary works have been provided. It is accepted that the development will have no impact to the hydrogeological environment.

- 4.10. The original BIA stated that ground movements caused by the proposal will be within Category 1 (Very Slight) of the Burland Scale, although insufficient information was presented to support that conclusion. Further assessment of ground movement, along with the additional information provided within the Addendum BIA to evidence the conclusions reached, indicates Category 0 (Negligible) damage to adjacent properties and negligible impacts to utilities.
- 4.11. From the drawings provided, and the Betts Hydro review, it is understood that there will be a change in the impermeable site area at the rear of the property. Mitigation measures comprising the inclusion of a storm water attenuation tank to the rear of the property are indicated on the drawings provided by Inertia Structures Ltd. These measures are considered suitable to manage the off-site drainage flow rates and mitigate the impact to the wider hydrological environment. A final design should be agreed with Thames Water and LBC.
- 4.12. Based on the updated information provided, all previous queries with the original BIA have been closed out and the revised BIA documents meet the requirements of CPG Basements.

5.0 CONCLUSIONS

- 5.1. The BIA has been authored or reviewed by appropriately qualified individuals.
- 5.2. Following review of the BIA and associated documents, the basement is considered to fall within Category B as defined by the LBC terms of Reference.
- 5.3. Screening and Scoping assessments are presented in the Addendum BIA (October 2019).
- 5.4. Plans and sections showing the proposed changes in respect to neighbouring properties / gardens / infrastructure have been presented.
- 5.5. The Addendum BIA includes factual and interpretative geotechnical data. An outline construction programme and temporary works proposals are provided.
- 5.6. An assessment of impacts from ground movements on neighbouring properties and infrastructure is presented and is accepted. Evidence of consultation with the railway retaining wall owner is provided.
- 5.7. It is accepted that the proposed development will have a negligible impact to the land stability at the site.
- 5.8. Measures to mitigate the change in impermeable site area have been detailed following assessment of hydrological impacts.
- 5.9. It is accepted that the development will have no impact on the hydrogeological environment.
- 5.10. A non-technical summary is presented.
- 5.11. Queries and requests for information are summarised in Appendix 2. The Addendum BIA meets the requirements of CPG Basements.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	Screening and Scoping to be reviewed as per comments in Sections 3 and 4. Groundwater flow assessment to be undertaken by individuals holding a CGeol qualification.	Closed	November 2019
2	BIA	Plans and sections showing the proposed changes in respect to neighbouring properties / gardens / infrastructure should be presented.	Closed	November 2019
3	BIA	A site specific ground investigation should be carried to determine ground and groundwater conditions.	Closed	November 2019
4	BIA	Outline structural and construction information should be provided, including temporary works, and an outline construction programme.	Closed	November 2019
5	Land Stability	Interpretative geotechnical information should be presented.	Closed	November 2019
6	Land Stability	An assessment of impacts from ground movements on neighbouring properties and infrastructure should be provided. Evidence of consultation with the railway retaining wall owner / utility asset owners should be provided, as required.	Closed	November 2019
7	Hydrology	The change in impermeable site area to be quantified with associated assessment of hydrological issues (drainage / flooding).	Closed	November 2019

Appendix 3: Supplementary Supporting Documents

None

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