

Basement Flat,  
24 Kemplay Road,  
London  
NW3 1SY

Basement Impact Assessment  
Audit

For  
London Borough of Camden

Project Number: 13398-58  
Revision: D1

November 2020

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### Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	November 2020	Comment	JBgk 13398-58-19112020 24 Kemplay Road D1.doc	J Brown	G Kite	G Kite

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### Document Details

Last saved	19/11/2020 12:13
Path	JBgk 13398-58-19112020 24 Kemplay Road D1.doc
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Project Number	13398-58
Project Name	24 Kemplay Road
Planning Reference	2020/3911/P

Contents

1.0 Non-technical summary ..... 1

2.0 Introduction ..... 3

3.0 Basement Impact Assessment Audit Check List..... 5

4.0 Discussion ..... 8

5.0 Conclusions ..... 11

Appendix

- Appendix 1: Residents' Consultation Comments
- Appendix 2: Audit Query Tracker
- Appendix 3: Supplementary Supporting Documents

## 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 the Basement Flat, 24 Kemplay Road, London, NW3 1SY, (planning reference 2020/3911/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 proposed development comprises a lateral extension to the rear of the lower ground level flat outside the original building footprint by 3.0m.
- 1.5. The qualifications of the individuals involved in the BIA are in accordance with LBC guidance.
- 1.6. Screening and scoping assessments are presented, supported by desk study information.
- 1.7. The BIA indicates that the proposed basement extension will be founded in the Claygate Member. However, the referenced site investigation data should be presented.
- 1.8. The BIA indicates that there will be no adverse impact to the hydrogeological environment, which is accepted pending the presentation of site investigation data.
- 1.9. There will not be an increase in impermeable site area. The referenced drainage proposals should be presented to confirm there will be no impacts to the hydrological environment.
- 1.10. The site has a very low risk of flooding from all the sources.
- 1.11. Insufficient geotechnical parameters are presented. Recommended bearing capacity for foundation design should be provided. Also, as 1.7, the referenced site investigation data should be presented to justify the parameters adopted.
- 1.12. Its stated that the proposals do not require excavations below existing foundation level of the subject property or neighbouring properties. The Contractor should confirm this prior to construction.
- 1.13. A ground movement assessment (GMA) has determined the anticipated damage to neighbouring properties will be Category 0 (Negligible) in accordance with the Burland Scale.

Clarifications are requested, as Section 4. Until the site investigation data is presented, the conclusions of the GMA cannot be accepted.

- 1.14. The presence of utilities and underground infrastructure within the zone of influence of the basement should be confirmed and impacts assessed and presented, as required.
- 1.15. The relative levels of the neighbouring rear garden areas should be confirmed. An outline construction methodology and strategy for managing potential instability should be presented. Its noted that the BIA suggests that boundary walls and fences should be removed during the works and rebuilt after.
- 1.16. An outline construction programme should be provided.
- 1.17. It is accepted that there are no slope stability concerns regarding the proposed development.
- 1.18. 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.

## 2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 30/09/2020 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for Basement Flat, 24 Kemplay Road, London, NW3 1SY, Camden reference 2020/3911/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 *"Erection of a single storey lower ground floor extension with excavation of rear garden, landscaping alterations, and alterations to lower ground floor fenestration."*

The Audit Instruction confirmed property does not involve, or was a neighbour to, listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 13/11/2020 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment Report (BIA), ref LBH4606bia, dated July 2020, by LBHGEO;
- Tree Report, ref XUK/24KPR/AIA/Lttr/01a, dated July 2020, by Landmark Trees;
- Planning Application Drawings consisting of:
  - Location Plan
  - Existing Plans
  - Proposed Plans
- Planning Heritage Statement, dated August 2020, by SM Planning; and
- Planning Consultation Responses.

### 3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Page 2 BIA
Is data required by Cl.233 of the GSD presented?	No	The presence of utilities or underground infrastructure should be confirmed. An outline construction programme should be provided.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	No	See Section 3 of the BIA. Relative levels between neighbouring gardens should be confirmed and outline construction methodology to mitigate potential instability presented.
Are suitable plan/maps included?	Yes	The assessment is supported by suitable drawings of the existing and proposed development and by suitable maps to describe the environmental setting.
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	Section 4 of the BIA.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4 of the BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4 of the BIA.
Is a conceptual model presented?	Yes	Section 5 and 9 of the BIA.



Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of the BIA.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of the BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4 of the BIA.
Is factual ground investigation data provided?	No	Discussed in BIA. Data should be provided.
Is monitoring data presented?	No	Groundwater was not recorded during Ground Investigation.
Is the ground investigation informed by a desk study?	Yes	Section 3 of the BIA.
Has a site walkover been undertaken?	Yes	Section 6 of the BIA.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 2.3 of the BIA. The Contractor should confirm the foundation depths of neighbouring properties, notably 26Kemplay Road, prior to starting works.
Is a geotechnical interpretation presented?	No	Section 6 and 7 of the BIA. Bearing capacity should be provided. Parameters subject to review of site investigation data.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Section 6 of the BIA.
Are reports on other investigations required by screening and scoping presented?	No	Ground investigation report and drainage strategy are required to be provided.
Are the baseline conditions described, based on the GSD?	No	Relative levels of neighbouring gardens should be clarified.

Item	Yes/No/NA	Comment
Do the base line conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	Section 7 of the BIA. Subject to confirmation of site investigation data.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Subject to confirmation of site investigation data and drainage strategy.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Subject to confirmation of relative garden levels and construction methodology, site investigation data and drainage strategy.
Has the need for monitoring during construction been considered?	No	The BIA should clarify if monitoring during construction will be required.
Have the residual (after mitigation) impacts been clearly identified?	No	Subject to confirmation of relative garden levels and construction methodology, site investigation data and drainage strategy.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Subject to confirmation of relative garden levels and construction methodology, and site investigation data. The presence of services should be confirmed.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	No	Drainage strategy to be provided.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	Subject to confirmation of relative garden levels and construction methodology, site investigation data, drainage strategy, utilities.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Section 7 BIA.
Are non-technical summaries provided?	Yes	Page 5 BIA.

## 4.0 DISCUSSION

- 4.1. The BIA was undertaken by LBHGEO Ltd and the reported qualifications of the authors are in line with those required by LBC guidance.
- 4.2. The site is rectangular in shape and currently occupied by a four storey terraced Victorian house with a basement 1.1m lower than the street level. A light well is present to the front of the property, including stepped access from the street to a lower ground floor flat. There is a glass roofed rear extension that occupies the majority of the former rear patio, except for a manhole cover, at the same level as the lower ground floor. Steps lead up to the rear garden that is paved except for a raised planter in the north-west corner. A timber outbuilding is present in the north-eastern corner of the site.
- 4.3. The proposed development comprises a lateral extension of the rear lower ground level flat outside the original building footprint by 3.0m. The rear garden is at a higher level and will need to be excavated by up to 2.0m in depth. A sunken patio with a stepped access to the retained rear garden is also proposed.
- 4.4. The LBC Instruction to proceed with the audit identified that the applicant's property is not listed and that the basement proposal does not neighbour any listed buildings.
- 4.5. The site is bounded on both sides by adjacent terraced buildings similar in nature. Both neighbouring properties were noted to have similar ground floor level rear extensions or patios. However, its noted that 26 Kemplay Road does not have a lower ground floor and the foundation depths have been assumed. The Contractor should confirm the neighbouring foundation levels prior to construction work commencing.
- 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.
- 4.7. The relative levels of neighbouring gardens should be confirmed to provide information on the height or retaining walls required along the property boundaries.
- 4.8. A site investigation is reported to have been undertaken by Land Science, but the factual report, logs and field test results have not been included as part of this application and are required to be submitted.
- 4.9. The BIA indicates the ground investigation identified Made Ground to a maximum depth of 1.00m bgl. The Claygate beds were identified to refusal at 3.00m bgl. The BIA indicates the Claygate Member was observed, mistakenly, as 'soft' whereas hand penetrometer and hand

shear vane indicate the clay to be firm to stiff. These have not been provided and should be submitted to confirm the design assumptions of the ground movement assessment.

- 4.10. Groundwater was not encountered during drilling. The BIA also states that the Claygate Member is a Secondary A Aquifer. Considering the depth and extent of the proposed basement extension, there is unlikely to be a significant impact on the hydrogeological environment, pending submission of the site investigation data.
- 4.11. The BIA identifies that the site is within 100m of a potential spring line, at Flask Walk, but the site is located below the elevation of the area of spring lines emanating from the Claygate Beds. The BIA advises there will be no change to the flood risk at the site or neighbouring sites as a result of the proposed development. A SUDS scheme is proposed and the referenced drainage strategy report should be provided for review.
- 4.12. The sequence of works stated in the BIA will comprise: the removal of the existing extension, stairs and rear retaining wall; extension of the excavation rearwards, replacing the existing brick boundary walls as necessary with new walls, with hit and miss construction designed to retain soil where necessary; construction of the extension superstructure, paving of the terrace and the new stairs and then forming the stepped planter in front of the retaining walls. The proposal will be subject to detailed design by a structural engineer.
- 4.13. An outline construction programme should be provided.
- 4.14. According to the BIA, the proposed extension is to be set at the same level as the existing ground floor and is not adjacent to any structural walls to either of the neighbouring structures, so no underpinning of existing walls is anticipated. As 4.5, the Contractor should confirm the level and proximity of neighbouring foundations are as assumed in the BIA with the Engineer prior to construction works commencing.
- 4.15. The below-ground section of the new walls forming the proposed rear extension are to be constructed with reinforced concrete, using a hit-and-miss excavation. It is suggested by the BIA that the boundary garden walls / fences are removed and rebuilt as necessary as part of the proposed development, subject to agreement with the neighbouring properties. As 4.7, the relative garden levels and height or proposed retaining walls should be confirmed, along with an outline methodology to mitigate potential instability ie sequence and propping arrangements.
- 4.16. A mature sycamore tree was removed in 2017 and a Pyracantha tree is located in the neighbouring garden. The BIA advises the proposed development's foundations will be designed in accordance with NHBC guidelines, founding below the depth of the influence of trees.
- 4.17. Geotechnical parameters are presented but do not include a proposed bearing capacity, which should be presented. The ground investigation should be provided to confirm the parameters

used for the design. The BIA advises the proposed values should be adopted by the structural engineer in the detailed retaining wall design.

- 4.18. A ground movement assessment (GMA) has been undertaken based on the limited amount of excavation proposed to demonstrate that ground movements and consequential damage to neighbouring properties will be within LBC's policy requirements. The analysis is based on the short term and long term heave movements caused by the basement excavation.
- 4.19. The GMA indicates the anticipated damage to neighbouring properties will be Category 0 (Negligible) in accordance with the Burland Scale. Further to 4.7 and 4.15, it should be confirmed whether the formation of the boundary retaining walls and basement excavation will cause additional ground movements that could impacts nearby structure e.g. the closet wing of 26 Kemplay Road.
- 4.20. The BIA does not specify if monitoring is proposed during the construction. Depending upon review of the GMA (as 4.19), proposals for monitoring should be provided if required.
- 4.21. The BIA indicates a man hole cover is located adjacent to the rear of the lower ground floor flat. A utility survey showing the presence of any utility/ underground infrastructure within the zone of influence of the basement should be presented. The BIA should assess impacts to utilities and underground infrastructure within the zone of influence of the basement.
- 4.22. It is accepted that there are no slope stability concerns regarding the proposed development.

## 5.0 CONCLUSIONS

- 5.1. The qualifications of the individuals involved in the BIA are in accordance with LBC guidance.
- 5.2. Screening and scoping assessments are presented, supported by desk study information.
- 5.3. The relative levels of the neighbouring rear garden areas should be confirmed.
- 5.4. The referenced site investigation data should be presented.
- 5.5. The BIA indicates that there will be no adverse impact to the hydrogeological environment, which is accepted pending the presentation of site investigation data.
- 5.6. The referenced drainage proposals should be presented to confirm there will be no impacts to the hydrological environment.
- 5.7. The site has a very low risk of flooding from all the sources.
- 5.8. Insufficient geotechnical parameters are presented. The referenced site investigation data should be presented to justify the parameters to be adopted.
- 5.9. Clarifications to the GMA are requested, as Section 4. Until the site investigation data is presented, the conclusions of the GMA cannot be accepted.
- 5.10. The presence of utilities and underground infrastructure within the zone of influence of the basement should be confirmed and impacts assessed and presented, as required.
- 5.11. It is accepted that there are no slope stability concerns regarding the proposed development.
- 5.12. 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 Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Harding	Not provided	06/10/2020	Tree to be replanted	Section 4 – founding depth to be in accordance with NHBC
Fanshawe	22 Kemplay Road	27/10/2020	Concerns re structural stability, programme, other issues beyond the scope of the BIA audit.	Section 4



## Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Land stability / Hydrogeology	Ground investigation data should be provided.	Open	
2	Land Stability	Geotechnical parameters to include bearing capacity.	Open	
3	Hydrology	The drainage strategy should be provided.	Open	
4	Land Stability	The relative levels of neighbouring gardens should be presented.	Open	
5	Land Stability	The Contractor should confirm neighbouring foundation levels are as stated in the BIA with the Engineer in advance of construction.	Note Only	N/A
6	Land stability	The GMA should be reviewed as per comments in Section 4.	Open	
7	Land Stability	The presence of utilities and underground infrastructure within the zone of influence should be identified and impacts assessed, as applicable	Open	
8	BIA Format	An outline construction programme should be provided	Open	

## Appendix 3: Supplementary Supporting Documents

None

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