

5 Oval Road,
London, NW1 7EA

Basement Impact Assessment
Audit

For
London Borough of Camden

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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 5 Oval Road, NW1 7EA (planning reference 2018/3048/P & 2018/3049/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 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 relates to two proposals for the same address; 2018/3048/P - excavation for a small boiler room beneath the front garden and 2018/3049/P – larger excavation beneath the building whole footprint. The audit relates to both proposals, however, the potential impacts identified will be reduced for the smaller excavation.
- 1.5. The qualifications of the individuals involved in the BIA should be demonstrated to be in accordance with LBC guidance for all assessments.
- 1.6. The BIA makes reference to CPG4, 2015. The Camden Planning Guidance: Basements (2018) should be referenced together with other current guidance documents.
- 1.7. The BIA was not undertaken in accordance with the guidance documents. Non-technical summaries and impact assessment which adequately address all the issues identified in the screening and scoping is requested.
- 1.8. The baseline conditions should be confirmed.
- 1.9. Interpretative information to inform design should be presented based on a site specific ground investigation.
- 1.10. An indicative structural methodology and sequence with temporary propping should be presented with sketches are useful to illustrate this. Outline retaining wall design/calculations should also be presented.
- 1.11. Clarification is requested on the issue of neighbouring sloping land which was highlighted as needing further assessment but was not included in the scoping.
- 1.12. Clarification is requested on whether trees are to be removed or retained.

- 1.13. A surface water management strategy with specific proposals for the additional volumes should be presented.
- 1.14. A ground movement and damage assessment should be undertaken and presented. This should be consistent with the indicative structural methodology and sequence.
- 1.1. A preliminary structural monitoring strategy should be presented to ensure construction is controlled and impacts are limited to within the predicted limits.
- 1.2. An indicative works programme is requested. A detailed programme may be provided by the appointed Contractor at a later date.
- 1.3. It is accepted that there are no slope stability concerns regarding the proposed development and it is not in an area prone to flooding.
- 1.4. Queries and requests for information are summarised in Appendix 2. Until the additional information and further assessments requested are presented, the BIA does not meet the requirements of Camden Planning Guidance: Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 5 Oval Road, NW1 7EA (planning reference 2018/3048/P and 2018/3049/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
- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
 - Camden Planning Guidance Basements. March 2018.
 - Camden Development Policy (DP) 27: Basements and Lightwells.
 - Camden Development Policy (DP) 23: Water.
 - Local Plan 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;
 - 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 "*2018/3048/P: Erection of a single storey side extension and excavation of boiler room to front garden, installation of side gate and refuse store, sliding gate to front forecourt, enlargement of side stairwell and front lightwell, replacement of all windows, all to single family unit (Class C3). Demolish two storey building and erection of 2 x 3 bedroom, four storey dwellings including a new basement floor and*

2018/3049/P: Two storey side extension to include basement exaction and provision of garage at ground floor level, with associated landscaping to the rear, installation of side gate and refuse store, sliding gate to front forecourt, enlargement of side stairwell and front lightwell, replacement of all windows, all to single family unit (Class C3).

2.6. The Audit Instruction confirmed 5 Oval Road is not listed, however, the terrace row across the site listed.

2.7. CampbellReith accessed LBC's Planning Portal on 6 September 2018 and gained access to the following relevant documents for audit purposes:

- BIA Impact Screening Assessment Stage 1 screening, Ground & Water, dated June 2018.
- Arboricultural Assessment – Impact Assessment for Land at 5 Oval (Rev A) and screw pile detail, Keen Consultants, dated 8 March 2018 under 2018/3049/P.
- Arboricultural Assessment – Impact Assessment for Land at 5 Oval (Rev 0) and screw pile detail, Keen Consultants, dated 27 March 2018 under 2018/3048/P.
- Design and Access Statement, 5 Oval Road, Charles Doe Architects Ltd, dated May 2018.
- Charles Doe Architects Planning Application drawings:
 - Site plan (TP-200)
 - Existing plans (S-01)
 - Proposed lower and upper ground floor (TP-201)
 - Proposed Section AA, BB and CC (TP-204, TP-205 and TP-206)
 - Proposed northeast, northwest and southwest (TP-207, TP-208 and TP-209)
 - Existing and proposed Section DD (TP-210)

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	See Audit paragraph 4.1.
Is data required by Cl.233 of the GSD presented?	No	Proposal not sufficiently detailed (see Audit paragraph 4.5). Works programme not included (see Audit paragraph 4.16).
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	No	Proposal not sufficiently detailed (see Audit paragraph 4.5) and ground investigation not undertaken.
Are suitable plan/maps included?	Yes	Relevant maps with site location indicated included in Ground & Water BIA.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	As above.
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 3.1.2 of the Ground & Water BIA although the response to Q13 is not accepted (see Audit paragraphs 4.6 and 4.13).
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.1 of the Ground & Water BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.3 of the Ground & Water BIA.
Is a conceptual model presented?	No	Ground investigation not undertaken.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	Q3 not carried forward despite stating in the screening that it should be. Q13 from screening should be carried forward.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 3.2.1 of the BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 3.2.1 of the BIA.
Is factual ground investigation data provided?	No	Recommended by the BIA but not presented.
Is monitoring data presented?	No	Ground Investigation not undertaken.
Is the ground investigation informed by a desk study?	Yes	Section 2 of the BIA.
Has a site walkover been undertaken?	N/A	Not specifically stated however the site description on Section 2.2 implies a walkover was undertaken.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 3.1.2 of the BIA states the neighbouring properties comprise lower ground floor.
Is a geotechnical interpretation presented?	N/A	Ground investigation not undertaken.
Does the geotechnical interpretation include information on retaining wall design?	N/A	Ground investigation not undertaken.
Are reports on other investigations required by screening and scoping presented?	No	Ground investigation not undertaken, drainage strategy not presented. Ground movement assessment (GMA) not undertaken (see Audit paragraphs 4.6 and 4.7).
Are the baseline conditions described, based on the GSD?	No	No ground investigation and utilities search.
Do the base line conditions consider adjacent or nearby basements?	Yes	It is stated that lower ground floors are present beneath the nearby properties.

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	No	Not undertaken.
Are estimates of ground movement and structural impact presented?	No	GMA not undertaken and structural method statement not presented (see Audit paragraphs 4.5 and 4.13).
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	N/A	Not undertaken.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	N/A	BIA incomplete.
Has the need for monitoring during construction been considered?	No	Not considered.
Have the residual (after mitigation) impacts been clearly identified?	N/A	Mitigation not identified.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Not demonstrated (see Audit paragraphs 4.5 and 4.13).
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	No	Not demonstrated (see Audit paragraphs 4.8 and 4.11).
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?	No	GMA not undertaken.
Are non-technical summaries provided?	No	Not presented (see Audit paragraph 4.13).

4.0 DISCUSSION

- 4.1. The BIA was undertaken by Ground & Water Ltd. The reviewer of the screening assessment holds a CGeol qualification. A second reviewer for the surface water and flooding elements with CEng MStructE qualifications is indicated as 'TBC', however, it is unclear if this individual was involved. Camden Planning Guidance: Basements requires the involvement of a hydrologist or a Civil Engineer specialising in flood risk with a C.WEM or CEng MICE qualification respectively in the surface flow and flooding assessment and a Chartered Engineer together with a CGeol for the land stability assessment.
- 4.2. Section 1.2 of the Ground & Water report makes reference to CPG4, 2015. This document is now superseded. Together with the other current guidance documents, Camden Planning Guidance: Basements (2018) should also be referenced.
- 4.3. Non-technical summaries at each stage of the assessments should be provided, as required by the LBC guidance documents (see Section 6.118 of the Camden 2017 Local Plan).
- 4.4. The site comprises a four storey building including a lower ground floor semi-basement. The front of the site is indicated to be 1.50m above the rear garden. The proposed development is indicated to comprise a single storey extension at ground floor and basement level. The existing lightwell is to be enlarged and a concealed patio will be constructed at the rear of the side extension. The lower ground floor level will be at 3.50m below the front garden level and 1.50m below the rear garden level.
- 4.5. The construction methodology is not sufficiently detailed. Other than a brief statement in response to Question 13 of the land stability screening indicating '*screw piling*', a full description is not given in the BIA. An indicative structural methodology and sequence with temporary propping (if required) is not provided. Sketches are useful to illustrate this. Outline retaining wall calculations are also not provided to demonstrate structural stability.
- 4.6. Most of the relevant figures/maps from the Arup GSD and other guidance documents are provided with the site location indicated to support the responses to the screening questions which are largely valid. The response to Question 13 of the land stability screening states the use of screw piles is unlikely to cause significant movement that could damage the neighbouring properties, however, no evidence is presented to support this statement.
- 4.7. A 'Yes' response was given to Question 3 of the land stability screening which relates to whether or not the development neighbours land, railway cuttings and the like with a slope greater than 7 degrees. '*Embanked land greater than 7 degrees*' associated with the London Overground is indicated to the west of the site. Although it is stated that this is unlikely to be

affected given the location and size of the basement, it was indicated to be taken forward to scoping. Clarification is requested as this issue was not included in the scoping.

- 4.8. A number of issues relating to Worked Ground, perched ground water, surface water & drainage and the need for a ground investigation were identified in the scoping as needing further assessment, however this was not undertaken. An impact assessment is not provided.
- 4.9. It is stated on the land stability screening that three trees are to be removed as part of the proposed development. The arboricultural assessment under the 2018/3048/P application indicates one of the trees has internal decay, however, the report explores the retention of the tree through the use of screw piling. The report under the 2018/3049/P application indicates the removal of one tree. Clarification is requested.
- 4.10. It is stated in Section 3.1.2 on the land stability screening that the neighbouring properties (No 1E, 3 and 7 Oval Road) comprise lower ground floors. Although there is no indication that these were investigated, it is stated that these are likely to extend to 0.50m bgl.
- 4.11. It is stated on the surface water and flooding assessment that there will be an increase in the hardstanding area as part of the proposed development which will result in an increase in the volume of surface water run-off. A surface water management strategy identifying the existing drainage arrangement together with specific proposals for the additional volumes (some form of attenuation) is not presented. This should be undertaken by an individual with the relevant qualifications as outlined in the planning guidance.
- 4.12. As stated above, a site specific ground investigation informed by the desk study and screening and scoping exercise has not been undertaken despite recommended in the Ground and Water report. This is required to establish the ground and groundwater conditions to inform the design of the basement and investigate the existing foundations is required. Interpretative information with retaining wall parameters should be presented based on the ground investigation.
- 4.13. A ground movement and resulting damage assessment for the neighbouring properties has not been undertaken. It is stated in the BIA that this is not likely to be required. This statement is not accepted. A ground movement assessment (GMA) to demonstrate structural stability will be maintained and to ensure damage will be limited to within acceptable limits. The assessment should include all the proposed construction methods and be consistent with the indicative structural methodology and sequence.
- 4.14. There is no mention of a utility search in the BIA and it is assumed this has not been undertaken. A utilities search should be undertaken at this stage to enable an assessment of potential impacts of the proposed construction on these assets. Appropriate protection and mitigation of damage to each asset should be agreed with each asset owner.

- 4.15. A structural monitoring strategy has not been considered or included. This should be proposed to ensure that movements and damage impacts remain within the agreed limits. The trigger values should be based on the results of the GMA.
- 4.16. An indicative works programme as required by cl. 233 of the Arup GSD is not included.
- 4.17. 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 qualifications of the individuals involved in the BIA should be demonstrated to be in accordance with LBC guidance for all assessments.
- 5.2. The BIA makes reference to CPG4, 2015. The Camden Planning Guidance: Basements (2018) should also be referenced together with other current guidance documents.
- 5.3. The BIA was not undertaken strictly in accordance with the guidance documents. Non-technical summaries and impact assessments which adequately address all the issues identified in the screening and scoping is requested.
- 5.4. The baseline conditions (ground and ground water conditions based on a site specific ground investigation, depth of the existing foundations, existing drainage and utilities) should be confirmed. Interpretative information to inform design should be presented based on the ground investigation.
- 5.5. The construction methodology should be sufficiently detailed. An indicative structural methodology and sequence with temporary propping should be presented with sketches are useful to illustrate this. Outline retaining wall design/calculations should also be presented.
- 5.6. Clarification is requested on the issue of neighbouring sloping line which was highlighted as needing further assessment but was not included in the scoping.
- 5.7. Clarification is requested on whether trees are to be removed or retained.
- 5.8. A surface water management strategy with specific proposals for the additional volumes (some form of attenuation) should be presented.
- 5.9. A ground movement and damage assessment should be undertaken and presented. This should include all the proposed construction methods and be consistent with the indicative structural methodology and sequence.
- 5.10. A preliminary structural monitoring strategy should be presented, including trigger levels based on the ground movement assessment and contingency measures, to ensure construction is controlled and impacts are limited to within the predicted limits.
- 5.11. An indicative works programme is requested. A detailed programme may be provided by the appointed Contractor at a later date.
- 5.12. It is accepted that there are no slope stability concerns regarding the proposed development and it is not in an area prone to flooding.

- 5.13. Queries and requests for information are summarised in Appendix 2. Until the additional information and further assessments requested are presented, the BIA does not meet the requirements of Camden Planning Guidance: 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 format	Author qualifications.	Open – Evidence of the input of individuals with qualifications in accordance with Camden Planning Guidance requirements requested (see Audit paragraph 4.1).	
2	BIA format	BIA not undertaken in accordance with Arup GSD and Camden Planning Guidance requirements.	Open – to be resubmitted with information included as outlined on Audit paragraphs 4.2, 4.3, 4.6, 4.8 and 4.11 to 4.14.	
3	BIA format	Works programme not included	Open – outline duration to be provided with detailed programme submitted at a later date by appointed Contractor.	
4	BIA format	Inconsistencies between BIA and arboricultural assessment.	Open – clarification requested as per Audit paragraph 4.9.	
5	Hydrology	Drainage strategy not provided	Open – to be provided as per Audit paragraph 4.11.	
6	Stability	Proposal not sufficiently detailed. No outline retaining wall calculations, construction methodology, construction sequence sketches or temporary works proposal.	Open – information to be provided as per Audit paragraph 4.5.	
7	Stability	Ground movement assessment (GMA) not undertaken.	Open – to be provided as per Audit paragraph 4.13.	
8	Stability	Movement monitoring proposal not provided.	Open – Outline proposal with trigger levels based on GMA to be provided.	

Appendix 3: Supplementary Supporting Documents

None

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