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consulting engineers

Basement Impact Assessment Audit

25 Oakhill Avenue, London NW3 7RD

For
London Borough of Camden

Project No.
13693-96

Date
May 2023

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DOCUMENT HISTORY AND STATUS

Revision	Date	Purpose/ Status	File Ref	Author	Check	Review
D1	09/02/2023	Preliminary	RAkb-13693-96-20230113-25_Oakhill_Avenue	R Ashmore	K Barker	K Barker
F1	09/05/2023	Final	RAkb-13693-96-20230113-25_Oakhill_Avenue_F1	R Ashmore	K Barker	K Barker

Document Details

Last Saved	09/05/2023 15:27
Author	R Ashmore, MSci MSc FGS
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Project Number	13693-96
Project Name	Basement Impact Assessment Audit
Revision	F1
File Ref	RAkb-13693-96-20230113-25_Oakhill_Avenue_F1.docx

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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 25 Oakhill Avenue, London, NW3 7RD (planning reference 2022/4672/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 engineering consultants Geotechnical & Environmental Associates (GEA) and the individuals concerned in its production have suitable qualifications.

1.5 The BIA has confirmed that the proposed basement will be founded within London Clay which is overlain by Made Ground and deposits of the Claygate Member.

1.6 The basement construction involves the demolition of the existing rear extension and conservatory, underpinning the rear walls and constructing a contiguous piled wall using suitable temporary propping arrangements. The underpinning will be carried out using a "hit and miss" method with mass concrete.

1.7 It is considered unlikely that the groundwater table will be encountered during basement foundation excavation however, some pockets of perched groundwater will likely be encountered. It is recommended that a contingency plan is in place should higher than anticipated inflows be encountered.

1.8 Screening and scoping assessments are presented, supported by desk study information and an intrusive ground investigation.

1.9 The Ground Movement Assessment results show vertical and horizontal movements are within acceptable limits.

1.10 Considering the additional information presented, it can be confirmed that the BIA meets the requirements of Camden Planning Guidance: Basements, subject to a BCP being presented as described above that demonstrates a maximum Category 1 damage to neighbouring structures.

2.0 INTRODUCTION

2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 12th January 2023 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 25 Oakhill Avenue, London, NW3 7RD (planning reference 2022/4672/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 (CPG): Basements. January 2021.
- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Redington and Frognal Neighbourhood Plan

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 "*Amalgamation of two self-contained flats into single dwelling, basement excavation and demolition of existing rear extension to provide a new two-storey extension over lower ground and ground floor levels, and associated internal alterations.*"

2.6 The Audit Instruction confirmed 25 Oakhill Avenue involved, or was a neighbour to, listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 13th January 2023 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment Report (BIA), Geotechnical & Environmental Associates Limited, J22040 Rev 1, Issued October 2022.
- Basement Construction Method Statement, Michael Barclay Partnership, Rev P1, Issued October 2022.

- Structural Engineer's Specification, Michael Barclay Partnership, Rev P1, Issued October 2022.
- Structural Engineer's Calculations for Planning, Michael Barclay Partnership, Rev P1, Issued October 2022.
- Design and Access Statement, TFF Architects, Issued 27th October 2022
- Site Plan, TFF Architects, Rev P1, dated October 2022
- Existing Plans and Sections, TFF Architects, Rev P1, dated October 2022
- Proposed Plans and Sections, TFF architects, Rev P1, dated October 2022
- Demolition Plans and Sections, TFF architects, Rev P1, dated October 2022
- Drainage Survey, Drain Smart, 35906, Issued October 2022

2.8 Subsequent to the initial audit report, CampbellReith was provided with the following documents (included within Appendix 3):

- Email response from GEA dated 30th March 2023
- Email response from GEA dated 3rd April 2023 providing Ground Movement Assessment sensitivity analysis results and input tables.
- Structural Engineer's Construction Method Statement for planning, Michael Barclay Partnership, Rev P2, Issued 28th March 2023.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
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	Proposed development sufficient distance from slope identified in neighbouring properties.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Slight increase in impermeable surfacing recognised and mitigated via drainage and attenuation measures.
Is a conceptual model presented?	Yes	Section 7.0 of BIA
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	N/A	No potential issues identified in screening.

Item	Yes/No/NA	Comment
Is factual ground investigation data provided?	Yes	Appendix A & B of BIA
Is monitoring data presented?	Yes	Section 5.4 of BIA
Is the ground investigation informed by a desk study?	Yes	Section 2.0 of BIA
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	
Is a geotechnical interpretation presented?	Yes	Section 7.0 of BIA
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	N/A	
Are the baseline conditions described based on the GSD?	Yes	
Do the baseline conditions consider adjacent or nearby basements?	Yes	Section 2.1.1 of BIA
Is an Impact Assessment provided?	Yes	Section 13.0 of BIA
Are estimates of ground movement and structural impact presented?	Yes	Input tables of sensitivity analysis provided.
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	Section 13.0 of the BIA.
Has the need for monitoring during construction been considered?	Yes	However, a monitoring specification is still to be developed.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Section 13.0 of the BIA.

Item	Yes/No/NA	Comment
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Sensitivity modelling carried out using suitable curves.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Drainage strategy included to account for the small increase in permeable surfacing.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	See above.
Does the report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Updated GMA with sensitivity analysis indicates a maximum category of 1 (very slight).
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Geotechnical & Environmental Associates (GEA) and the individuals concerned in its production have suitable qualifications.

4.2 The Structural Engineer's Report and Basement Construction Method Statement (CMS) have been carried out by Michael Barclay Partnership.

4.3 The LBC Instruction to proceed with the audit identified that the basement proposal either involved a listed building or was adjacent to listed buildings but gave no details. The Design & Access Statement, issued by TFF Architects, identified that 25 Oakhill Avenue is a listed building.

4.4 The proposed basement consists of a single-story construction beneath part of the existing building and garden to a depth of roughly 3.45m below ground level (bgl) (82.80m OD). The proposed basement will extend approximately to the edge of the existing rear extension and decking. As part of the works the extension and conservatory will be demolished.

4.5 The basement will be formed by traditional mass concrete underpinning using the "hit and miss" method below the existing walls with a new contiguous bored piled wall to support the new extension within the garden area.

4.6 The ground investigation has identified that the site is generally underlain by between 0.80m and 1.0m of Made Ground over firm silty sandy clay of the Claygate Member. London Clay, comprising stiff fissured silty clay with sandy lenses, was recorded from between 1.60m and 2.5m bgl (83.24m OD).

4.7 Shallow groundwater inflows were encountered at 0.4m and 0.2m bgl during the ground investigation. Subsequent monitoring recorded groundwater depths of between 0.80m and 2.5m bgl with response zones installed within the Claygate Member and London Clay. The shallow groundwater has been assumed to be associated with surface water infiltrating through the garden into the Made Ground and granular pockets within the Claygate Member, rather than being representative of a shallow groundwater table.

4.8 The BIA screening identified that, while unlikely, the basement excavation may extend below the water table. The revised submission recommends sump pumping to deal with water ingress, which is anticipated to be minor in nature. Dewatering of the site is unlikely to be viable due to the high clay content (and thus low permeability) of the surrounding soils. The BIA recommends that a contingency plan be put in place should higher than anticipated inflows be encountered.

4.9 The screening identified that the site is underlain by a Secondary A aquifer within the Claygate Member. These deposits are thought to predominantly comprise clay and therefore, the deposits are considered likely to have the characteristics of an Unproductive strata, similar to that of the London Clay.

4.10 The updated BIA screening tables identify a slight increase in the proportion of hardstanding. An email response from GEA dated 30th March states new drainage and attenuation measures are included within the revised CMS to mitigate these increases in impermeable surfacing.

4.11 The BIA screening identified potential of seasonal shrink-swell. No desiccated soils were identified during the ground investigation and the depth of the basement foundations are such that they will bypass any desiccated soils and found below the required founding depths in accordance with the National House Building Council (NHBC) requirements.

4.12 The site is within 5m of a highway/ pedestrian right of way however, due to the basement only extending beneath the back area of the property, the nearest edge of the proposed basement is 20m from the nearest footpath and highway.

4.13 The BIA screening identifies the presence of sloping ground between neighbouring properties that is situated over 20m from the proposed development. The sloping ground is therefore sufficient distance that it will have no adverse impact to the stability of the proposed basement.

4.14 The proposed basement will significantly increase the differential depth of foundations relative to neighbouring properties. This has been considered within the Ground Movement Assessment (GMA) carried out as part of the BIA.

4.15 The sequence of construction includes the following:

- Installation of temporary props to existing superstructure;
- Underpinning of existing foundations using a "hit and miss" method of panel widths no more than 1m;
- Construction of contiguous piled retaining walls around remainder of basement;
- Excavate basement installing temporary props and corner bracing;
- Cast basement raft slab;
- Cast ground floor slab; and
- Remove temporary propping.

4.16 The BIA recommends that trial excavations, to depths as close to the full basement depth as possible, are carried out to provide an indication of the likely rate and volume of groundwater inflows, and to provide an indication of excavation stability.

4.17 The modelling has been separated into short-term (temporary works) in undrained conditions and long-term (permanent) works in drained conditions.

4.18 The temporary works have assumed the piled walls will be supported such that they are considered to be of high stiffness and states the analysis will need to be reviewed if the temporary support is not as stated within section 9.2.2 of the BIA. Temporary propping of the underpinning is also indicated to be used.

4.19 Curves from CIRIA C760 for a panel-like planar diaphragm wall have been used to calculated settlement caused by the installation of underpinning. Whilst the CIRIA approach is intended for embedded retaining walls, we accept that the predicted ground movements can be within the range typically anticipated for underpinning techniques carried out with good control of workmanship. A sensitivity analysis has been carried out for the underpinning, applying amended curves from CIRIA C760 to ensure 5mm vertical and horizontal movements are modelled in the areas of underpinning. The GMA sensitivity check also includes assessment of the existing walls within the property (No. 25 Oakhill Avenue) due to the listed status of the building.

4.20 The CIRIA C760 curves in the original BIA have not been used for the pile retaining wall installation; instead, curves provided by Ball, Langdon & Creighton[1] were used in the analysis. The 2014 paper justifies using a lower movement design value (of 0.02% as opposed to 0.04% of pile length) partly due to the granular material overlying the London Clay being cased (reducing ground loss), good construction control and comprehensive monitoring. The subsequent sensitivity analysis has used the installation movement curves in accordance with CIRIA C760. The results indicate damage will not exceed Burland Category 1 (Very Slight).

4.21 A monitoring specification has not currently been completed for the proposed works. A movement monitoring strategy will likely be a requirement of the necessary Party Wall award and the movements predicted in the GMA should inform monitoring trigger levels.

[1] Ball, R, Langdon, N, and Creighton, M (2014) Prediction of party wall movements using CIRIA report C580. Ground Engineering Sep 2014, pp 25-29

5.0 CONCLUSIONS

5.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Geotechnical & Environmental Associates (GEA) and the individuals concerned in its production have suitable qualifications.

5.2 The BIA has confirmed that the proposed basement will be founded within London Clay which is overlain by varying thickness of Made Ground and Claygate Member.

5.3 The basement construction involves the demolition of the existing rear extension and conservatory, underpinning the rear walls of the house and constructing a contiguous piled wall using suitable temporary propping arrangements. The underpinning will be carried out using a "hit and miss" method with mass concrete.

5.4 The BIA states it is unlikely that the groundwater table will be encountered during basement foundation excavation however, some pockets of perched groundwater will likely be encountered. It is recommended that a contingency plan is in place should higher than anticipated inflows be encountered.

5.5 The BIA has been updated to recognise there will be a slight increase in impermeable surfaces. This will be mitigated via new drainage and attenuation measures as outlined in the CMS.

5.6 Slopes present within the neighbouring properties are a sufficient distance that they will not adversely impact the basement construction.

5.7 The BIA recommends that trial excavations, to depths as close to the full basement depth as possible, are carried out to provide an indication of the likely rate and volume of groundwater inflows, and to provide an indication of excavation stability.

5.8 The BIA confirms the proposed basement will significantly increase the differential depth of foundations relative to neighbouring properties and has considered this within the Ground Movement Assessment (GMA).

5.9 The GMA uses XDisp software to estimate the ground movements arising from the proposed underpinning and contiguous pile wall construction. The predicted movements will not cause damage to neighbouring structure beyond Burland Category 1 (Very Slight).

5.10 A monitoring specification has not currently been completed for the proposed works.

5.11 Considering the additional information presented, it can be confirmed that the BIA meets the requirements of Camden Planning Guidance: Basements.

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Appendix 1

Consultation Responses

None

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Appendix 2

Audit Query Tracker

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Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Hydrogeology	The impact of dewatering during construction to neighbouring properties should be included within the BIA.	Closed	30th March 2023
2	Hydrogeology/ Hydrology	Justification for existing desking being considered as impermeable surface.	Closed	3rd April 2023
3	Stability	Update the screening to include for a slope above 10 degrees present in proximity to site and carry through to scoping.	Closed	30th March 2023
4	Ground Movement Assessment	Include assessment of the walls within No.25 as part of the ground movement assessment.	Closed	3rd April 2023
5	Ground Movement Assessment	Include the XDisp input tables within the BIA appendices to allow full review of the model results.	Closed	3rd April 2023
6	Ground Movement Assessment	Revise the Ground Model Assessment using appropriate movement curves.	Closed	3rd April 2023

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Appendix 3

Supplementary Supporting Documents

Email correspondence
GMA sensitivity analysis

RE: Fw: [EXTERNAL] Re: Automatic reply: Planning application for 29 Croftdown Road

Matthew Penfold to KatharineBarker@campbellreith.com 23/03/2023 17:05

Cc "Amy Ly", "Bethany Cullen", "camdenaudit@campbellreith.com", "c meucci", "Nigel Nicholls", "RoseAshmore@campbellreith.com"

9 attachments

J21224 - Sensitivity Analysis - Contour Plot of Vertical Movements.pdf

J21224 - Sensitivity Analysis - Contour Plot of Horizontal Movements.pdf

J21224 - Sensitivity Analysis - Damage Assessment Output.pdf image002.png image006.jpg

image002.png image006.jpg image002.png image006.jpg

Katherine,

Thanks for your comments.

I think the argument with respect to the horizontal movements should be straightforward, as the main driver for these movements is deflection of the underpinning, and with a reduced height, there is simply less wall to move and generate these movements.

If we then move onto the vertical movements, we have those movements that result from deflection of the wall, which we can account for through adoption of appropriate curves and are typically less than the corresponding horizontal movements that they are related to – some of this movement will occur as result of construction related effects, which we attempt to capture by the adoption of appropriate installation curves, with the rest occurring during excavation. The second source of movement (and where underpinning diverges from other wall types that we have case study data and curves for) is driven by the loads applied to the underpinning from the overlying structure, initially through construction and transfer of the loading into the underpins, followed by the response of the underlying soils.

As you mention below, these movements typically sum up to about 5 mm for a full height of underpinning. However, on a site such as this, where we have an absence of any vertical loading / restraint on the proposed retaining walls for the lightwell structure, or a significantly reduced height of underpinning due to the presence of an existing basement structure, one or more of these driving forces for movement is reduced or absent, so it is difficult to see how it is possible to make an argument that the movements should be the same for all underpinning as suggested below.

With specific reference to the lightwell structure, the proposed retaining walls extend beyond the existing structure and are not subject to any vertical loading, so one of the main driving forces for movement on underpinning discussed above is entirely absent – we would therefore expect the movements on this structure to be much more akin to those presented for embedded retaining walls in the CIRIA guidance, with the majority of the vertical movements resulting from the deflection of the wall alone and therefore proportionally less than the corresponding horizontal movements, as

per the standard curves. If we then look at any proposed underpinning to support the lowering of the rear part of the existing, which as you mention below will be less than 0.75 m (and probably more like 0.5 m due to the presence of existing foundations), the reduced height has two effects. The first, as mentioned with respect the potential horizontal movements above, is that there is simply less wall to deflect, thus reducing the potential for any movements from this source. The second is that, unlike deeper underpinning, where the underlying soils will be subject to a much greater change in loading and therefore settlement, the soils at proposed formation level below the existing basement will experience a much smaller change in net loading. With all other factors being the same with respect to any construction related effects, the fact that soil beneath the underpinning will be subject to a much smaller increase in loading, and therefore a significant reduction in one of the main driving forces for movement, means that we should be expecting to see less vertical movement as a result of a combination of these two effects.

Despite the above, we have amended the previous analysis to allow for a higher range of movement (see attached contour plots), which for the proposed lightwell structure has been achieved by amending the vertical movement curve for excavation to produce slightly more movement. For the underpinning proposed as part of the deepening of the existing basement, we have layered additional vertical movement curves over the original model until this has produced the desired amount of vertical movement (equivalent to a movement relationship of 1% of the likely retained hight). A similar process has been to the horizontal movements, which have been increased to a maximum of 3 mm (equivalent to a relationship of approx. 0.6% of the likely retained height). We also attach the corresponding damage assessment results, which confirm that the anticipated damage to the nearby structure as a result of these movements remains within tolerable limits. Happy to provide additional input & output data in due course, as required, but trust that the findings of this sensitivity analysis are acceptable and sufficient to close out the relevant query.

In the future what might be helpful is if we perhaps move away from the suggestion that underpinning of such a reduced height will move to a similar degree as underpinning of a much greater height, i.e., that the main analysis is based on and is proportional to the actual retained height, and instead frame the requirement for any sensitivity analysis with respect to what movements the most sensitive of any adjoining structure can take before the degree of damage exceeds Cat 1 (of course assuming that this has already been established by the first stage analysis). The way in which any sensitivity analysis would be carried out would be broadly similar, but when required, it would shift the focus onto the behaviour of the adjoining structures, rather than the underpinning; the behaviour of which, as you are well aware, is open to much more interpretation and debate due to the lack of available data and any really useful guidance, and is often the cause of a lot of disagreement.

Regards,

Matt

GEA

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From: KatharineBarker@campbellreith.com <KatharineBarker@campbellreith.com>
Sent: Thursday, March 23, 2023 12:43 PM
To: Matthew Penfold <Matthew@gea-ltd.co.uk>
Cc: Amy Ly <Amy.Ly@camden.gov.uk>; Bethany Cullen <Bethany.Cullen@camden.gov.uk>; camdenaudit@campbellreith.com; c meucci <cmeucciarch@gmail.com>; Jordan Wood <Jordan@gea-ltd.co.uk>; Nigel Nicholls <Nigel.Nicholls@conisbee.co.uk>; RoseAshmore@campbellreith.com
Subject: RE: Fw: [EXTERNAL] Re: Automatic reply: Planning application for 29 Croftdown Road

Matthew,

I appreciate that the underpinning to the back wall won't be to a significant depth (c. 750mm?), however, as the physical process of constructing the underpins will be the same regardless of the dig depth, we would still expect the impact to the overlying flats to be assessed, adopting the minimum 5mm movement that we typically expect for underpinning (although perhaps an argument could be made for the horizontal component impacting the flats above to be less than this - I'll leave it to you to decide the most appropriate 'moderately conservative' approach to this).

I hope this clarifies our position on this.

Kind regards,

Kat

Katharine Barker
Associate

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From: "Matthew Penfold" <Matthew@gea-ltd.co.uk>
To: "RoseAshmore@campbellreith.com" <RoseAshmore@campbellreith.com>, "Jordan Wood" <Jordan@gea-ltd.co.uk>
Cc: "camdenaudit@campbellreith.com" <camdenaudit@campbellreith.com>, "Bethany Cullen" <Bethany.Cullen@camden.gov.uk>, "Nigel Nicholls" <Nigel.Nicholls@conisbee.co.uk>, "c meucci" <cmeucciarch@gmail.com>, "Amy Ly" <Amy.Ly@camden.gov.uk>

Date: 23/03/2023 12:04
Subject: RE: Fw: [EXTERNAL] Re: Automatic reply: Planning application for 29 Croftdown Road

Rose,

Thank you for your email.

We have updated the analysis to allow for some additional vertical movement on the RC walls of the proposed lightwell, which will be constructed in an underpinning type sequence, and have a retained height in the order of 3.0 m; vertical and horizontal movements for this part of the proposed construction are now both 5 mm +. The results of the amended analysis are currently being finalised and will shortly be issued, along with the previous changes referenced by Jordan.

We have not made any amendments to the rear part of the existing basement, where the existing floor is only proposed to be lowered by 0.3 m, and underpinning of a scale and nature likely to result in any significant movement will not be required; although an allowance for some movement, proportional to the scale of the works, has been allowed for as a precautionary measure. There is also separation, both laterally and vertically between this elevation of the building and the nearest part of the adjoining building, which further reduces the potential for any impact, as the adjoining building will not be immediately subject to any localised settlement along this building line, as would be expected if this was a shared party wall. On this basis we do not expect the works in this area to have the potential to impact on the nearby structure and trust that this approach is acceptable.

Regards,

Matt

GEA

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From: RoseAshmore@campbellreith.com <RoseAshmore@campbellreith.com>
Sent: Thursday, March 23, 2023 11:22 AM
To: Jordan Wood <Jordan@gea-ltd.co.uk>
Cc: camdenaudit@campbellreith.com; Bethany Cullen <Bethany.Cullen@camden.gov.uk>; Nigel Nicholls <Nigel.Nicholls@conisbee.co.uk>; c meucci <cmeucciarch@gmail.com>; Amy Ly <Amy.Ly@camden.gov.uk>; Matthew Penfold <Matthew@gea-ltd.co.uk>
Subject: Re: Fw: [EXTERNAL] Re: Automatic reply: Planning application for 29 Croftdown Road

Hi Jordon,

Thank you for your email.

In regards to the GMA for 29 Croftdown Road the depth of all the proposed underpinning should be confirmed and considered within the BIA. Where it is identified that the underpinning has the potential to cause damage to any neighbouring structures and/or assets we would expect a minimum of 5mm movement horizontally and vertically to be modelled.

I hope that helps.

Many thanks,

Rose Ashmore
Geotechnical Engineer

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www.campbellreith.com
Good morning,

We have taken a look at your comments and have updated our report accordingly. We have updated the report to indicate a slight increase in hardstanding, confirmed the distance of the Lost River Fleet, and confirmed that there is not a requirement for a FRA. This has not made any changes to our conclusions in the report.

Regarding the GMA aspect, specifically section 4.1.22 and applying 5 mm movement horizontally and vertically. Please can you confirm that this only applies to the lightwell? We will then carry out the sensitivity check as suggested.

Kind regards,

Jordan Wood

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From:c meucci <cmeucciarch@gmail.com>
Sent: Monday, January 23, 2023 10:41 AM
To: Amy Ly <Amy.Ly@camden.gov.uk>
Cc: Bethany Cullen <Bethany.Cullen@camden.gov.uk>; EllieHodges@campbellreith.com; Nigel Nicholls <Nigel.Nicholls@conisbee.co.uk>
Subject: [EXTERNAL] Re: Automatic reply: Planning application for 29 Croftdown Road

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Hi Amy

Many thanks for your email.
I am forwarding this to Conisbee so they can address the points as raised in the audit and liaise with the auditors.

Regards
CostantinoPreview attachment RAemb13693-88-221222 29 Croftdown Road_D1.pdf
RAemb13693-88-221222 29 Croftdown Road_D1.pdf
2 MB

On Fri, 20 Jan 2023 at 15:22, Amy Ly <Amy.Ly@camden.gov.uk> wrote:
Dear Costantino,

Thanks for your email. Please see attached the completed BIA Audit. I note there are a few

points to be addressed on page 14 and in Appendix 2 - please could you ask your engineer to address these points and provide the requested information? I have copied in the auditor in this email if you have any queries about the audit.Preview attachment RAemb13693-88-221222 29 Croftdown Road_D1.pdf
RAemb13693-88-221222 29 Croftdown Road_D1.pdf
2 MB

Many thanks,
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London N1C 4AG

From:c meucci <cmeucciarch@gmail.com>
Sent: 19 January 2023 15:41
To: Bethany Cullen <Bethany.Cullen@camden.gov.uk>
Cc: Amy Ly <Amy.Ly@camden.gov.uk>
Subject: Fwd: Automatic reply: Planning application for 29 Croftdown Road

about Covid 19 being used as cover for scams so extra vigilance is required.
Dear Ms Cullen

Once again I apologise in advance but we have to bother you once more as this application (No. **2022/1512/P**) seems to be stalling again.
I have emailed Amy but she is not replying.
As you can appreciate from the correspondence below the assessment audit invoicewas settled and we were expecting some feedback back in December but to date no avail. This application was filed over 8 months ago and my clients are quite frustrated with the lack of progress and may consider once more lodging an appeal.
I would be grateful if you could look into this for us.

I look forward to hearing from you.

Kind regards
Costantino

---------- Forwarded message ---------
From: **c meucci** <cmeucciarch@gmail.com>
Date: Thu, 5 Jan 2023 at 23:24
Subject: Re: Automatic reply: Planning application for 29 Croftdown Road
To: Amy Ly <Amy.Ly@camden.gov.uk>

Hi Amy

I hope this email finds you well.

I understand from my client theassessment audit invoice (£ 3716) has now been paid. Could you please give us an update on the progress of the application?

I look forward to hearing from you

Many thanks
Costantino

On Thu, 24 Nov 2022 at 12:15, Amy Ly <Amy.Ly@camden.gov.uk> wrote:
Hi Constantino,

Thanks for sending the completed form. I've sent this to our basement auditors who have now confirmed that the audit can commence. It is anticipated to be completed within 4 weeks.

Many thanks,
Amy

Amy Ly
Planner
Supporting Communities
London Borough of Camden

Telephone: 020 7974 8141
Web: camden.gov.uk

5 Pancras Square
London N1C 4AG

From:c meucci <cmeucciarch@gmail.com>
Sent: 24 November 2022 11:15
To: Amy Ly <Amy.Ly@camden.gov.uk>
Subject: Re: Automatic reply: Planning application for 29 Croftdown Road

Hi Amy

Hope this email finds you well.

I am forwarding the form filled by the applicant as requested. Please let me know if it is satisfactory or if you need further info.

I look forward to hearing from you.

Regards
Costantino

On Thu, 17 Nov 2022 at 10:11, Amy Ly <Amy.Ly@camden.gov.uk> wrote:
Dear Constantino

Thanks for our emails and apologies for the delay. I've discussed with the managers and our auditors on the submitted BIA. This development is a Category B basement, which attracts an audit fee of £3,045 + VAT. Please find attached the Audit Instruction form section D, please could you fill this out and then they can commence the full audit? The person who will be paying for the audit should fill out this section.

Many thanks,
Amy

Amy Ly

Planner
Supporting Communities
London Borough of Camden

Telephone: 020 7974 8141
Web: camden.gov.uk

5 Pancras Square
London N1C 4AG

The majority of Council staff are continuing to work at home through remote, secure access to our systems. Where possible please communicate with us by email. Please consider the environment before printing this email.

From:c meucci <cmeucciarch@gmail.com>
Sent: 21 September 2022 15:08
To: Amy Ly <Amy.Ly@camden.gov.uk>
Cc: bethany.cullen@gov.uk
Subject: Re: Automatic reply: Planning application for 29 Croftdown Road

[EXTERNAL EMAIL] Beware - This email originated outside Camden Council and may be malicious Please take extra care with any links, attachments, requests to take action or for you to verify your password etc. Please note there have been reports of emails purporting to be about Covid 19 being used as cover for scams so extra vigilance is required.
Hi Amy

I have been trying to contact you via telephone and email for a while now with regards to the planning application 2022/1512/P but to date I have not yet received any feedback.
It has been almost 4 months since validation of the application and I would appreciate it if you could give us an update on the progress of the application as soon as possible.

Many thanks
Costantino

On Mon, 5 Sept 2022 at 15:43, Amy Ly <Amy.Ly@camden.gov.uk> wrote:
Thank you for your email. I am out of office and will return on Monday 12th September. All general enquiries can be emailed to planning@camden.gov.ukand your enquiry will be directed to an appropriate staff member for a response. All urgent enquiries can be emailed to adam.greenhalgh@camden.gov.uk

herewhich tells you how we store and process the data we hold about you and residents.
This e-mail may contain information which is confidential, legally privileged and/or copyright protected. This e-mail is intended for the addressee only. If you receive this in error, please contact the sender and delete the material from your computer. See our new Privacy Notice herewhich tells you how we store and process the data we hold about you and residents.
This e-mail may contain information which is confidential, legally privileged and/or copyright protected. This e-mail is intended for the addressee only. If you receive this in error, please contact the sender and delete the material from your computer. See our new Privacy Notice herewhich tells you how we store and process the data we hold about you and residents.
This e-mail may contain information which is confidential, legally privileged and/or copyright protected. This e-mail is intended for the addressee only. If you receive this in error, please contact the sender and delete the material from your computer. See our new Privacy Notice herewhich tells you how we store and process the data we hold about you and residents.

Click hereto report this email as spam.[attachment "image002.jpg" deleted by Rose Ashmore/CRH]

This message has been scanned for malware by Websense. www.websense.com[attachment "image002.png" deleted by Katharine Barker/CRH] [attachment "image006.jpg" deleted by Katharine Barker/CRH]

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As this e-mail has been transmitted over a public network the accuracy, completeness and virus status of the transmitted information is not secure and ca verification is required please telephone the sender of the email.

RE: 2022/4672/P at 25 Oakhill Avenue BIA Audit,

Daren Zuk to RoseAshmore@campbellreith.com 30/03/2023 18:10
Cc "camdenaudit@campbellreith.com"
History: This message has been replied to.

Hello Rose,

I've attached the email response to your comments from the applicant's consultants at GEA Ltd.

Please advise if their response is sufficient.

Best,
Daren

From: RoseAshmore@campbellreith.com <RoseAshmore@campbellreith.com>
Sent: 09 February 2023 16:58
To: Daren Zuk <Daren.Zuk@camden.gov.uk>
Cc: camdenaudit@campbellreith.com
Subject: 2022/4672/P at 25 Oakhill Avenue BIA Audit,

Hi Daren,

Please find attached the BIA audit for the site at 25 Oakhill Avenue (ref 2022/4672/P) .

Many thanks,

Rose Ashmore
Geotechnical Engineer

CampbellReith
consulting engineers

Unit 5.3 [HERE],
470 Bath Road,
Bristol
BS4 3AP

Mob +44 (0) 7483 087671
Tel +44 (0) 117 916 1066

www.campbellreith.com

----- Message from David Field <dfield@tffa.co.uk> on Thu, 30 Mar 2023 14:46:44 +0000 -----

To: Daren Zuk <Daren.Zuk@camden.gov.uk>

cc: Tom Wright <twright@tffa.co.uk>

Subject: Re: Camden Planning Ref. 2022/4672/P at 25 Oakhill Avenue - BIA Comments

Dear Daren,

Please see the email below from GEA to MBP with their responses to Campbell Reith's audit.

I think these address CR's concerns. Please forward the answers to CR.

GEA have been involved in several other planning applications in Camden with BIA's and email responses to CR's queries have been sufficient.

I will send a separate email with the amended drawings, picking up the changes we have discussed and agreed.

Kind regards

David Field
Director
--
TFF Architects Ltd
250 Kennington Lane
SE11 5RD
t: 07944 771 893
www.tffa.co.uk
www.chalet-davos.com

Begin forwarded message:

From: Matthew Penfold <Matthew@gea-ltd.co.uk>
Subject: RE: 8536 25 Oakhill Avenue - BIA Comments
Date: 29 March 2023 at 16:44:35 BST
To: Agnieszka Zajac <Agnieszka.Zajac@MBP-UK.COM>
Cc: Steve Branch <Steve@gea-ltd.co.uk>, David Field <dfield@tffa.co.uk>, Tom Wright <twright@tffa.co.uk>, Tony Hayes <Tony.Hayes@mbp-uk.com>

Aga,

Further to our recent correspondence and review of the information provided to us, we can provide responses to the following comments raised in the BIA audit, which we have listed with respect the numbering in Section 5 of the audit, which we recommend are forwarded to Campbell Reith via the planning officer to ensure the correct procedures are.

5.4 (see also comments in Section 4.8) – The investigation confirmed that localised inflows of perched water are likely to be encountered during the proposed basement excavation. However, as any such inflows are likely to be relatively minor in nature, they should be adequately dealt with through sump pumping. A requirement for dewatering, which is unlikely to be feasible in any case given the generally low permeability of the surrounding soils, is not deemed to be required. Further details of the provision for sump pumping will be provided by the engineers and the chosen contract will be expected to have a contingency plan in place should higher than anticipated inflows be encountered, which may include (but not be limited to) grouting between the proposed contiguous boreholes piles to inhibit and / or exclude water from the proposed excavations.

5.5 (see also comments in Section 4.10) – It has been confirmed that the majority of the existing decking has been formed over soft ground, such that these areas can be considered as permeable. The development will therefore result in a small increase in impermeable area where the proposed access steps for the new basement extend beyond the footprint of the existing building. However, as a new area of landscaping will be formed along the boundary with No 27 Oakhill Avenue and new drainage and attenuation measures (as detailed in the CMS) will be incorporated into this part of the development, any potential impact because of this change will be appropriately mitigated. Therefore, whilst we confirm that the response to the relevant screening question should be changed to a 'Yes', further assessment as part of the review of this query of the proposed mitigation measures confirms that there will not be any adverse impact.

5.6 (see also comments in Section 4.13) – The presence of this area is already highlighted in the response to the relevant screening question in Section 3.1.2 and relates to a small change in level between the gardens of No 17 and 19 Oakhill Avenue and the adjoining property of No 10 Greenaway Gardens. This feature is at a distance in excess of 20 m and is separated from the site by an area of essentially level ground. It is therefore at a distance that it will not be affected by the proposed basement construction and has not been considered further in the report.

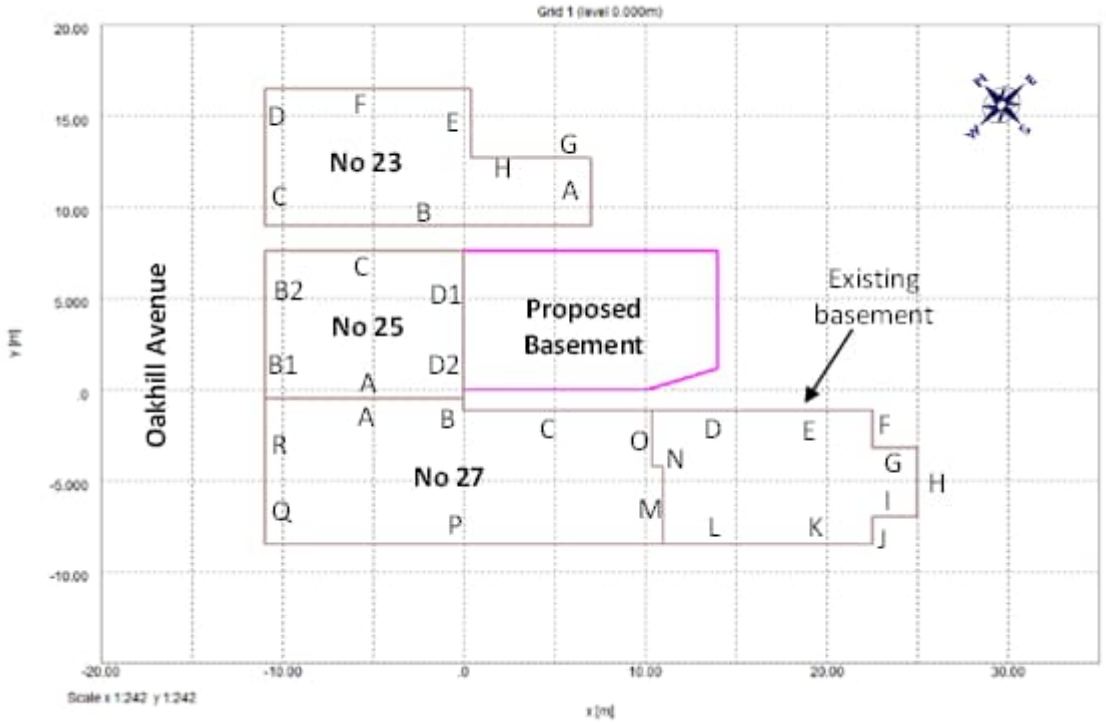
5.9 & 5.10 (see also comments in Section 4.20, 4.22 & 4.23) – A sensitivity analysis has been undertaken with default installation curves, the results of which are attached with the predicted movements summarised in the table below.

Phase of Works	Maximum Movements due to Wall Deflection (mm)	
	Vertical Settlement	Horizontal Movement
Combined movements from installation and subsequent excavation behind contiguous bored pile wall	4 to 5	7 to 8

The sensitivity analysis confirms a small increase in the vertical and horizontal movements along the proposed sections of pilling.

The previous damage assessment has been re-run with these higher movements, with the

damage assessment also updated to include the existing (listed) structure of No 25 Oakhill Avenue, as indicated on the plan extract below.



The results of the updated damage assessment are appended but are summarised in the table below.

Structure	Elevation	Max tensile strain (%)	Category*
No 27 Oakhill Avenue	Wall A	0.03	Negligible (0)
	Wall B	0.05	Very Slight (1)
	Wall C	0.01	Negligible (0)
	Wall D	<0.01	Negligible (0)
	Wall E	<0.01	Negligible (0)
	Wall F	Less than limit of sensitivity	N/A
	Wall G	Less than limit of sensitivity	N/A
	Wall H	Less than limit of sensitivity	N/A
	Wall I	Less than limit of sensitivity	N/A
	Wall J	Less than limit of sensitivity	N/A
	Wall K	Less than limit of sensitivity	N/A
	Wall L	Less than limit of sensitivity	N/A
	Wall M	<0.01	Negligible (0)
	Wall N	<0.01	Negligible (0)
	Wall O	<0.01	Negligible (0)
	Wall P	<0.01	Negligible (0)
	Wall Q	<0.01	Negligible (0)
	Wall R	<0.01	Negligible (0)
23 Oakhill Avenue	Wall A	0.06	Very Slight (1)
	Wall B	0.03	Negligible (0)
	Wall C	<0.01	Negligible (0)
	Wall D	<0.01	Negligible (0)
	Wall E	0.03	Negligible (0)
	Wall F	<0.01	Negligible (0)
	Wall G	<0.01	Negligible (0)
	Wall H	<0.01	Negligible (0)
25 Oakhill Avenue	Wall A	0.03	Negligible (0)
	Wall B	<0.01	Negligible (0)
	Wall C	0.03	Negligible (0)
	Wall D	0.03	Negligible (0)

Whilst the amended damage assessment does indicate a small increase in tensile strain on a number of the nearby structures, the predicted level of damage remains within acceptable limits. It is noted that information provided by the architect in the Design & Access Statement indicates that No 23 Oakhill Avenue has an existing basement that extends below the full footprint of the house and rear extension. However, in the absence of detailed information, this structure has not been included in this or the previous analysis, with the foundations of this property assessed at a depth of no more than 1.0 m, such that the damage assessment of this structure is considered highly conservative.

The updated input files for the analysis, damage assessment results and contour outputs plans are attached.

We trust the above comments are of assistance and look forward to hearing from you in due course.

Regards,

Matt

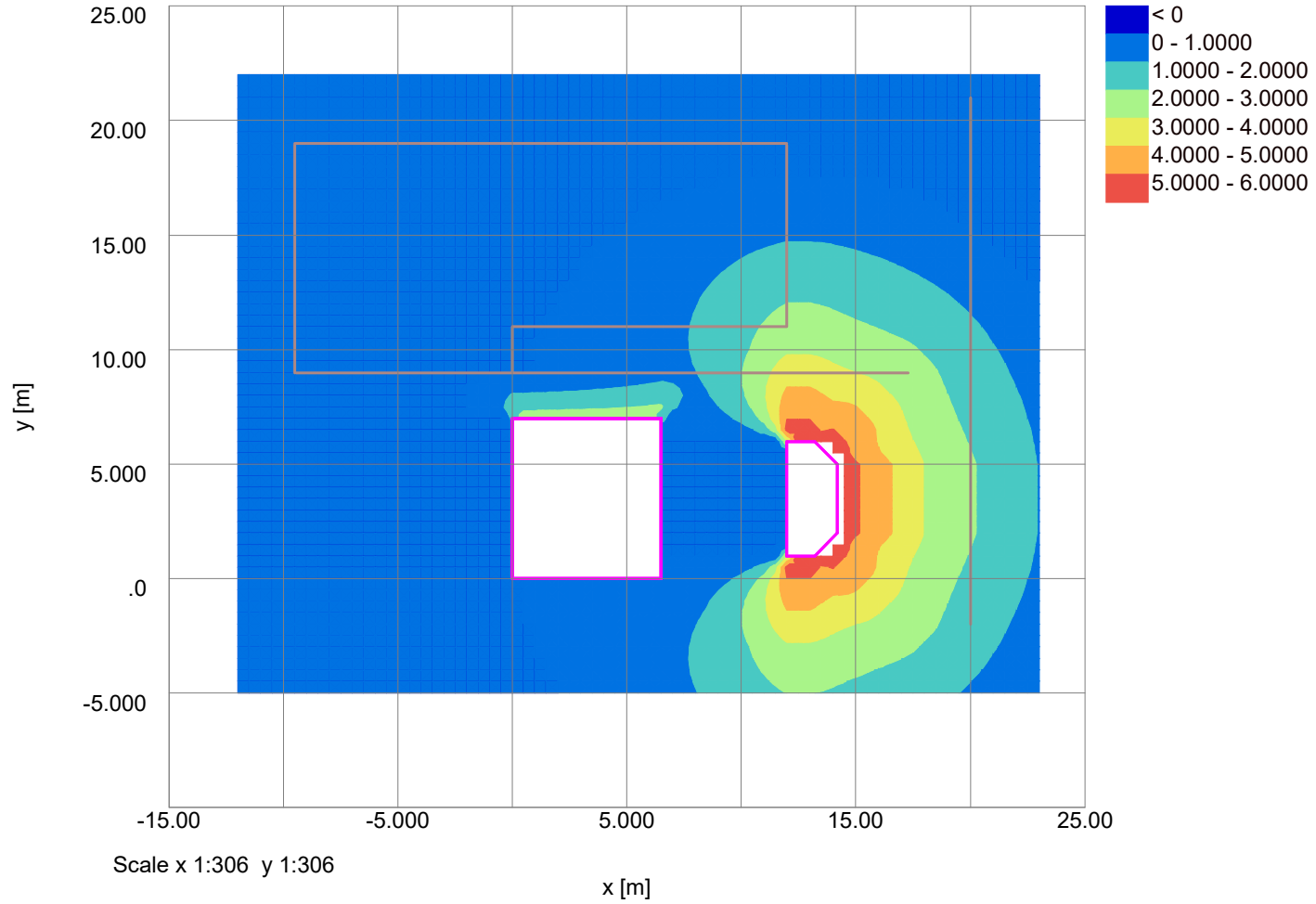
GEA

Geotechnical & Environmental Associates
Widbury Barn | Widbury Hill | Ware | SG12 7QE

tel 01727 824666
mob 07725679945
matt@gea-ltd.co.uk
www.gea-ltd.co.uk

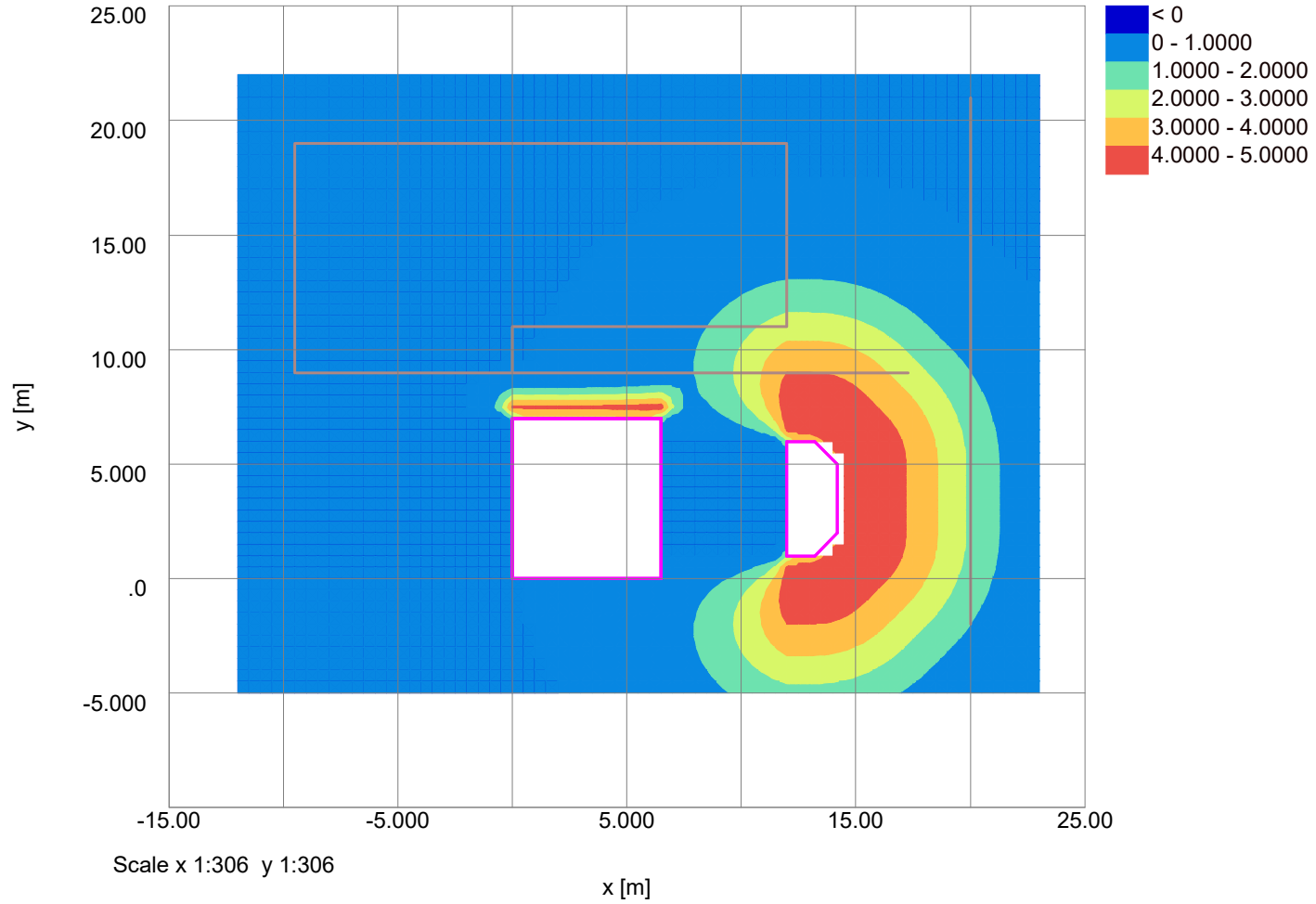
Also in Notts tel 01509 674888
and Manchester tel 0161 209 3032

Horizontal Displacement Contours: Grid 1 (level 0.000m) Interval 1mm



Scale x 1:306 y 1:306

Vertical Settlement Contours: Grid 1 (level 0.000m) (Interval 1mm)



Specific Building Damage Results - Detail

Stage: Stage: Name Ref.	Specific Building: Ref.	Specific Building: Name	Sub-building Name	Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0 Base Model	1	31 Croftdown Road	Near Elevation A	0.0	1	4.9583	4.9780	None	0.0049747	0.0	0.0048179	0.0	-458.08E-6	11443. 0	(Negligible)
					2	9.9363	1.9627	None	0.0017233	0.0	0.0016893	0.0	-458.08E-6	11258. 0	(Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

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