conisbee

30a THURLOW ROAD, NW3 5PH

Basement Impact Assessment – Screening and Scoping Report.

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Ref: 120319/HH
Date: 25 June 2012
Rev No: Planning

Norwich Office
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1.0 INTRODUCTION

1.1 It is proposed to construct a new basement and lightwell just off plan to the existing single storey dwelling at 30A Thurlow Road, the roof of which will become a new patio area located of the existing living room, which is proposed to have a new glazed extension. The basement will house two new bedrooms, with a shared light well to provide light, ventilation and emergency access/egress.

1.2 This report is in response to The Camden Development Policy DP27, with reference to para. 27.3., where whilst the proposed development is outside the foot print of the existing dwelling, it is no greater area than the area of the footprint, and is only a single storey's depth, so may well be deemed to be relatively small given it's setting on the site and the much larger accommodations that surround it.

1.3 Following the format guidance in The Camden Policy Guidance PG4, the stages for a Basement Impact Assessment are:

- Stage 1 - Screening; •
- Stage 2 - Scoping; •
- Stage 3 - Site investigation and study; •
- Stage 4 - Impact assessment; and •
- Stage 5 - Review and decision making.

This report follows the Flow Charts and uses the Figurative information given in the Camden Geological, Hydro-geological and Hydrological Study to submit data with relevance to the small scale of this project to address stages 1 and 2.

1.4 The Flowcharts of the Appendix E to the Camden Geological, Hydro-geological and Hydrological Study are completed in table format in section 3 of this report and form the screening element of this report, including:

- Surface Flow and Flooding Impact Identification
- Subterranean (groundwater) Flow Impact Identification
- Slope Stability screening flowchart

1.5 30a Thurlow Road is located with an arrow on the relevant Figures of the Camden Geological, Hydro-geological and Hydrological Study, appended to this report, Appendix A.

1.6 Again reflecting the size of the scheme, a brief scoping report is provided in section 4, to be commented upon by Camden. It is hoped this will satisfy the requirement of DP27 in terms of consideration to the Geological, Hydro-geological and Hydrological effects of the development.

2.0 SITE INFORMATION

2.1 30A Thurlow Road is a single storey dwelling built in the early 1990's on the land that had been known as '30A' for several years, being a vacant plot, presumably formerly grounds to No 30 Thurlow Road. A garage and outhouses were on the plot prior to the present single storey building. The existing construction is cavity walls, and ground beams and piled footings. Investigations will confirm all necessary existing conditions prior to more detailed design.

2.2 Thurlow Road slopes between Eldon Grove and Rosslyn Hill, and as such the present garden of 30A is generally sloped downhill, such that the finished floor level of the new basement will be within some 500mm of the finished floor level of the next adjacent property, 41 Rosslyn Hill. Refer to the proposed sections appended.

2.3 Geological maps of the area highlight the strata as being Claygate member overlying London Clay Formation, this is confirmed by local borehole records from the geological society.

2.4 Whilst there are no obvious signs of movement of the existing property, nor to it's neighbours, uphill to no 30b Thurlow Road, nor downhill to no 41 Rosslyn Hill, the present marshall style-paving and garden wall of the property show signs of movement, presumably due to nearby trees and possibly, for the paving, due to inadequate sub-base being laid at the time. Therefore as part of the proposed development, the garden wall along the Thurlow Road elevation would be strengthened or rebuilt, and new permeable paving laid on a suitable base.

2.5 The nearest property, other than no 30A itself, is 41 Rosslyn Hill, as mentioned in 2.2, some 4.25m away, and therefore would not be undermined by the proposed works.

2.6 Owning to the sloped site, number of mature trees in the vicinity and to effectively support the flank wall of the existing property, it is considered that a piled scheme is the most appropriate. 'Mini' piles should be sufficient for this single storey construction, with the benefit of being relatively quiet, free from vibration and with smaller plant than larger driven or sheet piling.

2.7 Reference to the Environment Agency maps, as well as the maps appended, locate the site away from the ground source protection zones , however within a secondary aquifer as seen on the Environment Agency Map, below and Figure 8, appended.. However this is within the bedrock strata, and as such some 100m + below our site. See Figs 1 & 2 below.

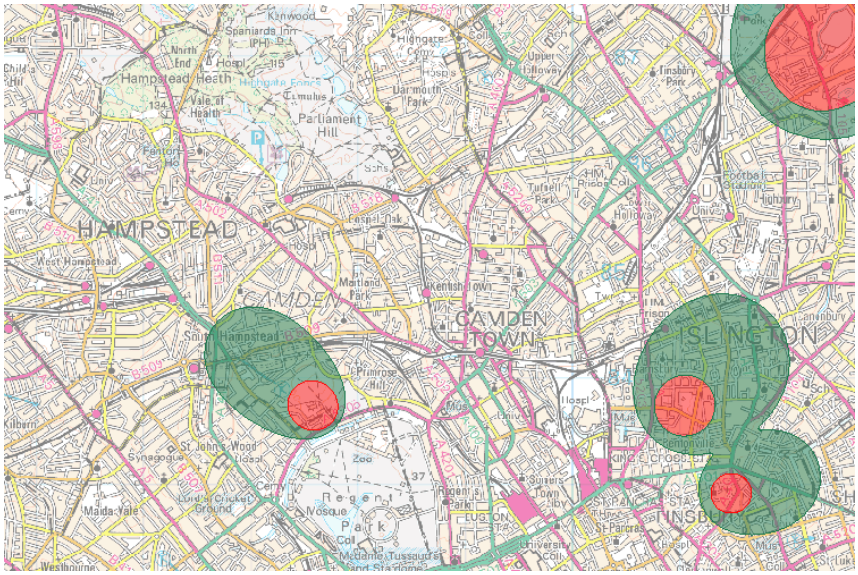


FIG 1. GROUND SOURCE PROTECTION ZONES

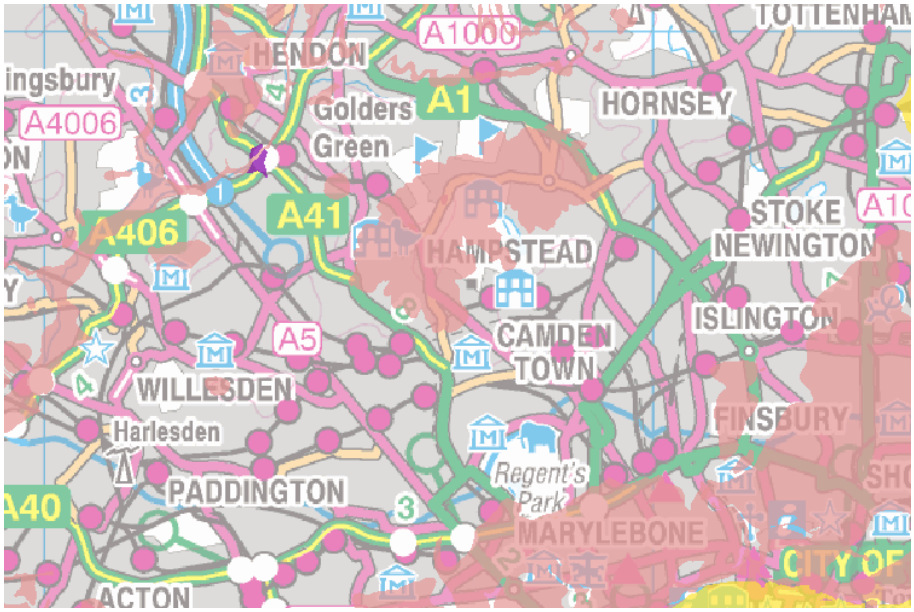


FIG 2. AQUIFER MAP BEDROCK DESIGNATION – PINK IS SECONDARY 'A'

2.8 A Structural Scheme for the basement is appended to this report, Appendix B.

3.0 RESPONSE TO BIA SCREENING FLOWCHARTS

Appendix E : Camden geological, hydrological and hydrology study: Guidance for subterranean development.

3.1	Surface Flow and Flooding Impact Identification	
3.1.1	**Is the site within the catchment of the pond chains on Hampstead Heath?**	**No, refer to Figures 14 & 15 appended.**
3.1.2	**As part of the site drainage, will surface water flows (e.g. rainfall and run-off) be materially changed from the existing one?**	**Not significantly, the hard landscaping with the patio 'roof' of the basement will be larger than present, and as the surrounding soil type is largely clay, soak-aways are of little use, therefore run off from paved areas will be into the drainage system.**
3.1.3	**Will the proposed basement development result in a change in the proportion of hard surface / paved external areas?**	**Yes. The proportion of hard surfaces will be greater, although presently it is likely the existing marshall-style paving of the forecourt will be reinstated, and this area considered permeable.**
3.1.4	**Will the proposed basement development result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?**	**Not significantly, although given a sloped site over impermeable London clay, it is likely the runoff to the rear of No 41 Rosslyn Hill maybe reduced as runoff to the roof of the basement extension will be used for grey-water / put into the drainage system, however these are very small areas and therefore quiet insignificant.**
3.1.5	**Will the proposed basement development result in a change to the quality of surface water being received by adjacent properties or downstream watercourses?**	**No significant change in water quality is expected.**

3.2	**Subterranean (groundwater) Flow Impact Identification**	
3.2.1	**Is the site located directly above an aquifer?**	**The site is over the Secondary A Aquifer, within the bedrock designation which covers the north parts of Camden, which lies under London Clay member, however is not over a source protection zone. Refer to Figure 8, Appended.**
	○ **Will the proposed basement extend beneath the water table surface?**	**The basement area is the claygate member, which is relatively shallow over impermeable London clay, therefore the site will not extend below the water table, however perched water lying over the London clay maybe encountered. As such pumping out in wet weather during construction and the design is to take into account the effects of perched water.**
3.2.2	**Is the site within 100m of a watercourse, well (used/disused) or potential spring line?**	**No, refer to Figure 11,appended**
3.2.3	**Is the site within the catchment of the pond chains on Hampstead Heath?**	**No, refer to Figures 14 & 15 appended**
3.2.4	**Will the proposed basement development result in a change in the proportion of hard surface / paved areas?**	**Yes. The proportion of hard surfaces will be greater, although presently it is likely the existing marshall's style paving of the forecourt will be reinstated, and this area considered permeable.**
3.2.5	**As part of the site drainage, will more surface water ((e.g. rainfall and run-off) than present be discharged to the ground? (e.g. via soak-aways and/or SUDS)**	**No, run off from the existing hard surfaces and new patio roof will be into the sewer system as per the patio run-off presently. London clay is not suitable for a SUDS system, being generally impermeable, although some existing runoff from the granite setts will permeate into the ground as existing.**

3.3	Slope Stability screening flowchart	
3.3.1	**Does the existing site include slopes, natural or manmade, greater than 7 degrees (approx. 1 in 8)?**	**Yes, the existing 'garden' slopes at some 12 degrees down to No 41 Rosslyn Hill. However as the finished floor level is not more than 1m below the FFL of no 41 , the dig will not undermine this property. The proposed construction will be piled, designed to cantilever, so slope instability should not be an issue locally, i.e. to the public highway, and the development seeks to provide a greater about of flatter, more amenable space for the occupants.**
3.3.2	**Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7 degrees (approx. 1 in 8)?**	**No, the slopes at the site boundaries are to remain the same.**
3.3.3	**Does the development neighbour land, including railway cutting and the like, with a slope greater than 7 degrees (approx. 1 in 8)?**	**No, refer to slope angle map Figure 16 appended.**
3.3.4	**Is the site within a wider hill setting in which the general slope is greater than 7 degrees (approx. 1 in 8)?**	**The general Belsize Hill area is sloped, however this is a more gentle slope of 1 in 15-25, when 1:25 000 maps are examined.**
3.3.5	**Is the London Clay the shallowest strata at the site?**	**No – according to the geological long section, viewed in relation to topographical information from an OS Map, it is likely that some 100m of London Clay overlies the thinner Lambeth group. Some 5-20m of Claygate member overlies the London Clay.**

3.3.6	**Will any tree/s be felled as part of the proposed development and/or any works proposed within any tree protection zones where trees are to be retained?**	**No trees are to be felled as part of the proposals, however there is a tree within the site boundary, and as a Conservation Area, this would all be subject to tree preservation orders. It is expected that some 10% of the outer root perimeter will be subject to a 'trim' due to the anticipated piling, this is a generally acceptable amount that should not cause the tree to suffer in the long term. The roots will require temporary protection during construction and we would expect an arboriculturlist to recommend the tree has it's crown reduced prior to start of works on site to reduce stress on it's root system.**
3.3.7	**Is there a history of seasonal shrink-swell subsidence in the local area., and/or evidence of such effects on site?**	**London clay has high shrinkage potential, and the present marshall-style paving shows signs of movement, it is presumed this had a poor subbase when it was laid and has been affected by the nearby street trees. The new development will make good this area on a suitable base.**
3.3.8	**Is the site within 100m of a watercourse or potential spring line?**	**No, refer to Figure 11.**
3.3.9	**Is the site within an area of previously worked ground.**	**Limited, having been garages on the site prior to the single storey property. Pile locations will need to be probed.**
3.3.10	**Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?**	**The site is over the Secondary A Aquifer, within the bedrock designation which covers the north parts of Camden, which lies under London Clay member, however is not over a source protection zone. Refer to Figure 8, Appended.**

		Being still shallow, the basement will not be below the water table, however it is possible with inclement weather, that perched water might affect the construction, therefore dewatering may be required.
3.3.11	**Is the site within 50m of Hampstead Heath?**	**No, as indicated on most of the appended maps.**
3.3.12	**Is the site within 5m of a Highway or pedestrian right of way?**	**No, the development and existing property is 5m from the property boundary, with a 2.5-3m public pavement between the boundary masonry wall and road surface.**
3.3.13	**Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties.**	**No, the basement is some 4.25m from it's nearest neighbour (41 Rosslyn Hill), and the base of the slab will be approx 1m below the ground level of the rear of this property.**
3.3.14	**Is the site over (or within the exclusion zone of) any tunnels, e.g. railways lines?**	**No. The North London Line running between Hampstead & Finchley Road runs under Eldon Grove, however this is over 50m from the site.**

4.0 SCOPING

4.1 The screening undertaken as observations in reply to the flowcharts above highlights only items concerning the slope of the site and slight surface water alterations due to an increased amount of hard surfacing.

4.1.1 *Slope.* The slope of the site in this case benefits the proposals in that the neighbours' ground floor to one side, no 41 Rosslyn hill, the nearer neighbour, is at a very similar level to the proposed 'basement' equivalent to the neighbour uphill, but much further away, no 30b Thurlow Road. Thereby the dig of the basement will undermine neither of its neighbours, and the original house, being a piled construction will also need more limited propping than more a traditional strip footing would. However, owing to nearby trees and the highly shrinkable subsoil, a piled foundation is proposed to enable a 'top down' form of construction so that the sides of the excavations may well be held in place with the piled wall and ring beams prior to the dig.

4.1.2 *Hard surfacing.* The increase in hard surfacing is approx 20% of the existing impermeable area of the site, which will still be mainly bounded by permeable paving and open garden areas. It is thought that the (reduced) flow downhill to 41 Rosslyn Hill and surrounds would be negligible owing to evaporation and transpiration. It is suggested that some runoff could be into planters and tanks for grey-water use to reduce additional flows into the sewerage system.

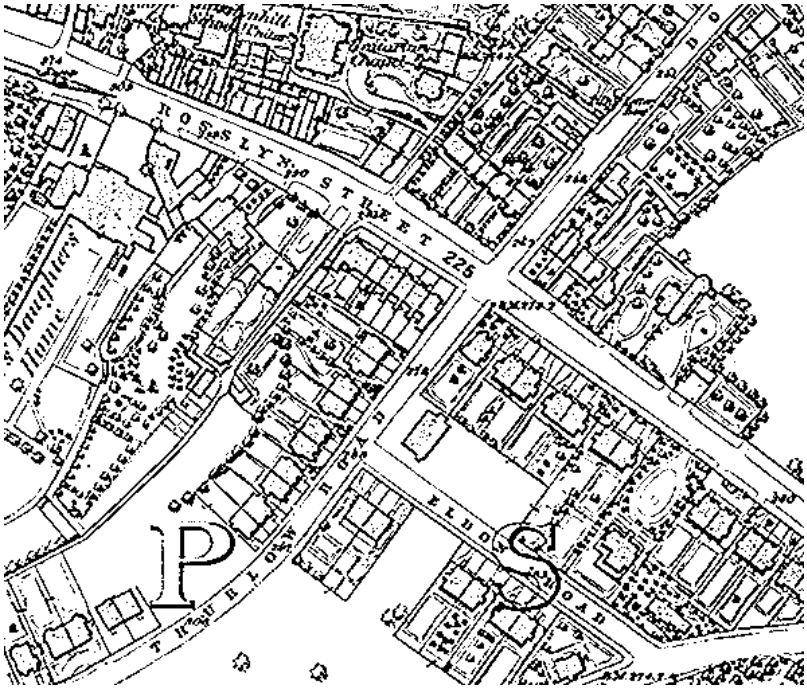
4.2 In conclusion, it is considered that there are no negative impacts anticipated in this basement proposal on the hydro-geological and hydrological conditions of the local environment that cannot be suitably addressed in the detailed design of this proposal.

H. M .Hawker
MSc BEng (Hons) CEng MIStructE

APPENDIX A

- OS MAPS 1866 & 1894

– FIGURES FROM THE CAMDEN GEOLOGICAL, HYDROGEOLOGICAL AND HYDROLOGICAL STUDY WITH 30A THURLOW ROAD LOCATED.



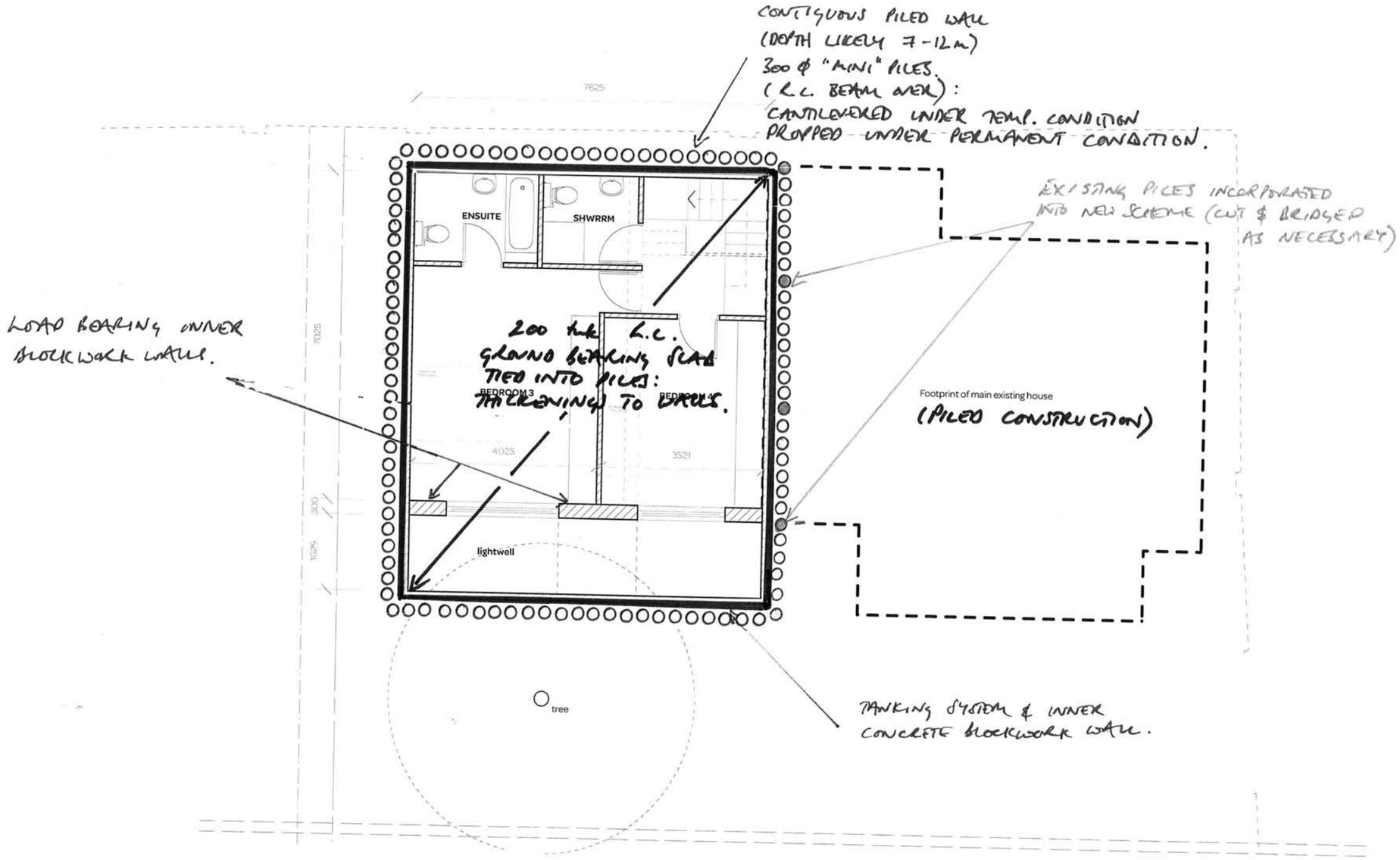
Part OS Historical Map No 27 - Hampstead 1866

Part OS Historical Map No 27 – Hampstead 1894

APPENDIX B

– STRUCTURAL SCHEME

This drawing must be read in conjunction with the specification and all other relevant drawings. Do not scale from this drawing.



NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
P2	25.06.12.	NOTES ADDED.	HH	HH

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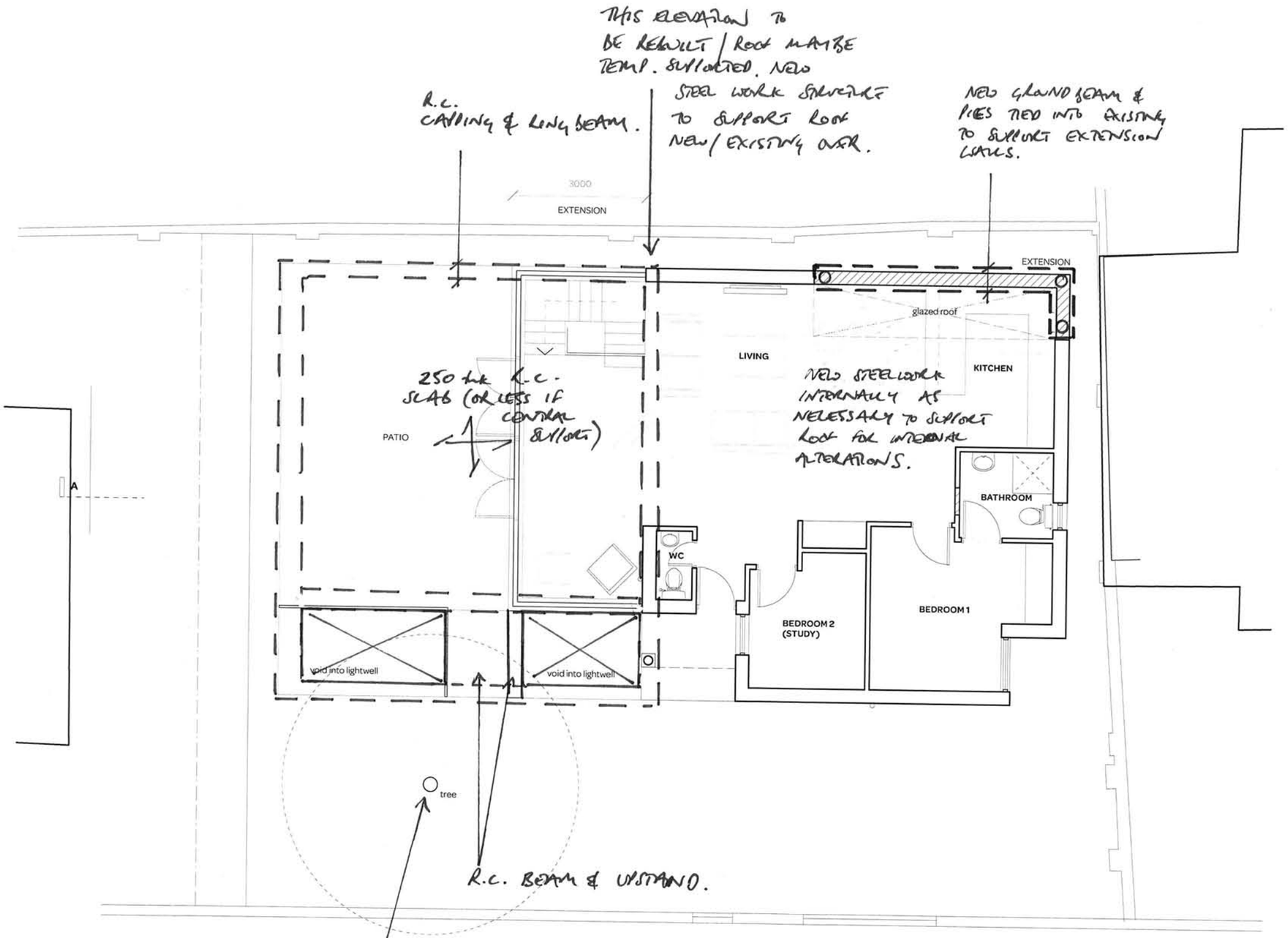
Project
30A THURLOW ROAD

Title
STRUCTURAL SCHEME
BASEMENT PLAN

Drawing Status		Project No
PRELIMINARY		120319
Date	Drawn	Drawing No
JUNE 2012	HH	S100
Scale	Engineer	Revision
1:100@A3	HH	P2



ADVICE FROM ARBORICULTURIST TO BE SOUGHT: TREE CUT BACK (CROWN REDUCTION) PRIOR TO WORKS TO ENABLE ROOTS TO BE TRIMMED CLEANLY WITHOUT DETRIMENT TO THE TREE.

NOT FOR CONSTRUCTION

P2 25.06.12 NOTES ADDED. HH HH.

Rev	Date	Description	Drawn	Check

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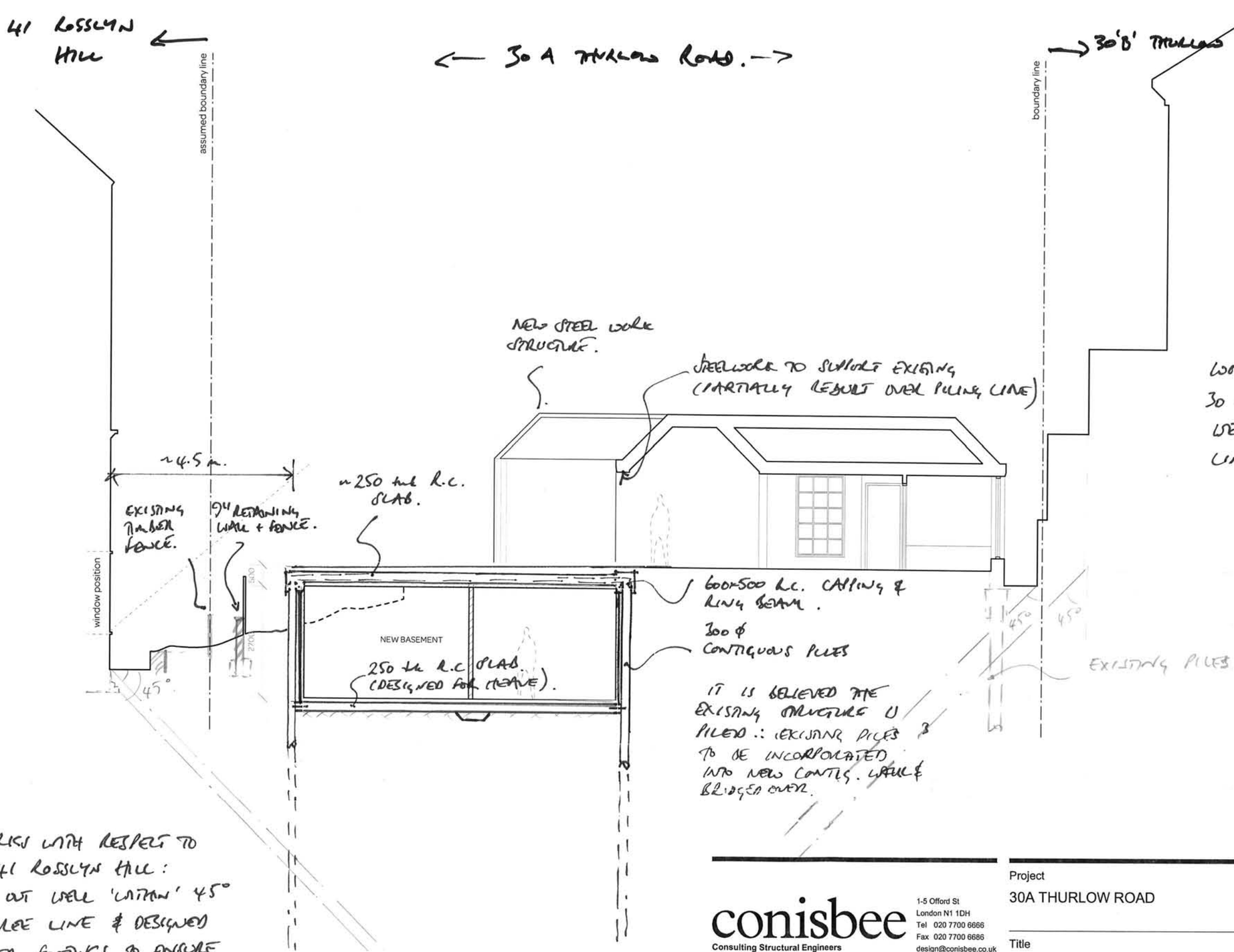
Project
30A THURLOW ROAD

Title
STRUCTURAL SCHEME
GROUND FLOOR PLAN

Drawing Status		Project No
PRELIMINARY		120319
Date	Drawn	Drawing No
JUNE 2012	HH	S101
Scale	Engineer	Revision
1:100@A3	HH	P2



WORKS WITH RESPECT TO Nº 41 ROSSLYN HILL: DIG OUT WELL 'WITHIN' 45° DEGREE LINE & DESIGNED PILED FOOTINGS TO ENSURE NEGLIABLE CHANGE IN SOIL PRESSURES.

NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
P2	26.06.12	EXISTING STRUCTURE AD.	HH	HH

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Project
30A THURLOW ROAD

Title
STRUCTURAL SCHEME
PROPOSED SECTION

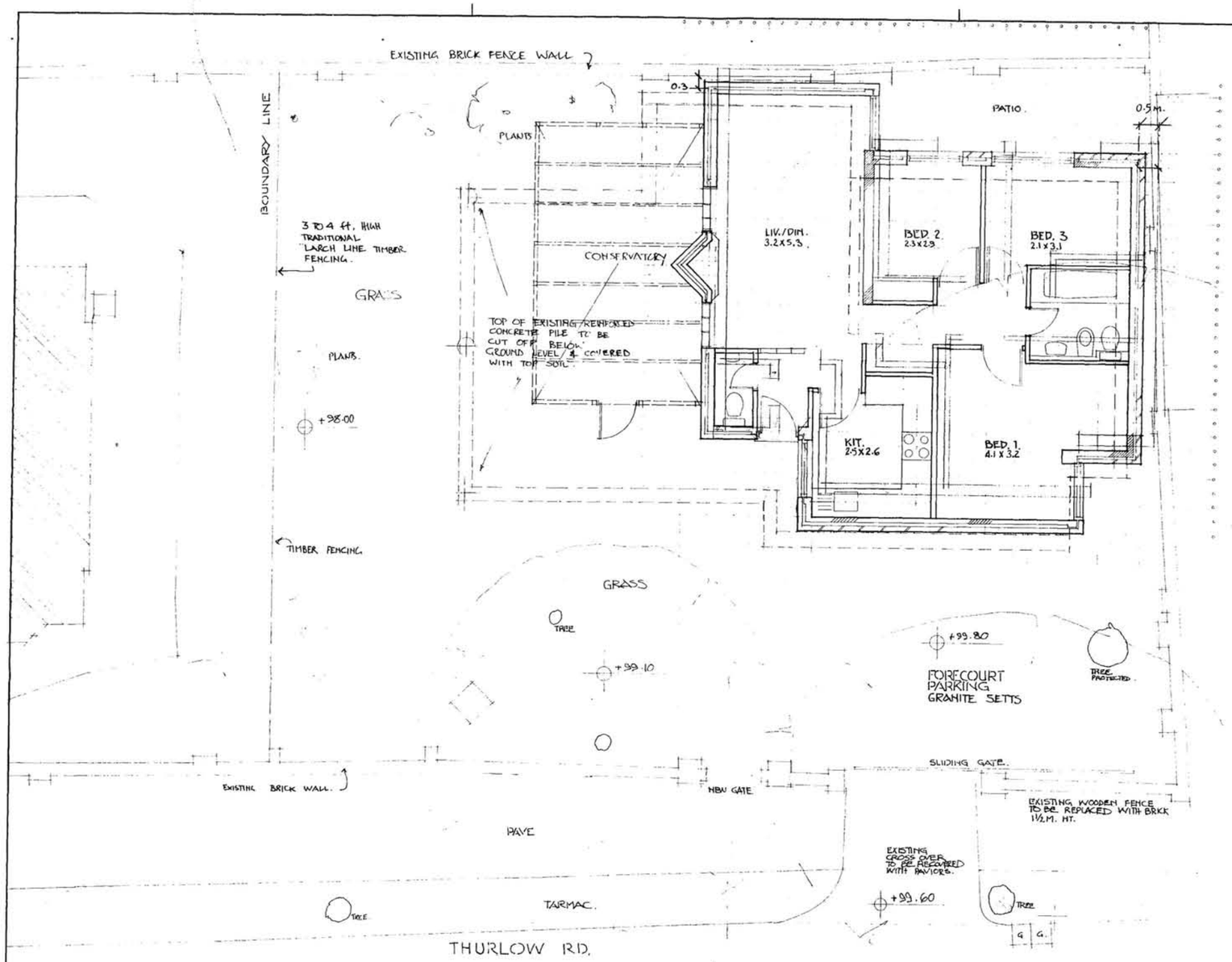
Drawing Status	Project No
PRELIMINARY	120319
Date: JUNE 2012 / Drawn: HH	Drawing No: S200
Scale: 1:100@A3 / Engineer: HH	Revision: P2

APPENDIX C

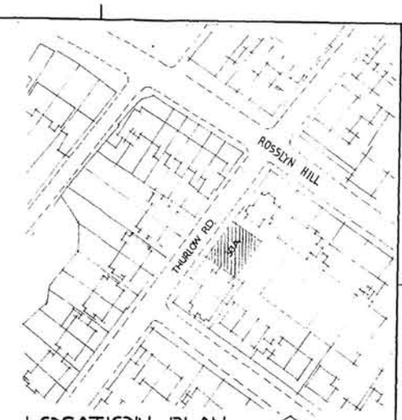
ADDITIONAL SITE INFORMATION:

-PLAN FROM ’88 OF THE PRESENT SITE

- GEOLOGICAL DATA FROM BOREHOLE LOG NEAR THE JUNCTION OF ARUTHER ROAD/FITZJOHN AVE (SOURCE: BRISITSH GEOLOGICAL SURVEY)



SITE PLAN
SCALE 1 : 50



LOCATION PLAN
SCALE 1:1250 NORTH

PLAN A

THIS PLAN RELATE TO PLANNING PERMISSION DATED 6-5-1978 RENEWED 22-6-83.

PLAN B

THIS PLAN RELATE TO PLANNING PERMISSION DATED 9-1-89 (SECRETARY OF STATE , ON APPEAL , GRANTED PLANNING PERMISSION TO BUILD A LARGER HOUSE).

PLAN C

CONSTRUCTION PLAN

NOTES

LEVELS ARE REFERRED TO AN ARBITRARY DATUM (TBM) INSTALLED ON CURB AT SOUTH EAST CORNER OF SITE ARBITRARY DATUM (TBM) IS ASSUMED TO BE AT + 100M.

REVISIONS

		date / initial
A	ISSUED FOR BUILDING APPROVAL	7.6.88.
1	EXTENSION OMITTED	16.11.89
2	ISSUED FOR CONSTRUCTION.	14.6.90
3	ISSUED TO PLANNING OFFICE & BUILDING INSPECTOR.	24.5.90
4.	LANDSCAPING DETAILS ADDED NOTES ADDED & RE ISSUED TO PLANNER.	5.6.90
5.	CONSERVATORY ADDED (PROPOSAL)	25.11.91

Parvardin Associates
9 Cavendish Square London W1 9DD

drg. no. 701 (-02) -01 revn. 5

P9101335

NEW HOUSE ADJACENT 30A THURLOW RD. N.W.3.

title
LOCATION & SITE PLAN.

scale 1:1250 / 1:50 drawn M.P.
date MAY 88 checked

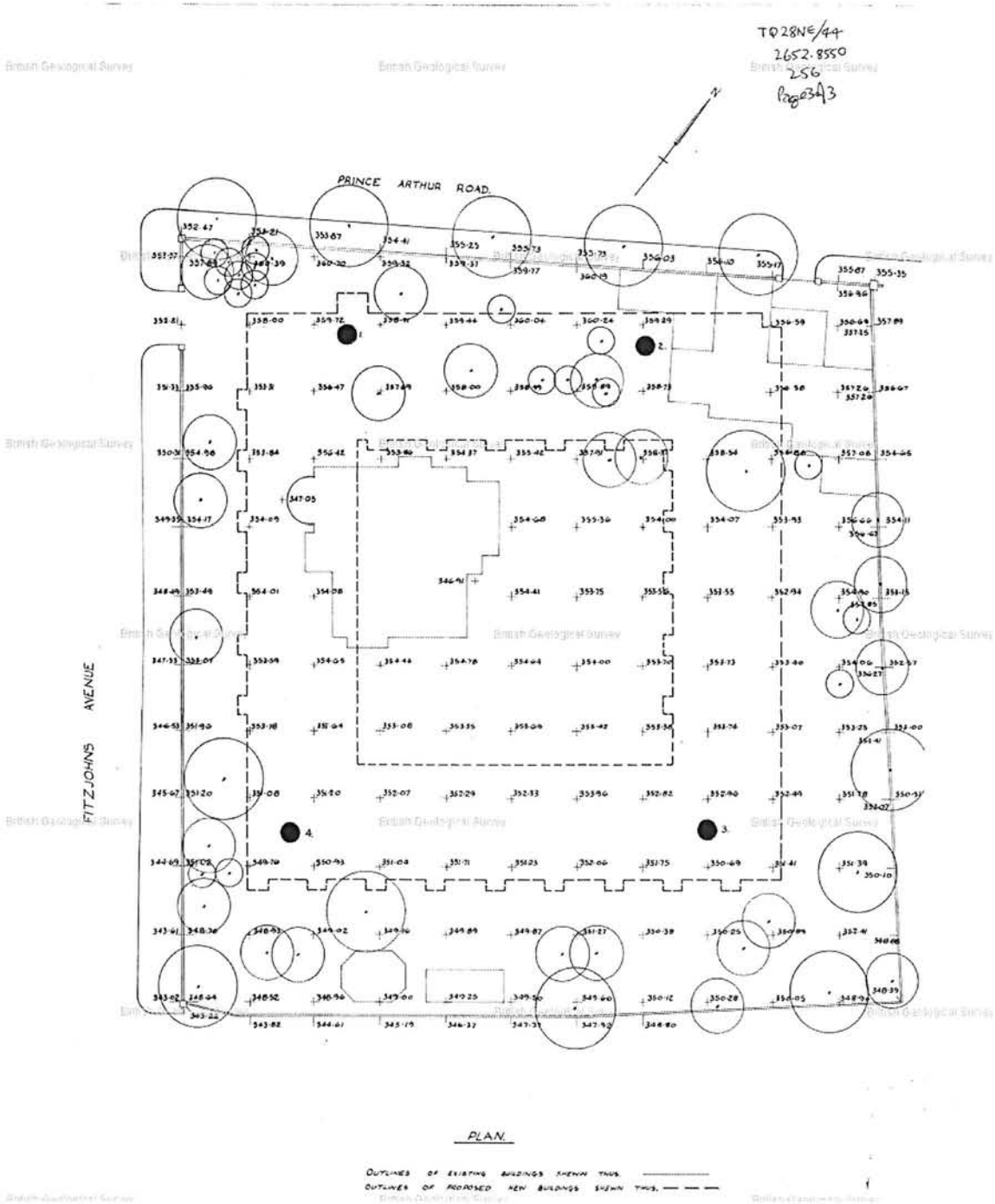
701 (-02) -01 drg. no. 5 revn.

A1

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Report an issue with this borehole

- <<
- < Prev
- Page 1 of 3
- Next >
- >>



ARTHUR ROAD / FITZJOHN AVE.

TQ 28 NE/44

2652.8550

256

Page 1 of 5

BOROUGH OF HAMPSTEAD.

CHARLES E. JACOB
A.R.I.B.A.
CHARTERED ARCHITECT

HOUSING ARCHITECT

TELEPHONE: HAMPSTEAD 7171/EXT. 131

HOUSING ARCHITECT'S DEPARTMENT,
222, HAVERSTOCK HILL,
N.W.3.

YOUR REF.

MY REF. MW/PA. P/43

11th December, 1963.

Rec'd by me 12 Dec. '63

The Director,
Geological Survey & Museum,
Exhibition Road,
South Kensington, S.W.7.

Dear Sir,

102, Fitzjohn's Avenue. N.W.3.

I refer to Circular No.18/62 from the Ministry of Housing and Local Government and enclose copies of the following documents, for your information, giving details of the trial boreholes that were sunk on this site during July 1963:-

1/1250 O.S.Sheet showing the location of the site
Drawing No.899/4 showing the position of the boreholes on the site.

The following deposits were encountered in the boreholes:-

No.1 Boring	Thickness	Depth below surface.
Topsoil	3'0"	3'0"
Brown fine sand with a little silt and small clay pockets	14'0"	17'0"
Stiff to very stiff laminated grey sandy clay and brown silty fine sand	13'0"	30'0"
Total from surface	30'0"	30'0"

No.2 Boring	Thickness	Depth below surface.
Made ground (sand, ashes, stones etc.)	2'0"	2'0"
Yellow/brown fine sand with a little silt and small clay pockets	15'6"	17'6"
Stiff laminated grey sandy clay and orange/ brown silty fine sand	12'6"	30'0"
Total from surface	30'0"	30'0"

/contd:

TQ28NE/44
2652 8550
256.

The Director,
Geological Survey & Museum

Continuation Sheet No.1. Page 2 of 3

No.3 Boring 435' OD (= 106.98 m)

		Thickness	Depth below surface.
	Topsoil	2'6"	2'6"
Bagshot Beds	Stiff laminated grey sandy clay and brown silty fine sand	11'6"	14'0"
	Yellow/brown silty fine sand, clayey at some levels	19'0"	33'0"
Claygate Beds	Coarsely laminated grey sandy clay and orange/brown silty sand	4'0"	37'0"
	Brown silty very fine sand with trace of clay	3'0"	40'0"
	Total from surface	40'0"	40'0"

No.4 Boring 1950

	Thickness	Depth below surface.
Made ground (clayey sand, gravel, topsoil, etc.)	3'6"	3'6"
Sandy clay with stones	1'0"	4'6"
Firm to stiff laminated grey sandy clay and silty fine sand	15'6"	20'0"
Total from surface	20'0"	20'0"

Yours faithfully,

B.B. Jacob.

Housing Architect.

Encls: