

56 Platt's Lane,  
London  
NW3 7NT

Basement Impact Assessment  
Audit

For  
London Borough of Camden

Project Number: 12985-64

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Contents

1.0 Non-Technical Summary ..... 1  
2.0 Introduction ..... 3  
3.0 Basement Impact Assessment Audit Check List..... 5  
4.0 Discussion ..... 9  
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 a revised Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 56 Platt's Lane, London NW3 7NT, Camden Reference 2019/4795/P. The basement is considered to fall within Category B as defined by the Terms of Reference.
- 1.2. The audit reviewed the 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 GEA with supporting documents prepared by SRB Structures and Water Environment Ltd (WEL). The authors' qualifications are in accordance with LBC requirements.
- 1.5. The site currently comprises a three-storey dwelling with a ground floor approximately 2.20m above street level. There is a change in elevation of more 7m between the rear and front gardens. The proposed development involves the construction of a single storey basement beneath the house at approximately 2.75m below the existing ground floor level.
- 1.6. The site is underlain by Made Ground, Bagshot Formation and Claygate Member. The groundwater table is below the proposed basement level but that seepages may be encountered during construction.
- 1.7. The revised BIA and structural proposals adopt reasonably conservative geotechnical parameters. Trial pits in advance of the main works will be undertaken to inform the temporary works groundwater control strategy.
- 1.8. It is accepted that there are no adverse impacts to subterranean flows from the basement proposals.
- 1.9. A revised ground movement and building damage assessment predicts Category 0 to Category 1 (Negligible to Very Slight) damage to neighbouring properties.
- 1.10. It is accepted that there are no potential adverse impacts to or from flooding.
- 1.11. The structural engineering proposal has been revised to be consistent with the BIA.
- 1.12. An outline construction programme has been provided.

- 1.13. The structural proposal contains an outline monitoring strategy. This can be developed at a later date as part of the party wall awards.
- 1.14. Discussion and requests for further information are presented in Section 4 and summarised in Appendix 2. Considering the updated information provided, the BIA meets the criteria of CPG: Basements.

## 2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 2<sup>nd</sup> July 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 56 Platt's Lane, London NW3 7NT, Camden Reference 2018/4795/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; and,
- 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 planning portal describes the proposal as: "*Creation of new basement storey to provide additional habitable accommodation, with new side lightwell plus associated windows and metal grille and with lowered front garden plus associated windows to front elevation.*"

The planning portal also confirmed the site lies within the Redington Froggnal Conservation Area. The site is not listed and neither are the adjacent buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 12<sup>th</sup> July 2019 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment dated April 2019 by SRB Structures including:
  - Existing and Proposed Plans, Elevations and Section drawings dated April 2017 by Studio 136 Architects and further drawings by Amirilan Design Ltd dated January 2019.
  - Geotechnical Ground Investigation (ref LS 3267) dated 26 February 2018 by Land Science.
  - Proposal for Basement Extension (including Structural Design) dated August 2018 by SR Brunswick.
  - Thames Water Asset Location Search dated 29 January 2019.
- Consultation responses.

2.7. The audit of the above documents identified several shortcomings in the information presented and concluded that the requirements of the CPG: Basements had not been met. LBC provided CampbellReith with a new BIA on 3 July 2020. CampbellReith accessed LBC's Planning Portal on 20 July 2020 and gained access to a structural engineer's statement and construction programme. The details of these documents are as follows:

- Site Investigation and Basement Impact Assessment Report, Issue No 1, by Geotechnical and Environmental Associates Ltd (GEA), reference J20031, dated June 2020.
- Proposal for basement extension by SRB Structures (undated), uploaded to website on 3 July 2020.
- 56 Platt's Lane Programme (undated) by Amirilan, uploaded to website 3 July 2020.

2.8. LBC provided CampbellReith with revised documents in September to November 2020 in direct response to queries raised, as follows:

- Site Investigation and Basement Impact Assessment Report, Issue No 2, by Geotechnical and Environmental Associates Ltd (GEA), reference J20031, dated September 2020.
- Proposal for basement extension by SRB Structures (undated), November 2020.

### 3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	GEA and hydrological subconsultant have satisfactory qualifications.
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	SRB note retaining walls designed as cantilevers for worst case, but sections show them to typically be propped by ground floor slab.
Are suitable plans/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	Although site ground levels not confirmed
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA report, Section 3.1.2. Distance to former tributary of River Brent contradicts that noted in Executive Summary, albeit it is noted the stream flows away from the site.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA report, Section 3.1.1. Distance to former tributary of River Brent contradicts that noted in Executive Summary, albeit it is noted the stream flows away from the site.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Presented in Appendix to BIA in Surface Water and Flooding Risk Assessment prepared by Water Environment Ltd.
Is a conceptual model presented?	Yes	



Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	BIA report, Section 4.0.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	BIA report, Section 4.0.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	BIA report, Section 4.0.
Is factual ground investigation data provided?	Yes	GI undertaken for previous BIA is presented in GEA BIA with an additional groundwater monitoring visit.
Is monitoring data presented?	Yes	BIA report, Section 5.4.
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	BIA notes that 1 Telegraph Hill has a basement level similar to that proposed for No 56 Platt's Lane. It is assumed that no basement exists beneath No 54 Platt's Lane.
Is a geotechnical interpretation presented?	Yes	BIA report, Section 8.
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	Yes	Ground movement/building damage and flood risk assessments provided.
Are baseline conditions described, based on the GSD?	Yes	

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	Revised in updated submissions.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Revised in updated submissions.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	<ul style="list-style-type: none"> <li>- Further ground investigation to confirm stability and need for groundwater control during construction.</li> <li>- Propping of retaining walls at all times.</li> <li>- Monitoring during construction.</li> <li>- Careful control of workmanship to maintain stability.</li> </ul>
Has the need for monitoring during construction been considered?	Yes	Outline scheme presented by SRB Structures.
Have the residual (after mitigation) impacts been clearly identified?	Yes	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Revised in updated submissions.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Hydrogeological assessment to be confirmed.
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	Revised in updated submissions.

Item	Yes/No/NA	Comment
Are non-technical summaries provided?	Yes	

## 4.0 DISCUSSION

- 4.1. The BIA has been prepared by GEA with supporting documents prepared by SRB Structures and Water Environment Ltd (WEL). The authors' qualifications are in accordance with LBC requirements.
- 4.2. The site currently comprises a three-storey dwelling with a ground floor approximately 2.20m above street level. A small parking area exists at approximate street level at the front (west) and a terraced hillside garden is present to the rear (east). There is a change in elevation of more 7m between the rear and front gardens.
- 4.3. The proposed development involves the construction of a single storey basement beneath the existing footprint of the house with a small lightwell on the northern side and a small area of basement beneath the steps to the front door. The new basement will be founded at approximately 2.75m below the existing ground floor level (0.60m below the parking area and approximately 3.50m below the rear garden level).
- 4.4. The property is bounded by 54 Platt's Lane to the west and 1 Telegraph Hill to the east. The BIA notes that there is no evidence of a basement beneath 54 Platt's Lane but that 1 Telegraph Hill has a basement at a similar level to that proposed for 56 Platt's Lane.
- 4.5. A desk study has been undertaken. Information from the limited ground investigation undertaken for the previous BIA is presented with an additional groundwater monitoring visit undertaken by GEA. The BIA contains a ground model which describes Made Ground and Bagshot Formation to 1.00m below ground floor level and Claygate Member to 17.00m below. The BIA notes that the GI suggests the groundwater table is below the proposed basement level but that seepages may be encountered during construction. It recommends that the design of the basement assumes groundwater to be 1.00m below ground floor level. Parameters for the design of the basement retaining walls are presented.
- 4.6. The revised BIA adopts reasonably conservative geotechnical parameters for design and assessment purposes. It would be prudent for the Contractor to confirm that the in situ shear strength / bearing capacity at formation level meets the values stated in the BIA.
- 4.7. It was previously recommended that further monitoring should be undertaken to clarify the groundwater conditions and inform the temporary works strategy. A single further round of monitoring has been undertaken and indicates that the water table lies beneath the proposed basement formation level. GEA do, however, recommend further trial pits to confirm the potential for water ingress into the underpin excavations and also, due to the recorded collapse of one of the previous exploratory holes, to confirm excavation stability. The revised construction sequence

confirms that further investigation will be undertaken to inform the temporary works strategy in regard to groundwater control and maintenance of excavation stability.

- 4.8. The screening and scoping exercise for land stability and groundwater flow has been completed by GEA and the conclusions are justified, although there is some contradiction of the distance of a tributary of the River Brent from the site. However, it is noted that the stream flows away from the site and it is accepted that this feature does not impact the proposals and vice versa.
- 4.9. It is accepted that there are no adverse impacts to subterranean flows from the basement proposals.
- 4.10. Potential stability impacts arising from the screening and scoping comprise the sloping site and the differential foundation depths that will result between Nos 54 and 56 Platt's Lane. The BIA concluded that, providing the construction work is carried out in accordance with best practice, the proposed structure should not have a significant impact on the overall stability of the slope.
- 4.11. A revised ground movement and building damage assessment is included in the BIA and has been carried out using the software programs PDisp and XDisp. XDisp is intended for use with embedded retaining walls but it is accepted that it can predict ground movements in line with those anticipated due to underpinning. Following the queries raised in the previous audit reports, the authors have provided their calculations for review and adopted more conservative parameters than previous iterations. It is accepted that the predicted movements fall within the anticipated range considering the depth, scale and construction methodology, and that damage to neighbours will be limited to Category 0 to Category 1 (Negligible to Very Slight) in accordance with the Burland Scale, assuming good workmanship.
- 4.12. The screening exercise for hydrology has been completed by WEL. It is noted that, although Platt's Lane has flooded in the past, the ground level at no 56 is 15m higher than the lowest point of the road. This combined with the sloping site indicates it is unlikely that No 56 has been affected by flooding. There are no records of sewer flooding and the site is not in a critical drainage area. The extent of impermeable surfacing is not increasing. It is accepted that there are no potential adverse impacts to or from flooding.
- 4.13. The structural engineering proposal has been revised with calculations now adopting the geotechnical recommendations in the BIA. The sequence of works also confirms the inclusion of trial pits to finalise temporary works dewatering and stability strategies. The works will be stiffly propped in the temporary and permanent cases.
- 4.14. An outline construction programme has been provided.
- 4.15. The structural proposal contains an outline monitoring strategy. This can be developed at a later date as part of the party wall awards.

## 5.0 CONCLUSIONS

- 5.1. The BIA has been prepared by GEA with supporting documents prepared by SRB Structures and Water Environment Ltd (WEL). The authors' qualifications are in accordance with LBC requirements.
- 5.2. The proposed development involves the construction of a single storey basement predominantly beneath the existing footprint of the house. The new basement will be formed using underpinning techniques.
- 5.3. The BIA notes that there is no evidence of a basement beneath 54 Platt's Lane but that 1 Telegraph Hill has a basement at a similar level to that proposed for 56 Platt's Lane.
- 5.4. The BIA describes Made Ground and Bagshot Formation to 1m below ground floor level and Claygate Member to 17m below. The groundwater table is reported to be below the proposed basement level but that seepages may be encountered during construction.
- 5.5. The construction sequence has been updated to include further investigation to inform temporary works groundwater control and excavation stability strategies.
- 5.6. It is accepted that there are no adverse impacts to subterranean flows from the basement proposals.
- 5.7. A revised ground movement and building damage assessment predicts damage to neighbouring properties will be within LBC policy requirements.
- 5.8. It is accepted that there are no potential adverse impacts to or from flooding.
- 5.9. The BIA and structural proposal have been updated to be consistent with each other in respect to adopted geotechnical parameters for design.
- 5.10. An outline construction programme has been provided.
- 5.11. The structural proposal contains an outline monitoring strategy. This can be developed at a later date as part of the party wall awards
- 5.12. Previous requests for further information are summarised in Appendix 2. Considering the revised information presented, the BIA meets the criteria of CPG: Basements.

## Appendix 1: Residents' Consultation Comments

None

## Appendix 2: Audit Query Tracker



Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	Land Stability	Justification to be provided for assumed soil strength and stiffness parameters.	Closed	November 2020
2	Land Stability	Queries raised on ground movement and building damage assessment to be addressed (as Section 4).	Closed	November 2020
3	Land Stability	Construction sequence to be revised to include further investigation and mitigation against groundwater and instability.	Closed	November 2020
4	Land Stability	Structural calculations and basement proposal to be revised to be consistent, adopt recommended parameters and demonstrate bearing stratum is adequate.	Closed	November 2020

## Appendix 3: Supplementary Supporting Documents

None

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