

29 Steele's Road (Flat 1)
London
NW3 4RE

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 13398-93
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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 29 Steele's Road, London NW3 4RE (planning reference 2020/5932/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 qualifications of the individuals involved in the BIA are not in accordance with LBC guidance. The BIA should be reviewed by individuals holding the qualifications as specified in CPG: Basements.
- 1.5. The proposed works comprise lowering of the existing conservatory floor by approximately 300mm. This will involve excavations to approximately 800mm below ground level and underpinning of the Party Wall.
- 1.6. The BIA states that there will be no significant deepening of foundations creating a differential with neighbouring foundations. However, given that underpinning is required the Screening response should be reviewed and stability impacts assessed.
- 1.7. The BIA states there are no current or historical watercourses within 100m of the site, although mapping indicates the site to be within 100m of the historical River Tyburn. The Screening responses should be reviewed and impacts assessed, if required.
- 1.8. The BIA states that the site is not within a Critical Drainage Area, although mapping indicates the site to be within Critical Drainage Area Group 3_003. The Screening responses should be reviewed and impacts assessed, if required.
- 1.9. A site investigation was undertaken in December 2020 indicating that the proposed underpinned foundations will be formed within the London Clay.
- 1.10. A geotechnical interpretation to inform foundation design, retaining wall calculations and settlement / ground movements should be presented in the BIA.
- 1.11. It is accepted that the proposed development will not cause any adverse impact on the wider hydrogeological environment, subject to review of the Screening responses.

- 1.12. The site is at very low risk from flooding from rivers, seas and reservoirs, from groundwater, and at low risk from surface water.
- 1.13. The proposed development will not result in an increase in impermeable site area. As 1.7, following review, the hydrological assessment and drainage proposals should be confirmed.
- 1.14. The BIA states that considering the methods of construction proposed, the predicted damage to adjacent structure will be limited to Category 1 (Very Slight) in accordance with the Burland Scale. However, this statement is not supported the required geotechnical information or a ground movement assessment (GMA), which should be presented.
- 1.15. The BIA states that structural movement monitoring is not proposed during construction. This should be reviewed following clarification of the GMA.
- 1.16. Queries and requests for information are discussed in Section 4 and summarised in Appendix 2. Until the clarifications 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 14 April 2021 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 29 Steele's Road, London NW3 4RE, Camden Reference 2020/5932/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: Basements. March 2018.
 - 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 "*Partial lowering of the rear lower ground floor and replacement of the lower ground floor side entrance door.*"
- 2.6. The Audit Instruction confirmed applicant's property and neighbouring properties are not listed.
- 2.7. CampbellReith accessed LBC's Planning Portal on 4th May 2021 and gained access to the following relevant documents for audit purposes:
- Basement Impact Assessment (ref.:20073/R1/BC/RevP1), dated December 2020, by Constant Structural Design Ltd;

- Planning Application Drawings consisting of Location Plan, Existing and Proposed Plans, Existing and Proposed Sections dated December 2020 by Neiheiser Argyros Architectural Designer.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	See Section 4 of this audit.
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	Historical water courses to be reviewed.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	No	Historical water courses to be reviewed.
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	The assessment should be reviewed by professional holding qualifications as described in CPG Basements. Its stated that there will be no significant deepening of foundations, however given that underpinning is required stability issues require assessment.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Historical water courses to be reviewed. The assessment should be reviewed by professional holding qualifications as described in CPG Basements.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Critical Drainage Areas to be reviewed. The assessment should be reviewed by professional holding qualifications as described in CPG Basements.
Is a conceptual model presented?	Yes	Section 8 of the BIA. To be reviewed.

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	However, the assessment should be reviewed by professional holding qualifications as described in the CPG for basements.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	As above.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	As above.
Is factual ground investigation data provided?	Yes	Appendix B of the BIA.
Is monitoring data presented?	No	Groundwater monitoring was not undertaken.
Is the ground investigation informed by a desk study?	Yes	Desktop study information is presented in Section 3 of the BIA.
Has a site walkover been undertaken?	Unknown	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	The BIA states there are no basements in the vicinity. However, it is evident from views at street level that all surrounding properties have basement / lower ground floors.
Is a geotechnical interpretation presented?	No	Geotechnical interpretation and parameters should be included in the BIA.
Does the geotechnical interpretation include information on retaining wall design?	No	As above.
Are reports on other investigations required by screening and scoping presented?	No	
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	No	The BIA states there are no basements in the vicinity. See above.

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	Section 11 of the BIA. To be reviewed.
Are estimates of ground movement and structural impact presented?	No	The BIA considers movements to be negligible. However a GMA should be presented to demonstrate this.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	No	Further review required, as detailed in Section 4.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Further review required, as detailed in Section 4.
Has the need for monitoring during construction been considered?	No	The BIA states monitoring during construction will not be required. However, this should be reviewed once stability issues have been assessed.
Have the residual (after mitigation) impacts been clearly identified?	No	This should be reviewed once issues have been assessed.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Geotechnical information and a GMA should be presented.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	No	Proposals to be reviewed considering Critical Drainage Area.
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	However, this has not yet been demonstrated.
Are non-technical summaries provided?	Yes	Section 1 of the BIA.

4.0 DISCUSSION

- 4.1. The BIA was undertaken by Constant Structural Design Ltd. The BIA should be reviewed by individuals holding the qualifications as specified in CPG: Basements.
- 4.2. The site is currently occupied by a lower and upper ground floor maisonette within a 5 storey semi detached period property. A conservatory extension and associated patio is present at the rear of the property. The property shares a party wall with No. 28 Steele's Road and the flats above. The proposed works comprise lowering of the existing conservatory floor by approximately 300mm. This will involve excavations to approximately 800mm below ground level (bgl) and underpinning of the Party Wall.
- 4.3. The existing rear conservatory is at lower ground floor level, located against the Party Wall with No. 28 Steele's Road. It has been established that the existing floor levels either side of the party wall are similar.
- 4.4. The LBC Instruction to proceed with the audit confirmed that both applicant's property and neighbouring properties are not listed.
- 4.5. The BIA states the neighbouring properties do not have basements. However, neighbouring properties all appear to have lower ground floors from available views from the street.
- 4.6. Screening and scoping assessments are presented and informed by desktop study information. Most of the relevant figures/maps from the Arup GSD and other guidance documents are referenced within the BIA to support responses to the screening questions. It is noted that the screening and scoping sections should be reviewed by individual holding suitable qualifications as recommended in CPG Basements.
- 4.7. The following Screening responses require clarification:
- The BIA states that there will be no significant deepening of foundations creating a differential with neighbouring foundations. However, given that underpinning is required the Screening response should be reviewed and stability impacts assessed.
 - The BIA states there are no current or historical watercourses within 100m of the site, although mapping indicates the site to be within 100m of the historical River Tyburn. The Screening response should be reviewed and impacts assessed, if required.
 - The BIA states that the site is not within a Critical Drainage Area, although mapping indicates the site to be within Critical Drainage Area Group 3_003. The Screening responses should be reviewed and impacts assessed, if required.
- 4.8. A site investigation was undertaken in December 2020 to inform the proposed design. One

borehole log is presented in the BIA. The ground investigation encountered Made Ground to a depth of 0.60m bgl. Deposits of the London Clay were encountered below the Made Ground to a depth of 7.00m bgl where the borehole terminated.

- 4.9. Groundwater was not struck during drilling, and subsequent monitoring was not undertaken. The BIA states that groundwater control measures will be required and that localised dewatering may be required to deal with groundwater ingress into the excavation. Considering that groundwater was not encountered during the site investigation and the limited excavation depth proposed, it is accepted that the proposed development will not cause any adverse impact on the wider hydrogeological environment, subject to review of the Screening responses by an appropriately qualified hydrogeologist.
- 4.10. A geotechnical interpretation to inform foundation design, retaining wall calculations and settlement / ground movements should be presented in the BIA, in accordance with the GSD Appendix G3. The BIA states the clay has an allowable bearing capacity greater than 100kPa. The geotechnical interpretation should indicate a design value for the undrained shear strength of the London Clay at foundation level and a precise value for the associated bearing capacity.
- 4.11. An outline construction sequence is presented in the BIA. It is proposed to lower the floor level of the existing conservatory using traditional reinforced concrete underpinning following a typical 'hit and miss' sequence. The sequence includes the construction of a blockwork retaining wall to the front of the conservatory.
- 4.12. The BIA states that considering the methods of construction proposed, the predicted damage to adjacent structure will be limited to Category 1 (Very Slight) in accordance with the Burland Scale. However, this statement is not supported by the required geotechnical information or a ground movement assessment (GMA). A GMA should be presented which should include an estimation of anticipated ground movements due to excavation, underpinning installation and potential unwanted settlement due to workmanship.
- 4.13. The BIA states that structural movement monitoring is not proposed during construction. This should be reviewed following clarification of the GMA.
- 4.14. The site is at very low risk from flooding from rivers, seas and reservoirs, from groundwater, and at low risk from surface water.
- 4.15. The proposed development will not result in an increase in impermeable site area. However, as 4.7, the site is within a Critical Drainage Area and following review by an appropriately qualified engineer or hydrologist, the hydrological assessment and drainage proposals should be confirmed. It is noted that the final drainage scheme will require approval by the local flood authority and the owner of the public sewer system present in the area (Thames Water).

- 4.16. The BIA confirms that there is no tree within the gardens of the site which represent a planning constraint and, as such, no trees are proposed to be removed.

5.0 CONCLUSIONS

- 5.1. The BIA should be reviewed by individuals holding the qualifications as specified in CPG: Basements.
- 5.2. The proposed works involve excavations to approximately 800mm below ground level and underpinning of the Party Wall.
- 5.3. A number of statements in the BIA appear to be factually incorrect and responses to the Screening assessment require further review and clarification, as detailed in Section 4.
- 5.4. A site investigation indicates that the proposed underpinned foundations will be formed within the London Clay.
- 5.5. A geotechnical interpretation to inform foundation design, retaining wall calculations and settlement / ground movements should be presented in the BIA.
- 5.6. The BIA states that considering the methods of construction proposed, the predicted damage to adjacent structure will be limited to Category 1 (Very Slight). However, this statement is not supported by the required geotechnical information and ground movement assessment (GMA) which should be presented.
- 5.7. The BIA states that structural movement monitoring is not proposed during construction. This should be reviewed following clarification of the GMA.
- 5.8. Queries and requests for information are summarised in Appendix 2. Until the clarifications requested are presented, the BIA does not meet the requirements of Camden Planning Guidance: Basements.

Appendix 1: Residents' Consultation Comment

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA format	The BIA should be reviewed by individuals holding the qualifications required by CPG: Basements.	Open – See 4.1, 4.6	
2	Land Stability	The BIA states that there will be no significant deepening of foundations creating a differential with neighbouring foundations. However, given that underpinning is required the Screening response should be reviewed and stability impacts assessed.	Open – See 4.6, 4.7	
3	Hydrogeology	The BIA states there are no current or historical watercourses within 100m of the site, although mapping indicates the site to be within 100m of the historical River Tyburn. The Screening responses should be reviewed and impacts assessed, if required.	Open – See 4.6, 4.7, 4.9	
4	Hydrology	The BIA states that the site is not within a Critical Drainage Area, although mapping indicates the site to be within Critical Drainage Area Group 3_003. The Screening responses should be reviewed and impacts assessed, if required.	Open – See 4.6, 4.7, 4.15	
5	Land Stability	A geotechnical interpretation to inform foundation design, retaining wall calculations and settlement / ground movements should be presented in the BIA.	Open – See 4.10.	
6	Land stability	A GMA should be presented in the BIA.	Open – See 4.12.	
7	Land Stability	The requirement for structural monitoring should be reviewed.	Open – See 4.13.	

Appendix 3: Supplementary Supporting Documents

None

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