



**Historical Aerial Photography**  
Published 1946  
Source map scale - 1:1,250

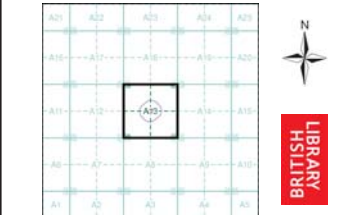
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was rechecked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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**Map Name(s) and Date(s)**

TQ28NE	1951	1:10,560
TQ28SE	1951	1:10,560
TQ28NE	1946	1:1,250
TQ28SE	1946	1:1,250

**Historical Aerial Photography - Segment A13**

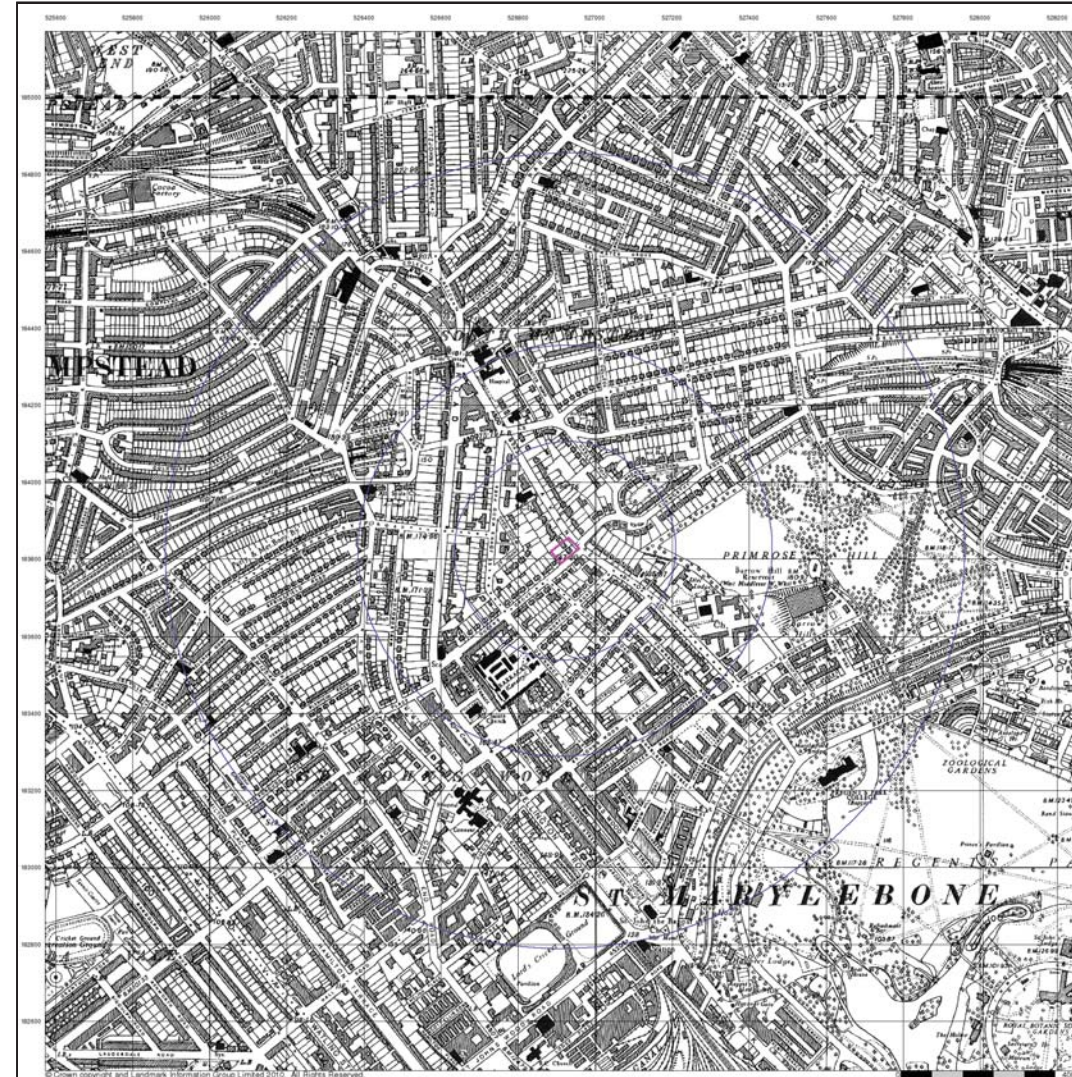


**Order Details**

Order Number: 32983683\_1\_1  
Customer Ref: J10229  
National Grid Reference: 526920, 183820  
Slice: A  
Site Area (Ha): 0.25  
Search Buffer (m): 100

**Site Details**

75 Avenue Road, LONDON, NW8 6JD



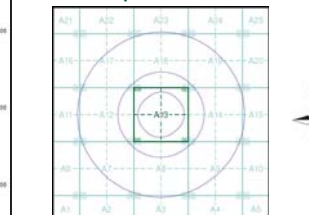
**Ordnance Survey Plan**  
Published 1951  
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published data given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unframed - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

TQ28NE	1951	1:10,560
TQ28SE	1951	1:10,560

**Historical Map - Slice A**



**Order Details**

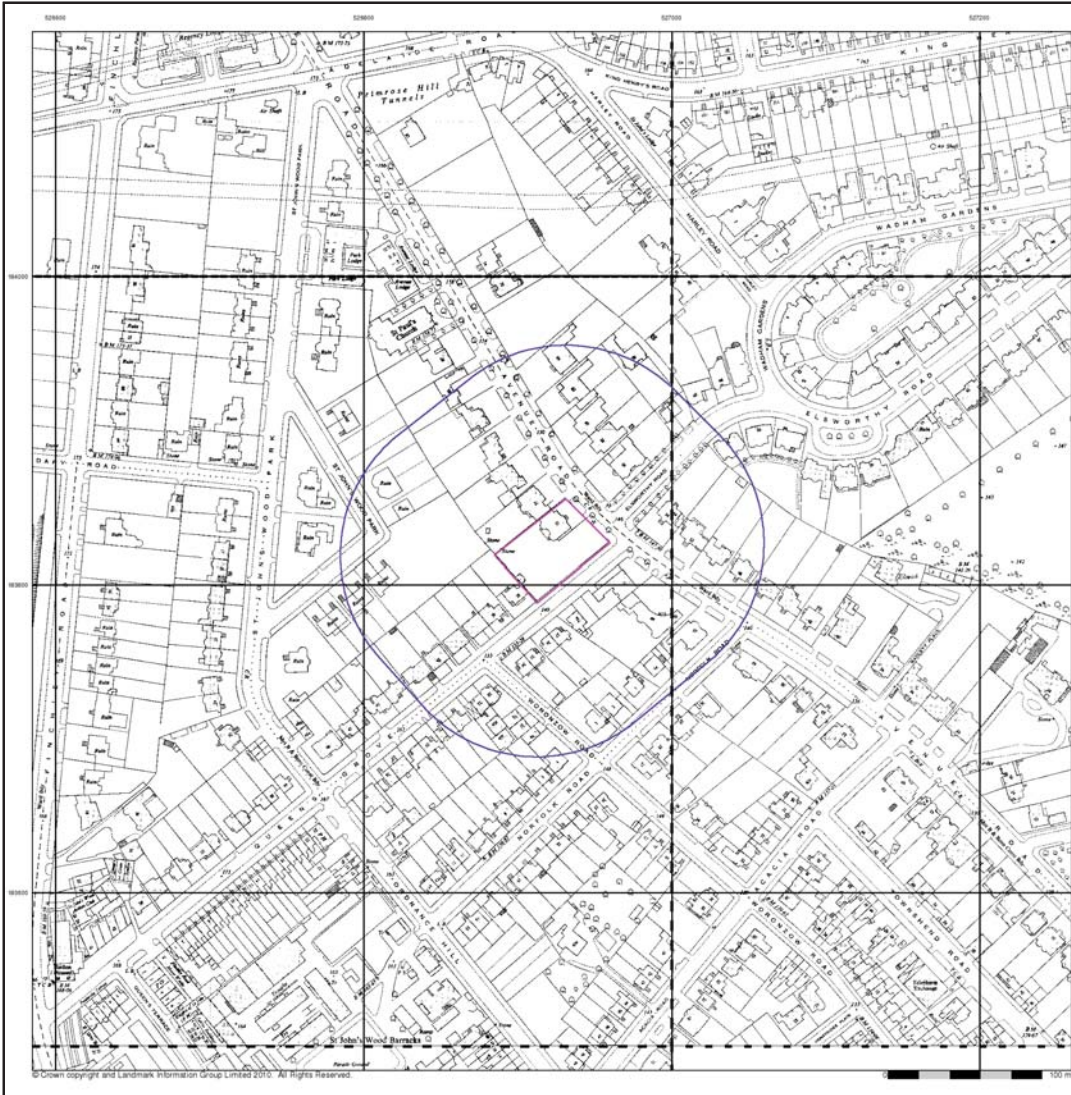
Order Number: 32983683\_1\_1  
Customer Ref: J10229  
National Grid Reference: 526920, 183820  
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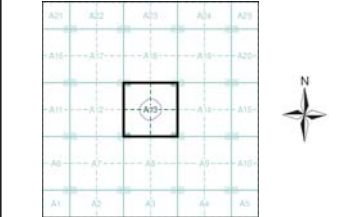
**Ordnance Survey Plan**  
**Published 1953 - 1954**  
**Source map scale - 1:1,250**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

**Map Name(s) and Date(s)**

TQ25848	TQ27848
1954	1954
1:1,250	1:1,250
TQ25848	TQ27848
1954	1954
1:1,250	1:1,250
TQ25838	TQ27838
1954	1954
1:1,250	1:1,250

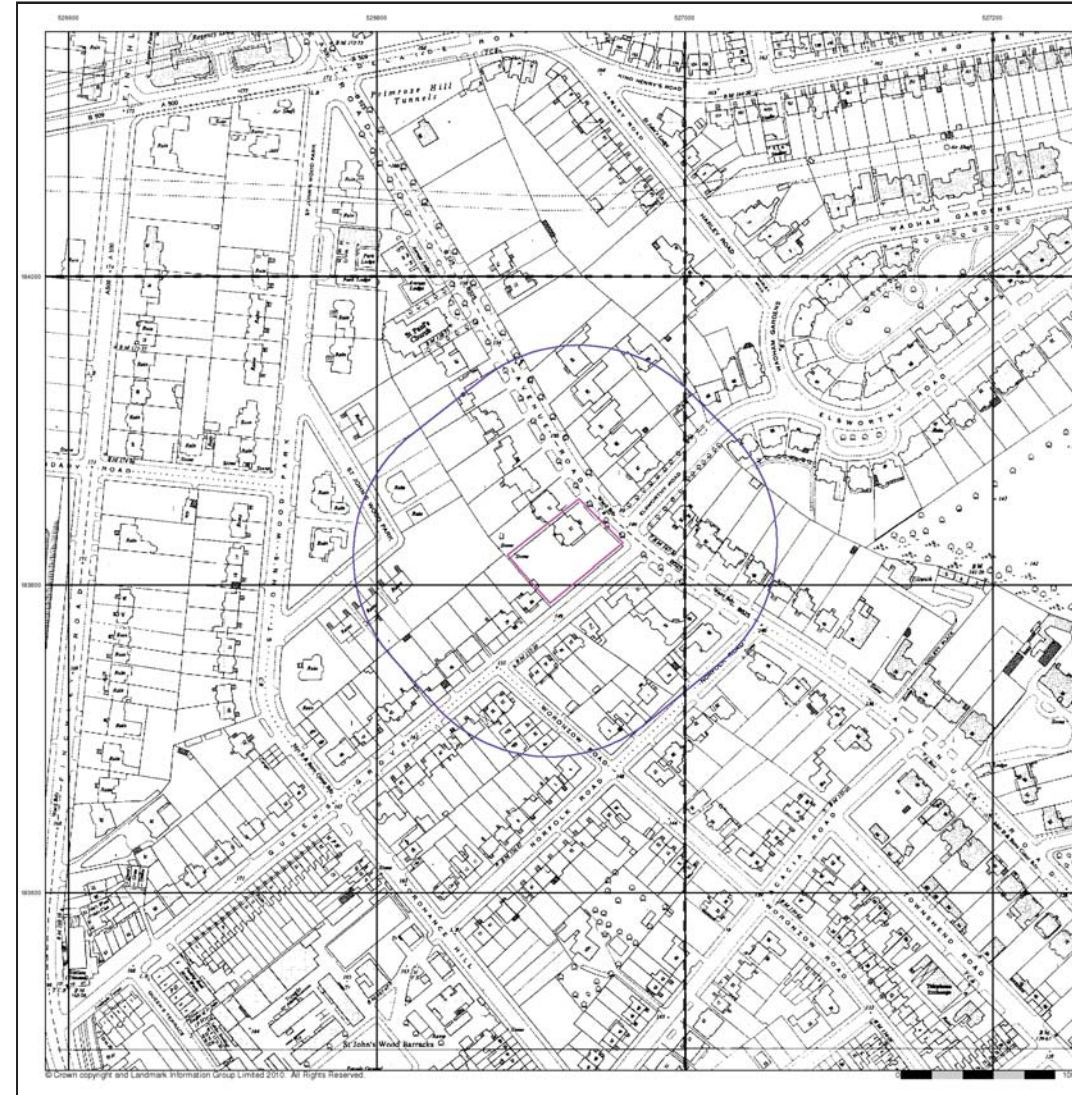
**Historical Map - Segment A13**



**Order Details**

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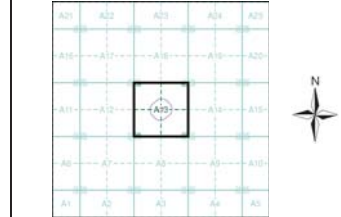
**Ordnance Survey Plan**  
**Published 1954 - 1955**  
**Source map scale - 1:2,500**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

**Map Name(s) and Date(s)**

TQ25848	TQ27848
1954	1954
1:2,500	1:2,500
TQ25848	TQ27848
1954	1954
1:2,500	1:2,500
TQ25838	TQ27838
1954	1954
1:2,500	1:2,500

**Historical Map - Segment A13**



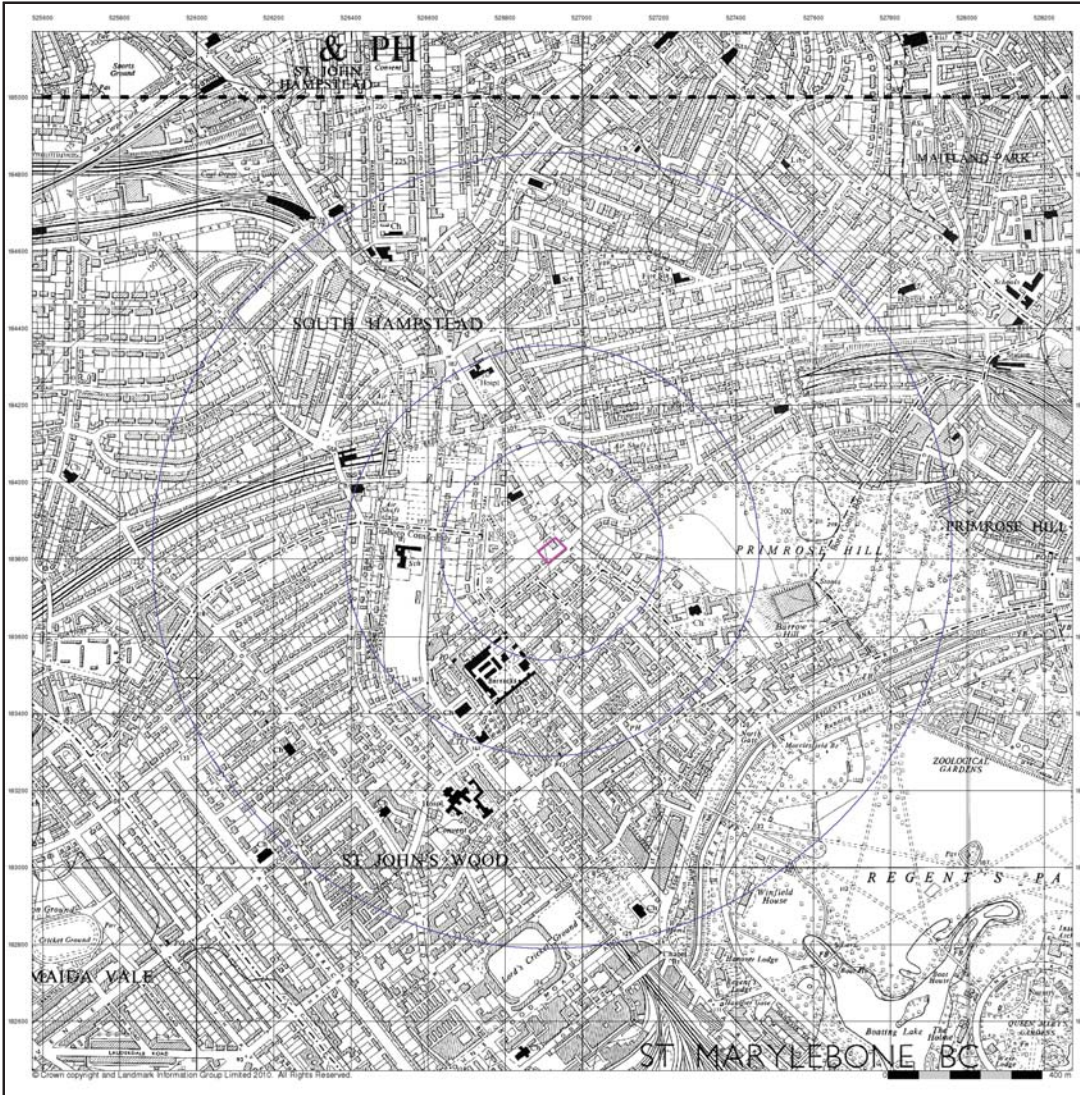
**Order Details**

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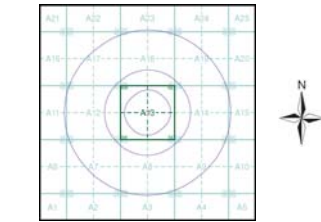
**Ordnance Survey Plan**  
**Published 1957 - 1958**  
**Source map scale - 1:10,000**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

TQ28NE	1958	1:10,560
TQ28SE	1957	1:10,560

**Historical Map - Slice A**

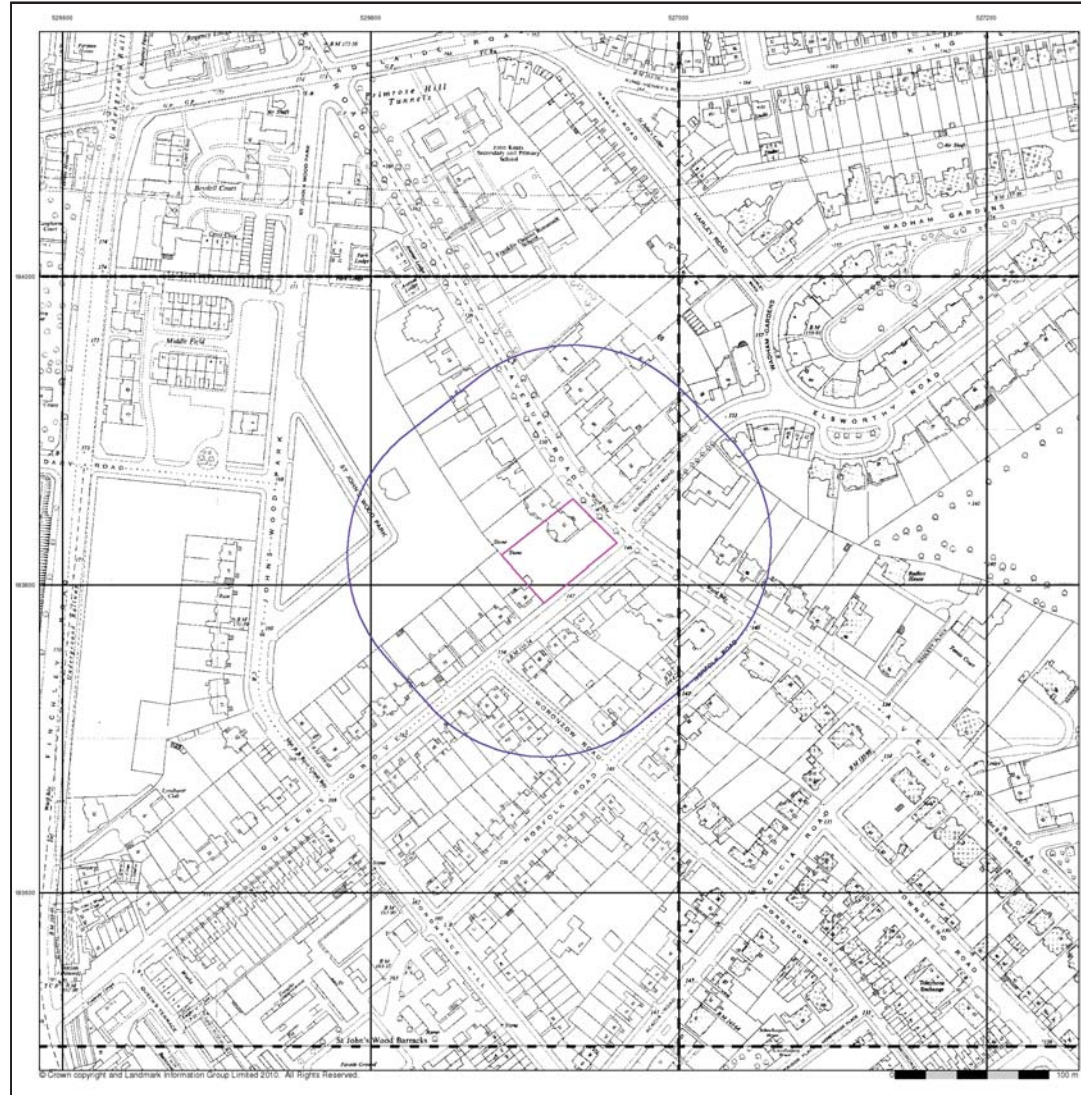


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Order Number: 32983683\_1\_1  
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 National Grid Reference: 526920, 183820  
 Slice: A  
 Site Area (Ha): 0.25  
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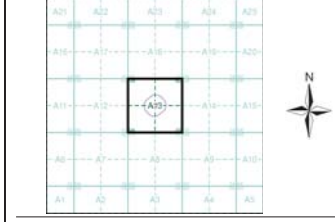
**Ordnance Survey Plan**  
**Published 1960 - 1966**  
**Source map scale - 1:1,250**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

**Map Name(s) and Date(s)**

TQ28NE	1962	1:1,250
TQ28SE	1960	1:1,250
TQ28NE	1960	1:1,250
TQ28SE	1960	1:1,250

**Historical Map - Segment A13**



**Order Details**

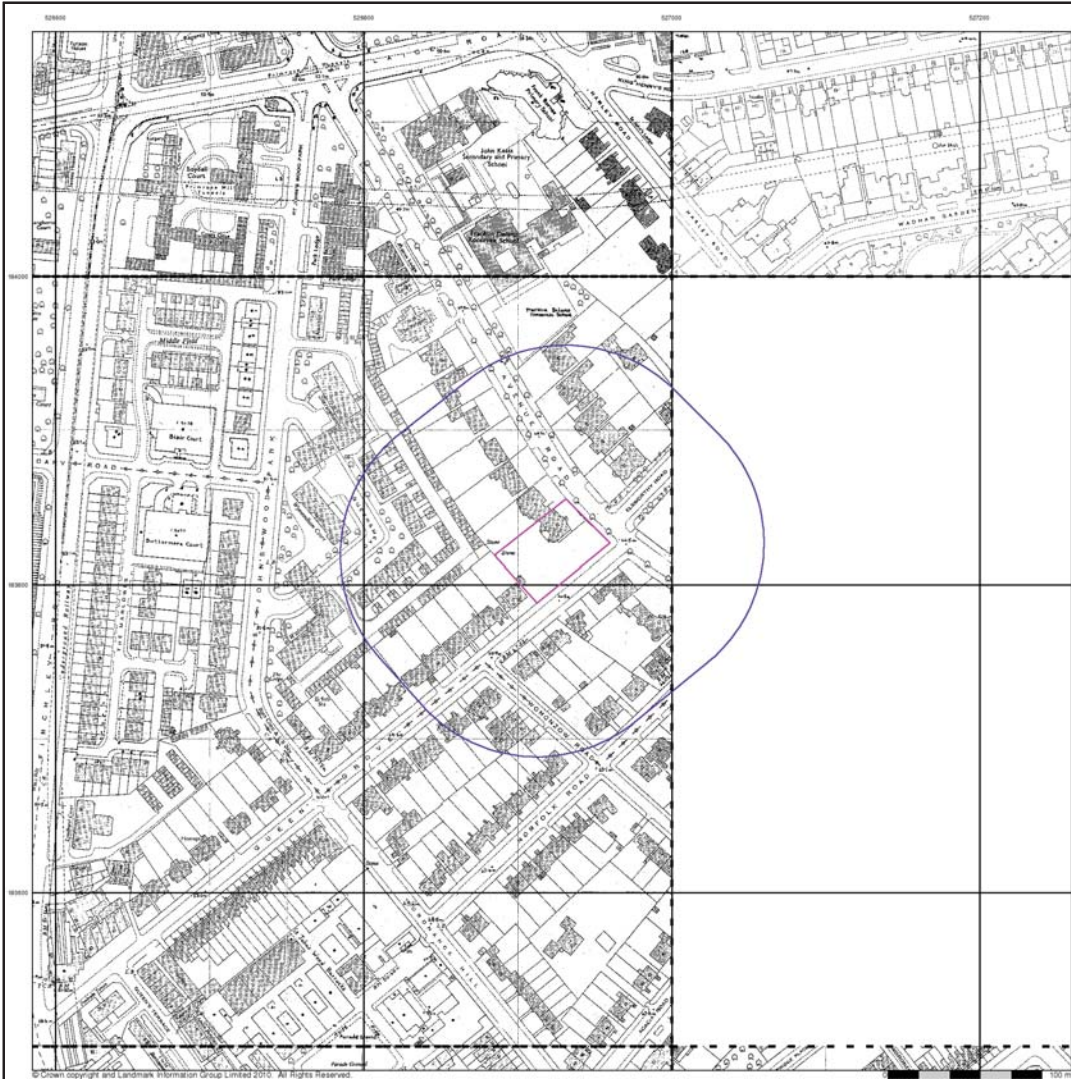
Order Number: 32983683\_1\_1  
 Customer Ref: J10229  
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 Site Area (Ha): 0.25  
 Search Buffer (m): 100

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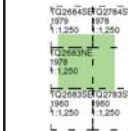




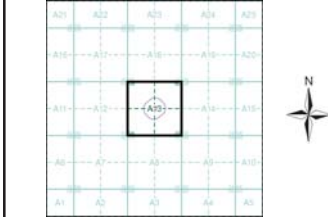
**Additional SIMs**  
**Published 1960 - 1979**  
**Source map scale - 1:1,250**

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

**Map Name(s) and Date(s)**



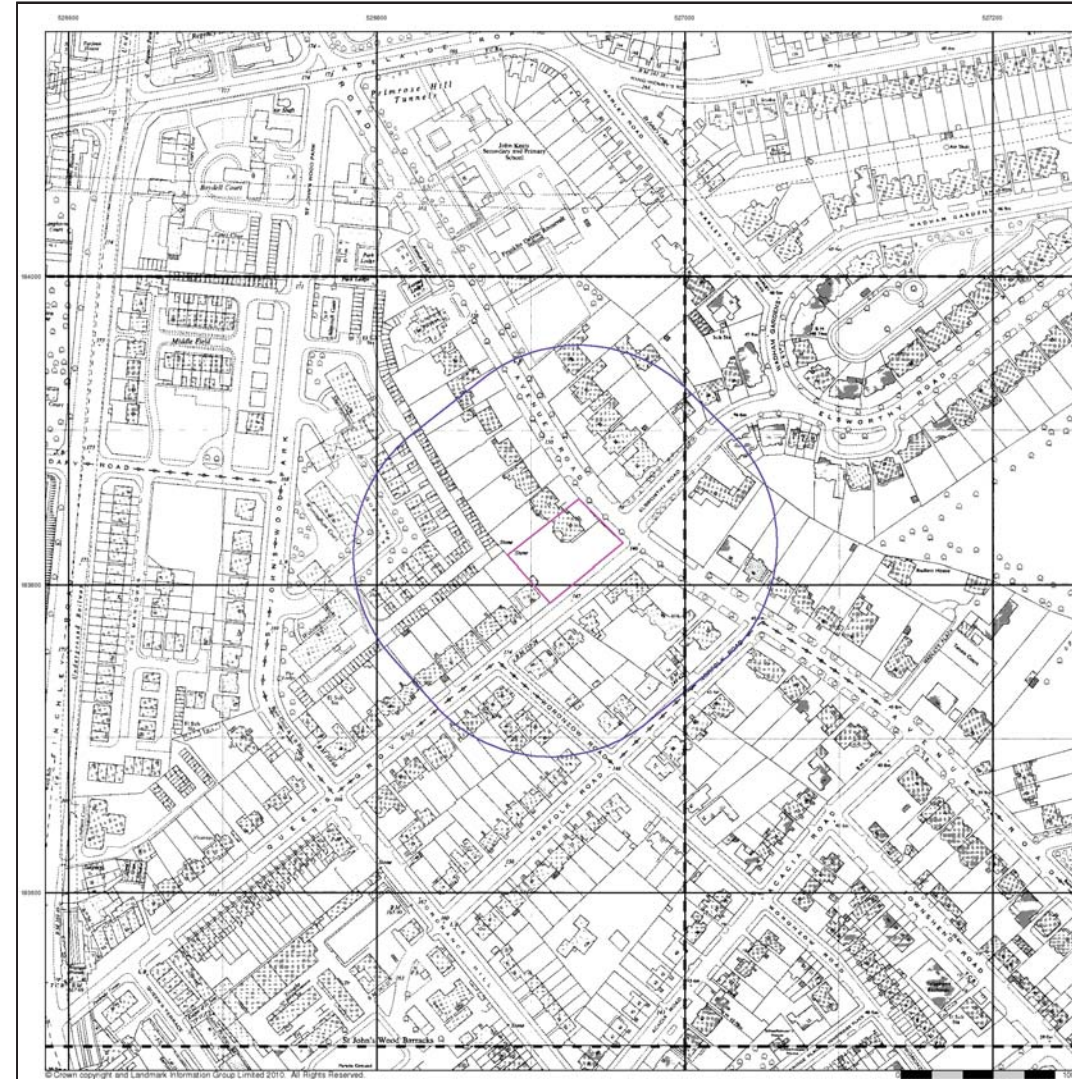
**Historical Map - Segment A13**



**Order Details**

Order Number: 32983683\_1\_1  
 Customer Ref: J10229  
 National Grid Reference: 526920, 183820  
 Slice: A  
 Site Area (Ha): 0.25  
 Search Buffer (m): 100

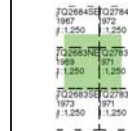
**Site Details**  
 75 Avenue Road, LONDON, NW8 6JD



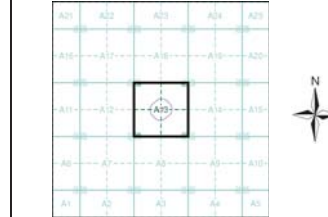
**Ordnance Survey Plan**  
**Published 1967 - 1973**  
**Source map scale - 1:1,250**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1930, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

**Map Name(s) and Date(s)**



**Historical Map - Segment A13**



**Order Details**

Order Number: 32983683\_1\_1  
 Customer Ref: J10229  
 National Grid Reference: 526920, 183820  
 Slice: A  
 Site Area (Ha): 0.25  
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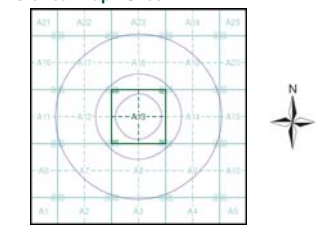
**Ordnance Survey Plan  
Published 1968**  
**Source map scale - 1:10,000**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940s, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overlaid with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

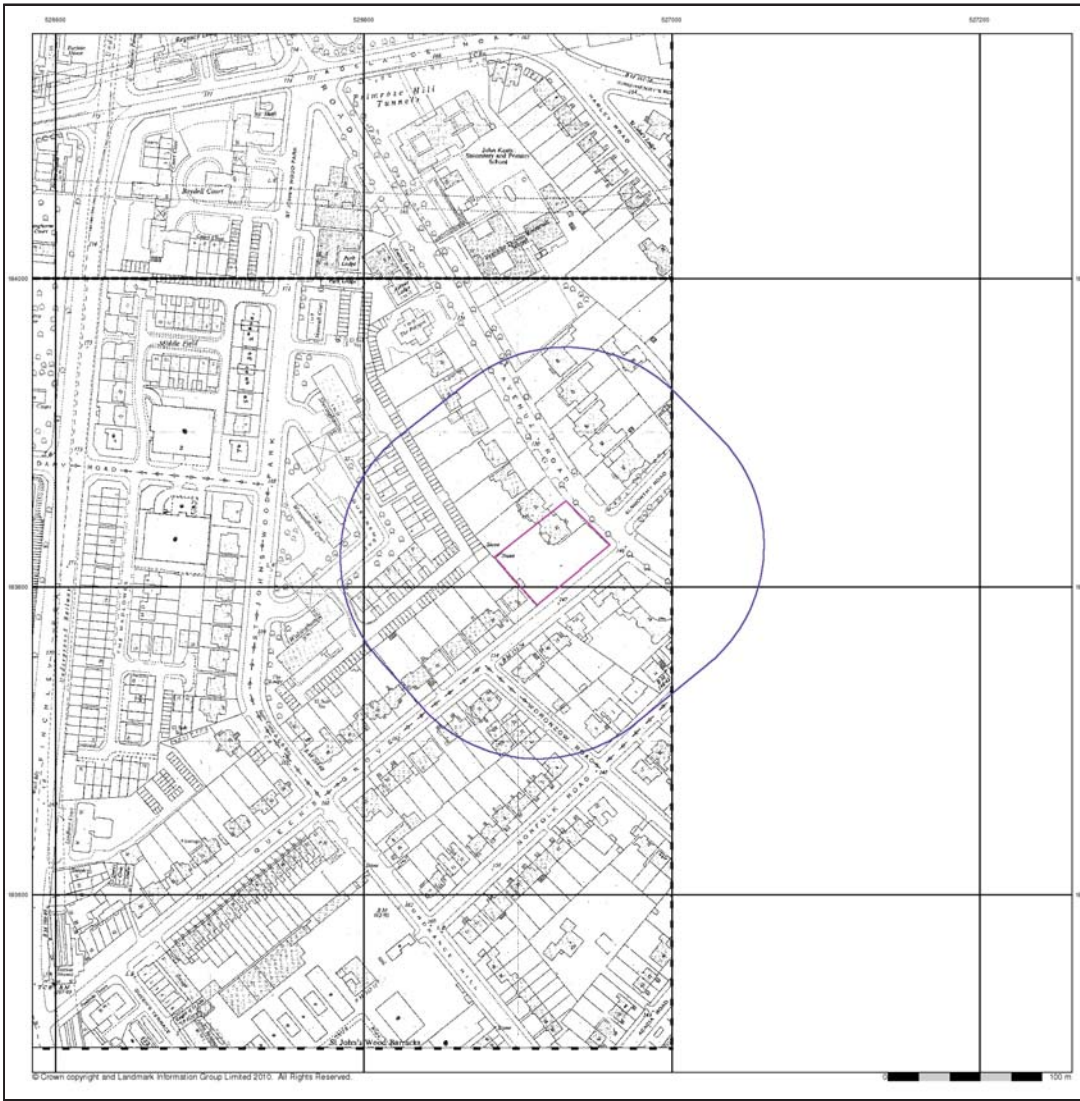
TQ28NE	1968	1:10,000
TQ28SE	1968	1:10,000

**Historical Map - Slice A**



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Slice: A  
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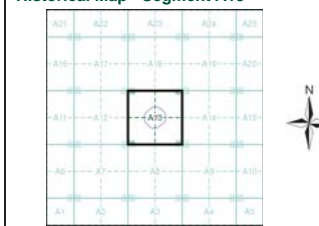
**Supply of Unpublished Survey Information  
Published 1973 - 1974**  
**Source map scale - 1:1,250**

SUSI maps (Supply of Unpublished Survey Information) were produced between 1973 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

**Map Name(s) and Date(s)**

TQ284SE	1973	1:1,250
TQ280NE	1974	1:1,250

**Historical Map - Segment A13**



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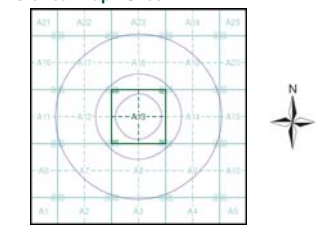
**Ordnance Survey Plan**  
Published 1974 - 1976  
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940s, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

- TG28NE  
1976  
1:10,000
- TG28SE  
1974  
1:10,000

**Historical Map - Slice A**

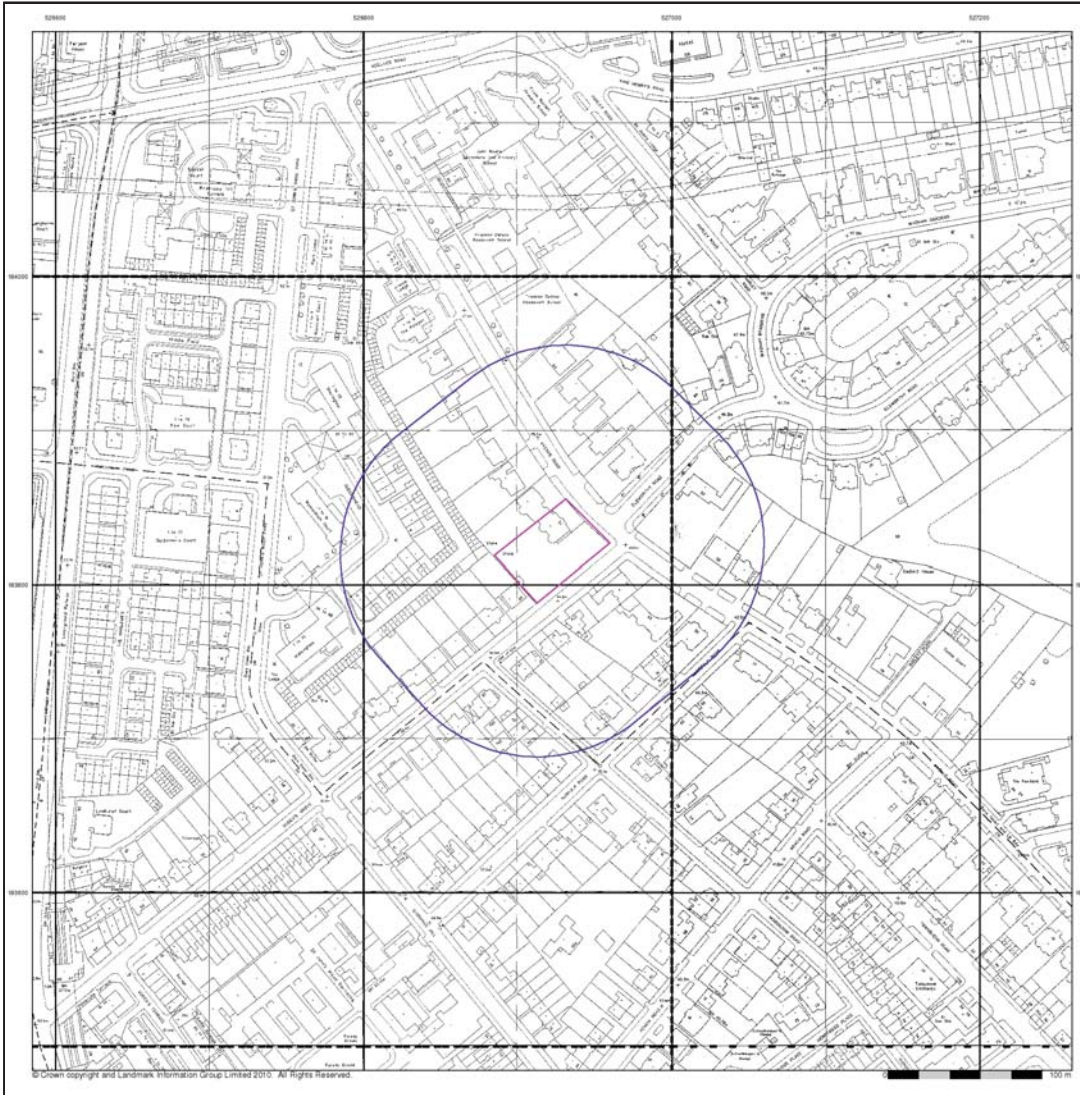


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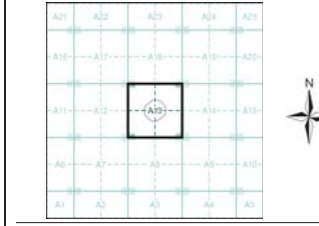
**Large-Scale National Grid Data**  
Published 1991  
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the forerunners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

**Map Name(s) and Date(s)**

- N02848802764W  
1991 1991  
1:250 1:250
- N02848802764W  
1991 1991  
1:250 1:250
- N02848802764W  
1991 1991  
1:250 1:250

**Historical Map - Segment A13**



**Order Details**

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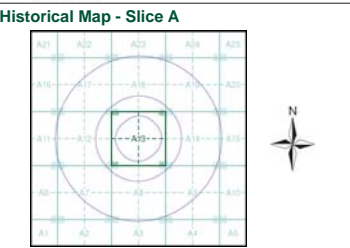
**Ordnance Survey Plan**  
**Published 1991 - 1996**  
**Source map scale - 1:10,000**

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**Map Name(s) and Date(s)**

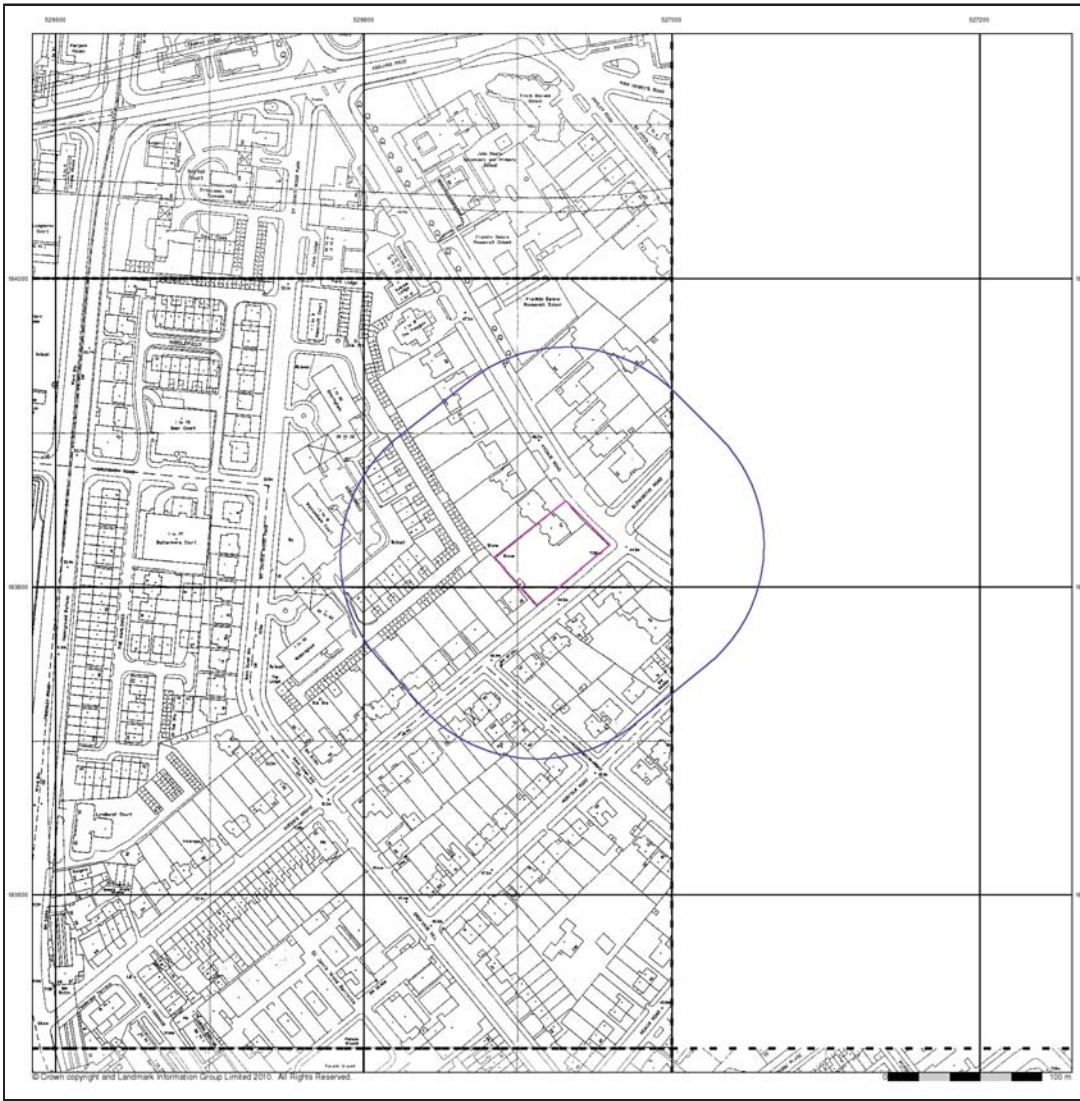
TG28NE  
 1996  
 1:10,000

TG28SE  
 1961  
 1:10,000



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**Large-Scale National Grid Data**  
**Published 1992 - 1996**  
**Source map scale - 1:1,250**

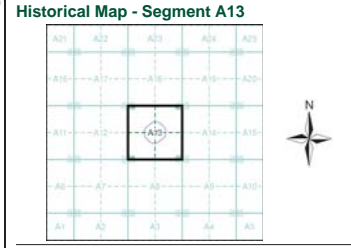
The Large Scale National Grid Data superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1996. These maps were the forerunners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

**Map Name(s) and Date(s)**

N02884SE  
 1995  
 1:1,250

N02884NE  
 1962  
 1:1,250

N02883E02915SW  
 1962  
 1:1,250

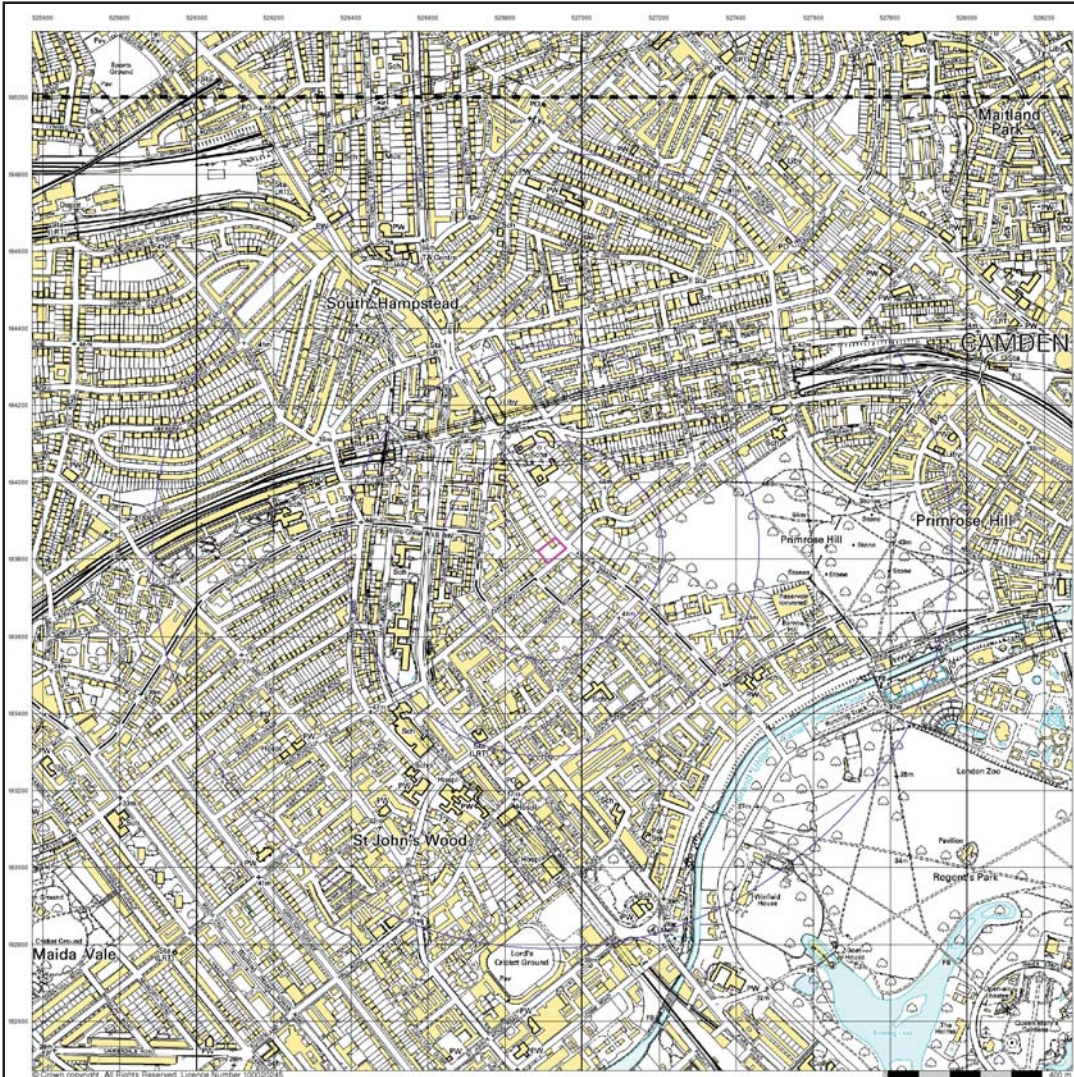


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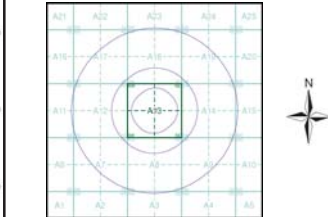
**10k Raster Mapping**  
**Published 1999**  
**Source map scale - 1:10,000**

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

TQ28NE	1999	1:10,000
TQ28SE	1999	1:10,000

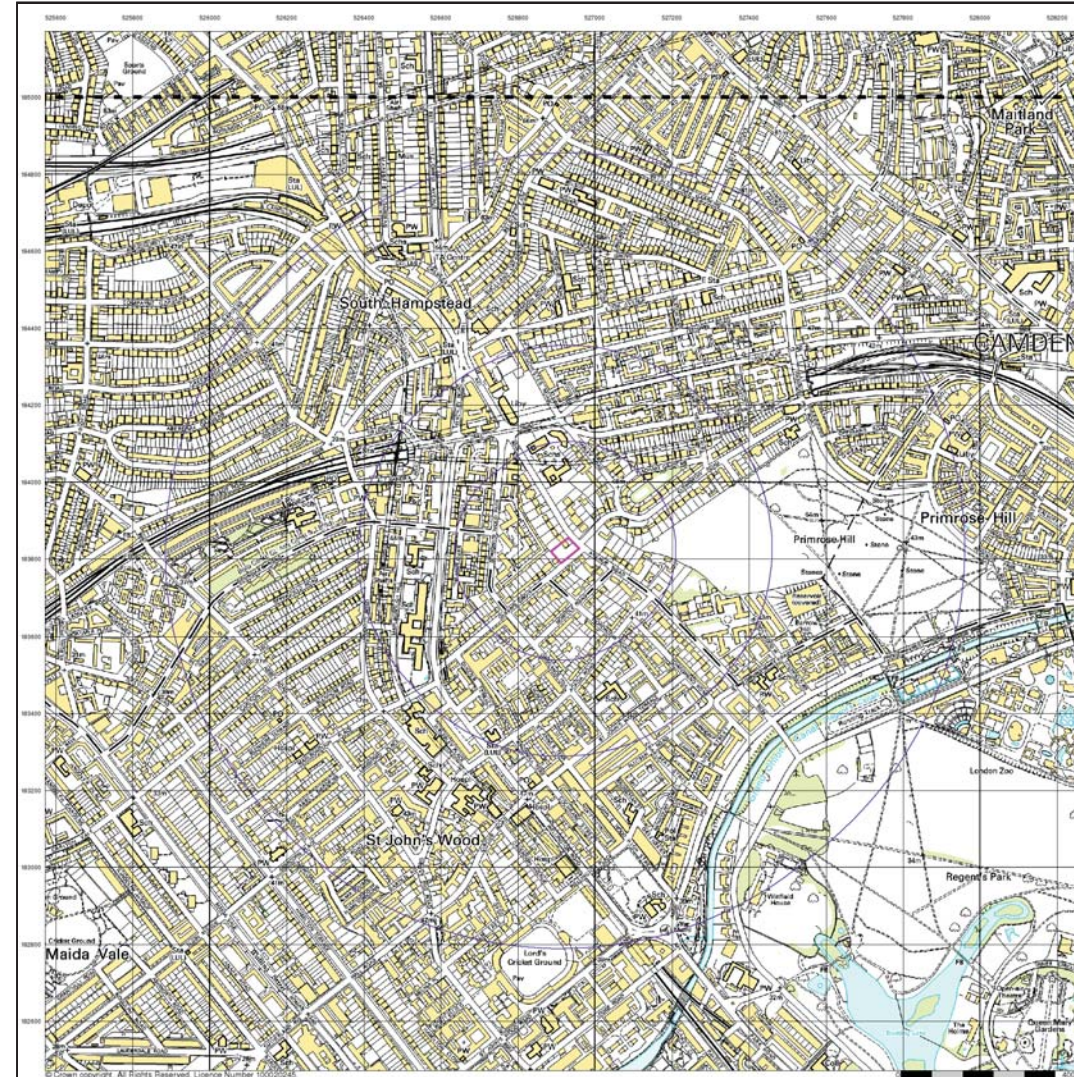
**Historical Map - Slice A**



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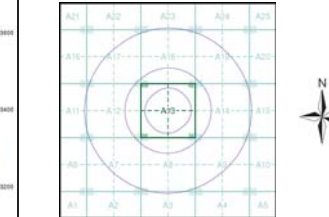
**10k Raster Mapping**  
**Published 2006**  
**Source map scale - 1:10,000**

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

TQ28NE	2006	1:10,000
TQ28SE	2006	1:10,000

**Historical Map - Slice A**



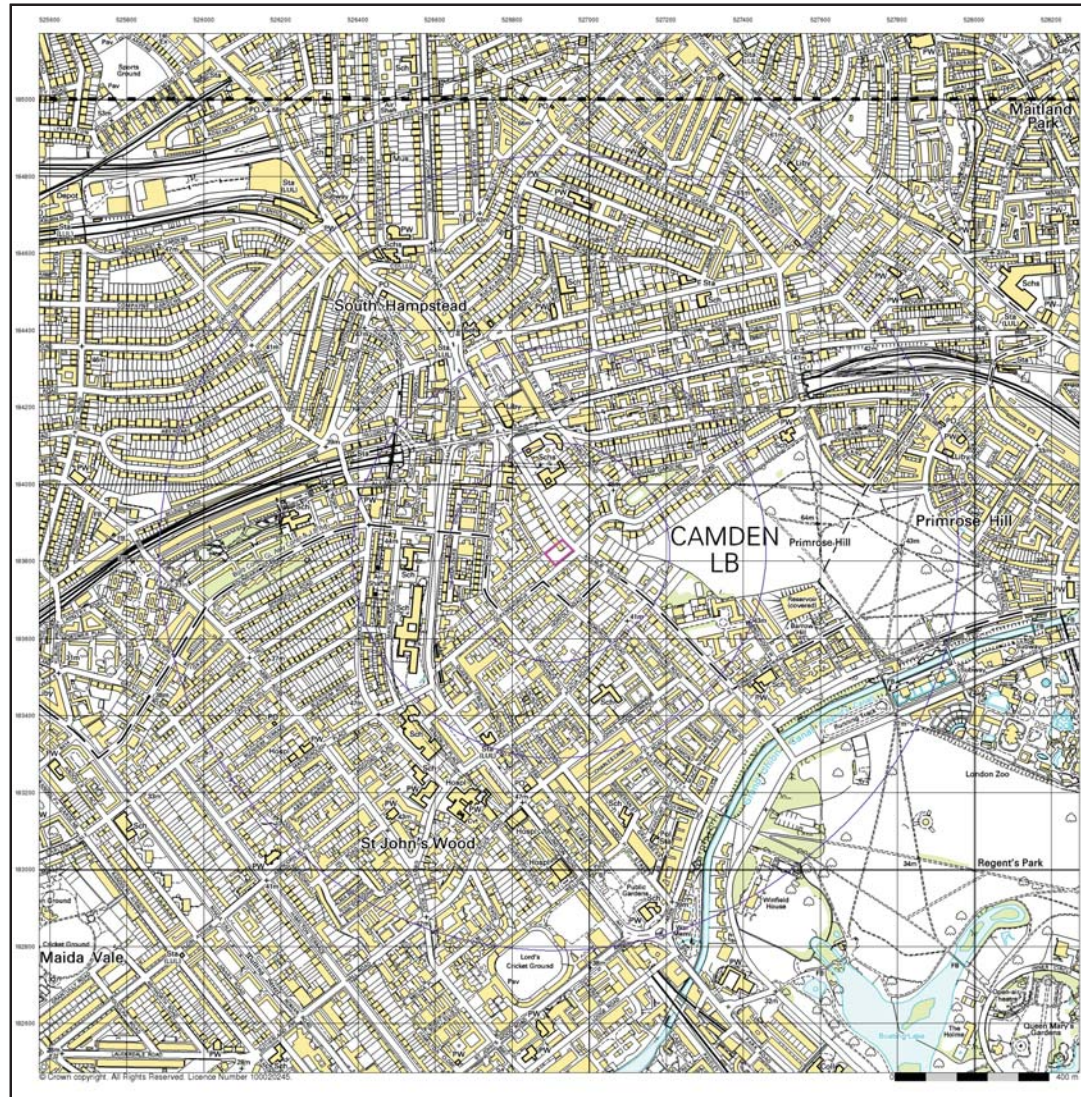
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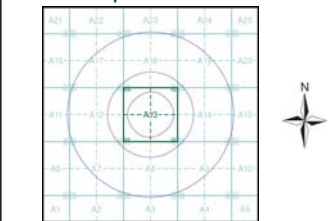
**10k Raster Mapping**  
 Published 2010  
 Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

TQ28NE	2010	1:10,000
TQ28SE	2010	1:10,000

**Historical Map - Slice A**



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**Site Details**

75 Avenue Road, LONDON, NW8 6JD

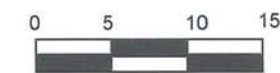
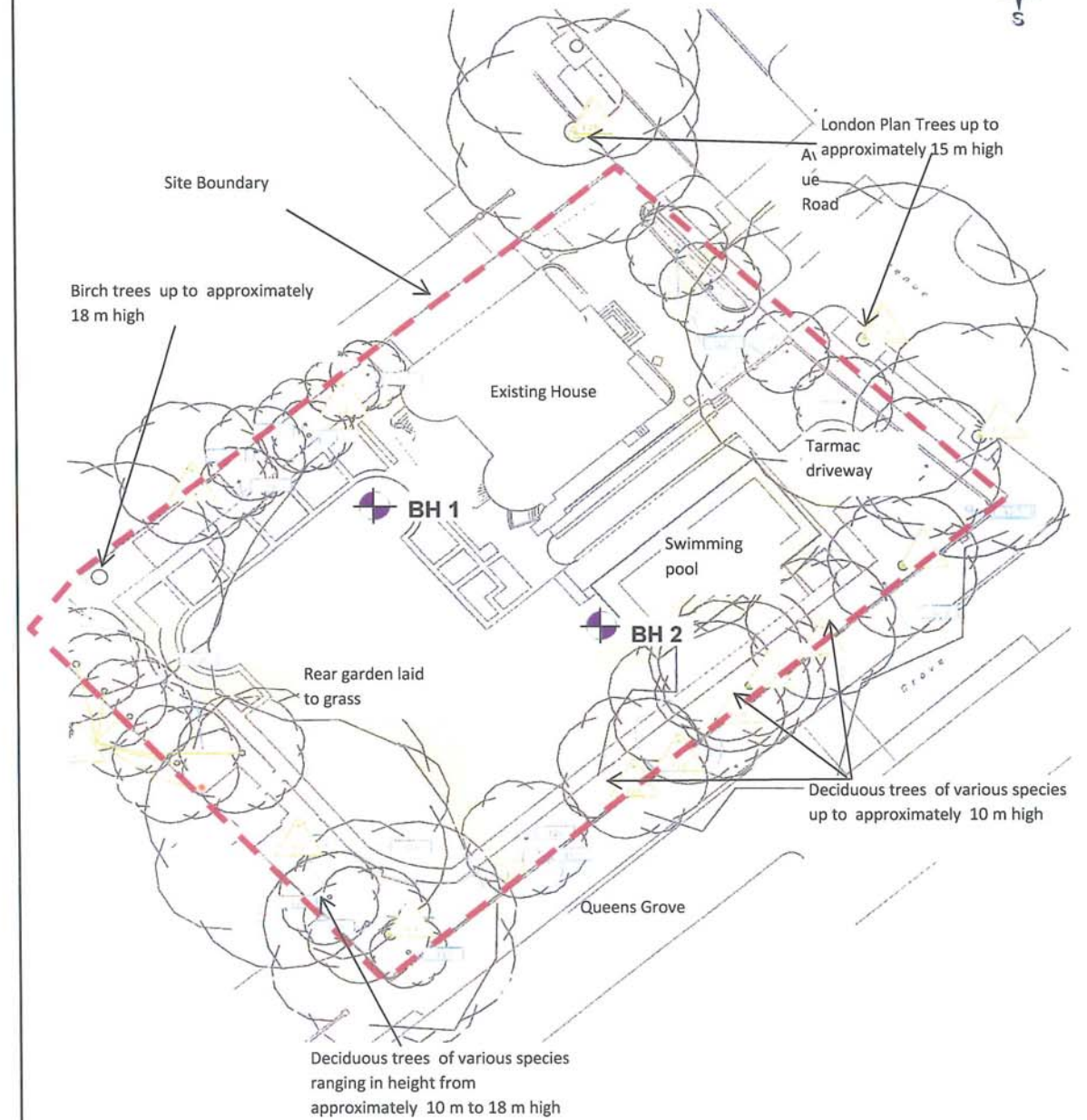


Tyttenhanger House  
 Coursers Road  
 St Albans  
 AL4 0PG

**Site Plan**

**Site** 75 Avenue Road, London, Nw8 6JD  
**Client** Deroda Investments Ltd  
**Engineer** Price and Myers

**Job Number**  
 J10229  
**Sheet**  
 1 / 1



Approximate Scale in metres

Plan shows existing layout



Geotechnical & Environmental Associates (GEA) is an engineer-led and client-focused independent specialist providing a complete range of geotechnical and contaminated land investigation, analytical and consultancy services to the property and construction industries.

We have offices at

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Enquiries can also be made on-line at [www.gea-ltd.co.uk](http://www.gea-ltd.co.uk) where information can be found on all of the services that we offer.



11 February 2015

Your ref:  
Our ref: J14383/AB/1

Mr Neil Cameron  
Heyne Tillett Steel  
77 Bastwick Street  
London  
EC1V 3PZ



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Dear Mr Cameron

**Re 73-75 AVENUE ROAD, LONDON, NW8 6HP**

Geotechnical and Environmental Associates (GEA) has been commissioned by Neil Cameron of Heyne Tillett Steel on behalf of Deroda Investments Ltd, to carry out investigations into the location of the historical River Tyburn at the above location. Borehole records and a site plan indicating the borehole locations are enclosed and this letter presents the findings of the work carried out.

The work comprised:

- A review of the previous report produced by GEA in February 2011<sup>i</sup>;
- A review of evidence for the threat from Unexploded Ordnance (UXO); and
- An intrusive ground investigation

#### 1. Existing Information

The site has changed little since the production of the report by GEA in 2011. The desk study carried out as part of the previous investigation indicated that originally two houses were located at the site until some time between 1951 and 1953 when the eastern house was removed. At some time between 1953 and the present day, the existing swimming pool was constructed.

A review of the historical maps and online information<sup>ii</sup> provides circumstantial evidence that the site may have suffered from direct bombing during World War II. The historical map from 1954 showed several houses to the west of the site as "ruins". Later maps indicate these areas were cleared of houses and redeveloped.

A review of the *The Lost Rivers of London*<sup>iii</sup> indicates a tributary of the River Tyburn running across the site in the easterly corner, in a north-south orientation towards Regent's Park. The house that was removed from the site was closest to the indicated location of the tributary of the River Tyburn.

The service plans from 2011 indicate that a Combined Sewer Main runs along the centre of Avenue Road. It is known that "*many of the rivers have become part of London's complex sewer system.*" (Barton, 1992), so it is considered likely that the River Tyburn and its tributary are now captured in the sewer system.

Offices in Hertfordshire (tel 01727 824666) and Nottinghamshire (tel 01509 674888)

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Company Secretary  
Penny Piddington



The Geological Survey map of the area (BGS Sheet 256) indicates that the site is underlain by London Clay. The previous investigation found a 0.9 m to 1.4 m thickness of made ground, overlying London Clay and found no evidence of a tributary of the River Tyburn.

## 2. Purposes of Work

The principal objective of the work carried out was to find evidence or locate the former tributary of the River Tyburn.

## 3. Ground Investigation

A ground investigation was undertaken on Wednesday 14th January 2015 and comprised 13 window sampler boreholes. These boreholes were scheduled to terminate at 3.0 m below ground level, to allow the exploratory holes to prove the top of the London Clay. The investigation focused on the northeastern half of the site, where the location of the tributary is suspected.

Due to the risks highlighted by the initial UXO review, a Preliminary UXO Threat Assessment<sup>iv</sup> was commissioned by GEA from a UXO specialist. This recommended that a Detailed UXO Threat Assessment was undertaken and a UXO Specialist was procured to provide on-site support to clear each borehole location to allow mitigation of the risk of a UXO strike during the ground investigation.

The Detailed UXO Threat Assessment<sup>v</sup> has highlighted a medium risk and has recommended on site mitigation measures as part of the development. A copy of this report has been provided to the Client under separate cover.

## 4. Ground Conditions

The boreholes indicated a significant and variable thickness of made ground across the investigated area, which resulted in seven of the 13 boreholes being terminated on obstructions within the made ground. Two of these boreholes were terminated on obstructions at a depth of less than 0.4 m.

The made ground was found to extend to depths of between 1.2 m and 2.3 m, although the base was not reached in Borehole No 5, which was terminated on a concrete obstruction at a depth of 2.20 m. The made ground comprised an upper layer of soft dark brown sandy gravelly clay overlying a further layer of made ground. In seven of the boreholes this comprised cobbles and/or gravel of brick and concrete. In Borehole No 9 this was further underlain by made ground of sandy clay. In four boreholes, the made ground underlying the soft dark brown sandy gravelly clay was variable and included soft slightly sandy slight gravelly clay to soft silty clay.

Borehole Nos 6 and 11 encountered sand and gravel between the made ground and natural clay at depths from 1.6m to 2.10m and 1.85m to 2.10m. It is unclear whether this material was made ground and imported as part of the swimming pool construction or was naturally insitu. There was water associated with this stratum as the material extracted was found to be wet.

Where encountered the London Clay tended to be soft to firm and very gravelly underlying the sand and gravel layer. Elsewhere, the clay was soft to firm and slightly gravelly, becoming stiff with increasing depth.

## 5. Conclusions

Evidence of the River Tyburn tributary is not considered to have been encountered. The investigation was somewhat hindered by the presence and nature of the made ground which terminated seven boreholes prematurely. However the remaining boreholes provided a good spread over the area of concern and these did not provide evidence expected to be associated with a river tributary. The sands and gravels encountered are believed to be natural, as similar

pockets of gravel have been encountered on other sites in the area. It is conceivable that the increased thickness of made ground is associated with historic infilling of a former river channel, but the presence of concrete within the made ground suggests that is more likely to be associated with the former house that was present at this location.

The sands and gravels appear to be saturated and therefore excavations within this material are likely to be unstable. However, the greatest thickness encountered was 0.5m and is therefore unlikely to cause significant issues.

We trust this information is sufficient for your present requirements, but please do not hesitate to contact us if we can be of any further assistance.

Yours sincerely  
GEOTECHNICAL & ENVIRONMENTAL ASSOCIATES

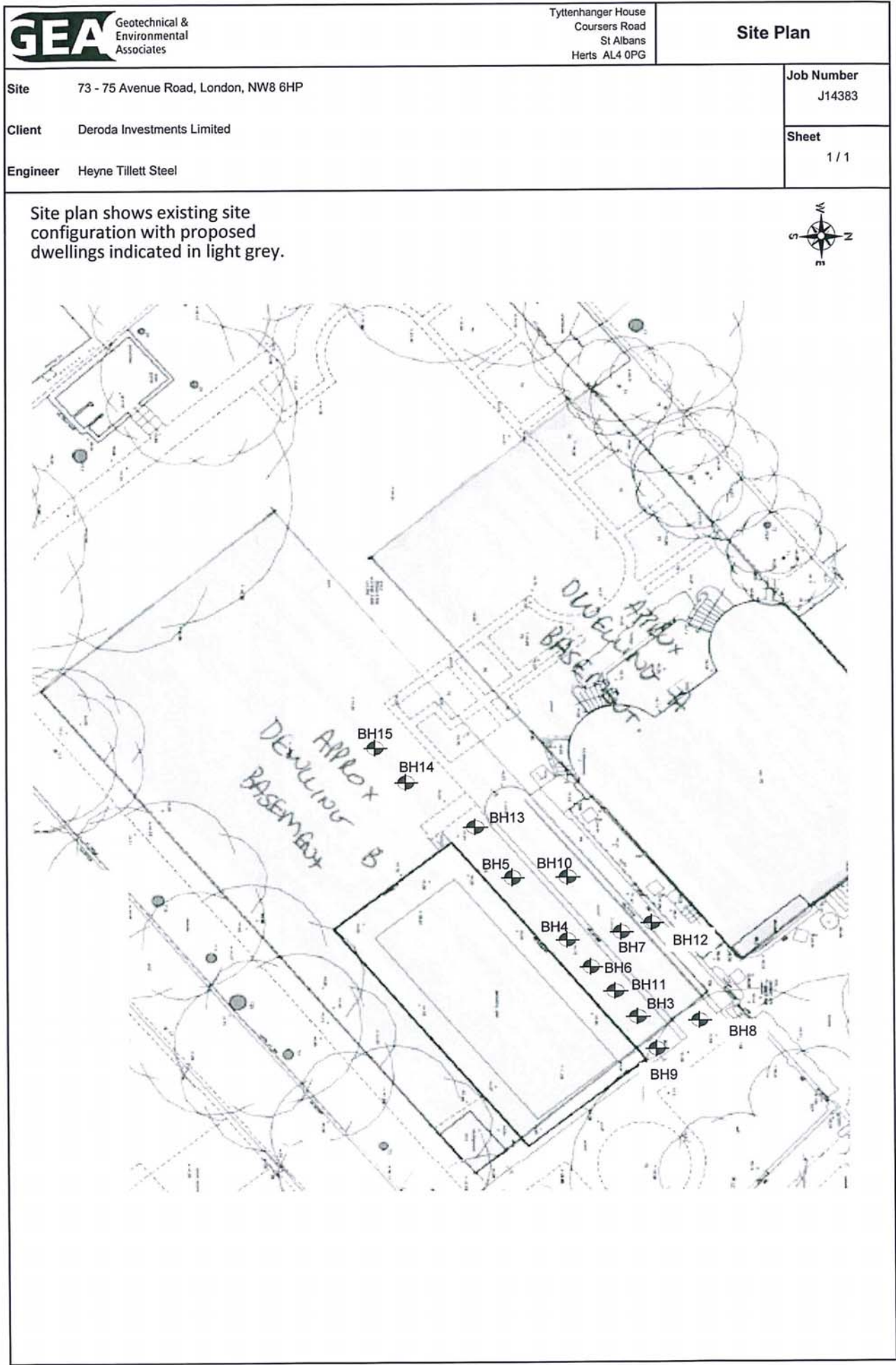


Angela Baird

Encs

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- <sup>i</sup> GEA, February 2011, *Desk Study and Factual Ground Investigation Report* 75 Avenue Road, London, NW8 6JL, Deroda Investments Ltd,
  - <sup>ii</sup> [www.bombsight.org](http://www.bombsight.org)
  - <sup>iii</sup> Barton, N (1992) *The Lost Rivers of London* Historical Publications Ltd.
  - <sup>iv</sup> 1st Line Defence Limited, 2015, *OPN2111 Express Preliminary UXO Risk Assessment*, 73 -75 Avenue Road, London NW8 6HP
  - <sup>v</sup> 1st Line Defence Limited, 2015, *2111AT1 Detailed Unexploded (UXO) Threat Assessment*, 73 -75 Avenue Road, London NW8 6HP





<b>GEA</b> Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		Site 73 - 75 Avenue Road, London, NW8 6HP		Number <b>BH3</b>	
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Deroda Investments Limited	
		Location		Dates 14/01/2015		Engineer Heyne Tillett Steel	
						Job Number J14383	
						Sheet 1/1	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.00)	Grass and topsoil.		
					0.00	Made ground: Soft dark brown slightly sandy gravelly silty CLAY. Gravel is fine to medium angular to subrounded brick, flint, concrete and chalk. Occasional sand pockets of upto 5mm in diameter.		
					(0.20)			
					0.20	Possible made ground: Soft light brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subrounded flint. Rare fine roots.		
					(1.00)			
					1.20	Firm orange brown mottled grey slightly sandy CLAY. (Weathered LONDON CLAY)		
					(0.60)			
					1.80	Stiff orange brown slightly gravelly sandy CLAY. Gravel is fine to medium flint. (Weathered LONDON CLAY)		
			At 1.9m PP: 2.5, 2.25, 2.5		(1.00)			
					2.80	Stiff brown mottled grey silty CLAY. (Weathered LONDON CLAY)		
					(0.20)			
			At 2.4m PP: 3.75, 3.75, 3.75		3.00	Complete at 3.00m		

Remarks PP refers to Pocket Penetrometer readings. Borehole completed at 3.0m						Scale (approx) 1:20	Logged By AB
						Figure No. J14383.BH3	



Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Window Sampler						Deroda Investments Limited		J14383	
Location		Dates		Engineer		Sheet			
		14/01/2015		Heyne Tillett Steel		1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
						Topsoil			
					(0.40)				
					0.40	Made ground: Dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to coarse angular to subrounded brick and sandstone. Occasional fine to medium roots.			
					(0.40)				
					0.80	Made ground: Soft orange brown gravelly clay. Gravel is fine to medium subangular to subrounded flint.			
					(0.80)				
					1.60	Made ground: Orange brown slightly clayey sand and gravel. Sand is fine to coarse and includes brick. Gravel is fine to medium angular to subrounded flint.			
					(0.40)				
			At 2.00m PP: 1.5, 1.75, 1.75		2.00	Firm orange brown slightly gravelly CLAY.			
					(0.50)				
			At 2.50m PP: 3.0, 2.75, 2.75		2.50	Stiff orange brown slightly gravelly CLAY.			
					(0.50)	From 2.7 to 2.9m frequent selenite crystals.			
					3.00	Complete at 3.00m			
			At 2.90m PP: 2.75, 2.5, 2.5						
Remarks PP refers to Pocket Penetrometer reading.							Scale (approx) 1:20	Logged By AB	Figure No. J14383.BH4

Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Window Sampler						Deroda Investments Limited		J14383	
Location		Dates		Engineer		Sheet			
		14/01/2015		Heyne Tillett Steel		1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
						Topsoil			
					(0.30)				
					0.30	Made ground: Soft dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to coarse angular to subrounded brick and sandstone. Occasional fine to medium roots.			
					(0.30)				
					0.60	Made ground: Soft orange brown slightly sandy slightly gravelly clay. Gravel is fine to medium flint and brick.			
					(0.20)				
					0.80	Made ground: Cobble sized brick fragments.			
					(0.20)				
					1.00	No recovery			
					(1.10)				
					2.10	Concrete.			
					(0.10)				
					2.20	Complete at 2.20m			
Remarks Borehole refused at 2.20m on concrete.							Scale (approx) 1:20	Logged By AB	Figure No. J14383.BH5



GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		Site 73 - 75 Avenue Road, London, NW8 6HP		Number BH6			
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Deroda Investments Limited			
		Location		Dates 14/01/2015		Engineer Heyne Tillett Steel			
						Job Number J14383			
						Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					0.00	Topsoil			
					0.40	Made ground: Soft dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to medium angular to subrounded brick, flint, glass and slate.			
					0.80	Made ground: Soft light brownish orange sandy gravelly clay. Sand is fine to medium grained. Gravel is fine to medium sized brick and concrete.			
					1.60	Greyish yellow SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to medium subrounded to sub angular flint.			
					2.10	Soft orangish brown sandy very gravelly CLAY. Gravel is fine to medium angular to subrounded flint.			
					2.50	At 2.50m fine sand pockets encountered: approximately 20mm in diameter.			
					2.80	Soil material was wet.			
					3.00	Stiff brown gravelly CLAY. Gravel is fine to medium subangular to subrounded flint.			
					3.00	Complete at 3.00m			
Remarks							Scale (approx) 1:20	Logged By AB	Figure No. J14383.BH6

GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		Site 73 - 75 Avenue Road, London, NW8 6HP		Number BH7			
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Deroda Investments Limited			
		Location		Dates 14/01/2015		Engineer Heyne Tillett Steel			
						Job Number J14383			
						Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					0.00	Made ground: Soft dark blackish brown slightly sandy slightly gravelly clay. Gravel is fine to medium angular to subrounded sandstone, concrete and flint.			
					0.40	Made ground: Firm dark brown slightly sandy gravelly clay. Gravel is fine to medium angular to subrounded brick and concrete.			
					0.75 (0.10)	Made ground: Possible breeze block or clinker.			
					0.85 (0.15)	Made ground: Cobble sized brick and concrete fragments.			
					1.00	Complete at 1.00m			
Remarks Borehole refused at 1.00m and groundwater at base.							Scale (approx) 1:20	Logged By AB	Figure No. J14383.BH7



Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Window Sampler						Deroda Investments Limited		J14383	
Location		Dates		Engineer		Sheet			
		14/01/2015		Heyne Tillett Steel		1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					(0.20) 0.20	Made ground: Sandstone and medium to coarse yellow sand.			
						Complete at 0.20m			
Remarks Borehole refused at 0.20m.							Scale (approx) 1:20	Logged By AB	
							Figure No. J14383.BH8		

Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Window Sampler						Deroda Investments Limited		J14383	
Location		Dates		Engineer		Sheet			
		14/01/2015		Heyne Tillett Steel		1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					(0.20) 0.20	Topsoil			
					(0.65)	Made ground: Soft dark brown slightly sandy slightly gravelly clay. Gravel is fine to coarse angular to subrounded brick, flint and concrete.			
					0.85 (0.15) 1.00	Made ground: Cobble sized brick fragments.			
					(0.80)	Made ground: Brown sand and gravel. Gravel is fine to coarse angular to subangular brick.			
					1.80 (0.20) 2.00	Made ground: Soft brown sandy clay with occasional fine to medium angular to subangular gravel sized brick fragments.			
			At 2.05m PP: 0.5, 0.5, 0.75		(0.30) 2.30	Made ground: Soft brown slightly sandy clay with occasional fine subangular brick gravel. (Reworked London Clay)			
			At 2.40m PP: 1.5, 1.75, 1.5		(0.70) 3.00	Soft brown CLAY with occasional fine to medium subrounded flint gravel. Rare fine roots. (Weathered LONDON CLAY)			
			At 2.80m PP: 3.5, 3.5, 3.5			Complete at 3.00m			
Remarks							Scale (approx) 1:20	Logged By AB	
							Figure No. J14383.BH9		



Excavation Method		Dimensions		Ground Level (mOD)		Site		Number	
Drive-in Window Sampler						Tyttenhanger House Coursers Road St Albans AL4 0PG		73 - 75 Avenue Road, London, NW8 6HP	
		Location		Dates		Client		Job Number	
				14/01/2015		Deroda Investments Limited		J14383	
						Engineer		Sheet	
						Heyne Tillet Steel		1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					0.20	Topsoil			
					0.20	Made ground: Soft dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to coarse angular to subrounded brick, sandstone, concrete and flint.			
					0.55				
					0.75	Made ground: red and yellow medium to coarse gravel and cobble sized brick fragments.			
					1.00	Made ground: red, white and yellow fine to coarse angular to subangular gravel sized brick fragments.			
					0.78				
					1.78	Soft brown slightly gravelly CLAY. Gravel is medium subrounded flint. (Weathered LONDON CLAY)			
					1.80	Complete at 1.80m			
Remarks							Scale (approx)	Logged By	
Borehole refused at 1.80m. Window sample tool snapped and recovered.							1:20	AB	
							Figure No.		
							J14383.BH10		

Excavation Method		Dimensions		Ground Level (mOD)		Site		Number	
Drive-in Window Sampler						Tyttenhanger House Coursers Road St Albans AL4 0PG		73 - 75 Avenue Road, London, NW8 6HP	
		Location		Dates		Client		Job Number	
				14/01/2015		Deroda Investments Limited		J14383	
						Engineer		Sheet	
						Heyne Tillet Steel		1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					0.20	Grass and topsoil.			
					0.20	Made ground: Soft dark brown sandy gravelly clay. Gravel is fine to coarse angular to subrounded brick, concrete and flint.			
					1.50				
					1.70	Made ground: Clayey fine to coarse angular to subangular gravel of brick fragments.			
					1.85	Orangish brown SAND and GRAVEL. Gravel is fine to coarse angular to subrounded flint.			
					2.10	Firm brown very gravelly CLAY. Gravel is fine to medium subangular to subrounded flint.			
					0.60	At 2.6m becoming stiff			
					2.70	Stiff brown slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded flint. Occasional carbonaceous particles 2mm in diameter. Occasional fine sand partings.			
					3.00	Complete at 3.00m			
Remarks							Scale (approx)	Logged By	
							1:20	AB	
							Figure No.		
							J14383.BH11		



GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		Site 73 - 75 Avenue Road, London, NW8 6HP		Number BH12		
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Deroda Investments Limited		
		Location		Dates 14/01/2015		Engineer Heyne Tillet Steel		
						Job Number J14383		
						Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.20	Topsoil		
					0.20	Made ground: Soft dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to coarse angular to subrounded brick, sandstone, concrete and flint.		
					0.60			
					0.80	Made ground: Cobble sized brick fragments.		
					1.00	No recovery.		
					1.50	Complete at 1.50m		
Remarks Borehole refused at 1.50m.							Scale (approx) 1:20	Logged By AB
							Figure No. J14383.BH12	

GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		Site 73 - 75 Avenue Road, London, NW8 6HP		Number BH13		
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Deroda Investments Limited		
		Location		Dates 14/01/2015		Engineer Heyne Tillet Steel		
						Job Number J14383		
						Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.30	Topsoil		
					0.30	Made ground: Cobble sized brick fragments		
					0.50	Made ground: Soft dark brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse angular to subrounded sandstone, brick, concrete and flint.		
					0.78	Made ground: Concrete		
					0.80	Complete at 0.80m		
Remarks Borehole refused at 0.80m on concrete obstruction.							Scale (approx) 1:20	Logged By AB
							Figure No. J14383.BH13	



<b>GEA</b> Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		<b>Site</b> 73 - 75 Avenue Road, London, NW8 6HP		<b>Number</b> BH14	
<b>Excavation Method</b> Drive-in Window Sampler		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Deroda Investments Limited	
		<b>Location</b>		<b>Dates</b> 14/01/2015		<b>Job Number</b> J14383	
						<b>Engineer</b> Heyne Tillett Steel	
						<b>Sheet</b> 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend
					0.40	Topsoil.	
					0.40	Complete at 0.40m	
<b>Remarks</b> Borehole refused at 0.40m.				<b>Scale (approx)</b> 1:20	<b>Logged By</b> AB	<b>Figure No.</b> J14383.BH14	

<b>GEA</b> Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans AL4 0PG		<b>Site</b> 73 - 75 Avenue Road, London, NW8 6HP		<b>Number</b> BH15	
<b>Excavation Method</b> Drive-in Window Sampler		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Deroda Investments Limited	
		<b>Location</b>		<b>Dates</b> 14/01/2015		<b>Job Number</b> J14383	
						<b>Engineer</b> Heyne Tillett Steel	
						<b>Sheet</b> 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend
					0.20	Topsoil	
					0.40	Made ground: Firm dark brown slightly sandy slightly gravelly silty clay. Gravel is fine to medium subangular to subrounded brick, carbonaceous material (possibly burnt material) and flint. Occasional cobble sized brick fragments. Frequent fine to medium roots.	
					0.60	At 0.55m becoming sandy	
					0.80	Made ground: Soft orange brown silty clay. Occasional fine to medium subangular brick and flint gravel.	
					1.00	Possible made ground: Firm dark brown mottled orange silty clay with occasional fine gravel and gravel sized soft black carbonaceous material. Rare medium gravel of coal. Occasional fine to medium roots.	
					1.30	Soft to firm orangish brown mottled grey silty CLAY. Occasional fine to medium subangular to subrounded gravel.	
					2.30 (0.10)	Soft to firm orangish brown very gravelly CLAY. Gravel is fine to medium subangular to subrounded gravel.	
					2.40		
					2.60	Firm orangish brown mottled grey silty CLAY. Occasional fine to medium subangular to subrounded gravel.	
					2.80	Stiff brown mottled grey CLAY with occasional fine to medium subangular to subrounded flint. Occasional partings of chalk sand.	
						Complete at 2.80m	
<b>Remarks</b> PP refers to Pocket Penetrometer reading. Borehole refused at 2.80m.				<b>Scale (approx)</b> 1:20	<b>Logged By</b> AB	<b>Figure No.</b> J14383.BH15	



# Appendix D

Unexploded Ordnance Threat Assessment