

Map 22 in Appendix D shows the roads affected by the 2002 flooding event. Thames Water sewer flood data during the 10 year period from August 1997 to August 2007 indicates that up to 4 flooding events occurred in the vicinity of the site. The map shows a reasonable correlation between the Thames Water records although the Camden floods would appear to be more widespread than is identified on Thames records. This can be attributed to the fact that some of the properties flooded in 2002 will not be included on the Thames Water database unless they flood twice in ten years. In Camden most of the flooding incidents have historically occurred in the West Hampstead, Cricklewood, South Hampstead and Church End an area located 2.0km northwest of the site.

The North London SFRA states that following the 2002 flood event Thames Water were to make further funding cases to OFWAT to relieve more properties from flooding and they indicated that flooding issues in Camden will be picked up as part of their prioritisation programme. Thames Water are mandated by regulation to identify and resolve any recurrent flooding issues on their network. Therefore reducing the level of flood risk from sewers.

Surface Water Flooding

The areas of West Hampstead, Cricklewood and South Hampstead would appear to be the areas at most risk from pluvial flooding within the North London areas. This flood risk extends to a lesser extent to Church End in the Barnet and also into the east of Camden, which experienced flooding during the 2002 Camden Floods. The extent of the 2002 Camden floods is shown on Map 22. The cause of these floods was attributed to surcharged sewers which could not cope with the volume of run-off. The RMS Flood Map and Insurance Claims data contained in Appendix D also confirms that the site is at a "Very Low" risk of surface water flooding. EA topography contours indicate that this site is cut-off from upstream surface water flows by a series of railway tracks including the North London Line. Thus protecting the site from surface water floods.

5.1.6 Flooding from Artificial Sources

The two small reservoirs in Hampstead Heath are part of a series of ponds owned by the City of London Corporation. These reservoirs lie within the River Fleet catchment. The flood management plans and supporting inundation mapping to manage these reservoirs became a legal requirement from spring 2009.

It is anticipated that the Flood Management Plans and associated inundation mapping will provide a more accurate appraisal and assessment of flood risk presented by the reservoir. As it is a statutory obligation for the City of London Corporation to maintain the reservoirs this ensures that a robust flood risk management strategy is developed for the reservoirs.

5.2 Probability of Flooding

As discussed above the probability of flooding within this site from any source is minimal as long as the onsite drainage for the site is suitably designed. Postcode insurance flood claim data contained in Appendix D also confirms that the site is in a 'Very Low' flood risk claims area. As previously stated this flood risk is associated with inadequate sewer capacity which the SFRA has indicated that Thames Water applied for funding to OFWAT to address this issue.

5.3 Flood Risk due to Climate Change

The effect of climate change will be to increase the intensity and duration of rainfall events, thus increasing the likelihood of localised flooding. It is current policy therefore to add 30% to design rainfall profiles when designing surface water drainage to accommodate Climate change weather induced future increases.

In this case the drainage will be designed to retain the 100 year + 30% for climate change return period storm event within the system.

6.0 CONCLUSION

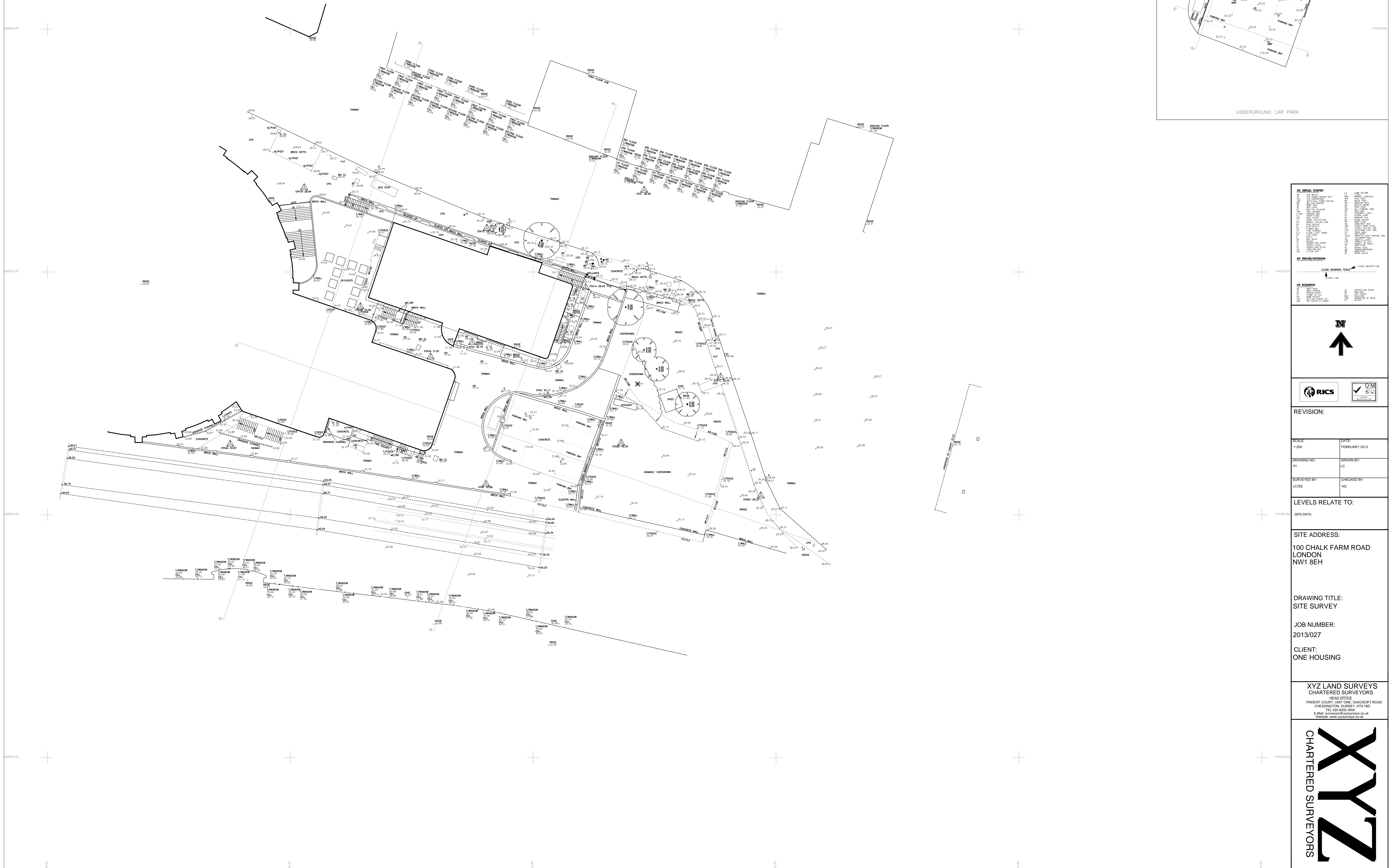
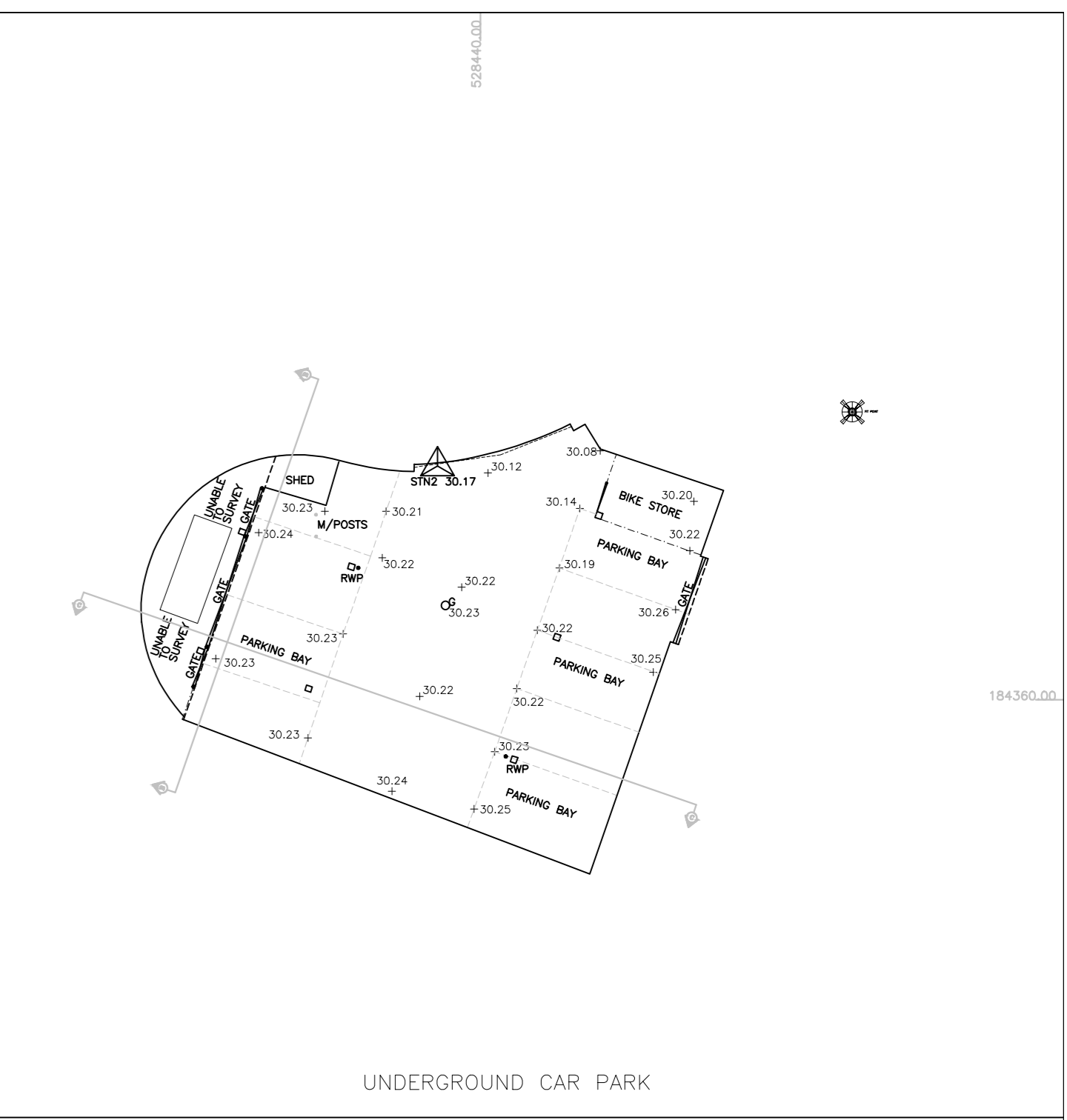
The site is located in Flood Zone 1 and is at minimal risk of fluvial flooding. Further, both the SFRA and the site specific flood risk assessment for this development has not identified potential flood risks for the site that cannot be managed.

It is considered that the development of this site will not increase flood risk elsewhere.

APPENDIX A

Survey Plan & Site Boundary Plan

COORDINATE TABLE				
STATION	DESCRIPTION	EASTING	NORTHING	LEVEL
STN1	Control Station	528336.280	184333.489	28.382
STN1A	Control Station	528328.654	184317.433	28.453
STN1B	Control Station	528282.229	184333.864	28.937
STN1C	Control Station	528350.875	184302.674	28.320
STN1D	Control Station	528312.375	184327.218	28.390
STN2	Control Station	528322.404	184299.625	30.167
STN2A	Control Station	528334.489	184291.800	30.399
STN3	Control Station	528309.958	184308.394	30.743
STN3A	Control Station	528303.094	184306.006	31.814
STN3B	Control Station	528291.550	184314.286	34.586
STN4	Control Station	528312.221	184285.070	32.894
STN4A	Control Station	528270.107	184291.639	32.870
STN3	Control Station	528357.486	184283.113	28.328



ON RETAIL SURVEY	
DATE	11 FEBRUARY 2013
BY	XYZ LAND SURVEYS
FOR	ONE HOUSING
PROJECT NO.	2013/027
DRAWING NO.	LC
SCALE	1:200
DATE	FEBRUARY 2013
BY	XYZ LAND SURVEYS
FOR	ONE HOUSING
PROJECT NO.	2013/027
DRAWING NO.	LC
SCALE	1:200

REVISION:	
SCALE:	DATE:
DRAWING NO.:	DRAWN BY:
SURVEYED BY:	CHECKED BY:
LEVELS RELATE TO:	
GPS DATA	

SITE ADDRESS:
 100 CHALK FARM ROAD
 LONDON
 NW1 8EH

DRAWING TITLE:
 SITE SURVEY

JOB NUMBER:
 2013/027

CLIENT:
 ONE HOUSING

XYZ LAND SURVEYS
 CHARTERED SURVEYORS
 HEAD OFFICE
 TRENT COURT, UNIT ONE, CHICKSBURY ROAD
 CHESSINGTON, SURREY, KT8 1BD
 TEL: 033 550 4500
 E-Mail: surveys@xyzland.com
 Website: www.xyzland.com

CHARTERED SURVEYORS



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APPENDIX B



Geotechnical Maps

Geology 1:50,000 Maps Legends




Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WGR	Worked Ground (Undivided)	Void	Holocene - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LASI	Langley Silt Member	Clay and Silt	Devensian - Devensian
	LHGR	Lynch Hill Gravel Member	Sand and Gravel	Wolstonian - Wolstonian

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Eocene - Eocene
	CLGB	Claygate Member	Clay, Silt and Sand	Eocene - Eocene
	BGS	Bagshot Formation	Sand	Eocene - Eocene



Geology 1:50,000 Maps

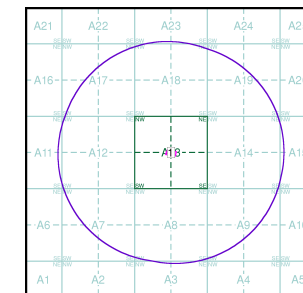
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	256
Map Name:	North London
Map Date:	2006
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Available
Landslip:	Available
Rock Segments:	Not Available

Geology 1:50,000 Maps - Slice A



Order Details:

Order Number:	44461940_1_1
Customer Reference:	130041 100 Chalk Farm Road
National Grid Reference:	528310, 184310
Site:	A
Site Area (Ha):	0.41
Search Buffer (m):	1000

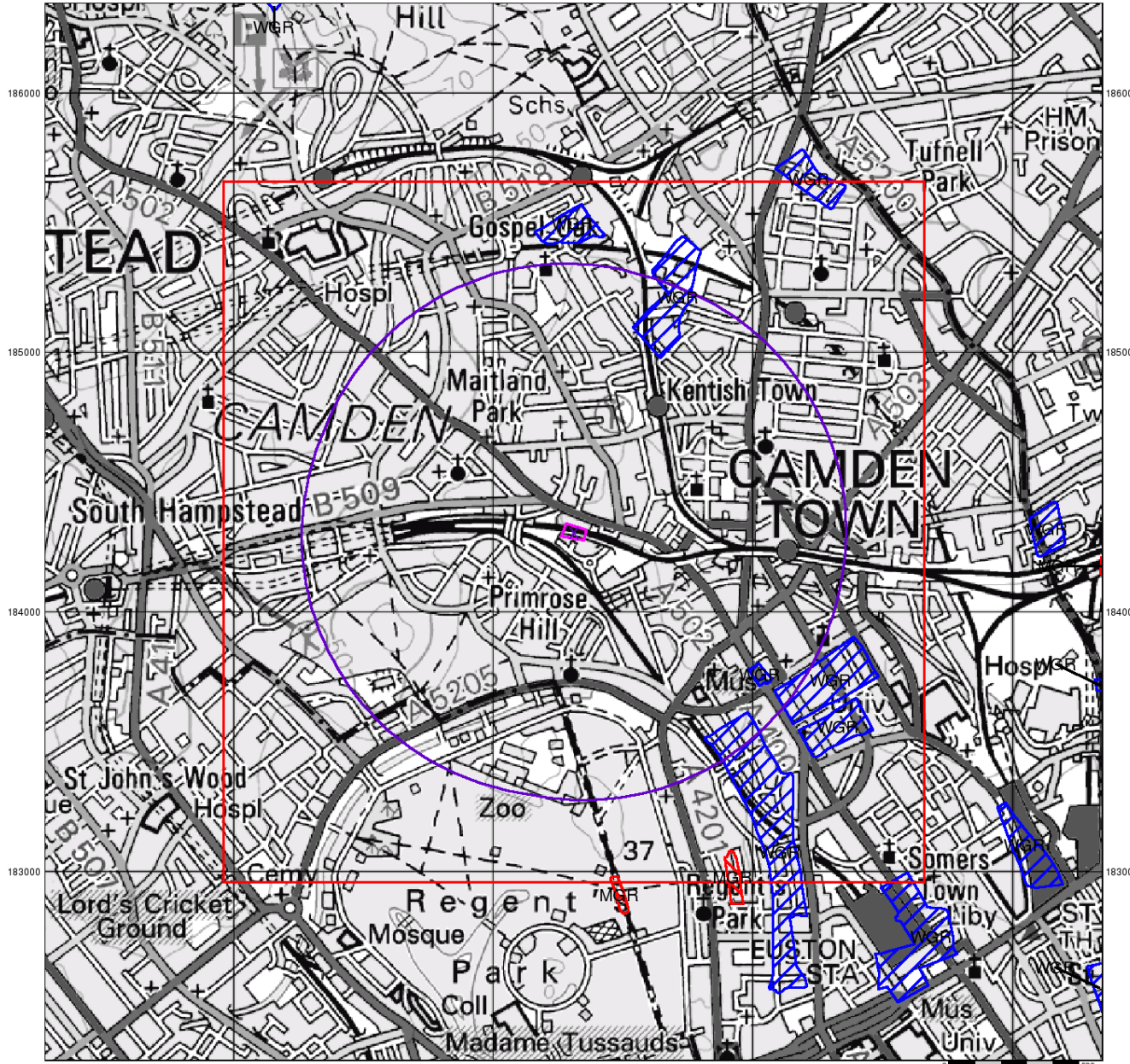
Site Details:

One Housing Group, 100 Chalk Farm Road, LONDON, NW1 8EH



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

527000 528000 529000 530000



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Artificial Ground and Landslip

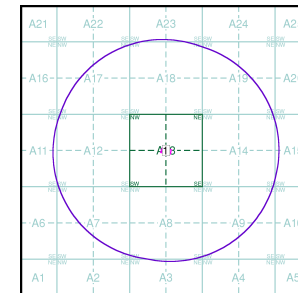
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

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 Slice: A
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 Search Buffer (m): 1000

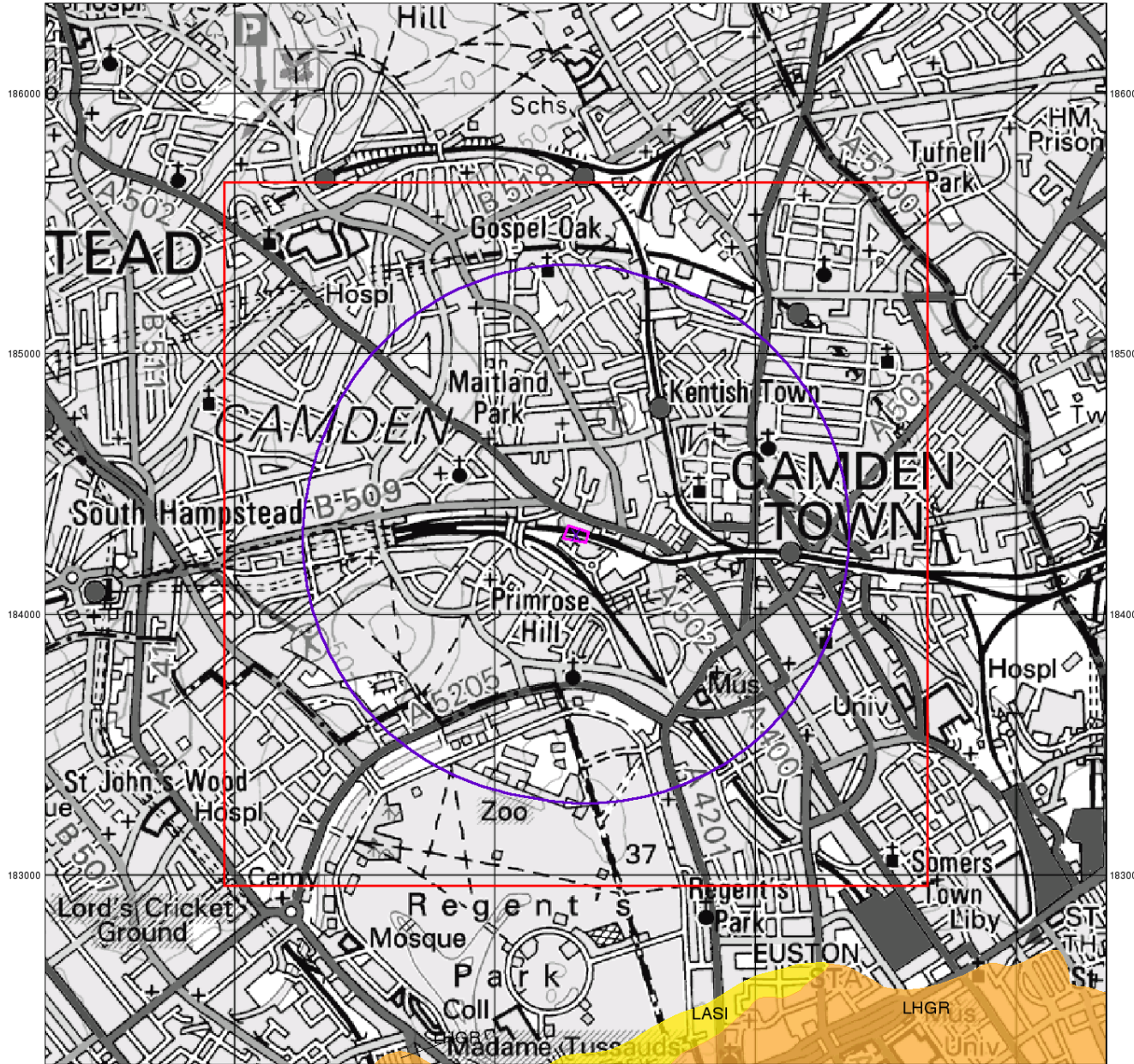
Site Details:

One Housing Group, 100 Chalk Farm Road, LONDON, NW1 8EH



Tel: 0844 844 9952
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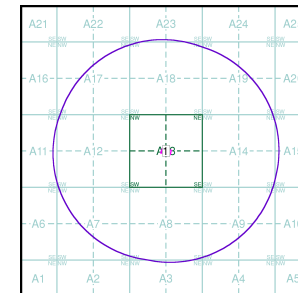
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

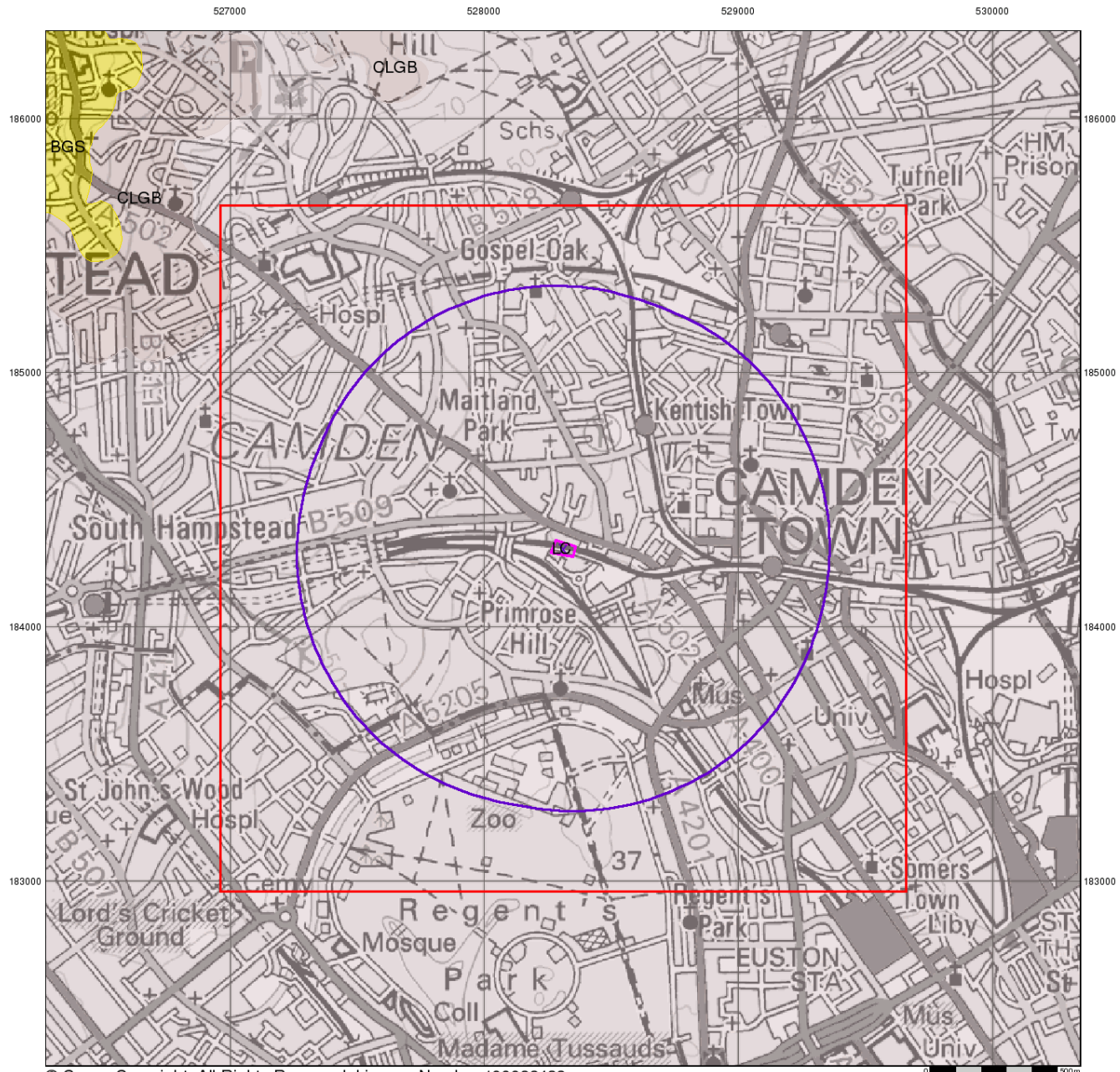
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 Customer Reference: 130041 100 Chalk Farm Road
 National Grid Reference: 528310, 184310
 Slice: A
 Site Area (Ha): 0.41
 Search Buffer (m): 1000

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Bedrock and Faults

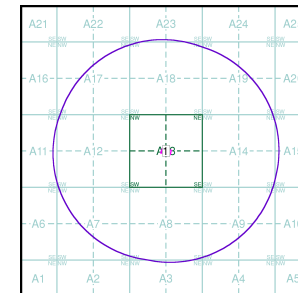
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

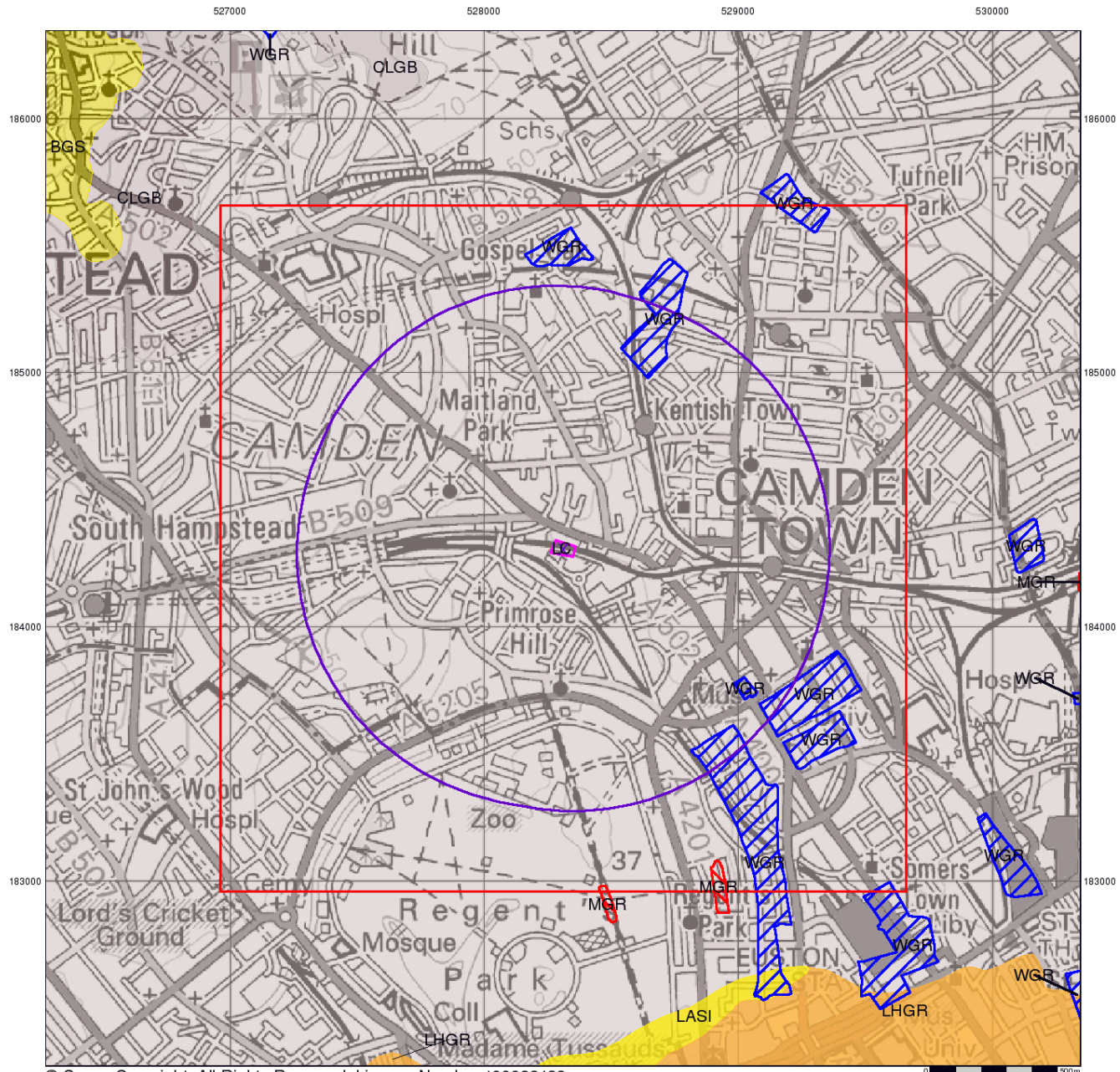
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 Customer Reference: 130041 100 Chalk Farm Road
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

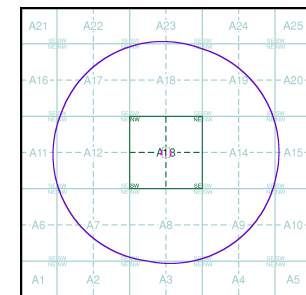
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

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Combined Geology Map - Slice A



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