BASEMENT IMPACT ASSESSMENT
for a site at
34 CONYER'S ROAD, STREATHAM, SW16 6LT
for
MR. MICHAEL A WILLIAMS

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4 De Frene Road, London, SE26 4AB

Project No: 2231
Report ref: 2231-BIA-1
Issued: 8 March 2022
Revision:

CONTENTS

1 EXECUTIVE SUMMARY

Musa Cicek, on the behalf of Mr. Michael A. Williams, requested a ground and hydrological condition report for a site at 34 Conyer's Road, Streatham, SW16 6LT. The purpose of the report is to assess the potential impact of the proposed basement development.

The proposed development is for the basement extension of an existing detached residential property.

Groundwater was recorded in only one of the nearby British Geological Society boreholes, based on this information groundwater is considered to be greater than 3.5 m bgl. It is therefore considered that the proposed basement is unlikely to extend beneath the water table surface. However, due to the possibility of a higher water table due to seasonal variations and high rainfall the proposed basement structure should be adequately protected against groundwater ingress or backing up.

It is considered that the property is not at significant risk of flooding and that surface water can be managed by the measures proposed herein.

2 BRIEF

The purpose of the report is to provide information to address the following:

1. Whether site is located above an aquifer;

2. Whether the proposed development will extend beneath the water table surface or whether it is located within 100m of water course;

3. Explain how the development will impact on flooding and drainage, including what prevention measures will be taken to reduce the risk of flooding of the basement itself and neighbouring properties;

4. Demonstrate by methodologies appropriate to the site that schemes maintain the structural stability of the building and neighbouring properties;

5. Demonstrate that the residential amenity of adjacent occupiers will be respected, particularly during construction process;

6. Illustrate what construction methods will be used including how noise, disruption, and vibration to neighbouring properties will be minimised.

3 SITE SETTING

3.1 Location

The site is located at approximate grid reference 529584 171144, approximately 19m south of the junction between Fairmile Avenue and Conyers Road.

The site and surrounding area gently slope down to the southwest The site lies approximately 37m Above Ordnance Datum (AOD).

3.2 Description

The site is approximately rectangular shape in plan with and covers an area of approximately 0.1 ha. The property is currently residential. The majority of the surrounding area is residential housing.

4 GROUND CONDITIONS

4.1 Geology

Reference to the British Geological Survey map viewer shows the site to be underlain by superficial deposits comprising Clay, Silt, Sand and Gravel described as Head.

The superficial deposits are underlain by bedrock comprising Clay and Silt descried as The London Clay Formation.

It is anticipated that the basement level will be founded within the superficial Head deposits due to the recorded 7m thickness of the deposits.

A summary of the borehole records is tabulated below. The full borehole records are contained within appendix E.

BGS or GOCLS Reference	Distance & Direction	Strata		Groundwater Depth BGL (m)
		Description	Depth (m)	
TQ27SE511	63m NE	Made Ground	0.5	None Recorded
		Clay bound gravel	0.9	
		Sandy Clay	1.3	
		Orange Brown mottled sandy clay	4.7	
		Brown clayey sandy flint gravel	5.8	
		Orange brown sandy clay with gravel	7	
		Grey Brown clay with some sand, silt, claystone bands – London Clay	54	
		Dark Grey clay with shell fragments	54.5	
		Brown, green, gray, purple mottle W.R. Clay	59.1	
TQ27SE144	80m SE	FILL (tarmac, chalk fragments)	0.76	None Recorded
		Firm brown sandy CLAY with gravel and fragments of sandstone	1.98	
		Dense to very dense brown sandy flint GRAVEL	4.9	
		Stiff fissured brown silty CLAY (London Clay)	9.3	
TQ27SE510	150m S	Made Ground (clay, gravel, flints)	1	None Recorded
		Rusty brown sandy flint gravel	3.2	
		Light brown very gravely clay	4	

BGS or GOCLS Reference	Distance & Direction	Strata		Groundwater Depth BGL (m)
		Description	Depth (m)	
		Stiff brown laminated clay with blue mottling and wood fragments	6.8	
		Stiff grey brown clay with some silt, sand, claystone, pyrite, shells and black flint gravel (London Clay)	58	
		Highly coloured mottled clay becoming sand towards the base (W.R. Clay)	66	
		Blue grey clayey sand with some gravel and shells	67	
		Blue grey clayey sand with gravel	75.3	
		Black silty sandy flint gravel	75.5	
		Chalk with Flints	80	
TQ27SE145	158m S	Top soil	0.76	None Recorded
		Stiff brown sand silty CLAY with gravel	2.1	
		Very dense brown sandy GRAVEL (Taplow Gravel)	3.8	
		Firm to stiff laminated brown silty CLAY (London Clay)	6.4	
		Stiff, becoming very stiff, laminated grey silty CLAY	12.2	
TQ27SE141	182m NE	FILL (gravel, clay and brick)	1.8	"Groundwater was first encountered at 14ft (4.2m) and then again at 23ft 6in (7.2m)"
		Brown clayey medium to coarse GRAVEL	2.3	
		Stiff brown silty or sandy silty CLAY with occasional medium gravel	7.6	
		Stiff, becoming very stiff, laminated fissured grey silty CLAY (London Clay)	18.75	

BGS or GOCLS Reference	Distance & Direction	Strata		Groundwater Depth BGL (m)
		Description	Depth (m)	
TQ27SE142	189 N	Made Ground (Asphalt, Concrete)	0.86	None Recorded
		FILL (Brown sandy clay with gravel and brick)	2.4	
		Stiff, red-brown sandy CLAY with flint gravel	7	
		Very dense brown sandy medium GRAVEL	9.1	
		Stiff, becoming very stiff, fissured laminated grey silty CLAY (London Clay)	18.3	
1222 - BH1	230 NE	Dark Brown Silty TOP SOIL	0.3	None Recorded
		Mid Brown Silty CLAY	5	
1222 – BH2	230 NE	Dark Brown Silty TOP SOIL	0.4	None Recorded
		Mid Brown Silty CLAY	0.8	
		Gravelly CLAY	1.10	
		Mid Brown Silty CLAY contaminating Grey Mottling and Sand packets	4	
1222 – BH3	230 NE	Dark Brown Silty TOP SOIL	0.4	None Recorded
		Mid Brown Silty CLAY	1.5	
		Mid Brown/Orange Sandy CLAY	2.2	
		Mid Brown Sandy CLAY containing Grey Mottling	2.6	
		Mid Brown Silty Clay containing Grey Mottling	4	
TQ27SE209	377 NE	Made Ground (Concrete and brick)	2	None Recorded
		Stiff brown mottled clay	6.9	
		Stiff to very stiff brown fissured clay with crystals	11.2	
		Stiff to very stiff blue fissured clay	18.3	

BGS or GOCLS Reference	Distance & Direction	Strata		Groundwater Depth BGL (m)
		Description	Depth (m)	
TQ37SW281	526 E	Soft silty grey CLAY	1.52	None Recorded
		Brown, blue CLAY	18.69	
		Blue CLAY	11.74	
		Claystone	12.19	

4.2 Hydrogeology

The only borehole which recorded groundwater was constructed at a property situated at the junction of Mitcham Lane and Conyers Road, approximately 182m northeast of the site and at an elevation of approximately 39m Above Ordnance Datum. This borehole shows made ground over gravels and London Clay. The log records "Groundwater was first encountered at 14ft (4.2m) and then again at 23ft 6in (7.2m)". It would appear that the groundwater first encountered was perched groundwater.

The ground level at site is approximately 37.0m above Ordnance datum, this is 2m lower than the ground level of the Mitcham Lane junction borehole. Therefore groundwater might be anticipated at lesser depth than the 4.2m recorded at the borehole.

The Environment Agency maps show the site to be located over a Secondary Undifferentiated Aquifer in the superficial or drift deposits, in the bedrock they show the site to be over an Unproductive Strata.

Secondary Undifferentiated Aquifer has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The Environment Agency maps show the site to be located within a source protection zone, SPZ1 of a borehole abstraction point.

The Environment Agency define a zone according to how the groundwater behaves in that area. From this a model of the groundwater environment is developed on which to define the zones.

Groundwater source catchments are divided into three zones:

SPZ1 – Inner protection zone

Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres.

SPZ2 – Outer protection zone

Defined by a 400 day travel time from a point below the water table. This zone has a minimum radius of 250 or 500 metres around the source, depending on the size of the abstraction.

SPZ3 – Source catchment protection zone

Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source. In confined aquifers, the source catchment may be displaced some distance from the source. For heavily exploited aquifers, the final Source Catchment Protection Zone can be defined as the whole aquifer recharge area where the ratio of groundwater abstraction to aquifer recharge (average recharge multiplied by outcrop area) is >0.75.

4.3 Hydrology

The closest water course to the site would appear to be the River Graveney which is approximately 915 metres to the southwest at the nearest point

The Environment Agency maps show the site is not located within a flood zone.

The Lambeth Strategic Flood Risk Assessment does not record any incidents of groundwater flooding in the vicinity of the site.

5 FOUNDATIONS

5.1 Design

An intrusive geotechnical investigation will be undertaken to provide detailed information about the engineering nature of the ground, in order to allow the most suitable foundations in terms of suitability, safety and performance to be designed. This should follow the recommendations of BS 5930, the Code of Practice for site investigations with tests carried out to satisfy the requirements of BS 1377, the Code of Practice for methods of tests for soils for civil engineering purposes. It is recommended that this includes testing for sulphates.

Design of the proposed development structures and temporary works will be undertaken by a qualified structural or civil engineer.

5.2 Foundation Options

It is understood that the proposed development is for the construction of a new dwelling with a basement.

The main factors which will control the type of foundation used on this site will be the thickness of Made Ground present across this site and the bearing capacity of the underlying Clay, Silt, Sand and Gravel (Head). Made Ground is an inherently variable material and foundations should not be based in this material as the composition of the soil may vary wildly across the site. Foundations should be taken at least 300mm past any Made Ground to ensure natural ground is encountered.

The underlying Clay, Silt, Sand and Gravel would normally be adequate to support normal strip foundations. In this instance piled foundations may be more appropriate, this decision will be made by the designer.

5.3 Ground Conditions & Construction

Information available for this report would indicate that excavations on this site are likely to be affected by water inflows, with the groundwater levels likely to be at a depth of 2.2 – 5.2m bgl or greater. However, considering the site has an elevation of 37.0 m O.D, and the ground level of the only borehole that encountered groundwater is approximately 39m

O.D and 182m from site, it is considered likely that groundwater will be encountered below the depth of the finished basement (>3.5m).

Temporary support should be installed for all excavations where collapse is to be avoided, with heavy duty closed shoring in excavations below 1.20m where construction workers access is required or the integrity of any buildings could be affected.

A suitably qualified person must inspect all foundation excavations prior to the placing of any concrete or reinforcement.

It is envisaged that the basement extension constructed in such a way as to minimise noise, disruption, and vibration to neighbouring properties. Noise protection measures will be adopted as appropriate.

5.4 Piled Foundations

If piled foundations are adopted for the retaining walls, then the piled foundations should be taken through any Topsoil or Made Ground, and disturbed or desiccated ground, below any roots and into the underlying stratum.

The construction of a piled foundation is a specialist job, and the advice of a reputable contractor, familiar with the type of ground and groundwater conditions encountered on this site, should be sought prior to finalising the foundation design, as the actual pile working load will depend on the particular type of pile and method of installation.

Driven piles will not be used due to the disturbance caused, continuous flight auger or similar vibration free and relatively quiet method is recommended.

5.5 Adjoining or Nearby Buildings

The basement and temporary works will be designed so as to provide the same support as is currently enjoyed by adjoining or nearby properties.

6 DRAINAGE

The proposed development will be designed to manage surface water run-off and to prevent ingress of water to the development.

It is considered that groundwater is likely to be below the proposed basement level.

However given the level of information available a precautionary approach has been adopted in relation to potential impact on neighbouring properties. Design of the subsurface structure should therefore include measures to reduce backing up of groundwater around the structure. An appropriately qualified and experienced engineer should be used to provide appropriate solutions, which might include, for example, gravel drainage blankets below and/or around the sub-surface structure. These are standard measures widely implemented in such situations and if correctly designed and constructed there should not be any significant groundwater back up around the new basement.

The following methods of surface water management will be considered and where practicable implemented:

- Rainwater butts
- Permeable paving to external areas at ground level
- Point or surface soakaways or land drains
- On-site attenuation

7 CONCLUSIONS

The site is located over a Secondary Undifferentiated Aquifer in the superficial or drift deposits, in the bedrock they show the site to be over an Unproductive Strata.

The closest water course to the site would appear to be the River Graveney which is approximately 915 metres to the southwest. Groundwater was recorded in only one of the nearby British Geological Society boreholes, based on this information groundwater is considered to be greater than 3.5 m bgl.

It is therefore considered that the proposed basement is unlikely to extend beneath the water table surface. However, due to the possibility of a higher water table due to seasonal variations and high rainfall the proposed basement structure should be adequately protected against groundwater ingress or backing up.

The mitigation measures described in section 6 will ensure there is minimal impact on flooding and drainage, together with appropriate drainage design these will reduce the risk of flooding of the basement itself and neighbouring properties.

An intrusive geotechnical investigation will be undertaken to provide detailed information about the engineering nature of the ground, in order to allow the most suitable

foundations in terms of suitability, safety and performance to be designed. Design will be by a qualified structural or civil engineer to ensure that schemes maintain the structural stability of the building and neighbouring properties.

A method statement will be prepared by the contractor prior to commencement with specific details of measures to protect the residential amenity of adjacent occupiers during the construction process;

It is envisaged that the basement extension will be excavated by hand, thereby minimising noise, disruption, and vibration to neighbouring properties. If piles are required driven piles will not be used due to the disturbance caused, continuous flight auger or similar vibration free and relatively quiet method is recommended.

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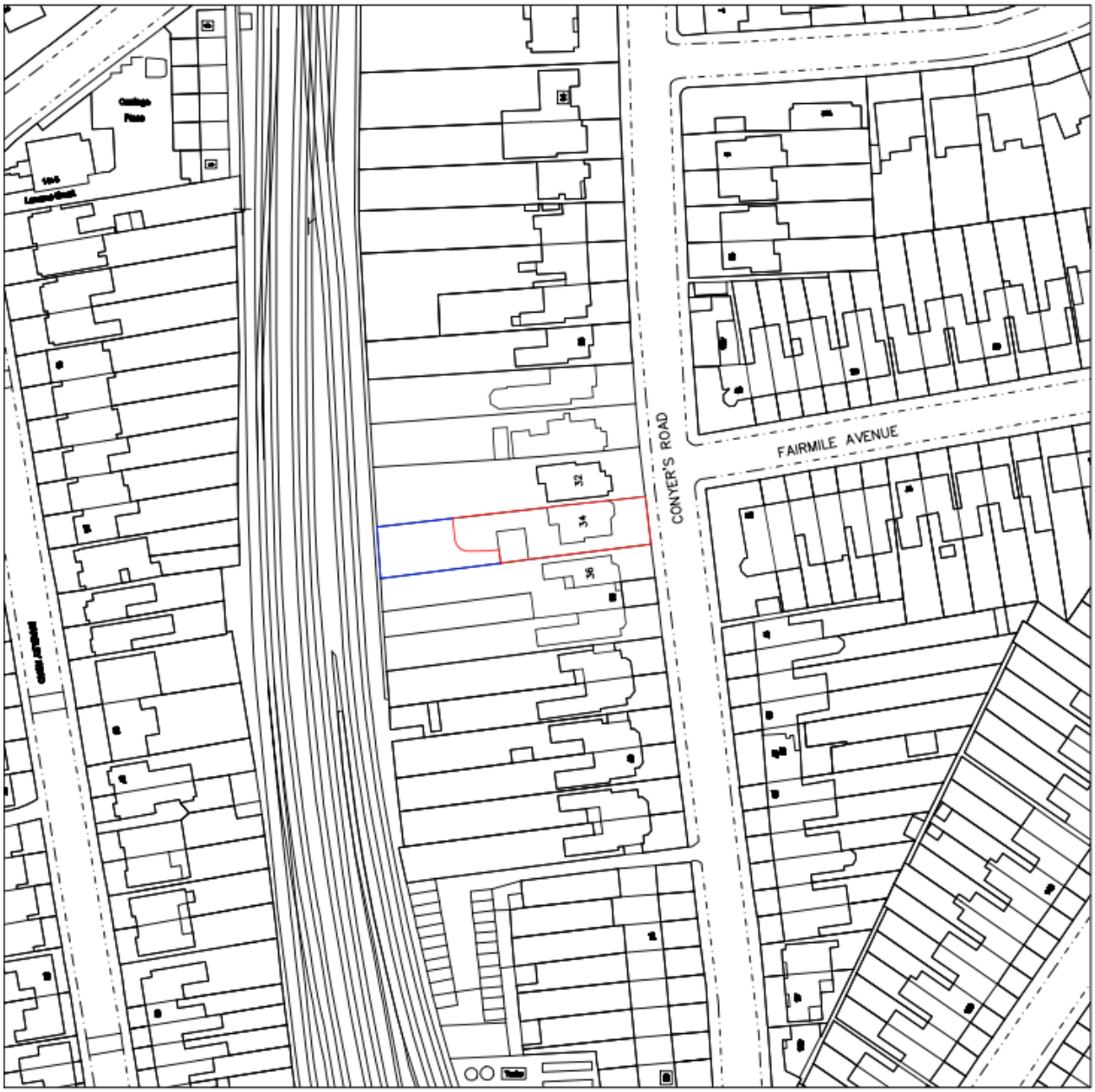
Appendix A – Site Location Plan



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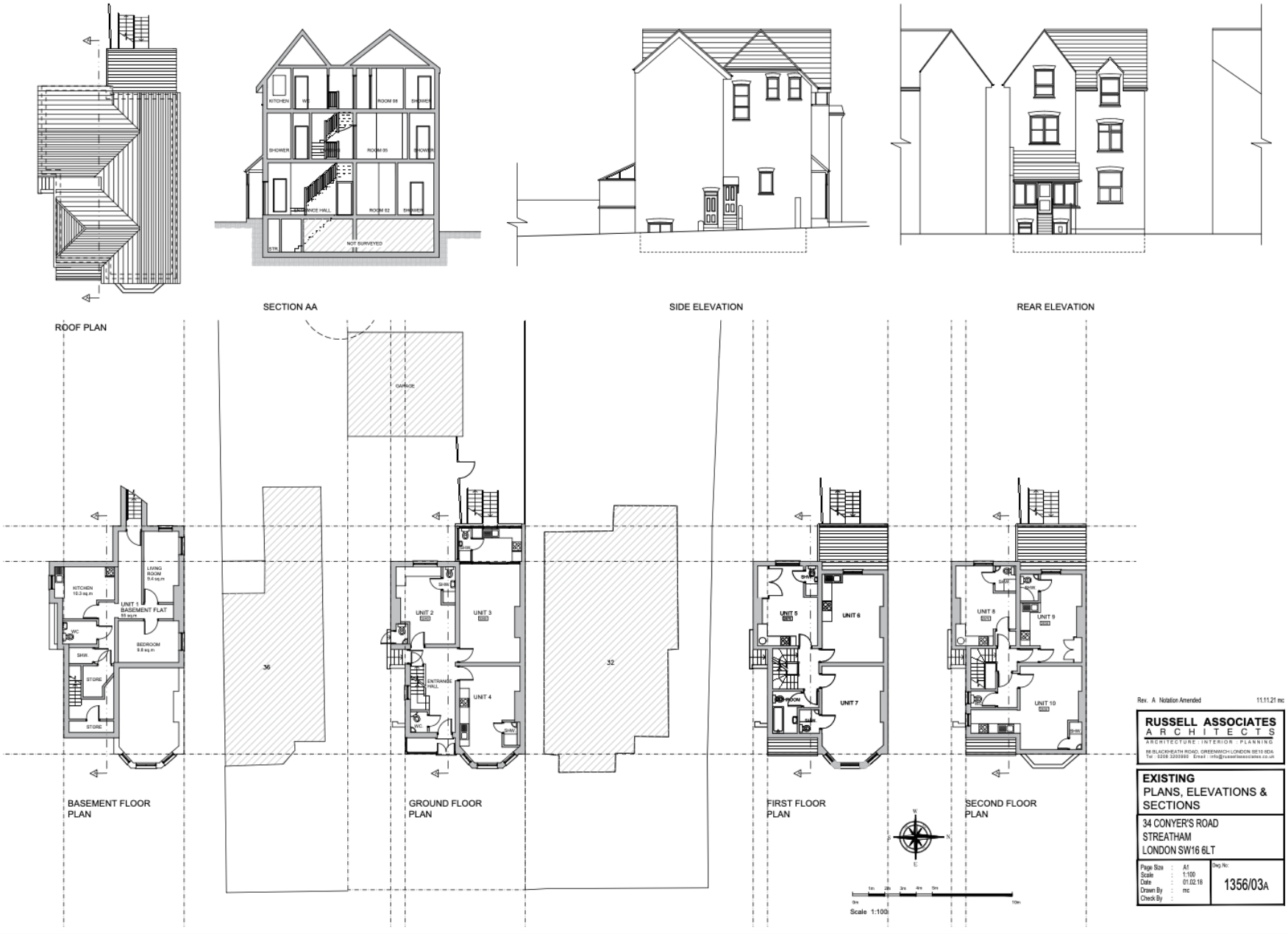
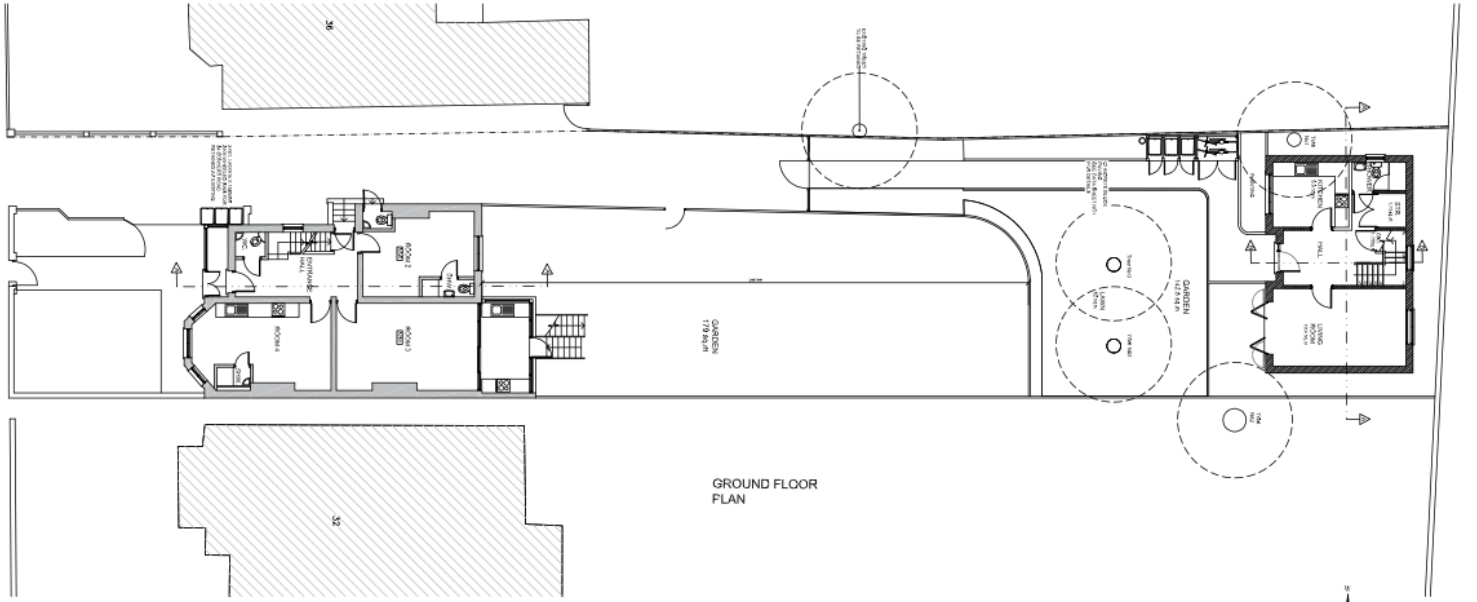
Appendix B – Existing Site Drawings



2231-BIA-1: 34 Conyer's Road, Streatham
Mr. Michael A Williams

SITE SECTION



GROUND FLOOR
PLAN

Scale 1:100

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ARCHITECTURE : INTERIOR : PLANNING
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EXISTING
Ground Floor Plan and Site Sec. with the New House at The Rear

REAR OF
34 CONYER'S ROAD STREATHAM
LONDON SW16 6LT

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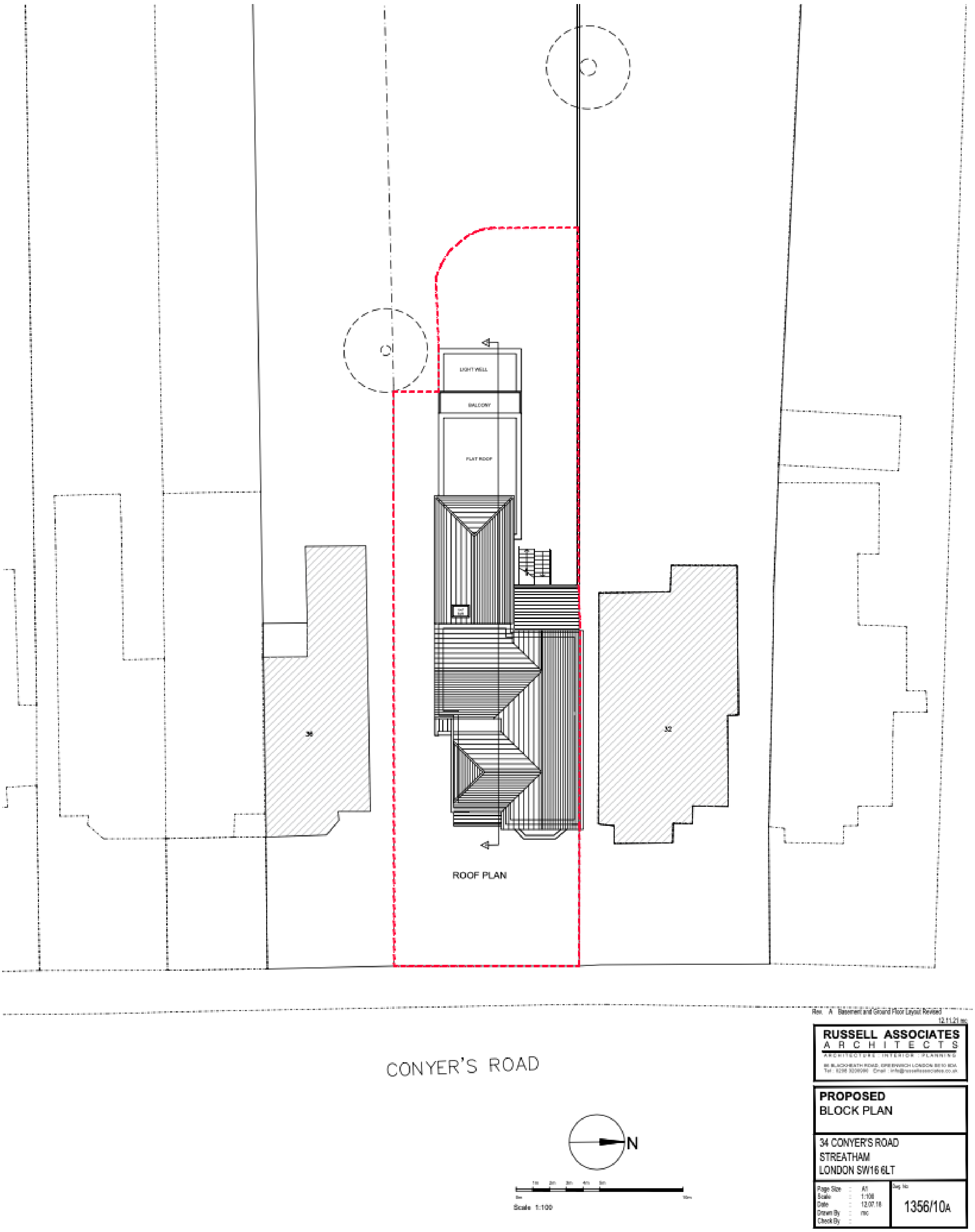
Mr. Michael A Williams

Appendix C – Proposed Development


LIGHT WELL
BALCONY
FLAT ROOF
36
32
ROOF PLAN
CONYER'S ROAD
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Scale 1:100
Rev. A Basement and Ground Floor Layout Revised
12.11.21 mc
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PROPOSED
BLOCK PLAN
34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT
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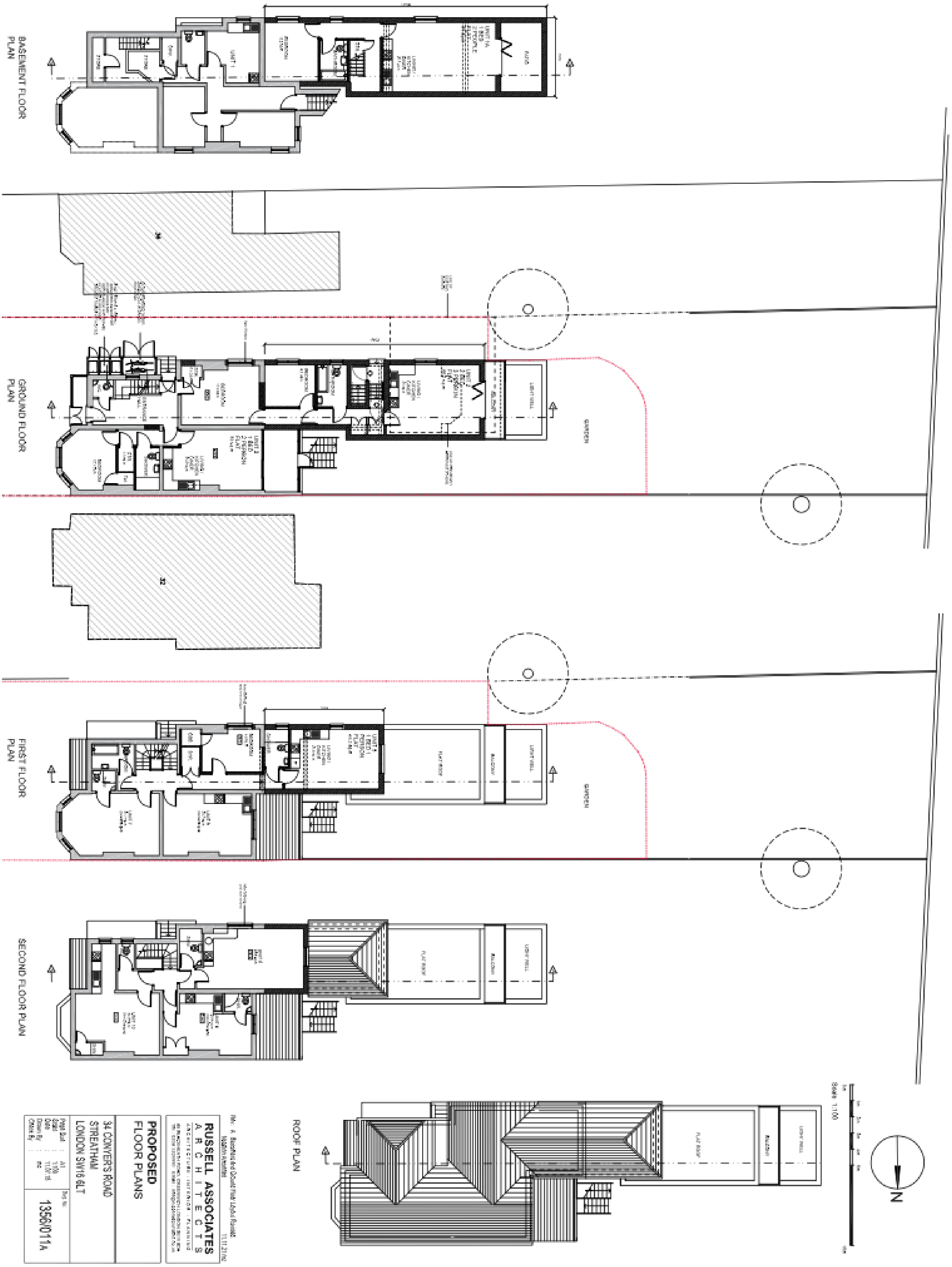
BASEMENT FLOOR PLAN
GROUND FLOOR PLAN
FIRST FLOOR PLAN
SECOND FLOOR PLAN
ROOF PLAN
GARDEN
RUSSELL ASSOCIATES
ARCHITECTS
PROPOSED FLOOR PLANS
34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT
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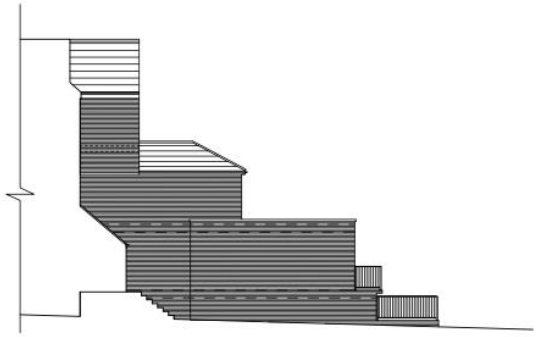
SIDE ELEVATION 1

REAR ELEVATION

SECTION AA



SIDE ELEVATION 2

Rev. A Basement and Ground Floor Layout Revised
12.11.21 mc

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PROPOSED
ELEVATIONS AND SECTIONS

34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT

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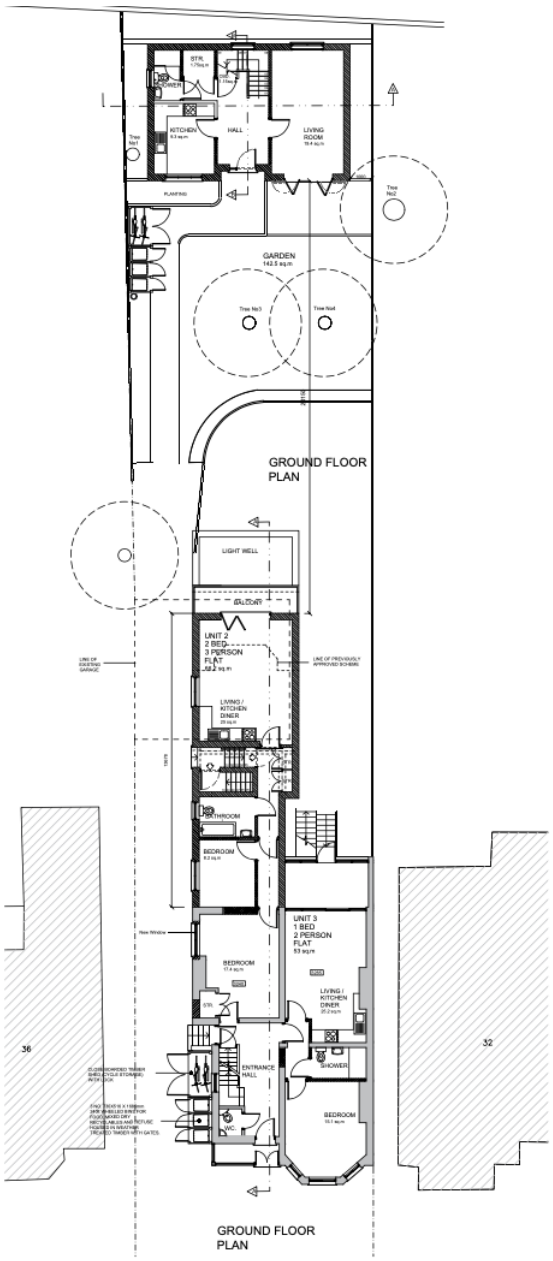

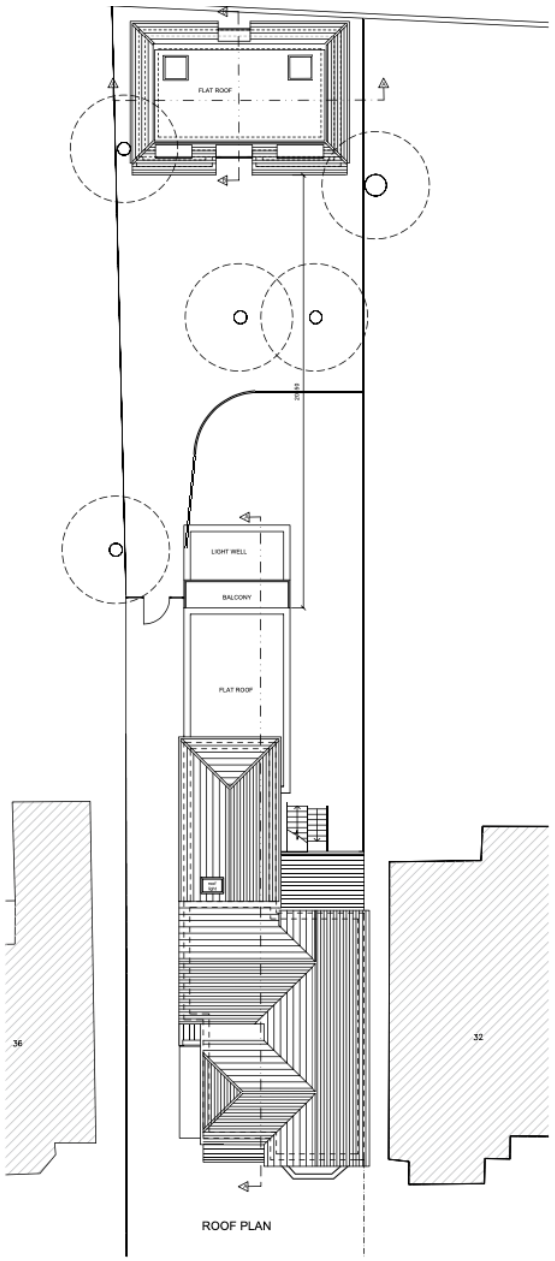

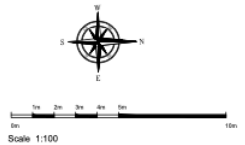

Rev. A Basement and Ground Floor Layout Revised.
Notation Amended 15.11.21 mc

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PROPOSED
Ground Floor and Block Plan with New House at The Rear

34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT

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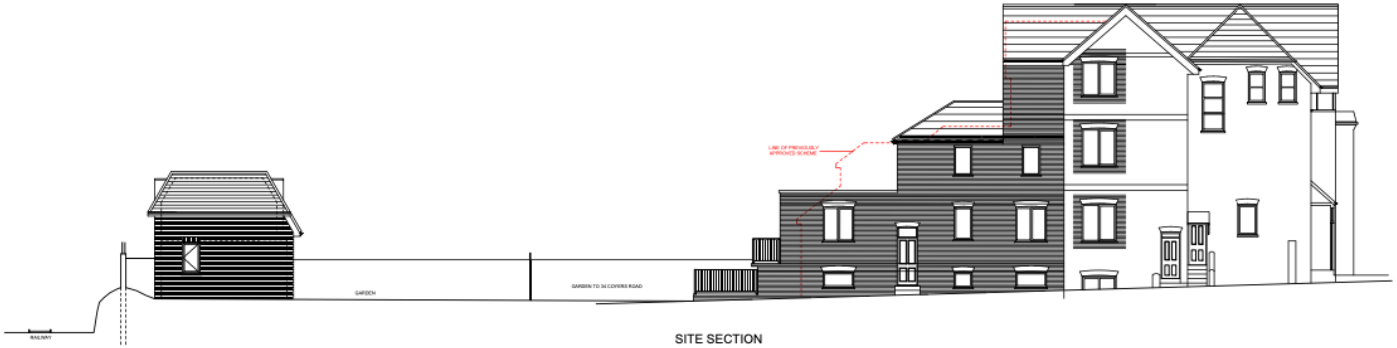
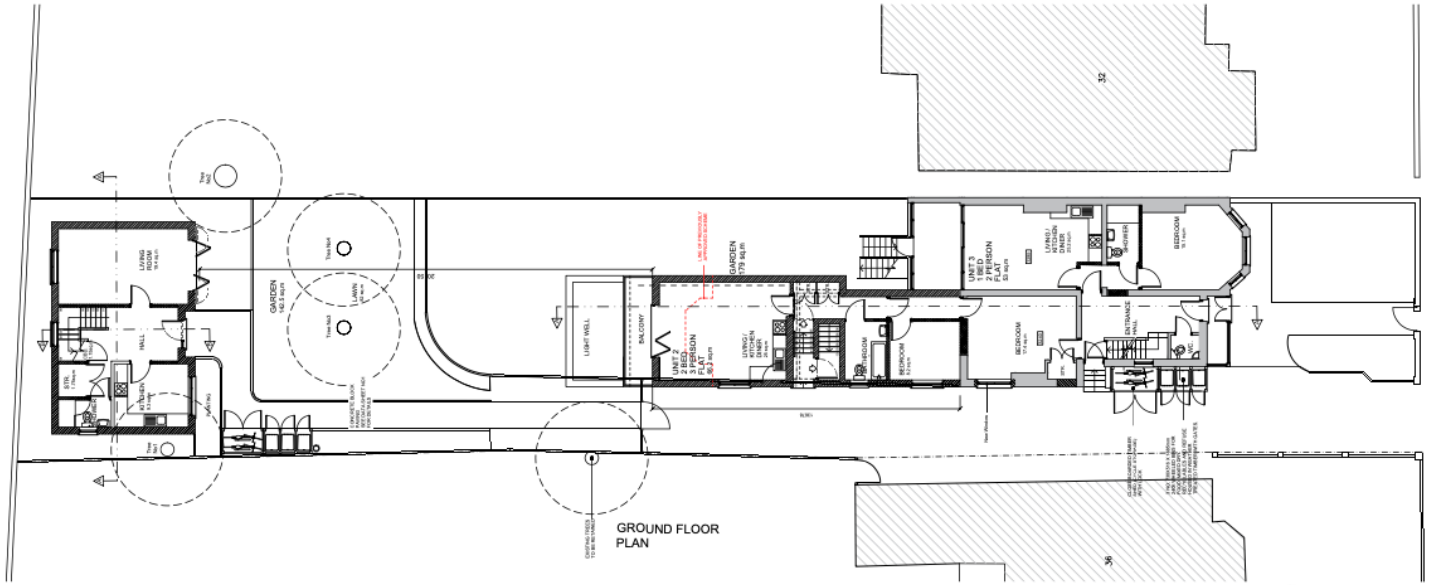


SITE SECTION



GROUND FLOOR PLAN

Rev. A Basement and Ground Floor Layout Revised. Notation Amended 15.11.21 mc

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PROPOSED
CONTEXT with
APPROVED SCHEME

34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT

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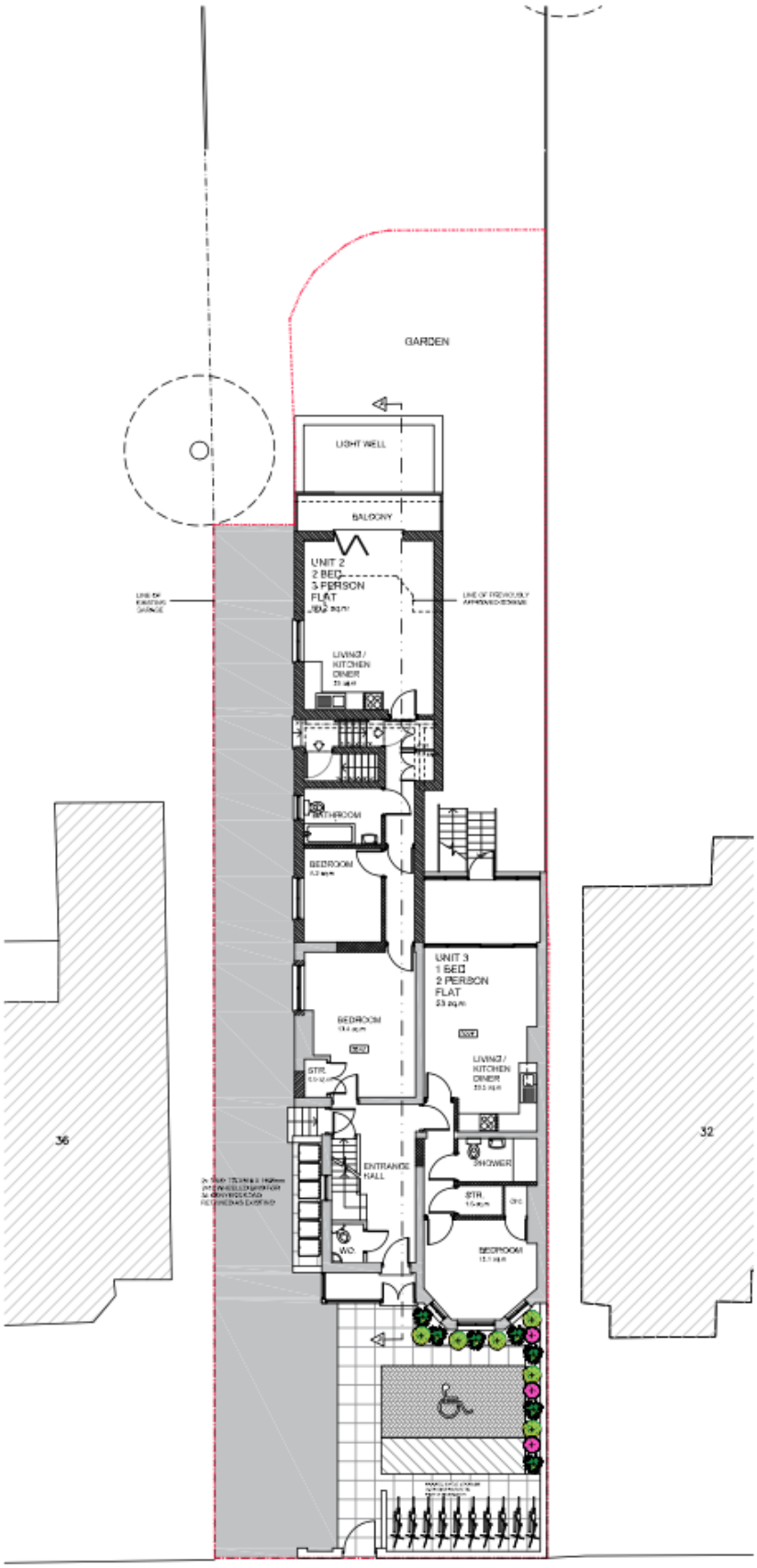

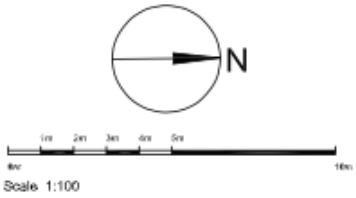

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PROPOSED
LANDSCAPING

34 CONYER'S ROAD
STREATHAM
LONDON SW16 6LT

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1356/015

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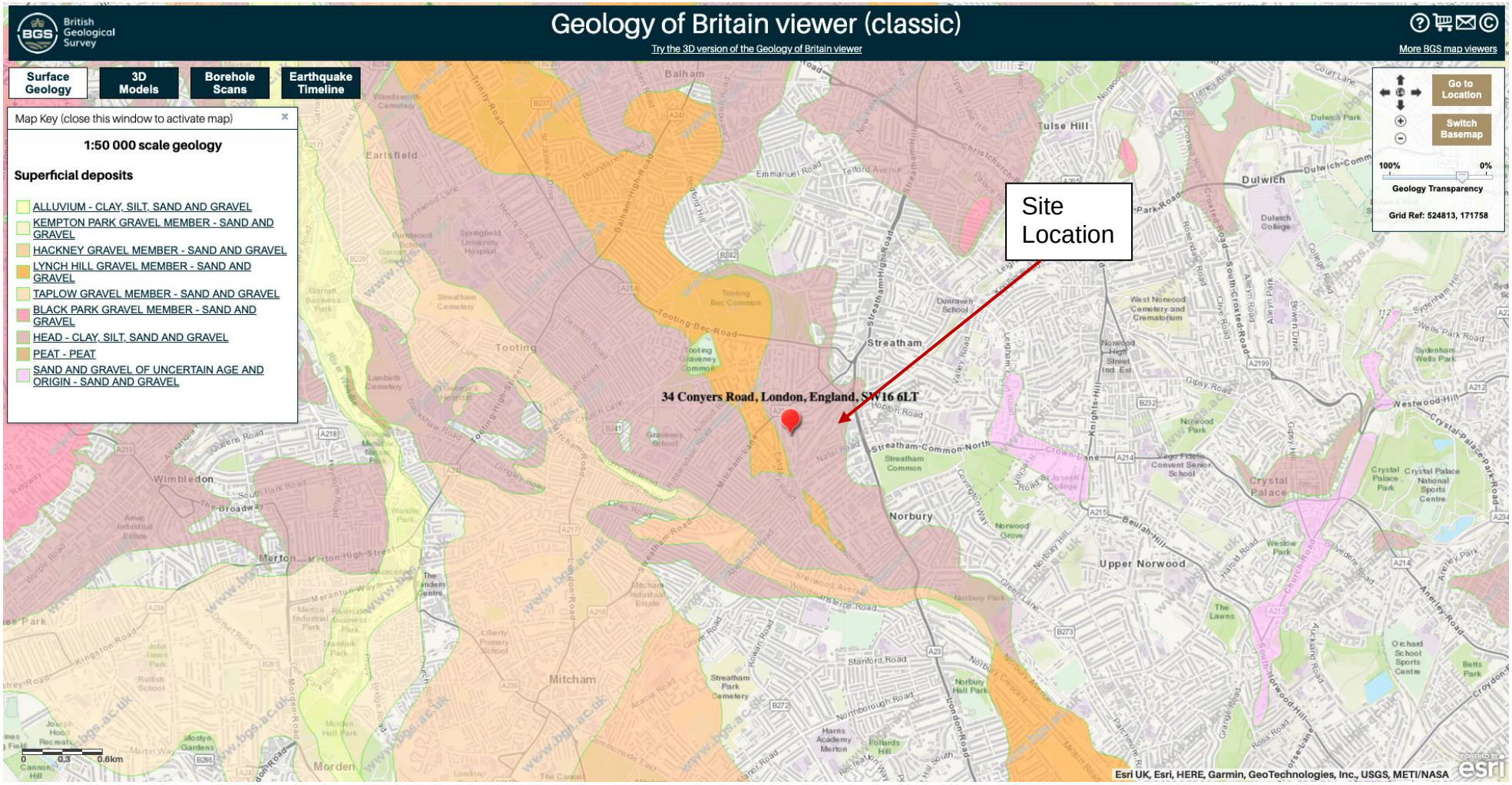
Mr. Michael A Williams

Appendix D – British Geological Society Data



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Mr. Michael A Williams


British Geological Survey
Geology of Britain viewer (classic)
Try the 3D version of the Geology of Britain viewer
More BGS map viewers
Surface Geology
3D Models
Borehole Scans
Earthquake Timeline
Map Key (close this window to activate map)
1:50 000 scale geology
Bedrock geology
BAGSHOT FORMATION - SAND
CLAYGATE MEMBER - SAND, SILT AND CLAY
HARWICH FORMATION - SAND AND GRAVEL
LONDON CLAY FORMATION - CLAY AND SILT
LAMBETH GROUP - CLAY, SILT AND SAND
Site Location
34 Conyers Road, London, England, SW16 6LT
Go to Location
Switch Basemap
100%
0%
Geology Transparency
Grid Ref: 524919, 173046
0
0.3
0.6km
Esri UK, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA
Balham
Tulse Hill
Earlsfield
Dulwich
Tooting
Streatham
Wimbledon
Norbury
Upper Norwood
Crystal Palace
Merton
Mitcham
Morden

Appendix E – Environment Agency Information

Flood map for planning

Your reference	Location (easting/northing)	Created
2231- FR Map	**529580/171123**	**4 Mar 2022 11:59**

Your selected location is in flood zone 1, an area with a low probability of flooding.

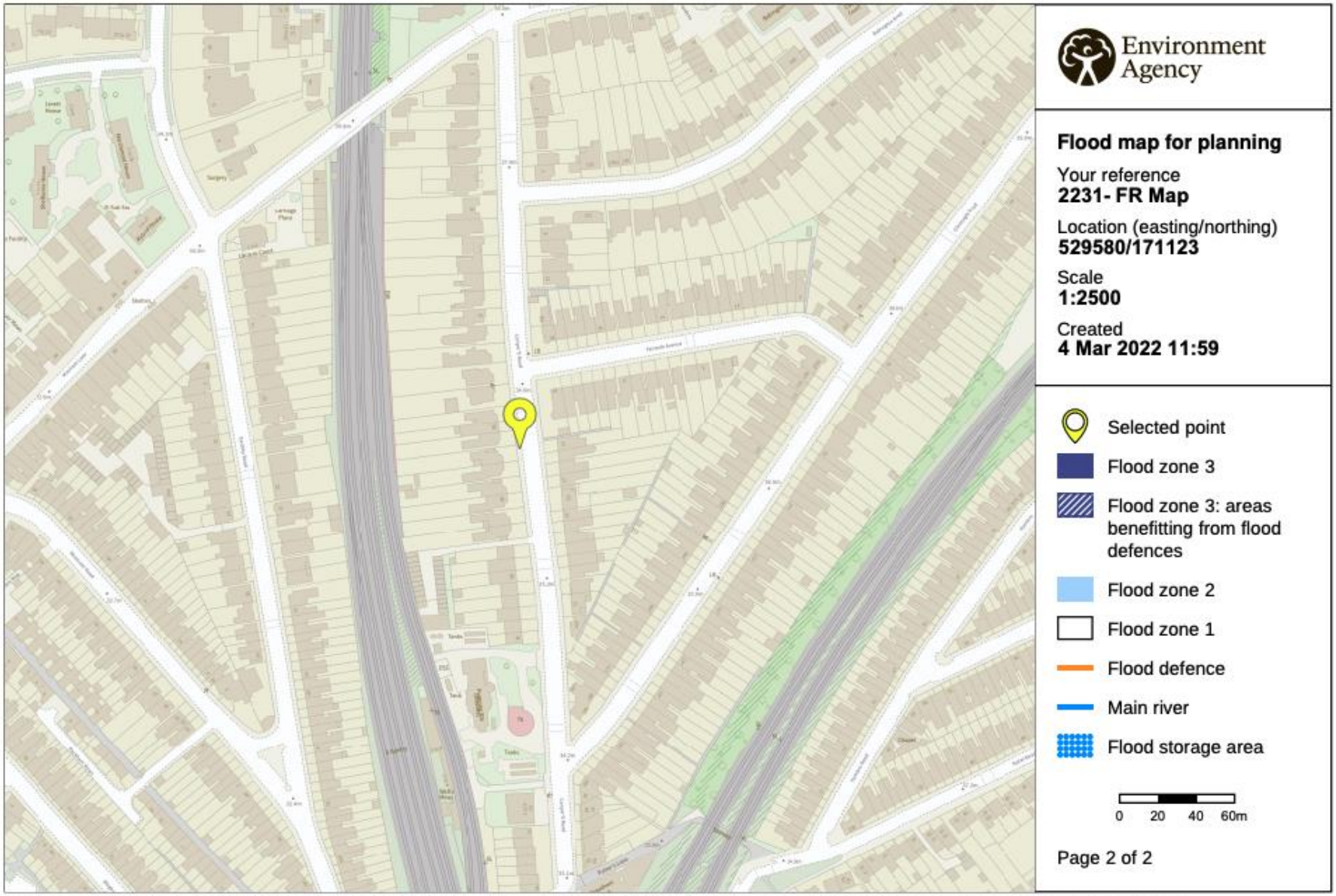
This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

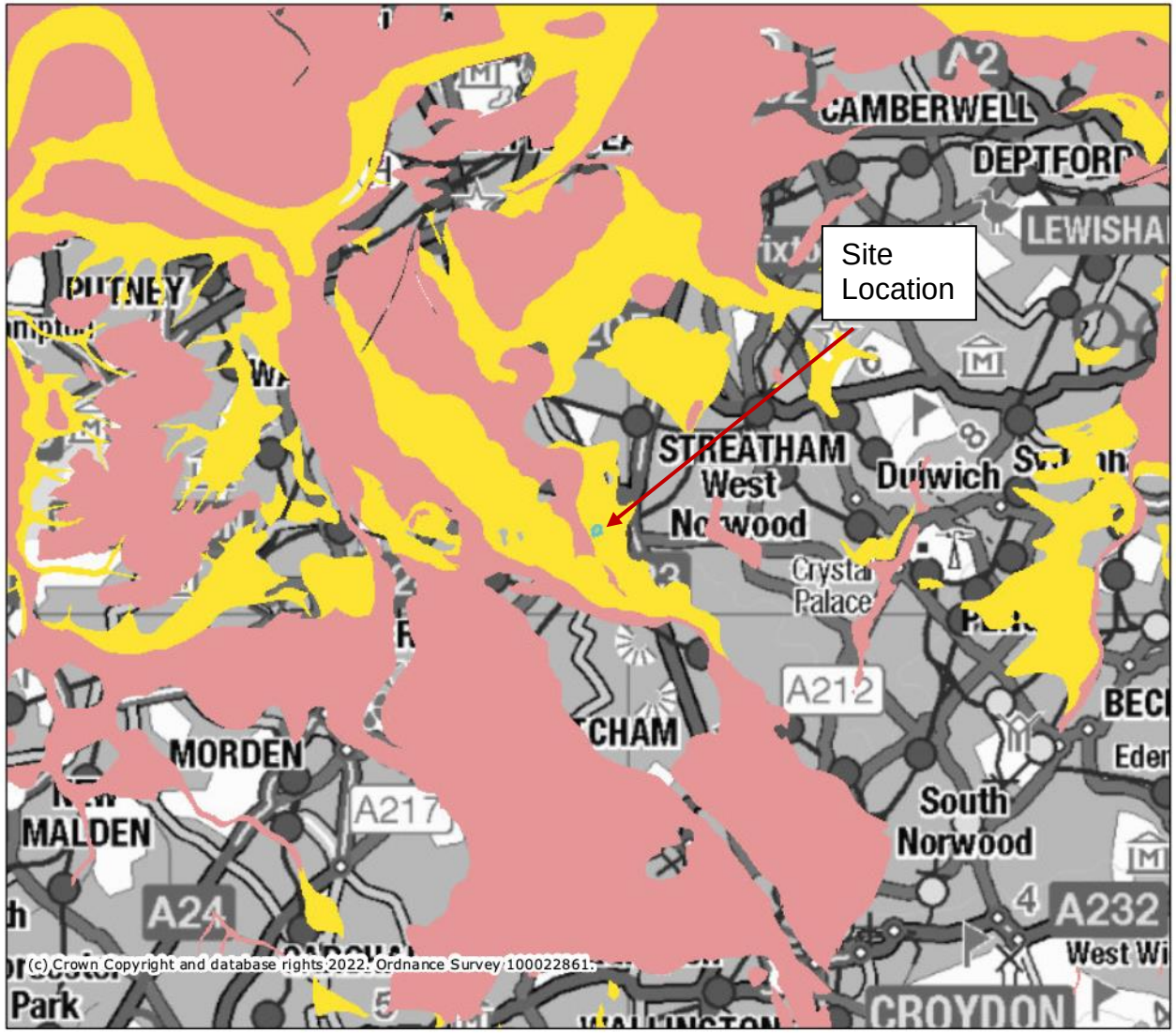
The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.



MAGiC

2231- Superficial Aquifer Designation



Legend

Aquifer Designation Map (Superficial Drift) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unknown (lakes+landslip)
- Unproductive

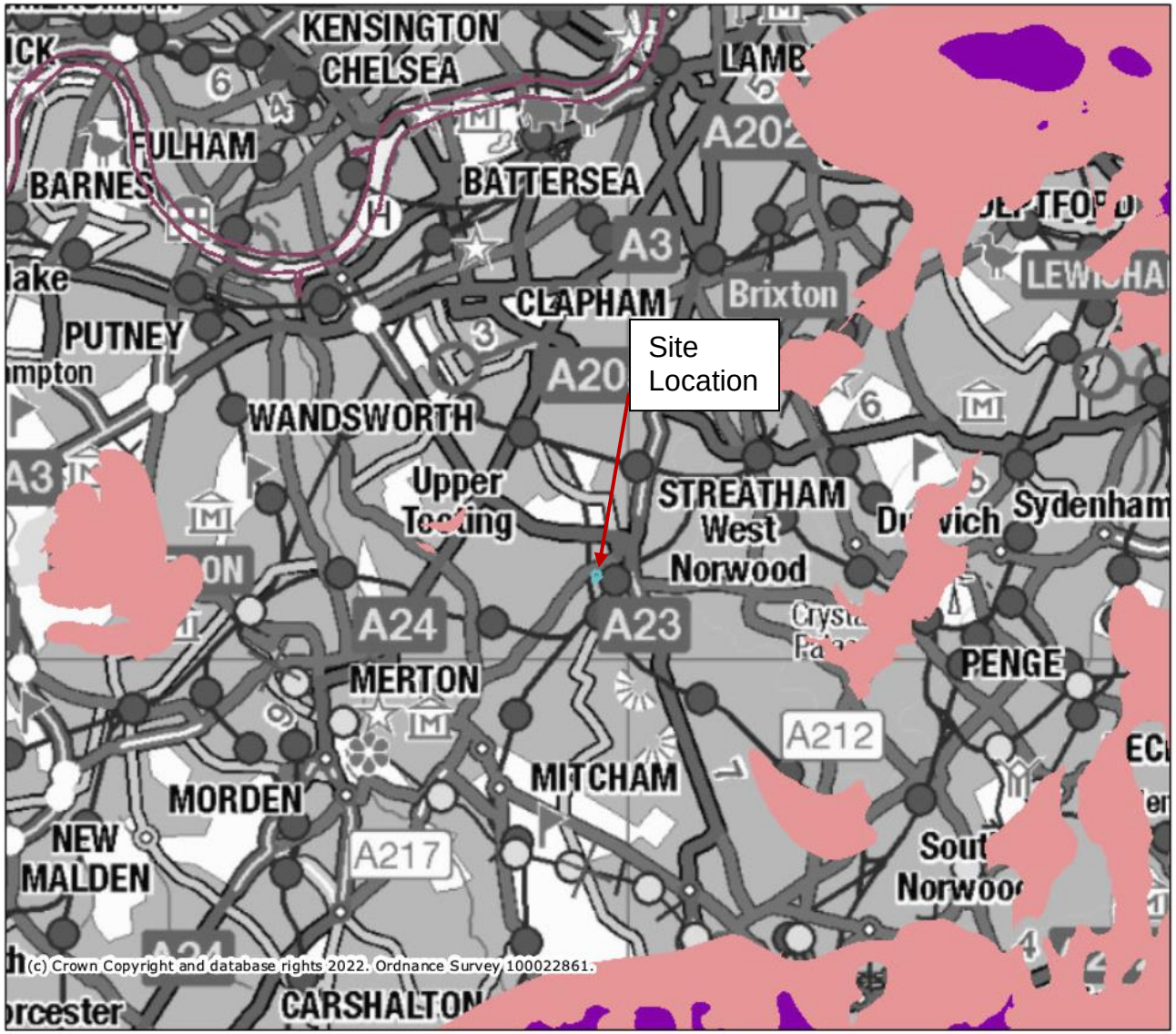
Projection = OSGB36
xmin = 515900
ymin = 164800
xmax = 543000
ymax = 177900

0 1.5 3
km

Map produced by MAGIC on 3 March, 2022.

MAGIC

2231- Bedrock Aquifer Designation



Legend

Aquifer Designation Map (Bedrock) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unproductive

Projection = OSGB36
xmin = 515900
ymin = 166000
xmax = 543000
ymax = 177900
0 1.5 3 km
Map produced by MAGIC on 3 March, 2022.
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2231 - Source Protection Zones

Legend

Source Protection Zones merged (England)

- Zone I - Inner Protection Zone
- Zone I - Subsurface Activity
- Zone II - Outer Protection Zone
- Zone II - Subsurface Activity
- Zone III - Total Catchment
- Zone III - Subsurface Activity
- Zone of Special Interest

Projection = OSGB36
xmin = 527800
ymin = 170400
xmax = 531200
ymax = 171900

0 0.15 0.3
km

Map produced by MAGIC on 3 March, 2022.

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Appendix F – Borehole Data

FASTRACK	Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ	Borehole Log	Borehole No. **BH1** Sheet 1 of 1

Project Name:	1222	Project No. 11289	Site Date: 07/02/2018	Hole Type BH
Location:	59 Gleneagle Road, London SW16 6AY			Scale 1:30
Client:	GO Contaminated Land Solutions Ltd			Logged By CE1

Water Strikes	Sample and In Situ Testing			Depth (m)	Legend	Stratum Description	
	Depth (m)	Type	Results				
						Dark Brown Silty TOPSOIL	
				0.30		Mid Brown Silty CLAY	
	1.00	D	V (kPa) = 79 V (kPa) = 83				1
	2.00	D	V (kPa) = 124 V (kPa) = 126			*Grey Mottling noted from 2.00m*	2
	3.00	D	V (kPa) = 140			*Sand pockets noted from 3.00m*	3
	4.00	D	V (kPa) = 140				4
	5.00	D	V (kPa) = 140	5.00		End of Borehole at 5.000m	5
							6

Key: D - Disturbed Sample V - Insitu Vane Test MP - Mackintosh Probe Test

Remarks: Borehole closed at 5.00m. Standpipe installed to 5.00m.
Borehole noted to be dry on completion.

AGS

FASTRACK	Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ	Borehole Log	Borehole No. **BH2** Sheet 1 of 1
Project Name: 1222	Project No. 11289	Site Date: 07/02/2018	Hole Type BH
Location:	59 Gleneagle Road, London SW16 6AY		Scale 1:25
Client:	GO Contaminated Land Solutions Ltd		Logged By CE1

Water Strikes	Sample and In Situ Testing			Depth (m)	Legend	Stratum Description	
	Depth (m)	Type	Results				
						Dark Brown Silty TOPSOIL	
				0.40		Mid Brown Silty CLAY	
				0.80		Gravelly CLAY	
	1.00	D	V (kPa) = 69 V (kPa) = 74	1.10		Mid Brown Silty CLAY containing Grey Mottling and Sand pockets	1
	2.00	D	V (kPa) = 128 V (kPa) = 132				2
	3.00	D	V (kPa) = 140				3
	4.00	D	V (kPa) = 140	4.00		End of Borehole at 4.000m	4
							5

Key: D - Disturbed Sample V - Insitu Vane Test MP - Mackintosh Probe Test

Remarks: Borehole closed at 4.00m. Standpipe installed to 4.00m.
Borehole noted to be dry on completion.

AGS

FASTRACK	Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ	Borehole Log	Borehole No. **BH3** Sheet 1 of 1

Project Name:	1222	Project No. 11289	Site Date:	07/02/2018	Hole Type BH
Location:	59 Gleneagle Road, London SW16 6AY				Scale 1:25
Client:	GO Contaminated Land Solutions Ltd				Logged By CE1

Water Strikes	Sample and In Situ Testing			Depth (m)	Legend	Stratum Description	
	Depth (m)	Type	Results				
						Dark Brown Silty TOPSOIL	
				0.40		Mid Brown Silty Sandy CLAY	
	1.00	D	V (kPa) = 81 V (kPa) = 82				1
				1.50		Mid Brown/Orange Sandy CLAY	
	2.00	D	V (kPa) = 123 V (kPa) = 126				2
				2.20		Mid Brown Silty Sandy CLAY containing Grey Mottling	
				2.60		Mid Brown Silty CLAY containing Grey Mottling	
	3.00	D	V (kPa) = 140				3
	4.00	D	V (kPa) = 140	4.00		End of Borehole at 4.000m	4
							5

Key: D - Disturbed Sample V - Insitu Vane Test MP - Mackintosh Probe Test

Remarks: Borehole closed at 4.00m. Standpipe installed to 4.00m.
Borehole noted to be dry on completion.

AGS

British Geological Survey

Version 2.0.6.4

BGS ID: 590030 : BGS Reference: TQ27SE511
British National Grid (27700) : 529581,171212

Report an issue with this borehole

TUNNEL RING MAIN B13 (CONYERS ROAD)

TQ 27 - 298 TQ 27 SE

Owner		Licence No.	
Occupier		IGS Ref. No.	270
Ground Level	37.0 m OD		ft. OD
Level of Well Top	m OD		ft. OD
Rest Water Level	m bwt		ft. bwt
(Date)	m OD		ft. OD
Construction			Piezometer in Borehole

Depth bwt	Dia.	Linings (below well top) From	To	Dia.	Type
44.0m	300mm	Originally cased to 47.6m, but presumably			
59.1m	200mm	removed to install piezometer			

Abstraction Rates		Type of Pump	
gph		Chem./Bact. Anal.	YES NO
gpd		Well Driller	Soil Mechanics Nov/Dec 1985

If insufficient space has been allowed, continue in 'Notes' overleaf.

Nat. Grid Ref. TQ 29581 71212 511

Status Piezometer Installed. (19mm diameter)

Aquifer LONDON CLAY

Summary of Geological Section	Thickness	Depth
Made (Tarmac/Hardcore)		0.5m
Clay-bound gravel		0.9m
Sandy Clay		1.3m
Orange brown (grey green) mottled sandy clay with some flint gravel & organic matter		4.7m
Brown clayey sandy flint gravel		5.8m
Orange brown sandy clay ῶ some gravel		7.0m
Grey brown clay with some sand, silt, claystone bands; flint pebbles, shells (LONDON CLAY)		54.0m
Dark grey clay ῶ shell fragments (LONDON CLAY?)		54.5m
Brown, green, grey, purple mottled W.R. CLAY		59.1m

γ-log by Soil Mechanics

British Geological Survey

Version 2.0.6.4

BGS ID: 589655 : BGS Reference: TQ27SE144
British National Grid (27700) : 529600,171080

Report an issue with this borehole

RECORD OF BOREHOLE NO. 117A TQ 27 SE 144

Ground level: 116.5ft. above O.D. Newlyn Dia. of boring: 8in.

Method of boring: Shell and Auger Lining tubes: 8in.

OR 2960 · 7108

Samples Depth	Samples Type	Change of Strata Legend	Change of Strata Depth	Change of Strata O.D. Level	Description of Strata
			2'6"	114.0	FILL (tarmac, chalk fragments)
2'6" – 4'0"	U(4)		(0.76m)		
4'0"	D				Firm brown sandy CLAY with gravel and fragments of sandstone
5'0"	D		6'6"	110.0	
7'6" – 8'6"	C(69)		(1.98m)		
7'6" – 8'6"	BD				
10'6" – 11'6"	C(54)				Dense to very dense brown sandy flint GRAVEL (~~Taplow Gravel~~)
10'6" – 11'6"	BD				
13'6" – 14'6"	C(44)				
13'6" – 14'6"	BD		16'0"	100.5	
17'0" – 18'6"	U(4)		(4.9m)		
18'6"	D				
19'6"	D				Stiff fissured brown silty CLAY (London Clay)
22'6" – 24'0"	U(4)		24'0"	92.5	
24'0"	D		(7.3m)		

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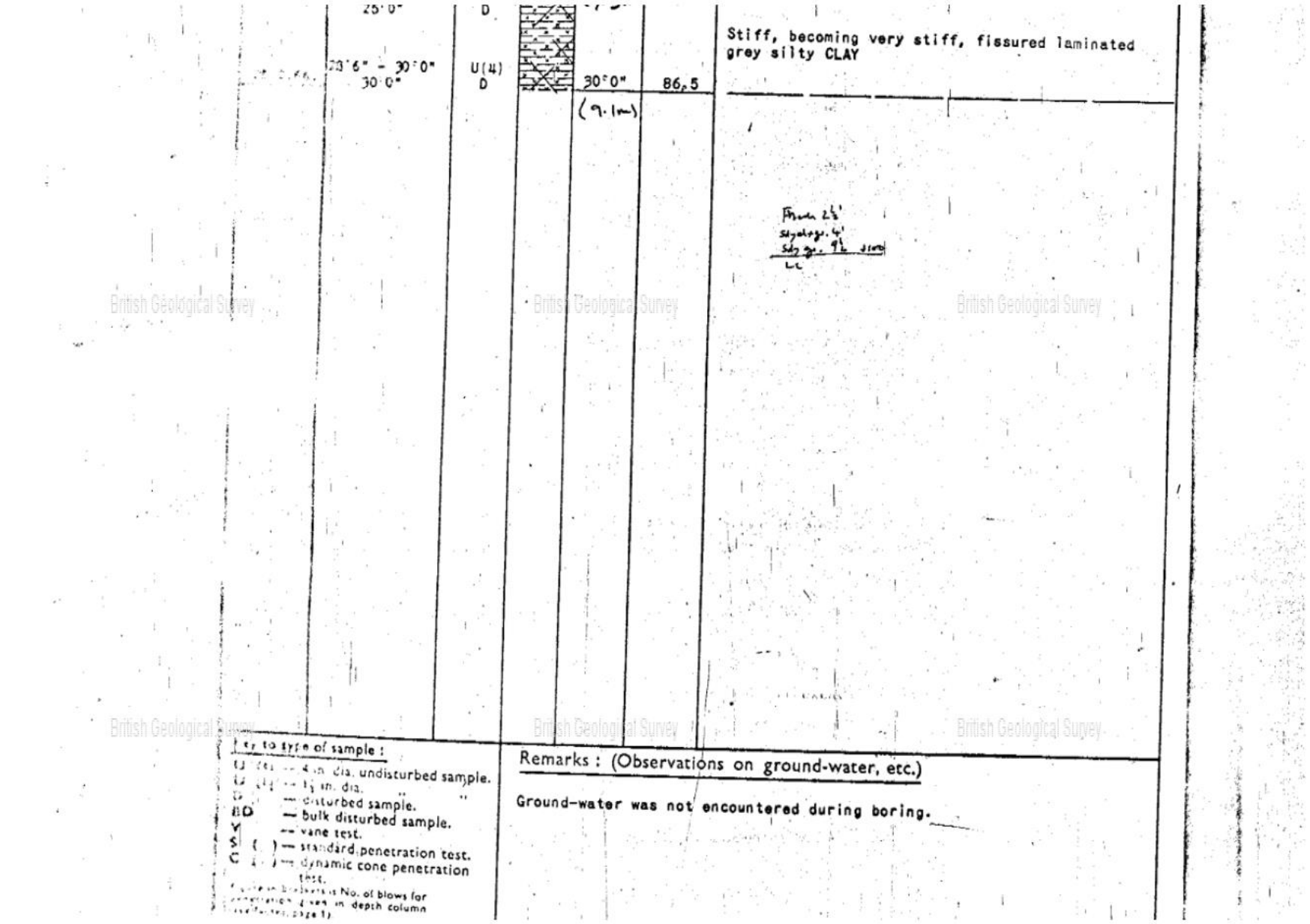

British Geological Survey

Version 2.0.6.4

BGS ID: 590029 : BGS Reference: TQ27SE510
British National Grid (27700) : 529580,171000

Report an issue with this borehole

TUNNEL RING MAIN B12 (STREATHAM WATERWKS., CONYERS ROAD) | TQ 27 - 297 TQ 27SE

Owner		Licence No.		
Occupier		IGS Ref. No. 270		
Ground Level	34.2 m OD		ft. OD	
Level of Well Top	m OD		ft. OD	
Rest Water Level	m bwt		ft. bwt	
(Date)	m OD		ft. OD	
Construction	Piezometer in Borehole			

Depth bwt	Dia.	Linings (below well top) From	To	Dia.	Type
30.0	300 mm				
58.5	250 mm				
68.5	200 mm				
80.0	150 mm				

Abstraction Rates gph gpd

Type of Pump

Chem./Bact. Anal. YES NO

Well Driller Soil Mechanics Nov 1985

If insufficient space has been allowed, continue in 'Notes' overleaf.

Nat. Grid Ref. TQ 29580 71000 510

Status Piezometer Installed (Diameter 19mm)

Aquifer LONDON CLAY

Summary of Geological Section	Thickness	Depth
Clay, Gravel, Flints (MADE GROUND)		1.0 m
Rusty Brown sandy flint GRAVEL		3.2 m
Light brown v. gravelly clay w a little sand		4.0 m
Stiff brown laminated clay w blue mottling & wood fragments		6.8 m
becoming stiff brown laminated clay		
Stiff grey brown clay with some silt,		
sand, claystone bands, pyrite, shells (LONDON CLAY)		58.0 m
and some black flint gravel around 51.0m		
Highly coloured mottled clay becoming sandy toward base	(W.R. CLAY)	66.0 m
Blue/Grey clayey sand w some gravel & shells	(BASAL SAND)	67.0 m
Grey Brown silty clayey sand w some gravel		75.3 m
Black silty/sandy flint gravel (Bullhead Bed) CHALK with Flints		75.5 m 80.0 m

X - log by Soil Mechanics

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British Geological Survey

Version 2.0.6.4

BGS ID: 589656 : BGS Reference: TQ27SE145
British National Grid (27700) : 529570,170990

Report an issue with this borehole

TQ 27 SE 145

RECORD OF BOREHOLE NO. 118

112.4ft. above O.D. Newlyn

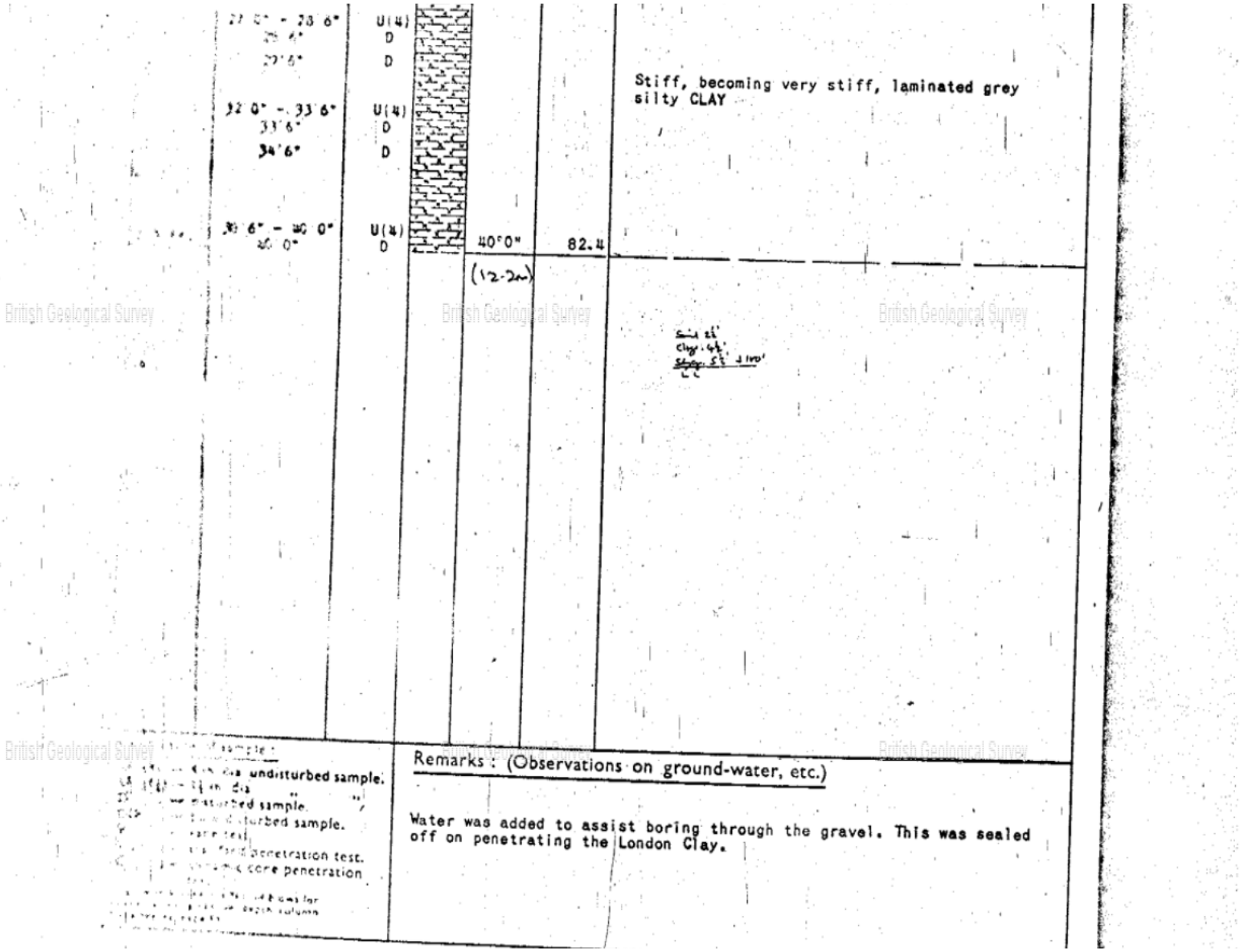
Dia. of boring : 8in.

Shell and Auger

Lining tubes : 8in. to 10ft.

GR 2957 - 7099

Samples		Change of Strata			Description of Strata
Depth	Type	Legend	Depth	O.D. Level	
			2'6"	109.9	TOPSOIL
5'0" - 6'6" 6'6" 5'0"	U(4) D D		(0.76m) 7'0"	105.4	Stiff brown sandy silty CLAY with gravel
8'0" - 9'0" 7'6" - 9'0"	C(96) D		(2.1m) 12'6"	99.9	Very dense brown sandy GRAVEL (Taplow Gravel)
11'0" - 12'0" 11'6" - 12'0"	C(54) D				
12'6" - 14'0" 14'0" 15'0"	U(4) D D		(8.81m) 21'0"	91.4	Firm to stiff laminated brown silty CLAY (London Clay)
17'6" - 19'0" 19'0" 20'0"	U(4) D D				
22'0" - 23'6" 23'6" 24'6"	U(4) D D		(6.4m)		



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British Geological Survey

Version 2.0.6.4

BGS ID: 589652 : BGS Reference: TQ27SE141
British National Grid (27700) : 529590,171330

Report an issue with this borehole

TQ27SE/141

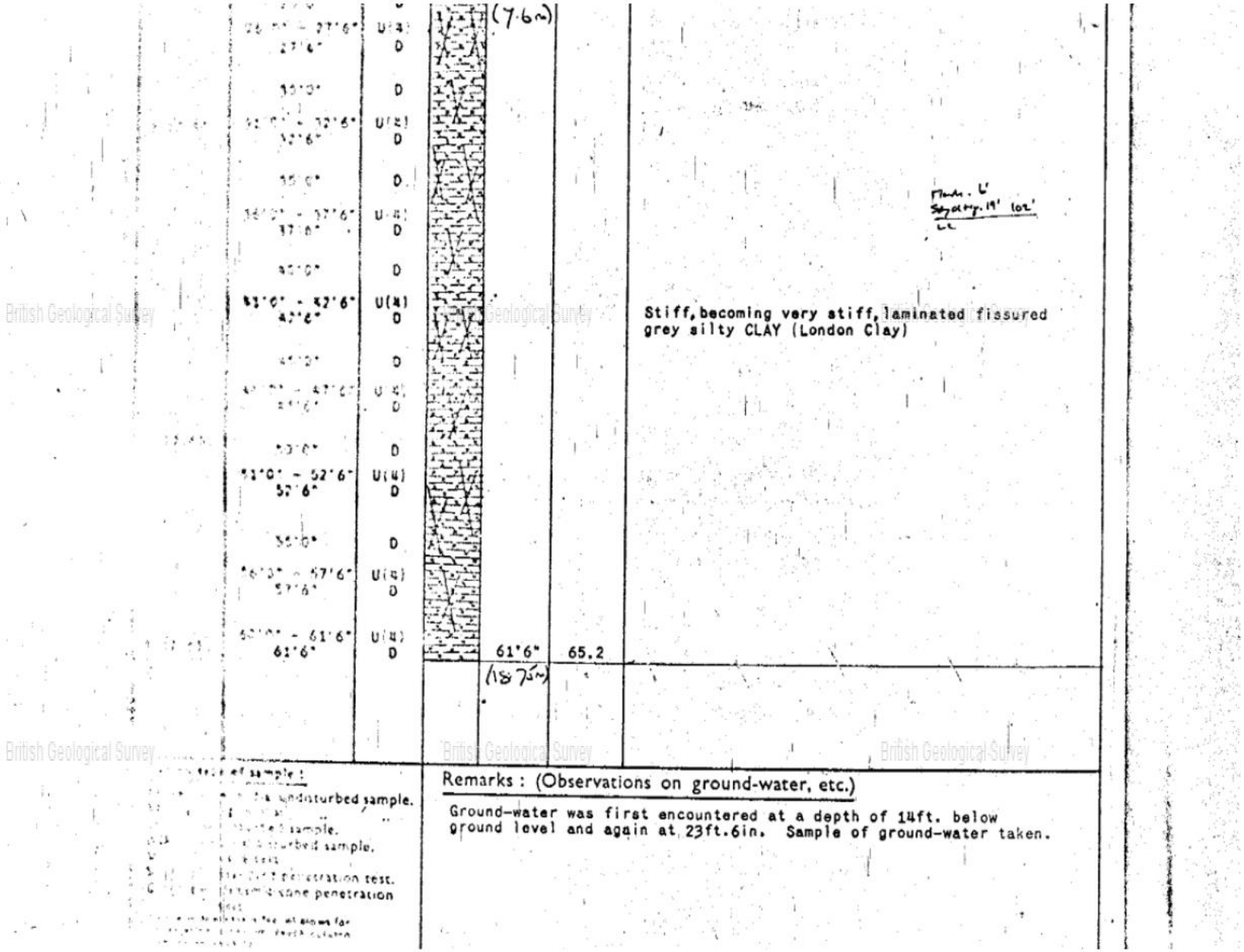
RECORD OF BOREHOLE NO. 3

Ground Level: 126.7ft. above O.D.Newlyn Dia. of boring: 8in.

Method of boring: Shell and Auger Lining tubes: 8in. to 25ft.

GR 2959 · 7133

Date of Progress	Samples Depth	Samples Type	Change of Strata Legend	Change of Strata Depth	Change of Strata O.D. Level	Description of Strata
				(1.83m) 6'0"	120.7	FILL (gravel, clay and brick rubble.
	6'0" - 7'6" 7'6"	U(4) D		7'6"	119.2	Brown clayey medium to coarse GRAVEL
				(2.29m)		
	10'0"	D				
	12'0" - 12'6"	U(4)				
	13'0"	D				
	15'0"	D				Stiff brown silty or sandy silty CLAY with occasional fine to medium gravel
	17'0" - 17'6" 17'6"	U(4) D				
	20'0"	D				
	21'0" - 22'6" 22'6"	U(4) D				
	23'6"	D		25'0"	101.7	



(7.6m)

Stiff, becoming very stiff, laminated fissured grey silty CLAY (London Clay)

61'6" 65.2

(18.75m)

Remarks : (Observations on ground-water, etc.)

Ground-water was first encountered at a depth of 14ft. below ground level and again at 23ft.6in. Sample of ground-water taken.

British Geological Survey

Version 2.0.6.4

BGS ID: 589653 : BGS Reference: TQ27SE142
British National Grid (27700) : 529540,171340

Report an issue with this borehole

TQ 27 SE 142

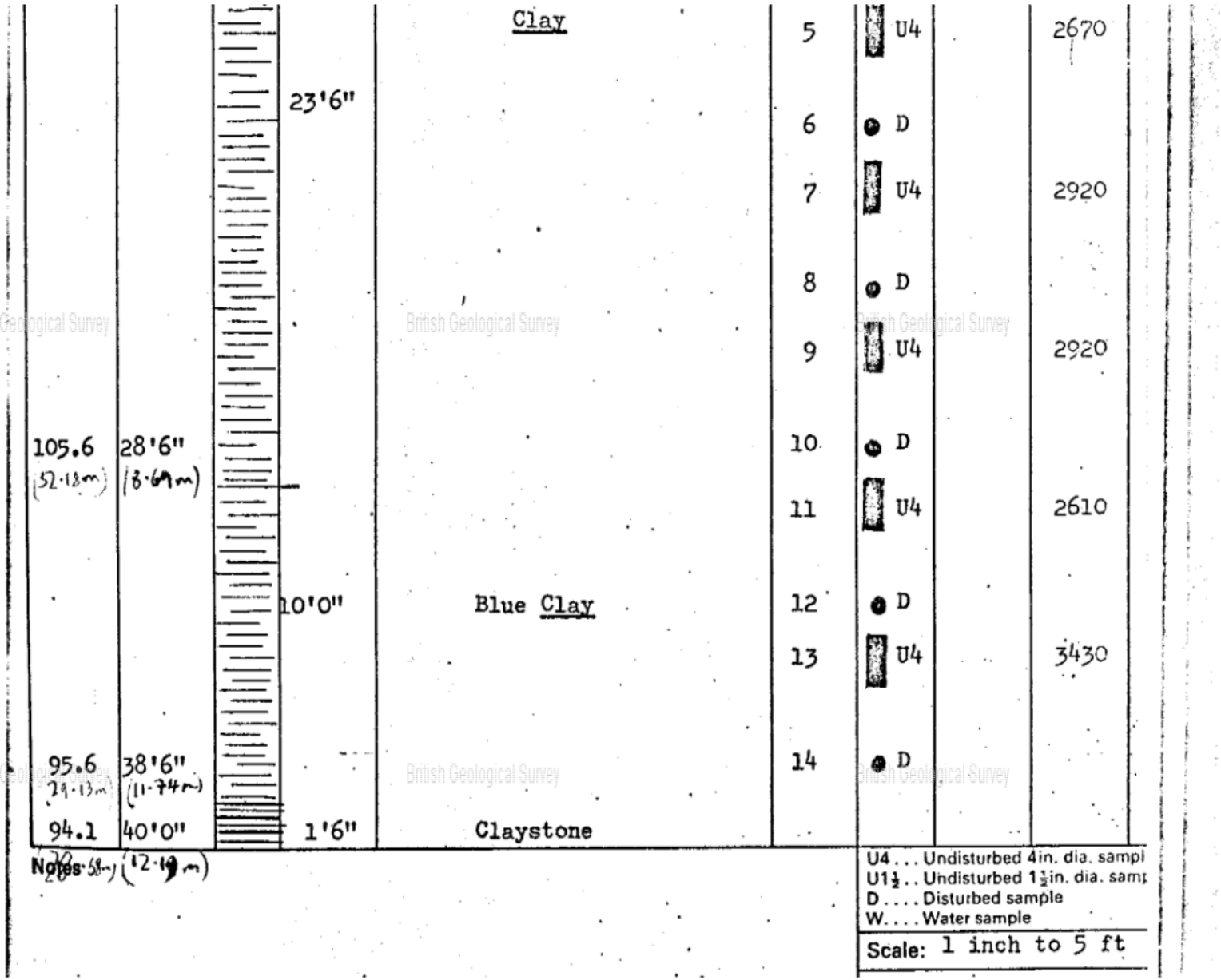
RECORD OF BOREHOLE NO. 116

Ground level: 127.7ft. above O.D. Newlyn — Dia. of boring: 8in.

Method of boring: Shell and Auger — Lining tubes: 8in. to 33ft.

GR 2954 7134

Samples: Depth	Samples: Type	Change of Strata: Legend	Change of Strata: Depth (O.D.)	Change of Strata: O.D. Level	Description of Strata
			0'4"	127.4	ASPHALT
			2'6"	125.2	CONCRETE
15.3.66. 5'0"	BD		(6.7ft) 8'0"	119.7	FILL (brown sandy clay with gravel and occasional brick fragments)
8'6" – 10'0"	U(4)		(2.4ft)		Stiff red-brown sandy CLAY with flint gravel
10'0"	D				
11'0"	BD				
13'6" – 15'0"	U(4)				
15'0"	D				
16'0"	BD				
18'6" – 20'0"	U(4)				
20'0"	D				
21'0"	BD		23'0"	104.7	
24'0" – 25'0"	C(66)		(7.0ft)		



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