

#### **James Morrice**

From: James Engwall < jengwall@pricemyers.com>

**Sent:** 10 November 2016 13:24 **To:** James Morrice; Marcos Sousa

Cc: Sarah Key

**Subject:** RE: 32 Glenilla Road

Hi James,

The loading shouldn't change significantly, so the loads you're assuming still sound fine.

The Construction sequence you've described also sounds right, with the whole footprint for both buildings dug out in one go.

Apart from our structural sketches, which we may need to update, we also need to produce a Construction Sequence Methodology (CSM( and update our Drainage layout, both of which are also included in your BIA appendix. We're hoping to get these issued early next week, presumably that will be ok to then feed into your BIA?

Kind Regards,

James

James Engwall Structural Engineer

### **PRICE & MYERS**

020 7631 5128

37 Alfred Place London WC1E 7DP

#### www.pricemyers.com

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From: James Morrice [mailto:JamesM@cgl-uk.com]

Sent: 10 November 2016 12:08

To: Marcos Sousa < Marcos@adamkhan.co.uk>

Cc: James Engwall jengwall@pricemyers.com>; Sarah Key <SarahK@cgl-uk.com>

Subject: RE: 32 Glenilla Road

#### Hi Marcos

The only impact this would have on the BIA would be if there is a change in the building loads. It would only delay the report for as long as it takes to get confirmation of the changes, so not more than a day or so I would anticipate. We are currently look to issue the report mid-next week.

#### James

Can you please confirm if there will be a change in the loadings. Unless I hear otherwise, I will assume 50kN/m2 on the slab and 50kN/m on the pile capping beam, as previously discussed.

Whilst writing, could you please confirm that the construction sequence is as previously, i.e. both basements constructed together as one dig, with a piled wall around the perimeter and interior wall built up off the basement slab.

#### Best regards James

#### James Morrice, Senior Engineer













CGL's Harrogate office will hold a breakfast briefing on 'Managing Risks on Brownfield Sites' on Wednesday 16th November at 8:00am. Click on image for more information and to reserve a space.

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From: Marcos Sousa [mailto:Marcos@adamkhan.co.uk]

Sent: 10 November 2016 11:03

To: James Morrice < James M@cgl-uk.com >

**Cc:** jengwall@pricemyers.com; Sarah Key <<u>SarahK@cgl-uk.com</u>>

Subject: RE: 32 Glenilla Road

Hi James,

We might be changing the column structure to structural brick walls at GF and Basement. Already spoke with James Engwall and if going ahead we can confirm this tomorrow. How much delay would this cause on the BIA?

Regards, Marcos

Marcos Sousa Adam Khan Architects

45 Vyner Street London E2 9DQ

020 7403 9897

www.adamkhan.co.uk

#### @adamkhanarch

RIBA Awards 2016 – Shortlisted
RIBA National Award 2014
AR Future Projects Awards 2014 – Highly Commended
Nordic Built Challenge 2013 – Outright Winner
Mies van der Rohe Award 2013 – Nominated
AYA 'Architect of the Year' 2012 – Public Buildings
RIBA National Award 2012
Civic Trust Awards 2012 – Special Award for Sustainability
BREEAM 'Outstanding' 2011
Wood Awards 2011 - Winner
RIBA National Award 2010

From: James Morrice [mailto:JamesM@cgl-uk.com]

Sent: 04 November 2016 15:07

To: Marcos Sousa < Marcos@adamkhan.co.uk>

**Cc:** <u>jengwall@pricemyers.com</u>; Sarah Key <<u>SarahK@cgl-uk.com</u>>

Subject: RE: 32 Glenilla Road

Many thanks for the confirmation Marcos. We'll crack on with the analysis.

James, could you please confirm if any loadings have changed from the original plans, and if so forward us the update load information for the analysis.

Best regards James

#### James Morrice, Senior Engineer



Tel: 01483 310600 www.cgl-uk.com









CGL's Harrogate office will hold a breakfast briefing on 'Managing Risks on Brownfield Sites' on Wednesday 16th November at 8:00am. Click on image for more information and to reserve a space.

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# **APPENDIX B**

Proposed development plans





## Adam Khan Architects

Architects Date Scale

Adam Khan Architects 16/09/15 1:200

4 Northington Street
London WC1N 2JG
United Kingdon

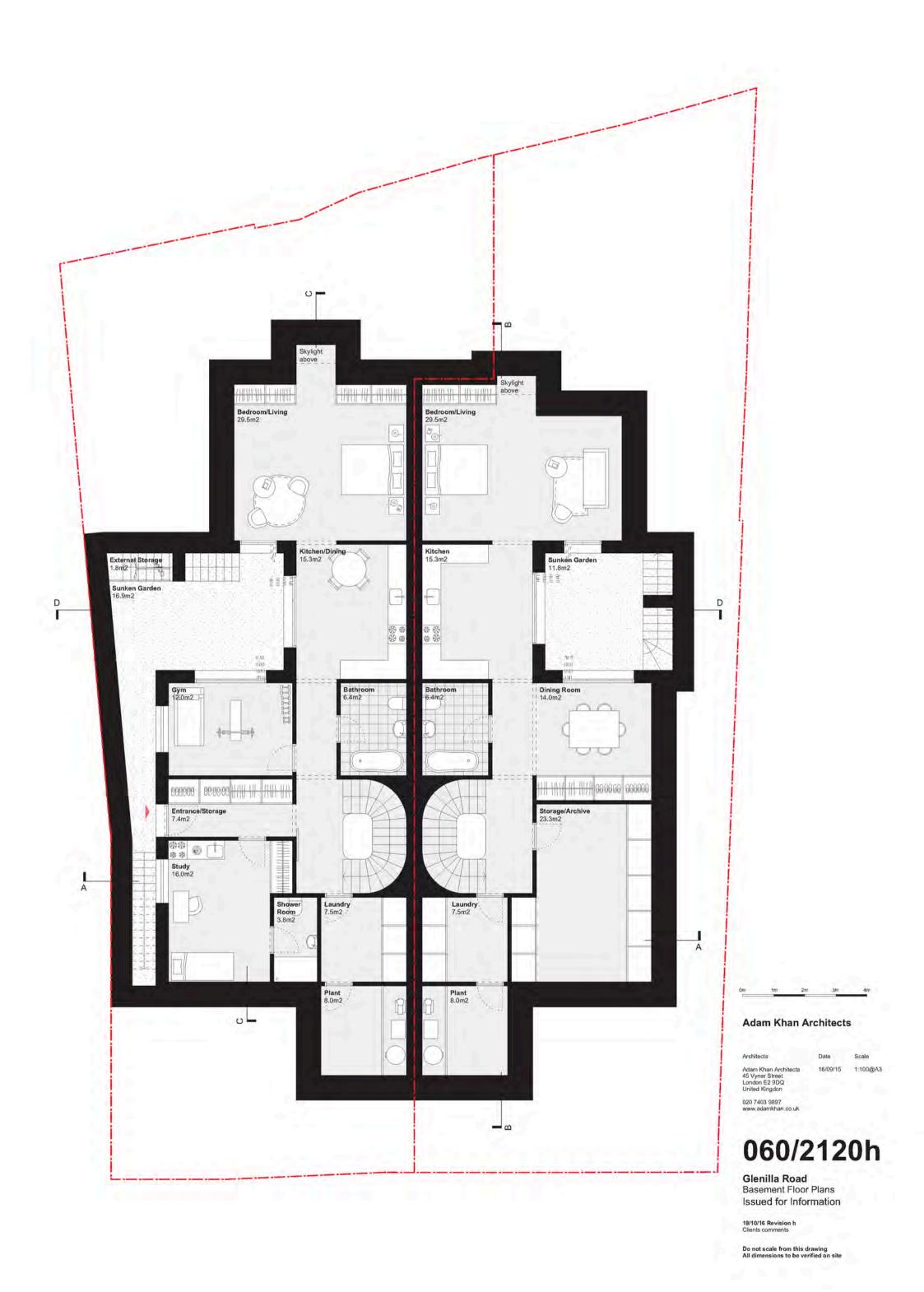
020 7403 9897 www.adamkhan.co

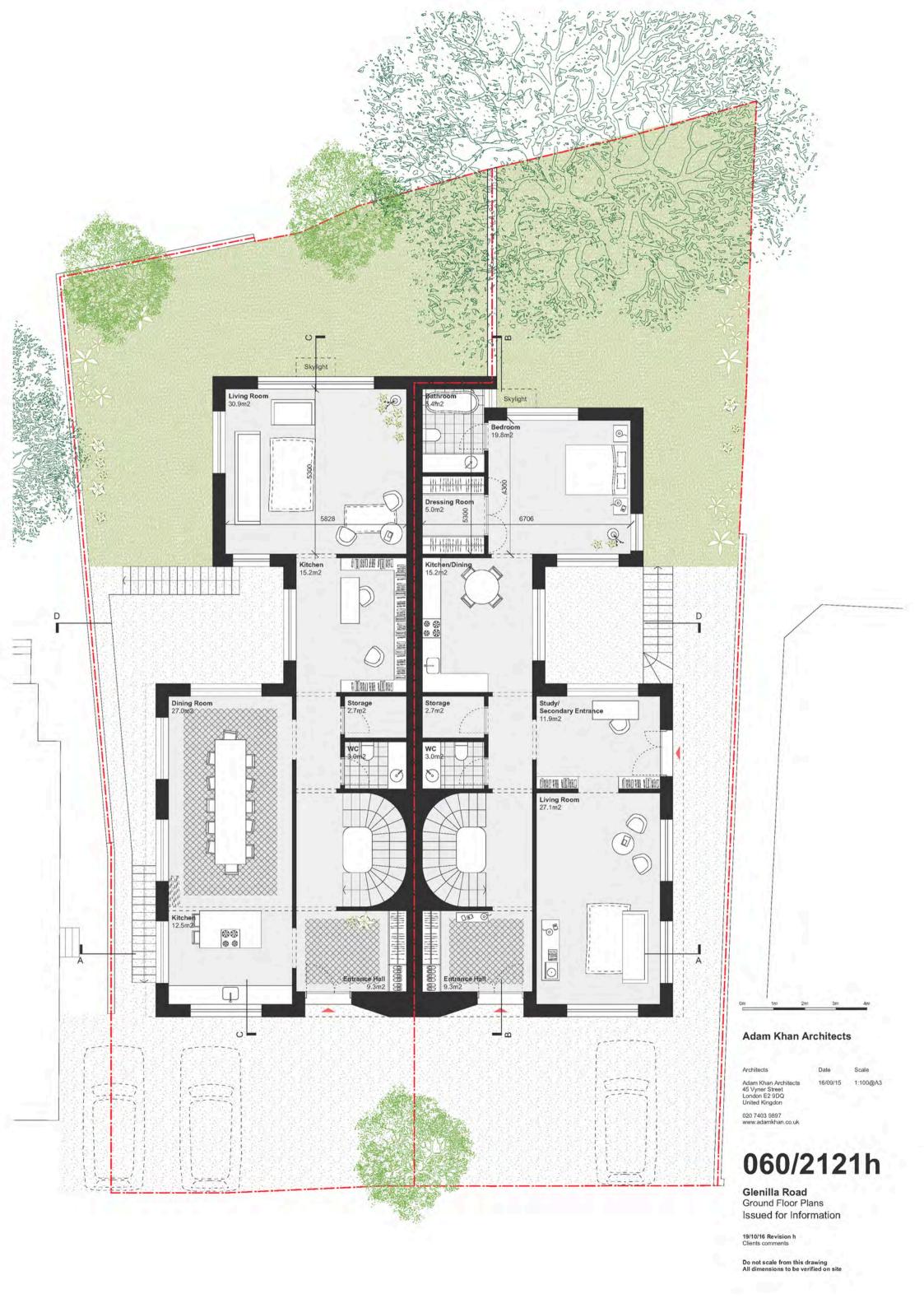
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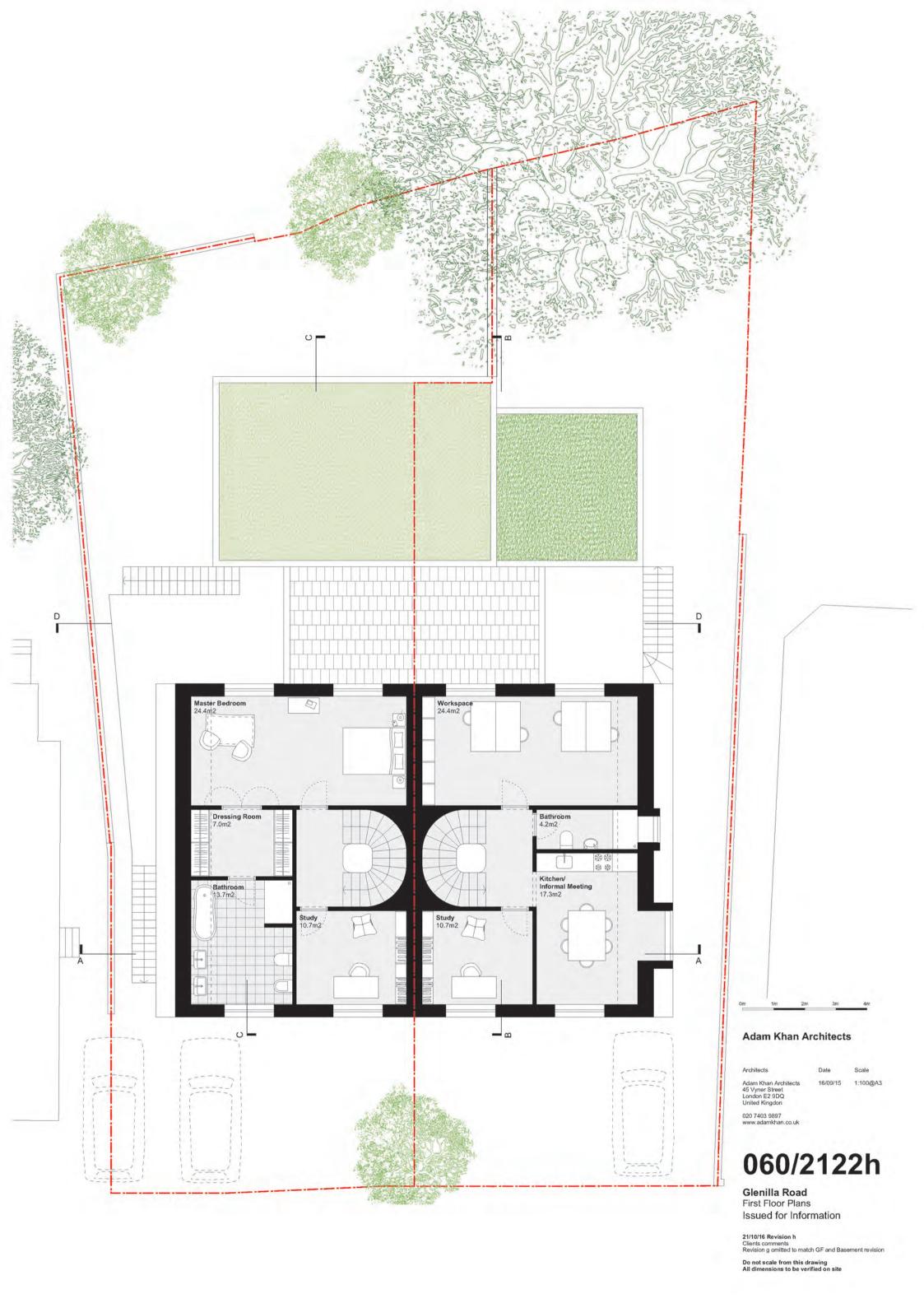
Glenilla Road Site Plan Issued for Information

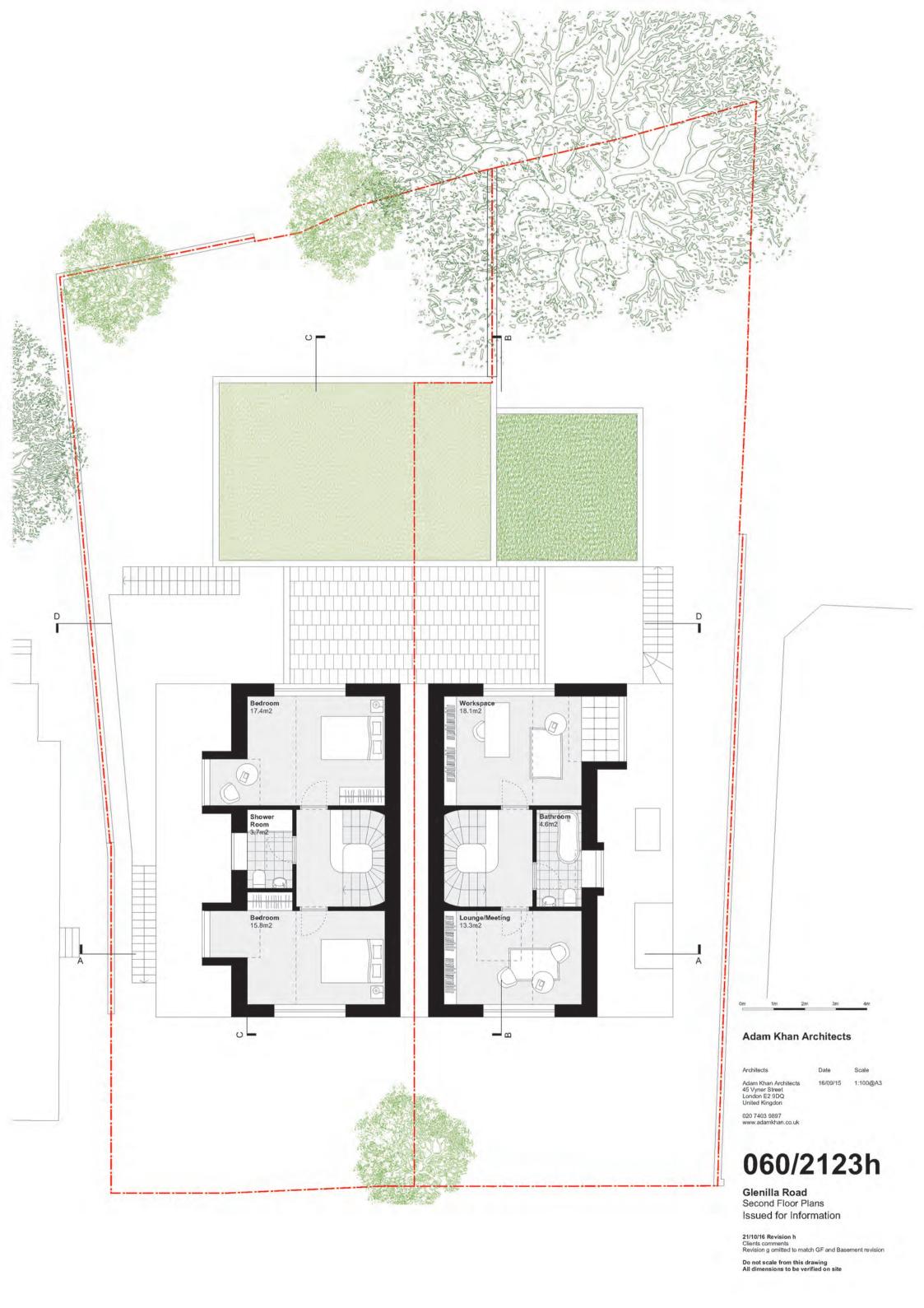
> 1/10/16 Revision h Clients comments devision g omitted to match GF and Basement revision

Do not scale from this drawing All dimensions to be verified on site









# **APPENDIX C**

BGS historical borehole records





Client	Project	Job No
Mr & Mrs Gausen and	32 Glenilla Road, London	CG/18516
Mr de Botton		
CGL	BGS borehole location plan	

# (For Survey use only) GEOLOGICAL SURVEY OF GREAT BRITAIN 6-inch Map Registered No. RECORD OF SHAFT OR BORE FOR MINERALS TQ28NE/38 Name of Shaft or Bore given by Geological Survey: me and Number given by owner: Nat. Grid Reference 2722.8520 256 Purpose for which m If not ground level give O.D. of beginning of shaft Date of sinking\_ Made by . Information from Examined by SPECIMEN NUMBERS AND ADDITIONAL NOTES (For Survey use only) DEPTH DESCRIPTION OF STRATA GROLOGICAL CLASSIFICATION Fr. Made Ground clay For Hampstead Tube Rly. 4 16 20

British Geological Sun**69**, Upper Ground, British Geological Survey

The London Passenger Transport Board. 55 Broadway. S.W.1.

TQ28NE/48 2737.8510

April/May. 1941.

256.

STRATA DETAILS OF TRIAL HOLE DRILLED BY MISSING. R. RICHARDS & CO. FOR THE LONDON PAS ENGLE TRANSFORT BOARD, 55 BROADWAY, S.W.1. Bite - Belsize Fark.

- Belsize Park St. n Wol sited.

British Geological Survey			British Geological Survey		Thick	1035 - Oct	nept]	le.	
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	Mad with	water	•••	***	1	0	9	O	1.30
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1000	Yellow C	lay	•••		12	6 .	25	0	7 67
British Geological Survey	Blue Cla	y	British Geological Survey	•••	118	O British Glo	143	0	M2 59

Norwest Holst Soil Engineering Ltd. **BOREHOLE LOG** Contract No.. Location Haverstock Hill Sheet 1 of 1 Client London Borough of Camden Chainage..... Method of Boring. Shell & Auger TØ 2856 Ground Level..... Diameter of Borehole..... Date....18/5/87..... Casing Depth at Sampling R.Q.D.% Progress Description of Strata Sampling Coring MADE GROUND: Soft, dark brown, sandy silty CLAY with much fine to coarse 0.50 0.50 gravel of flint, brick and quartzite. (20) 1.10 Soft, orange brown, slightly sandy silty CLAY with a little fine gravel 1.50 and rootlets. (50) Stiff, brown, slightly sandy silty CLAY with a little fine to medium gravel. Becoming less sandy with depth. 2.50 (50) 3.50 (50) 4.00 End of Borehole. Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Borehole dry during boring. Undisturbed No casing. Ic. C.P.T. × Vane

#### Norwest Holst Soil Engineering Ltd. Borehole No. F7406 **BOREHOLE LOG** Contract No. Location Haverstock Hill Sheet 1 of 1 Client bondon Borough of Camden Chainage..... TØ28SE Method of Boring Shell & Auger Ground Level... 18/5/87 Diameter of Borehole. Date.... Casing Depth at "M"/ Description of Strata R.Q.D.% Progress Sampling Coring MADE GROUND: Soft dark brown, very 0.50 sandy silty CLAY with much fine to 0.50 coarse gravel of flint, bricks, coal, glass, sandstone. Firm orange brown (locally mottled grey), sandy silty CLAY with some fine to medium gravel and rootlets. 1.50 Becoming less sandy with depth-(50) Stiff, brown (locally mottled grey) slightly silty CLAY with occasional 2.50 sand and fine gravel. (50) 3,50 (50) 4.00 End of Borehole. Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Borehole dry during boring. Undisturbed No casing. Ic. C.P.T. X Vane

are subject to seasonal or tidal variations and should not be taken as const

Norwest Holst Soil Engineering Ltd. Borehole No. 3 F7406 **BOREHOLE LOG** Contract No. Location Haverstock Hill 1161 Client London Borough of Camden Chainage... T0285E Method of Boring Shell & Auger Ground Level. Diameter of Borehole... Date....19/5/87... Casing Depth at "N"/ Description of Strata R.Q.D.% Progress Coring Sampling Concrete MADE GROUND: Firm, grey, sandy silty CLAY with much fine to medium gravel of brick, flint, glass and sandstone 0.50 (30) 0.95 Firm, orange brown, slightly sandy silty CLAY with occasional fine gravel. 1.50 Firm brown (locally mottled grey), (50) slightly sandy silty CLAY with occasional sand and fine gravel. 2.50 (50) 3.30 Stiff, brown, slightly silty CLAY with 3.50 occasional sand and fine gravel. (50) 4.00 End of Borehole. Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Borehole dry during boring. Undisturbed No casing. Ic. C.P.T. × Vane △ Water

Norwest Holst Soil Engineering Ltd. orehole No. **BOREHOLE LOG** Contract No. Sheet 1 of 1 Location...Haverstock.Hill. Client London Borough of Camden Chainage..... TQ 28 SE Method of Boring Shell & Auger Ground Level... Date....19/5/87 Diameter of Borehole... Casing Depth at Sampling Description of Strata R.O.D.% Progress Sampling Coring MADE GROUND: Soft - firm, black, very sandy very silty CLAY with some fine 0.50 to coarse gravel - of bricks flint (20) and sandstone. 0.95 Stiff, brown (locally mottled grey) slightly sandy silty CLAY with occasional fine to medium gravel. 1.50 (50) 2.50 (50) 3.50 (50)4.00 End of Borehole. Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Borehole dry during boring. Undisturbed No casing. Ic. C.P.T. X Vane △ Water

Norwest Holst Soil Engineering Ltd. F7406 **BOREHOLE LOG** Contract No. Location Haverstock Hill Sheet...2...of....2..... 1163 Client London Borough of Camden Chainage... Method of Boring. Shell & Auger TØ 28 SE Ground Level...

Diameter of Borehole.....150mm Date....19/5/87.....20/5/87. Sampling and Description of Strata R.O.D.% Progress Stiff, laminated, fissured, grey 10.00 slightly silty CLAY. (70) 11.50 (70) X 14.00 Very stiff, laminated fissured, grey 13.00 slightly silty CLAY. (70) 14.50 [70] 16.00 (70) 17.50 (70) 18.50 19.50 (80)

End of Borehole. Type of Sample

Undisturbed

Remarks (Observations of Ground Water etc.)

Tc. C.P.T. X Vane

(-) U100 blows

Norwest Holst Soil Engineering Ltd. Borehole No. 5 **BOREHOLE LOG** Contract No.. Location Haverstock Hill Sheet.....1...of...2...... 1163 Client London Borough of Camden Chainage... Shell & Auger Method of Boring... TQ 28 SE Ground Level......m.A.O.D. Diameter of Borehole....150mm Date.....19/5/87.....20/5/87... Sampling and Description of Strata R.O.D.% Progress (m) Coring Sampling TOPSOIL 0.10 MADE GROUND: Soft, dark brown, very 0.50 0.50 sandy silty CLAY with some brick, (30) glass and flint gravel. MADE GROUND: Firm brown, slightly sandy, silty CLAY with occasional 1.50 19/5 fine to coarse gravel and rootlets. (50) Stiff, laminated, brown (locally 2.50 mottled grey), silty CLAY with (50)occasional pockets of fine sand and fine gravel. 4.00 (50) 5.50 (50) 7.00 (50) 8.50 (603) Stiff, laminated, fissured, grey 9.50 slightly silty CLAY. Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Borehole dry during boring. Undisturbed Ic. C.P.T. X Vane **Λ** Water

Borehole No. Norwest Holst Soil Engineering Ltd. 6 **BOREHOLE LOG** Location Haverstock Hill 1164 Client London Borough of Camden Method of Boring Shell & Auger TP 28 SE Ground Level... Diameter of Borehole. Date....20/5/87... Casing Depth at Sampling and "N"/ Daily R.Q.D.% Progres Description of Strata Coring 10.00 Stiff, fissured, grey slightly silty (60) CLAY, with occasional shell fragments. 11.00 Very stiff, fissured, laminated, grey, slightly silty CLAY. 11.50 (60) 13.00 (70) 14.50 (70) 16.00 (70) 17.50 (70) 18.50 (70) 19.50 End of Borehole. (80) (-) U100 blows Remarks (Observations of Ground Water etc.) Type of Sample Borehole dry. S.P.T. Undisturbed Ic. C.P.T. X Vane △ Water O Jar Weter levels are subject to seasonal or tidal variations and should not be taken as constant

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MADE GROUND: Firm, brown, slightly sandy silty CLAY with some fine to medium brick, flint, sah, glass and sandstone gravel. Becoming less sandy with depth mottled grey from 2.00m.				150mm S	0.50 (30) 1.50	
+	<b>****</b>	3.00		ا ا	2.50	2
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	1000			0	4.00 (50)	
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Stiff, fissured, grey, slightly slity CLAY with occasional shell fragments.	<b>-x</b>				8.50 (60) <sub>jical</sub> Survey	
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Remarks (Observations of G		ter etc.)	,		-) U100 bl	OWS
S.P.T. ■ Undisturbed Ic. C.P.T. × Vane O Jar						

Norwest Holst Soil Engineering Ltd. Borehole No. **BOREHOLE LOG** Contract No. Sheet 2 of 2 Location Haverstock Hill Client London Borough of Camden Chainage.... Shell & Auger TQ28 S€ Method of Boring.. Ground Level.... Date... 21/5/87 Diameter of Borehole......15.0mm Sampling and Description of Strata (m) R.O.D.% Progress Sampling 10.00 Stiff, fissured, grey slightly silty (60) CLAY with occasional pockets of fine sand. 11,50 11.50 Very stiff, laminated, fissured, [60] grey slightly silty CLAY with a little fine sand. 13.00 (60) 14.50 (60) 16.00 (70) 17.50 (70) 18.50 [70] 19.50 End of Borehole. (86) Remarks (Observations of Ground Water etc.) (-) U100 blows Type of Sample Undisturbed Ic. C.P.T. X Vane △ Water

Norwest Holst S	Soil	Eng	inee	ring	Ltd.	Boreh	ole N
Contract No. F7496 BOF Location. Haverstock. H111. Client. London Borough of Camden Method of Boring. She11 & Auger Diameter of Borehole		28 S		Chainage	1 2 2		
Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progre
Tarmac ***	oman oe	0.30				zen uenegica	Surrey
MADE GROUND: Soft, brown/black, slightly sandy, silty CLAY with some cinder ash, brick and sandstone gravel.		1.00		150mm	0.50		
Firm, orange brown, gravelly CLAY with a little sand and silt.  Fine to coarse gravel - of subrounded quartzite.	EAS 6				1.50 (50) ca surve		
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Stiff, fissured, grey, slightly silty CLAY with occasional pockets of fine sand.	1 1 1 1 1 1				8.50 (60) cal Survey		
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APPENDIX D	
Flood Risk Assessment and Drainage Strategy Reports	

# PRICE&MYERS

# Flood Risk & Surface Water Run-off Assessment 32 Glenilla Road, London, NW3 4AN

Prepared by: Jaklin Zankova BEng (Hons)

Reviewed by: Dimitris Linardatos BEng (Hons) MSc CEng MICE FIHE

Date: October 2015

Job No.: 24357

## Revisions

Rev	Date	Ву	Notes
1	27.10.15	DR	Issued for planning
2	25.11.16	JZ	Issued for planning

# PRICE&MYERS

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- 1 Introduction
- 2 Site Description and Location
- 3 Screening
- 4 Scoping & Investigations
- 5 Development Proposals
- 6 Flood Risk Assessment
  - 6.1 Flood Risk from Watercourses6.2 Flood Risk from Groundwater6.3 Flood Risk from Surface Water
- 7 Run-off Assessment
- 8 Conclusions

Appendix A – Topographical Survey Drawings

#### Abbreviations

AOD Above Ordnance Datum
FFL Finished Floor Level
BGL Below Ground Level
EA Environment Agency

NPPF National Planning Policy Framework SFRA Strategic Flood Risk Assessment SUDS Sustainable Drainage Systems



## 1 Introduction

## 1.1 Scope of Work

Price & Myers have been commissioned to compile the Flood Risk and Run-off Assessment to support a Basement Impact Assessment for the proposed redevelopment of 32 Glenilla Road, Camden. The Hydrogeological Assessment and Land Stability Assessment sections of the Basement Impact Assessment have been completed by a specialist geotechnical consultant. This report focuses on the Assessment of Surface Water behavior.

#### 1.2 Purpose of this report

The purpose of this report is to check the relevant history of the site and surrounding area with respect to previous surface water behavior and any flooding incidents. This is followed by an assessment of the possible impact of the proposed development on the local surface water behavior and the risk of flooding. The report will then provide outline solutions for any mitigating actions that can be introduced into the design. An integral part of this process is the preparation of a Flood Risk Assessment (FRA).

This FRA has been carried out in accordance with the National planning Policy Framework (NPPF), along with advice and guidance from the Environment Agency (EA), the London Borough of Camden's Strategic Flood Risk Assessment (SFRA), CIRIA documents and the Camden Geological Hydrogeological and Hydrological Study – Guidance for Subterranean Development.

#### 1.3 The Author

This report has been prepared by Jaklin Zankova, a Civil Engineer with more than three years of experience in drainage design and flood risk assessment.

This report has been reviewed by Dimitris Linardatos, a BEng MSc in Civil Engineering, a Chartered Member of the Institution of Civil Engineers, Member of the British Hydrological Society and Fellow Member of the Institution of Highway Engineers and head of the Civil Engineering team at Price & Myers LLP. Dimitris has over 10 years working experience on major Civil Engineering projects with the focus on Surface Water Management, Underground Drainage and Flood Management.



## 2 Site Description and Location

The site is located on Glenilla Road in the London Borough of Camden (Figure 1). The site is bound by Glenilla Road to the north and existing residential properties to the east, south and west. The site is currently occupied by a single-storey derelict church hall. The topographical survey drawing (Appendix A) shows that the site is generally flat with levels varying across the site from approximately 61.80mAOD on the northern boundary to 61.60m AOD on the southern boundary. The site postcode is NW3 4AN and the grid reference is 527153E, 184858N. Thames Water sewer records show that there is a 381mm diameter combined sewer running north-west to south-east along Glenilla Road (see Figure 2).

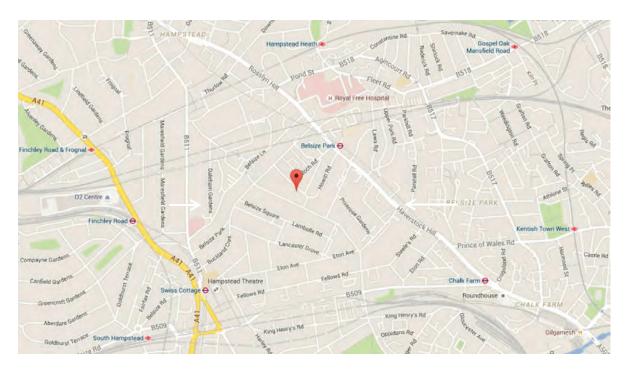


Figure 1 Site Location (Google Maps)



Figure 2 Existing Public Sewers (Thames Water)