CampbellReith
consulting engineers

Ground Floor Flat, 15 Lyncroft Gardens
London, NW6 1LB

Basement Impact Assessment
Audit

For

London Borough of Camden

Project Number: 13398-11
Revision: F1

August 2020

Campbell Reith Hill LLP
15 Bermondsey Square
London
SE1 3UN

T:+44 (0)20 7340 1700
F:+44 (0)20 7340 1777
E:london@campbellreith.com
W:www.campbellreith.com

Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	April 2020	Comment	CBemb 13398-11 090420 15 Lyncroft Gardens-D1.doc	CB	EMB	EMB
F1	August 2020	For planning	CBemb 13398-11 070820 15 Lyncroft Gardens-F1.doc	CB	EMB	EMB

Document Details

Last saved	07/08/2020 08:51
Path	CBemb 13398-11 070820 15 Lyncroft Gardens-F1.doc
Author	C Botsialas, BSc MSc MBA CEng MIMMM CGeol FGS RoGEP Specialist
Project Partner	E M Brown, BSc MSc CGeol FGS
Project Number	13398-11
Project Name	15 Lyncroft Gardens
Planning Reference	2019/6236/P

Contents

Appendices

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 Ground Floor Flat, 15 Lyncroft Gardens, NW6 1LB (planning reference 2019/6236/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 Basement Impact Assessment (BIA) has been carried out by firms of engineering consultants using individuals who possess suitable qualifications.

1.5. Satisfactory outline structural calculations, methodology, drawings and temporary works sequence are included in the Structural BIA report to demonstrate how stability will be maintained.

1.6. The screening and scoping sections were supported by desk study information and site walkovers, as required by CPG Basements.

1.7. A site-specific ground investigation and assessment was undertaken.

1.8. Groundwater is not anticipated to be encountered in the proposed basement excavation, however, allowance for pumping to deal with localised seepages is recommended by the BIA.

1.9. It is accepted that the proposed development is not anticipated to impact the hydrogeological environment.

1.10. Outline proposed construction sequence and structural calculations are presented in the BIA.

1.11. According to the BIA, the ground movement and damage assessment predicted damage category 1 of Burland scale for the on-site host building and the adjacent neighbouring properties at no.13 and 17. Further, no significant impact is anticipated for the adjacent pathway, highway and underground utilities.

1.12. Hardstanding areas will not be changed due to the proposed development. It is accepted that there will be no impact to the hydrology of the site. However, the applicant should consult with LBC with regard to any additional requirements the local authority may have, in the light of the 'Lead Local Flood Authority comments' attached in Appendix 3 of this audit report.

1.13. An updated proposed monitoring plan has been provided by the applicant's engineers and appended for reference in Appendix 3 of this audit report.

1.14. Based on the comments above, the previous queries have been closed and it can be confirmed that the proposal adheres to the requirements of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 12 March 2020 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for Ground Floor Flat, 15 Lyncroft Gardens, NW6 1LB (planning reference 2019/6236/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. 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 Audit Instruction described the planning proposal as *"Excavation of basement extension under the footprint of the property and associated lightwells at the front, side and rear of the property; and installation of railings in forecourt".*

The Audit Instruction confirmed that the proposal neither involves nor is neighbour to any listed building.

2.6. CampbellReith accessed LBC's Planning Portal on 27 March 2020 and gained access to the following relevant BIA documents for audit purposes:

- "Basement Impact Assessment, Hydrogeology, Land Stability and Ground Movement Assessment" (Geotechnical BIA report), dated 25 November 2019, Issue A, Maund Geo-Consulting;
- "Basement Impact Assessment" (Structural BIA report), dated 27 November 2019, job no. 190906, Croft Structural Engineers;
- "Design and Access Statement", dated December 2019, Ideal Planning & Design;
- Planning application drawings dated 04/09/2019, project reference no. 1492, Advantage Basements, consisting of:
  - 01 Site and Location Plans;
  - 02 Existing Floor Plans;
  - 03 & 04 Existing Elevations;
  - 05 Existing and Proposed Sections;
  - 06 Proposed Floor Plans;
  - 07 & 08 Proposed Elevations.
- Planning Comments.

2.7. On 18 March 2020 CampbellReith received from the Planning Officer the "Lead local flood authority comments" dated 20/02/2020, which are attached in Appendix 3 for reference.

2.8. CampbellReith issued a BIA audit report (rev. D1) on 09/04/2020 raising a number of queries on the above relevant documents.

2.9. In response to the queries raised in the D1 BIA audit report, the following reports were received from the applicant's engineers, via LBC, on 18/06/2020:

- "Basement Impact Assessment, Hydrogeology, Land Stability and Ground Movement Assessment" (Geotechnical BIA report), dated 26 May 2020, Issue B, Maund Geo-Consulting;
- "Basement Impact Assessment" (Structural BIA report), dated 9 June 2020, job no. 190906, Croft Structural Engineers.

2.10. In response to further queries raised by CampbellReith via emails, the following revised reports and additional information were received from applicant's engineers, via LBC, on 22/07/2020 and 29/07/2020:

- "Basement Impact Assessment, Hydrogeology, Land Stability and Ground Movement Assessment" (Geotechnical BIA report), dated 21 July 2020, Issue C, Maund Geo-Consulting;
- "Basement Impact Assessment" (Structural BIA report), dated 21 July 2020, job no. 190906, Croft Structural Engineers;

- "Movement monitoring layout", drawing no.SM-20, dated 29 July 2020, job No.: 190906, Croft Structural Engineers (attached for reference in Appendix 3 of this audit report).
- Email dated 29/07/2020 by Maund Geo-Consulting explaining ground movement assumptions (attached for reference in Appendix 3 of this audit report).

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Refer to Section 2 of the Structural BIA report.
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?	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	Refer to Section 7.3 of the Geotechnical BIA report.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Refer to Section 7.2 of the Geotechnical BIA report.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Refer to Section 5.3 of the Structural BIA report.
Is a conceptual model presented?	Yes	Refer to Section 8.1 of the Geotechnical BIA report.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Refer to Section 8 of the Geotechnical BIA report.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Refer to Section 8 of the Geotechnical BIA report.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Refer to Section 6.3 of the Structural BIA report.
Is factual ground investigation data provided?	Yes	Refer to Section 4 and Appendix D of the Geotechnical BIA report.
Is monitoring data presented?	Yes	Refer to Section 5.2 of the Geotechnical BIA report.
Is the ground investigation informed by a desk study?	Yes	Refer to Section 3 of the Geotechnical BIA report.
Has a site walkover been undertaken?	Yes	Refer to Section 2.4 of the Geotechnical BIA report and Section 4.2 of the Structural BIA report.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Refer to Section 4.2.3 of the Structural BIA report and Figure 8.1 of the Geotechnical BIA report.
Is a geotechnical interpretation presented?	Yes	Refer to Section 5 of the Geotechnical BIA report.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Refer to Section 5.3 of the Geotechnical BIA report.
Are reports on other investigations required by screening and scoping presented?	Yes	A Flood Risk Assessment is presented in Appendix G for the Structural BIA report. A ground movement assessment (GMA) is presented in Section 10 of the Geotechnical BIA report.
Are the baseline conditions described, based on the GSD?	Yes	

Item	Yes/No/NA	Comment
Do the baseline conditions consider adjacent or nearby basements?	Yes	Refer to Figure 8.1 of the Geotechnical BIA report and Section 4.2.3 of the Structural BIA report.
Is an Impact Assessment provided?	Yes	Refer to Section 8 of the Structural BIA report and Section 9 of the Geotechnical BIA report.
Are estimates of ground movement and structural impact presented?	Yes	A ground movement assessment (GMA) and a damage category assessment are presented in Sections 10 and 11 of the Geotechnical BIA report.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	
Has the need for monitoring during construction been considered?	Yes	Refer to Section 7.5.3 of the Structural BIA report and Section 12 of the Geotechnical BIA report.
Have the residual (after mitigation) impacts been clearly identified?	N/A	
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	Refer to Sections 8.2, 8.3 and Appendix G of the Structural BIA report.
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	Refer to Section 11 of the Geotechnical BIA report.

Item	Yes/No/NA	Comment
Are non-technical summaries provided?	Yes	Refer to Section 1 of the Geotechnical BIA and Structural BIA reports.

4.0 DISCUSSION

4.1. The Basement Impact Assessment (BIA) has been carried out by Maund Geo-consulting (the Geotechnical BIA report) and Croft Structural Engineers (the Structural BIA report), by individuals with suitable qualifications.

4.2. The site is occupied by a mid-terrace Victorian 3½-storey domestic building that includes a partial cellar. The entire front garden is covered in concrete with steps leading down to the cellar. The rear garden is covered by impermeable paving up to the rear wall of a small building extension. Beyond that point, the rear garden is covered with lawn and planting. Adjacent buildings to the south (No 13) and north (No 17) are of similar age and characteristics, with partial cellars c.1.8m deep.

4.3. The proposed development involves deepening of the existing cellar to c.3m below ground level (bgl) and extension of the same under the full footprint of the existing building. Three lightwells are also proposed; one in the front garden and a couple in the rear. No increase in hardstanding is anticipated by the proposal as the lightwells are to be constructed where impermeable surfaces already exist. Some minor wall alterations are also proposed at ground floor level. No work is proposed to the first and second floors of the host building which are understood to comprise a separate flat of different ownership that will require consideration of potential impacts.

4.4. The proposed basement formation level will be c.1.7m deeper than the existing cellar level. Hence, the new basement will require excavations c.1.7m where the existing cellar is present and c.3m deep elsewhere on-site. A 'hit and miss' technique with temporary propping is proposed for the construction of the reinforced concrete underpins that will support the existing load-bearing walls. The design proposals suggest that the underpins and the floor slab will eventually form a new raft foundation for the property. Satisfactory outline structural calculations, methodology, drawings and temporary works sequence are included in Appendices A, B, D and E, respectively, of the Structural BIA report.

4.5. The Geotechnical BIA report includes screening and scoping sections for the land stability and hydrogeology of the site. The Structural BIA includes screening and scoping sections for the hydrology of the site. The screening and scoping sections were supported by desk study information and site walkovers, as required by CPG Basements.

4.6. A site-specific ground investigation was undertaken comprising one borehole to 7.95m depth, and two hand-dug foundation inspection pits to 0.50-0.75m depth. The ground investigation recorded Made Ground consisting of gravel and clay with brick fragments to 0.80m depth over firm to stiff London Clay Formation, the latter confirmed to at least 7.95m depth.

4.7. Groundwater was encountered as a seepage at 3.50m depth in the borehole, associated with the local presence of a claystone; that seepage quickly dissipated with dry conditions reported at borehole completion. Post-drilling monitoring in late October/early November 2019, recorded groundwater at 3.90-4.02m depth. Based on this information, it is concluded by the Geotechnical BIA report that groundwater is not anticipated to be encountered in the proposed excavation, however, allowance for pumping to deal with localised seepages in the low permeability London Clay Formation is recommended (Sections 9.1.1 and 9.2.3). Groundwater monitoring is also recommended (Section 9.2.4) before the construction works commence.

4.8. Considering the relatively impermeable ground conditions due to the presence of London Clay, the depth and plan dimensions of the proposed basement, the existing cellar, the neighbouring structural levels and the monitored groundwater levels, it is accepted that the proposed development is not anticipated to impact the hydrogeological environment.

4.9. Geotechnical interpretation including parameters for retaining wall design and a ground movement assessment (GMA) are presented in Sections 5 and 10 of the Geotechnical BIA report.

4.10. The discrepancy previously noted in the D1 audit report, of Ka and Kp design values used in the various BIA reports, has been corrected in the revised versions of the same.

4.11. The utilities search appended in Appendix C of the Structural BIA report included an electricity utilities' plan. It has been confirmed by the revised Geotechnical BIA report (Section 11.3) that this is the only utility present in the adjacent footway with no significant impact expected due to the proposed basement.

4.12. The GMA used the proprietary software PDisp and empirical data for the anticipated ground movement due to the proposed underpins.

4.13. The construction sequence discussed in Section 10.1 of the Geotechnical BIA report has been revised and is consistent with the structural proposals.

4.14. The GMA considered the proposed excavations and loads, the distance to neighbouring buildings and infrastructure, the proposed support system and sequence of construction, and short (undrained) and long term (drained) conditions. Anticipated horizontal and vertical ground movements were estimated due to the proposed basement construction.

4.15. The potential impact and damage to the neighbouring buildings situated at No.13 and 17 Lyncroft Gardens, was predicted to be within Category 1 'very slight' damage, according to the Burland scale.

4.16. Satisfactory clarifications and additional information with regards to the GMA and damage assessment have been presented in the revised Geotechnical BIA report, as per the comments below:

- The potential impact on the adjacent pedestrian pavement and highway has been assessed (Section 11.3). No significant impact is anticipated.
- The GMA and damage assessment included the on-site host building with damage Category 1 anticipated.
- 5mm of additional ground movement (both vertical and horizontal) is typically anticipated for the proposed single stage underpinning, and this has been included in the GMA and damage assessment.
- Previous contradictory comments and assumptions presented in the GMA with regard to clay consistency, horizontal movements due to excavation and wall installation, maximum deflection values etc., have been amended.

4.17. The Geotechnical BIA report has confirmed that the impact on land stability due to the proposed development can be limited to no worse than Category 1 'very slight' damage, which is in accordance with CPG Basements requirements.

4.18. It is understood that all temporary works will be designed and finalised post-planning by a specialist contractor.

4.19. A contradictory comment in the BA reports, previously noted in the D1 audit report, about the distance to the public highway has been corrected.

4.20. The site is within a critical drainage area (CDA) of Camden Borough. The walkover survey (Section 4.3.4 of the Structural BIA) confirmed that the subject site is covered with hard surfaces, with soft landscaping located away from the building footprint towards the west. According to the Structural BIA, Section 5.3, the proposed development will not alter the existing status of the hardstanding. Potential sources of flooding have been reviewed by the Structural BIA report and concluded to be surface water (pluvial) flooding, as the subject site is noted on the flooded street list and maps from 2002, and flooding from infrastructure failure.

4.21. A Flood Risk Assessment has been presented in Appendix G of the Structural BIA report which included an SUDS assessment and drainage proposals to satisfy LBC relevant policies. According to the Structural BIA report a risk of flooding due to failure of the pumping system can be reduced to acceptable levels with appropriate design and installation measures, which is understood will be detailed post-planning. In this context, and given that the hardstanding areas will not be changed due to the proposed development, it is accepted that there will be no

impact to the hydrology of the site. However, the applicant should consult with LBC with regard to any additional requirements the local authority may have, in the light of the 'Lead Local Flood Authority comments' attached in Appendix 3 of this audit report.

4.22. An outline movement monitoring strategy and a plan with proposed monitoring locations are presented in Section 7.5.3 and Appendix F of the Structural BIA report with reasonable movement trigger levels. The proposed monitoring plan has been updated to include monitoring of the site area towards the pavement and highway as per the recommendation of the Geotechnical BIA report (Section 9.2.6). The updated monitoring plan is attached in Appendix 3 of this audit report for reference.

4.23. The Geotechnical BIA report (Section 12) recommends a condition survey be undertaken of the adjacent properties prior to works commencing.

5.0 CONCLUSIONS

5.1. The Basement Impact Assessment (BIA) has been carried out by firms of engineering consultants using individuals who possess suitable qualifications.

5.2. Satisfactory outline structural calculations, methodology, drawings and temporary works sequence are included in Appendices A, B, D and E, respectively, of the Structural BIA report.

5.3. The screening and scoping sections were supported by desk study information and site walkovers, as required by CPG Basements.

5.4. A site-specific ground investigation and assessment was undertaken.

5.5. Groundwater is not anticipated to be encountered in the proposed basement excavation, however, allowance for pumping to deal with localised seepages is recommended by the BIA.

5.6. It is accepted that the proposed development is not anticipated to impact the hydrogeological environment.

5.7. The construction sequence discussed in Section 10.1 of the GMA has been revised and is consistent with the structural proposals.

5.8. The ground movement and damage assessment has been revised in accordance with the comments of the previous (D1) audit report. The land stability and structural impact on the on-site host building, the adjacent pedestrian pavement, highway and underground utilities, have been assessed and discussed in the revised Geotechnical BIA report and are in accordance with CPG Basements.

5.9. Hardstanding areas will not be changed from the proposed development. On this basis, it is accepted that there will be no impact to the hydrology of the site. However, the applicant should consult with LBC with regard to any additional requirements the local authority may have, in the light of the 'Lead Local Flood Authority comments' attached in Appendix 3 of this audit report.

5.10. The proposed monitoring plan has been updated to include monitoring of the site area towards the adjacent pavement and highway.

5.11. Based on the comments above, the previous queries have been closed and it can be confirmed that the proposal adheres to the requirements of CPG Basements.

Appendix 1: Residents' Consultation Comments

Pertinent to the BIA

Residents' Consultation Comments

Surname	Address	Date	Issue raised (pertinent to the BIA)	Response
Garner	17 Lyncroft Gardens	26/1/20	Potential damage to building.	Queries were raised and have been responded with regard to the stability and the presented ground movement assessment as per Section 4 of this audit.
Unknown	Unknown	29/1/20	'...the development...will affect the stability of buildings which have a history of subsidence issues, potentially cause drainage problems...'	Queries were raised and have been responded with regard to the stability and the presented ground movement assessment as per Section 4 of this audit. There will be no change in the hardstanding and impermeable areas. The proposed development is not anticipated to impact the hydrology (drainage) of the site.
Azizollahoff, Whitmore	1 Lyncroft Gardens	3/2/20	Stability of adjacent properties and drainage issues.	Queries were raised and have been responded with regard to the stability and the presented ground movement assessment as per Section 4 of this audit. There will be no change in the hardstanding and impermeable areas. The proposed development is not anticipated to impact the hydrology (drainage) of the site.
Fairbairn	15 Lyncroft Gardens – 1st & 2nd floor flat	14/2/20	Safety during construction.	Queries were raised and have been responded with regard to the stability of the on-site host building during construction – refer to Section 4 of this audit.

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Stability	The GMA shall include the potential impact on the adjacent pavement, highway and underground services. A full utility search should be undertaken.	Closed	18/6/2020
2	Stability	The GMA shall include the potential impact on the host building on-site including the flat at the 1st and 2nd floors above the applicant's premises.	Closed	22 & 29/07/2020
3	Stability	In the GMA the heave movement is used to offset the ground movement due to excavation and due to wall installation, and this may not be a conservative assumption. From experience, at least 5mm of additional ground movement is typically anticipated for the proposed single stage underpinning, and this should be included in the GMA and damage assessment.	Closed	18/6/2020
4	Stability	The remaining queries of Section 4.16 of this audit shall be addressed in the GMA.	Closed	22 & 29/07/2020
5	Stability	Contradictory statements in the Geotechnical and Structural BIA reports with regard to the distance to the adjacent highway need to be addressed.	Closed	18/6/2020
6	Stability	Proposed monitoring plan to be updated to include monitoring of the adjacent pavement and highway.	Closed	29/07/2020
7	Hydrology	Any additional requirements from the 'Lead Local Flood Authority' need to be addressed.	Comment only	N/A
8	BIA	The borehole elevation of 62m AOD is contradictory to the elevation considered (c.70m AOD) in the geotechnical assessment.	Closed	18/6/2020
9	BIA	There is discrepancy of the Ka and Kp values recommended by the Geotechnical BIA report and the values adopted by the Structural BIA report.	Closed	22/07/2020
10	BIA	The construction sequence discussed in Section 10.1 of the GMA should be revised in order to be consistent with the structural proposals.	Closed	18/6/2020

		Additional Queries for the revised BIA reports received on 18/06/2020		
11	Stability	For the calculation of vertical movement due to underpin installation the distance behind the wall to which negligible movement occurs has been assumed to be 3.5 times the wall height – This should be justified.	Closed	29/07/2020
12	Stability	The Burland Category 1 tensile strain limit is 0.075% - It is mentioned 0.75% just above Table 11.2 in the Geotechnical BIA report.	Closed	22/07/2020
13	Stability	D/L (%) for 17 Lyncroft should be 0.043 according to data provided (possibly a typo).	Closed	22/07/2020

Appendix 3: Supplementary Supporting Documents

Lead Local Flood Authority Comments

Updated Monitoring Layout Drawing

To:
Cc:
Bcc:
Subject: Fw: Audit Fee Request for: Ground floor flat, 15 Lyncroft Gardens, NW6 1LB - 2019/6236/P

From: "Young, Nathaniel" <Nathaniel.Young@camden.gov.uk>
To: "LizBrown@campbellreith.com" <LizBrown@campbellreith.com>
Date: 18/03/2020 14:22
Subject: RE: Audit Fee Request for: Ground floor flat, 15 Lyncroft Gardens, NW6 1LB - 2019/6236/P

Hi Liz,

Thank you for confirming. I have attached the lead local flood authority comments.

Redacted objection comments are available on our website.

Kind regards,

Nathaniel Young
Planning Officer

Telephone: 020 7974 3386

From: LizBrown@campbellreith.com <LizBrown@campbellreith.com>
Sent: 12 March 2020 14:52
To: Young, Nathaniel <Nathaniel.Young@camden.gov.uk>
Cc: camdenaudit@campbellreith.com; Planning <Planning@camden.gov.uk>
Subject: RE: Audit Fee Request for: Ground floor flat, 15 Lyncroft Gardens, NW6 1LB - 2019/6236/P

Thanks Nathaniel

Our intended reporting date is 9 April 2020. We note that there have been a number of responses during the consultation period. Can you send over any that are pertinent to the BIA?

Regards,

Liz Brown
Partner

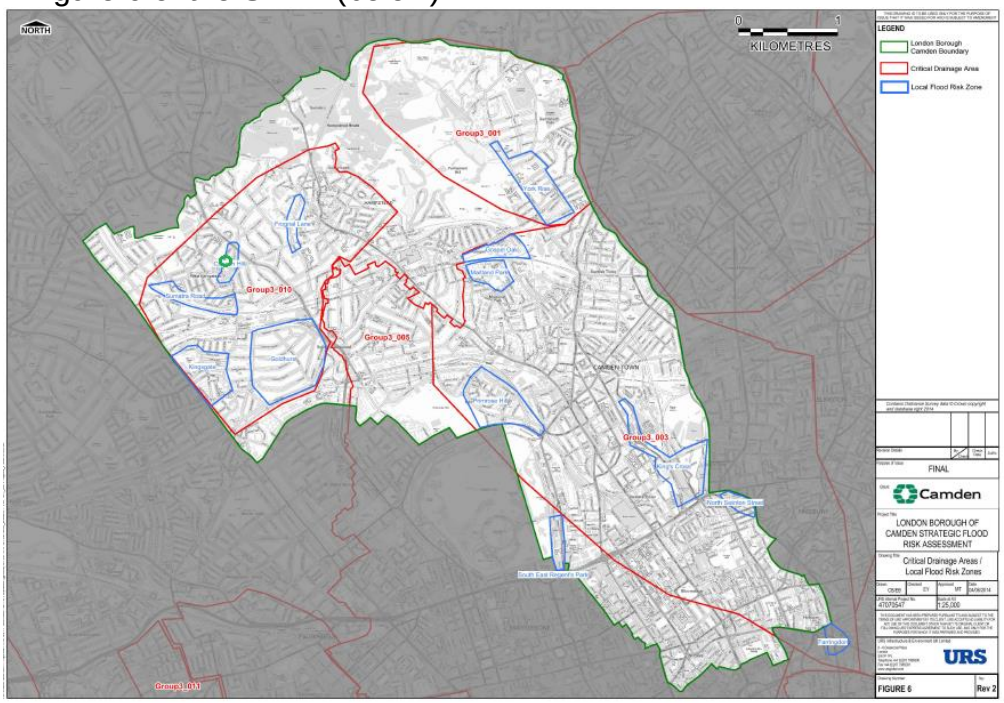
15 Bermondsey Square
London
SE1 3UN

Tel +44 (0)20 7340 1700
www.campbellreith.com

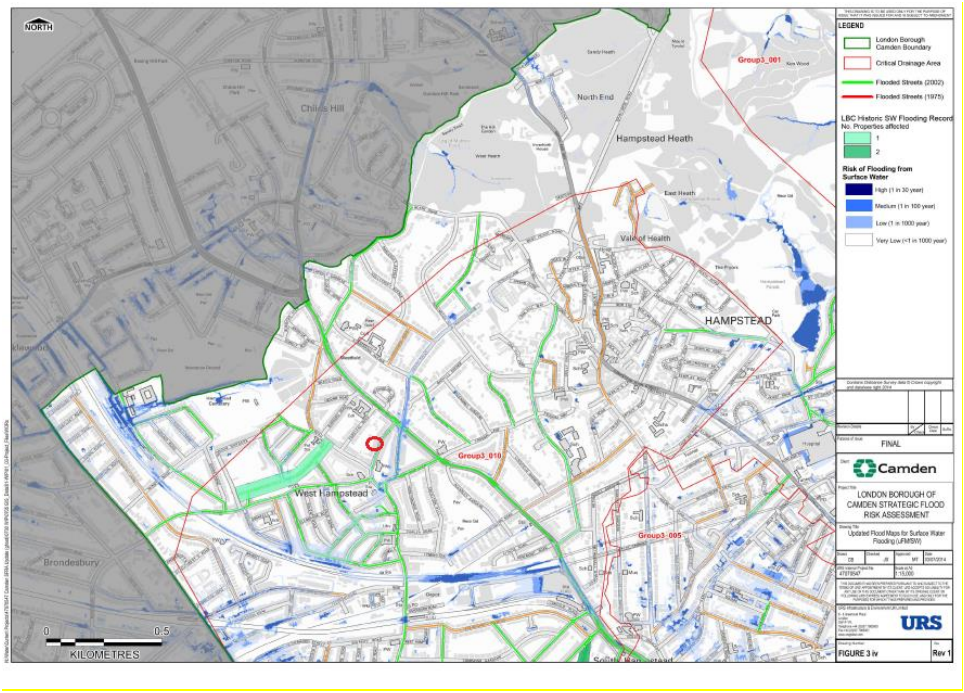
Lead Local Flood Authority comments

Scheme Address	Ground Floor Flat 15 Lyncroft Gardens
Planning Reference	2019/6236/P
Date	20/02/2020

This site falls within Cannon Hill LFRZ, one of our Local Flood Risk Zones as defined in figure 6 of the SFRA (below).



The site is also in an area identified in Camden's Strategic Flood Risk Assessment as being at risk of surface water flooding.



Policy requirements

Local Plan Policy CC3 and supporting text requires that where a site is in an area of higher flood risk or known to have a particular drainage issue, development should not place additional strain on adjoining sites or the existing drainage infrastructure. It also requires that the development is designed to mitigate flood risk and cope with being flooded.

The policy requires developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:

a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site;

b) limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part a) and other sustainable urban drainage methods to reduce the risk of flooding

c) reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified.... as being at risk of surface water flooding are designed to cope with the potential flooding

Local Policy A5 Basements and supporting text has the following stipulations:

- Policy A5 The Council will not permit basement schemes which include habitable rooms and other sensitive uses in areas prone to flooding.
- 6.135 … the Council will not allow habitable rooms and other sensitive uses for self contained basement flats and other underground structures in areas at risk of flooding.
- 6.136 … the Council will require the submission of a development-specific flood risk assessment with applications for basements within flood risk areas

Issue 1 The proposals include play room and a shower room. Some of these are considered to be vulnerable or habitable uses and should be removed from the application.

Issue 2
The Basement Impact Assessment states

> 8.2.2 The site is less than 1 hectare, so a detailed FRA is not considered necessary.
> 8.2.2 The site is adequately drained, as are the surrounding roads (which are drained by gullies maintained by Thames Water). The new basement will not involve a significant removal of permeable surfaces (the walk-on roof-light will occupy less than 1m_2). Rainwater will be able to infiltrate into the ground as before and will not migrate to alternative locations above ground level.

As stated above, a site-specific FRA is required by Local Plan policies A6 and CC3. This should contain sufficient detail to give confidence in the recommendations and proposals.

Issue 3 Information and proposals to address all aspects of policies A6 and CC3 have not yet been received. The BIA appendix points out potential mitigating features:

> There are however a series of passive defences that help prevent rising surface water levels entering the boundary of 15 Lyncroft Gardens. The kerb line outside the property raises the pavement 65mm from the surface of the road. There is then another two steps up from the pavement to the front garden on 15 Lyncroft Gardens… The garden is also protected in the direction of water flow by garden walls on the boundary lines.
> In the unlikely event that water will enter the front lightwell, the sill height of the lightwell windows places another 650mm defence above the base of the lightwells.

Also:

> To mitigate the risks associated with flooding from groundwater, Croft would recommend that suitable waterproofing measures be proposed in conjunction with the structural design. A common and anticipated detailed design stage approach is to use internal dimpled membranes (Delta or similar). These will be integral to the waterproofing of the basement. Any water from this will enter a drainage channel below the slab. This will be pumped and discharged into the exiting sewer system.

These points are accepted as far as they go, but we observe the following:

- No confirmation of details of actual proposals, i.e. adoption of all FRA/BIA recommendations into the plans.
- Insufficient hydrological detail in the risk assessment to warrant the conclusions e.g. no quantification of the “unlikely event” of the light well/basement experiencing flood ingress (see Issue 2 above).
- Inadequate proposals for coping with flood in the basement and ground floor (we would expect as a minimum measures such as emergency plans, raised sockets, etc) and reducing flood risk (e.g. proposals for the currently open front yard gate; suitable drainage measures to attenuate a degree of storm water in the front yard)

Action for applicant: The applicant must demonstrate how methods outlined in a), b) and c) above will be included in the proposals to ensure:

- there is no additional strain on adjoining sites or the existing drainage infrastructure
- the development will reduce flood risk and cope with being flooded. E.g. by:
    - No self-contained basement dwellings
    - Limiting flood waters entering and damaging the building fabric; or
    - Allowing flood water to enter the building but limiting the damage it will cause

Consideration of the cumulative impact of small prior approvals in high risk areas should be borne in mind (Residential use typically has a much higher water use than offices, resulting on increased impact on the sewer system due to generation of more waste water).

Recommendation: Objection. The applicant would need to address issues 1 – 3 in detail, and the routine advice for applicants noted above arising from Local Plan policy, before this could be recommended for discharge. In case of exceptional time pressure, final details could be secured by condition but we would wish to see evidence (within revised plans and FRA) of serious progress in every area of concern.

RE: 2019/6236/P - 15 Lyncroft Gardens_audit comments for BIA v.3
Croft Structural Engineers to: ChristosBotsialas@campbellreith.com, julian.maund@gmail.com 29/07/2020 10:54
Cc: "camdenaudit@campbellreith.com", "'Young, Nathaniel'"

1 Attachment

190906-A3 SM-20 rev1 Monitor.pdf

Hi Christos,

Please see drawing attached with monitoring positions shown on the front boundary wall.

Kind regards,

Philip Henry
MEng CEng MICE

CROFT STRUCTURAL ENGINEERS
Clock Shop Mews, Rear of 60 Saxon Rd, SE25 5EH
t: 020 8684 4744
d: 020 3763 2892
m: 0773 822 7042
e: phenry@croftse.co.uk
w: www.croftse.co.uk

From: ChristosBotsialas@campbellreith.com <ChristosBotsialas@campbellreith.com>
Sent: 29 July 2020 10:29
To: julian.maund@gmail.com
Cc: camdenaudit@campbellreith.com; 'Young, Nathaniel' <Nathaniel.Young@camden.gov.uk>; Croft Structural Engineers <phenry@croftse.co.uk>
Subject: RE: 2019/6236/P - 15 Lyncroft Gardens_audit comments for BIA v.3

Hi Julian,

Thank you for your swift response and for the clarification regarding the anticipated ground movements which is acceptable.

Could you/Croft please close out our monitoring query too in order to be able to complete our final audit report the following days? An update of the movement monitoring layout drawing presented in Appendix F of Croft's report would suffice at this stage. Could you please forward it at your earliest convenience?

Thank you.

Christos Botsialas
Associate

15 Bermondsey Square
London
SE1 3UN

Tel +44 (0)20 7340 1700
www.campbellreith.com

From: <julian.maund@gmail.com>
To: <ChristosBotsialas@campbellreith.com>
Cc: "'Young, Nathaniel'" <Nathaniel.Young@camden.gov.uk>, < camdenaudit@campbellreith.com>, <phenry@croftse.co.uk>
Date: 29/07/2020 09:49
Subject: RE: 2019/6236/P - 15 Lyncroft Gardens_audit comments for BIA v.3

Dear Christos,

Thank you for your email.
My understanding is that with regard to the distance to negligible horizontal movement, if the distance is too short the gradient becomes too high therefore δh approaches δhmax of 5mm, this will give a higher strain (δh/L = εh) and increase the damage category. The lower distance to negligible movement would 'work'if the installation movement was kept to 0.04% of wall height for 3m this would be 1.2mm, however for underpins there is no specific guidance in C760 and is why we are using 5mm for both installation and excavation. This is accentuated by the building dimensions of L/H. The assessment, calculation and graphical output shows a Damage Category of 1.

The monitoring will be addressed in the Croft Structural Engineers method statement.

Kind regards

Julian

Julian Maund BSc PhD FGS CGeol MIMMM CEng
Registered Ground Engineering Adviser

MAUND GEO-CONSULTING LTD

+44(0)7817018716

Registered in England and Wales No. 7488348 at 3 Coopers Square, Chipping Norton, Oxfordshire OX7 5DG

From: ChristosBotsialas@campbellreith.com <ChristosBotsialas@campbellreith.com>
Sent: 29 July 2020 08:39
To: Julian Maund <julian.maund@gmail.com>
Cc: Young, Nathaniel <Nathaniel.Young@camden.gov.uk>; camdenaudit@campbellreith.com
Subject: 2019/6236/P - 15 Lyncroft Gardens_audit comments for BIA v.3

Dear Julian,

I am following up from your BIA report v.3 received recently by LBC officer Nathaniel Young (cc'd) for the subject site.

There is a couple of things still pending to be clarified as per the comments below:

- In the submitted BIA v.3 (Sections 10.2.3 and 10.2.4) it is stated that the assumed vertical and horizontal ground movements due to underpin installation will be 3.5 and 4 times the wall height respectively. Could you justify this assumption? Typically for other types of wall (contiguous, secant, diaphragm etc) and from experience, ground movements are anticipated to become negligible at a distance of 1.5 to 2 times the wall depth. Hence, the assumption made in the BIA is not conservative and may lead to a damage Category higher than 1, as previously noted in our query no 11. If I recall well, in another recent BIA job that you did for a site at Dunollie Road, you assumed that underpin installation movements reduced to zero at 1.5 times the wall depth and that was acceptable.
- Also, query no 6 (regarding monitoring of the adjacent pavement/highway) is still pending.

Could you please recheck the above in order to close out all pending queries?

Best regards,

Christos Botsialas
Associate

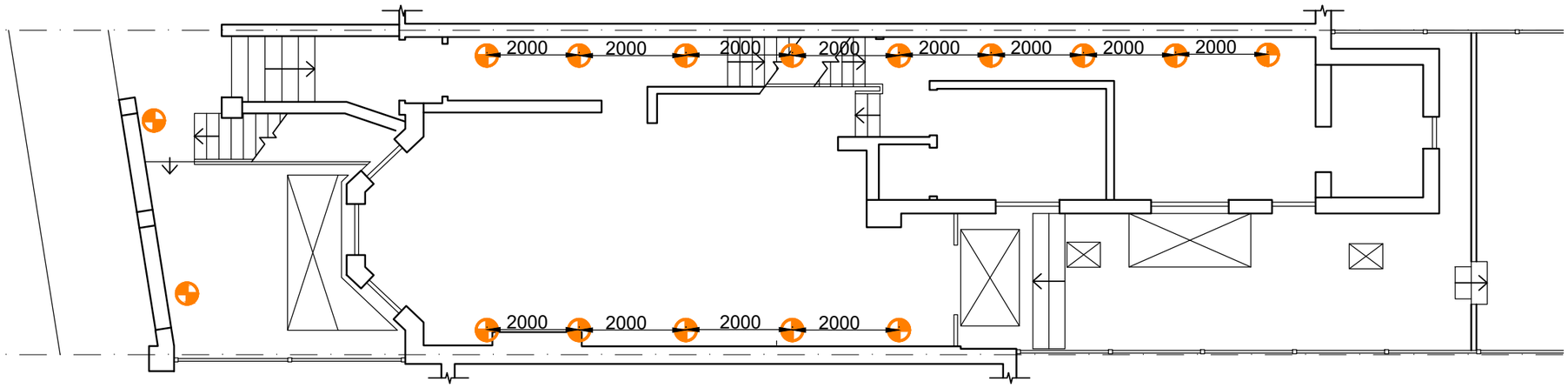
15 Bermondsey Square
London
SE1 3UN

Tel +44 (0)20 7340 1700
www.campbellreith.com

From: "Young, Nathaniel" <Nathaniel.Young@camden.gov.uk>
To: "ChristosBotsialas@campbellreith.com" <ChristosBotsialas@campbellreith.com>
Cc: "camdenaudit@campbellreith.com" <camdenaudit@campbellreith.com>
Date: 22/07/2020 14:23
Subject: 2019/6236/P - 15 Lyncroft Gardens_Updated query tracker

Key

Denotes position of Leveling Targets, fixed to party wall
500mm & 2000mm above Ground Floor Level.
Additional monitoring may be required for any cracking
noted in the Party Wall Surveyor's survey.
Levels to be checked both vertically and horizontally



Ground Floor Plan
Scale 1:50

Job Number	190906
Date	Nov '19
Dwg Number	SM-20
Rev	1
Drawn	sb
Ch'kd	pdh
Scale	As shown @ A3

Client: Advantage Basement & Cellar Company Ltd

Project: 15 Lyncroft Gardens

Title : Movement monitoring layout

Croft Structural Engineers
Clockshop Mews,
r/o 60 Saxon Rd,
London, SE25 5EH.
020 8684 4744
www.croftse.co.uk

Rev	Date	Amendments
1	29/07/2020	Front garden positions added
-	27/11/2019	First issue for comment

London

15 Bermondsey Square
London
SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Surrey

Raven House
29 Linkfield Lane, Redhill
Surrey RH1 1SS

T: +44 (0)1737 784 500
E: surrey@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

Bristol

Wessex House
Pixash Lane, Keynsham
Bristol BS31 1TP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com