



# London Borough of Hillingdon Council

## 2<sup>nd</sup> Ickenham Scouts Group

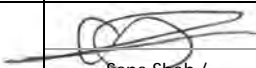
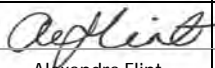
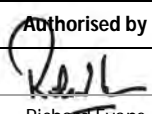
### Desk Study and Ground Investigation Report



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# 2<sup>nd</sup> Ickenham Scouts Group

## Desk Study and Ground Investigation Report

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## EXECUTIVE SUMMARY

SITE INFORMATION	<b>Client</b>	London Borough of Hillingdon Council
	<b>Site Details</b>	The site is situated off Community Close, Ickenham within the London Borough of Hillingdon. The site covers an area of approximately 0.12 hectares, with the centre of the site situated at approximate National Grid Reference 508090, 186140. The nearest postcode is UB10 8RE.
	<b>Current Land Use and Description</b>	The site comprises an 'L' shaped parcel of land with two existing structures present within the south of the site. The existing scout hut and associated storeroom is present within the west and a second structure currently used as a nursery is present within the east.
	<b>Proposed Development</b>	While full details of the proposed development have not been provided to TEC, it is understood the proposed development is to comprise the demolition of the existing hall structure to allow for the construction of a single storey structure to accommodate a new scout centre.
BACKGROUND INFORMATION	<b>Geology</b>	The published geology indicates the site is underlain by the London Clay Formation, which is described by the BGS as comprising bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay.
	<b>Hydrogeology</b>	The London Clay Formation is designated by the Environment Agency as Unproductive Strata. The site is not situated within a Source Protection Zone and there are no reported discharge consents to groundwater or licensed groundwater abstraction in close proximity to the site.
	<b>Hydrology</b>	A stream is reported approximately 70m northeast of the site. There are no reported discharge consents to surface water or licensed surface water abstractions in close proximity to the site.
	<b>Site History</b>	<p>Earliest available mapping indicates the site remained undeveloped prior to 1972 and comprised part of an orchard. From 1972, two structures in the approximate layout presently on site are depicted.</p> <p>A number of potentially contaminative land uses have been identified in proximity to the site including smithy, canal and railway.</p>
GROUND INVESTIGATION	<b>Ground Investigation Rationale</b>	The exploratory ground investigation was undertaken in general accordance with the scope of works detailed by the London Borough of Hillingdon during the tender stage. The ground investigation was undertaken to provide information on the ground conditions to aid with the design of the development; and to investigate the potential pollutant linkages identified as part of the Preliminary Risk Assessment.
	<b>Scope of Works</b>	The advancement of 6No. dynamic sample boreholes to allow for the characterisation of the underlying ground materials and for the collection of representative samples for geochemical and geotechnical laboratory analysis.
	<b>Ground Conditions</b>	<p>Made ground was recorded across the site to depths of between 0.3mbgl and 0.66mbgl, although is noted to potentially extend to 1.0mbgl within WS04, where no recovery was recorded between 0.3mbgl and 1.0mbgl.</p> <p>The encountered material was observed to generally comprise gravelly sand underlain by slightly gravelly, slightly sandy, silty clay / clayey silt. The gravel component throughout the made ground was observed to comprise red brick, clinker, glass, flint and concrete.</p> <p>The London Clay Formation was encountered below the made ground to depths of between 1.3mbgl and 1.74mbgl and comprised soft to firm, medium strength, brown mottled yellowish brown and light grey slightly gravelly silty clay. The gravel component was recorded to comprise flint with occasional silt concretions and rare pyrite nodules.</p> <p>The Lambeth Group was encountered below the London Clay Formation and was noted to comprise firm becoming stiff, medium to high strength multicoloured slightly gravelly silty clay. The gravel component was observed to comprise subrounded silt concretions.</p> <p>Minor groundwater seepages were recorded between 0.72mbgl and 1.1mbgl during the intrusive works.</p>

<b>LAND CONTAMINATION</b>	<b>Contamination Characterisation</b>	<p>No visual or olfactory evidence of significant contamination was noted during the ground investigation.</p> <p>Laboratory analytical results of the encountered near surface materials reported both organic and inorganic contaminants to be generally below conservative GAC for a residential site end use with homegrown produce. However, localised, marginal exceedances of the GAC have been recorded during the exploratory investigation, including selected PAHs and lead.</p> <p>The ground gas regime for the site is considered to be representative of Characteristic Situation 1 in accordance with current guidance and is not within a radon affected area. Therefore, no ground gas/ radon protection measures are considered to be required for the proposed buildings.</p>
	<b>Identified Pollutant Linkages</b>	Human Health (future site end users and construction workers) - Exposure to potential contaminants of concern through ingestion, inhalation and dermal contact pathways.
	<b>Remediation Appraisal / Likely Remedial Approach</b>	Where soft landscaping is proposed and where made ground remains after finished site levels have been achieved, localised exposure to potential contaminants cannot be discounted and a suitable cover system may be required within areas of soft landscaping. Alternatively, given the marginal and localised nature of these exceedances, further testing may be undertaken once final site levels are achieved, and final proposed development designs are in place, to determine the requirement for any such remedial measures.
<b>GROUND ENGINEERING</b>	<b>Foundations</b>	<p>It is considered that conventional foundations may be suitable for the proposed development. The underlying soils have been recorded to be of medium to high volume change potential, requiring a minimum founding depth of 1.0mbgl to be adopted within the design. However, foundations should be deepened and provided with appropriate heave precautions in accordance with NHBC/ LABC guidance where within the influence of any existing or proposed trees.</p> <p>When founding within the generally firm, medium strength clay deposits of the weathered London Clay Formation encountered below depths of between approximately 0.45mbgl and 1.75mbgl, an allowable bearing resistance of 55kN/m<sup>2</sup> would be considered appropriate, with total settlements of less than 25mm anticipated at the assumed pressures. Where foundations are extended below a depth of 2.0mbgl, a bearing resistance in the region of 80kN/m<sup>2</sup> would be considered appropriate.</p> <p>Given the reported medium to high volume change potential of the underlying ground materials, suitable voids may be required against the foundations and below and against the sides of ground beams, as outlined in the NHBC Standards.</p>
	<b>Ground Floor Slabs</b>	Given the proposed depth of foundations and the presence of shrinkable soils, and the depth of made ground on site, the use of suspended floor slabs may be appropriate for the proposed structure.
	<b>Buried Concrete</b>	The results of the sulphate and pH testing from the soils at the site yield an aggressive chemical environment class (ACEC) of AC-1, requiring a design sulphate class of DS-1 for the shallow ground conditions.
<b>RECOMMENDED FURTHER WORKS</b>		Given the assessment presented within this report, additional sampling and analysis may be undertaken once site preparation works are complete to allow for potential refinement of the remedial requirements on site.

## 1 INTRODUCTION

### 1.1 Terms of Reference

- 1.1.1 TEC has been appointed by London Borough of Hillingdon Council to undertake a preliminary land contamination and geotechnical assessment of 2nd Ickenham Scouts Group. All works were undertaken in accordance with our proposal letter dated 25 May 2021 and referenced CH.2105013.001.

### 1.2 Background

- 1.2.1 The site is situated off Community Close, Ickenham within the London Borough of Hillingdon (Figure 1). The site covers an area of approximately 0.12 hectares, with the centre of the site situated at approximate National Grid Reference 508090, 186140. The nearest postcode is UB10 8RE.
- 1.2.2 While full details of the proposed development have not been provided to TEC, it is understood the proposed development is to comprise the demolition of the existing hall structure to allow for the construction of a single storey structure to accommodate a new scout centre.
- 1.2.3 The aim of these works is to provide information on land contamination risk and the ground engineering conditions and constraints associated with the site with regard to the proposed development.

### 1.3 Scope of Works

- 1.3.1 The scope of work undertaken as part of this report is presented below:
- **Preliminary Risk Assessment:** this phase of assessment involves development of an initial site conceptual model, based on desk study research and a site reconnaissance survey, in order to establish whether or not there are potentially unacceptable risks.
  - **Land Contamination - Generic Quantitative Risk Assessment:** this phase of assessment involves updating the site conceptual model developed as part of the Preliminary Risk Assessment based on the findings of an exploratory ground investigation. Generic assessment criteria and assumptions, if appropriate, are used to identify relevant pollutant linkages.
  - **Ground Engineering:** general recommendations in relation to ground engineering for the proposed development are provided on the basis of the findings of the exploratory ground investigation.
- 1.3.2 The above scope of work has been undertaken in accordance with current guidance such as LCRM - *Land contamination: risk management* (Environment Agency, 2020), BS10175+A2 (2017) and, where appropriate NHBC and Eurocode 7.

## 2 PRELIMINARY RISK ASSESSMENT

### 2.1 Introduction

2.1.1 Information for this preliminary risk assessment (PRA) has been obtained from a site reconnaissance survey and a review of an Envirocheck<sup>®</sup> report obtained for the site (Appendix B and Appendix C) together with published available information where relevant.

### 2.2 Site Setting

2.2.1 A site reconnaissance survey was undertaken on 24<sup>th</sup> June 2021. A summary of the observations is presented in Table 2.1. Photographs taken during the site reconnaissance survey are presented in Appendix A.

**Table 2.1: Site Details**

Feature	Description
<b>Current Site Use</b>	The site comprises an 'L' shaped parcel of land with two existing structures present within the south of the site. The existing scout hut and associated storeroom is present within the west and a second structure, currently used as a nursery, is present within the east.
<b>Site Context</b>	The site is located with a predominantly residential area.
<b>Site Boundary Features</b>	North Residential properties and commercial properties beyond
	East Residential properties
	South Residential properties
	West Commercial properties
<b>Site Topography</b>	The site was observed to be generally flat. A review of available Ordnance Survey mapping indicates that the site is situated at an approximate elevation of 40m Above Ordnance Datum (AOD).
<b>Hard and Soft Landscaping</b>	The southern section of the site generally comprised hardstanding and included the existing building footprints and concrete (see photographs 1 - 3, & 9). The northern section of the site was noted to be laid predominantly to grass (see photographs 3 - 6 & 10).
<b>Trees</b>	Numerous shrubs and mature deciduous and coniferous trees were noted on the site boundaries (see photographs 1 - 4, 6 & 10).
<b>Fuel, Hazardous Chemicals and Waste Materials Storage</b>	No evidence of fuel, hazardous chemicals or waste storage was noted at the site.
<b>Asbestos Containing Materials</b>	No evidence of potential ACM was noted on the ground surface during the site walkover.
<b>Site Drainage</b>	No areas of standing water were observed at the time of the site reconnaissance. Evidence of drainage (manhole covers) were noted within the south of the site (see photographs 7 & 8).
<b>Evidence of Potential Contamination</b>	A fire pit was observed within the north of the site. No visual or olfactory evidence of potentially gross contamination was observed during the reconnaissance (see photograph 5).
<b>Ground Stability Hazards</b>	No visual evidence of ground subsidence or movement was observed during the site reconnaissance.

### 2.3 Site History

2.3.1 Details of the history of the site and surrounding area, relevant to this preliminary risk assessment, have been obtained through the review of historical Ordnance Survey (OS) mapping. A summary of potentially

significant features is recorded in Table 2.2, which should be read in conjunction with the full map extracts contained within Appendix B.

**Table 2.2: Historical Features Summary**

On Site Features			OS Dates
Earliest available mapping indicates the site remained undeveloped prior to 1972 and comprised part of an orchard.			1868 – 1972
From 1972, two structures in the approximate layout presently on site are depicted.			1972 – 2021
Surrounding Features	Distance	Direction	OS Dates
Canal feeder	~90m	Northeast	1868 – 1914
Smithy	~145m	Northwest	1896
	~75m	Northwest	1914
Graveyard	~150m	Northwest	1914 – 1934
Electrical sub-station	~90m	South	1914 – 1920
	~200m	North	1972 – 1984
	~200m	Northeast	1972 – 1973
Railway	~90m	Southeast	1914 – 2021
Builders Yard	~210m	Southeast	1961 – 1962
Water pump	~120m	Northeast	1972 – 1973
RAF Station	~200m	Northeast	1972 – 1984
Miniature Railway	Adjacent	North	1987 – 2021

## 2.4 Geology

2.4.1 A summary of available geological information for the area is provided in Table 2.3.

**Table 2.3: Geological Setting**

BGS Geological Mapping (Ref. Solid and Drift 1:50,000 map – Beaconsfield, Sheet 255)			
Geological Unit		Thickness	BGS Description
Made Ground		Unknown	Not recorded on geological mapping but may be present on site
Solid Geology: London Clay Formation		Unknown	The London Clay Formation mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay.
BGS Borehole Records			
BGS Reference	Distance/ Direction	Depth	Recorded Strata
TQ08NE8	~145m/ NW	60ft/~18m 64ft/~19.5m 144ft/ ~44m	Clay Black Flint Chalk
TQ08NE19	~200m/ NE	~5ft/~1.5m ~30ft/~10m	Made ground Clay



<b>BGS Estimated Soil Chemistry</b>	
<b>Element</b>	<b>Estimated Concentration</b>
Arsenic	15-25 mg/kg
Chromium	60-90 mg/kg
Cadmium	<1.8 mg/kg
Lead	<150 mg/kg
Nickel	15-30 mg/kg
<b>Radon</b>	
<b>Radon Potential</b>	<b>Radon Protection Requirement</b>
Lower Probability Radon Area (less than 1% of homes are estimated to be at or above the Action Level)	None reported to be required

## 2.5 Hydrogeology

2.5.1 The Envirocheck® report and Environment Agency information records the following hydrogeological setting of the site.

**Table 2.4: Hydrogeological Setting**

Aquifer Status			
Geological Unit	Groundwater Vulnerability/ Aquifer Designation	Environment Agency Aquifer Classification	Potential Hydraulic Gradient Direction
London Clay Formation	Unproductive Strata	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.	-
Source Protection Zones			
3No. recorded within 1km			
Type		Distance/ Direction from Site	
Zone 1 - Inner Protection Zone		~705m north	
Zone 2 – Outer Protection Zone		~710m north	
Zone 3 – Total Catchment		~700m north	
Groundwater Abstractions			
None recorded within 750m			
Discharge Consents to Groundwater			
None recorded within 1km			
BGS Groundwater Flooding Susceptibility			
Not situated within an area reported by the BGS to be susceptible to groundwater flooding			

## 2.6 Hydrology

2.6.1 The hydrological setting of the site is summarised in Table 2.5:

**Table 2.5: Hydrological Setting**

<b><i>Nearest Surface Water Features</i></b>		
<b>Feature</b>	<b>River Quality (GQA Grade)</b>	<b>Distance/ Direction from Site</b>
Stream	-	~70m Northeast
<b><i>Surface Water Abstractions</i></b>		
None recorded within 500m		
<b><i>Licensed Discharge Consents</i></b>		
None recorded within 500m		
<b><i>Pollution Incidents</i></b>		
1No. recorded within 500m		
<b>Receiving Water</b>	<b>Pollutant/ Incident</b>	<b>Distance/ Direction from Site</b>
Not Given	Oils – Unknown, March 1991	~430m Southwest
<b><i>Flooding from Rivers or Seas</i></b>		
<b>On Site Designation</b>	<b>Off Site Areas of Flooding</b>	
None	~30m west: Extent of flooding and extreme flooding from rivers or seas without defences	

## 2.7 Environmental Data

2.7.1 Additional relevant environmental data from the Envirocheck® report for the site is summarised in Table 2.6.

**Table 2.6: Additional Environmental Data Summary**

<b><i>Landfill Sites</i></b>		
No current or historical landfills recorded within 500m		
<b><i>Potentially Infilled Land (Water)</i></b>		
4No. recorded within 500m		
<b>Type</b>	<b>Distance/ Direction from Site</b>	<b>Date on Mapping</b>
Unknown Filled Ground (Pond, marsh, river, stream, dock etc)	~320m South	1960
	~345m Southwest	1934
	~385m North	1881
	~415m Southeast	1935
<b><i>Potentially Infilled Land (Non-Water)</i></b>		
None recorded within 500m		

<b>Commercial/ Industrial Land Use (Active Contemporary Trade Directories)</b>		
13No. significant land uses identified within 500m		
<b>Classification</b>	<b>No. within 500m</b>	<b>Distance/ Direction from Site</b>
Printers	1	80m northwest
Petrol filling stations	3	~130m west, ~135m west, ~305m north
Car Dealers	1	~170m southwest
Commercial Cleaning Services	1	~140m northwest
Refrigerators & Freezers - Servicing & Repairs	1	~190m northwest
Garage Services	2	~205m west, 220m north
Dry Cleaners	2	~310m west, ~370m west
Greeting Card Publishers & Wholesalers	1	~400m north
Pest & Vermin Control	1	~500m northwest
<b>Hazardous Substances (Authorisations, Consents, Incidents)</b>		
4No. recorded within 500m		
<b>Category</b>	<b>Details</b>	<b>Distance/ Direction from Site</b>
Local Authority Pollution Prevention and Controls	PG1/14 Petrol filling station	~130m west
	PG1/1Waste oil burners, less than 0.4MW net rated thermal input	~170m west
	PG1/14 Petrol filling station	~310m north
	PG6/46 Dry cleaning	~310m west
<b>Sensitive Land Uses</b>		
1No. recorded within 500m		
<b>Category</b>	<b>Details</b>	<b>Distance/ Direction from Site</b>
Nitrate Vulnerable Zones	Colne And Guc (From Confluence With Chess To Ash) Nvz - Surface Water	~20m west

## 2.8 Engineering Considerations

2.8.1 Engineering considerations identified from the Envirocheck® report for the site are summarised in Table 2.7:

**Table 2.7: Engineering Considerations**

<b>Ground Stability Hazards</b>						
<b>Hazard</b>	<b>Hazard Potential</b>					
	<b>No Hazard</b>	<b>Negligible</b>	<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
Collapsible ground			X			
Compressible ground	X					
Ground dissolution	X					
Landslide			X			
Running sand			X			
Shrink/swell clays				X		
Coal mining	X					
Non-coal mining	X					
<b>BGS Recorded Mineral Sites</b>						
1No. recorded within 1km						
<b>Site Name</b>	<b>Type/Commodity</b>		<b>Status</b>	<b>Distance/ Direction from Site</b>		
Ruislip Depot	Rail Depot - Crushed Rock (Quarry Hard Rock)		Active	~860m east		

## 2.9 Regulatory Consultations

2.9.1 Regulatory consultations were undertaken with the relevant department at London Borough of Hillingdon with respect to possible environmental issues on-site and in the surrounding area. A summary of the response is provided below in Table 2.8. The full response is presented in Appendix D.

**Table 2.8: Regulatory Consultations Summary**

<b>Contaminated Land Officer, Planning Specialists Team</b>	<ul style="list-style-type: none"> <li>The Council hold no records relating to the presence of landfill, pollution incidents to controlled waters, private water supplies, storage of petroleum hydrocarbons, UXO potential issues relating to naturally elevated contaminant concentrations or ground gas on or in proximity of the site.</li> <li>2No. Part B LAPPC authorisations are held in proximity to the site. These both relate to petrol vapour recovery at Swakeleys Service Station, Long Lane Ickenham UB10 8TB and Shell Ickenham: 55 High Road Ickenham UB10 8LF.</li> <li>Previous investigations and assessments were undertaken during redevelopment of the former RAF West Ruislip site for a residential end use, located from ~150m north of the site between circa 2008-2012 under planning application reference 38402/APP/2009/2402. The Geo-Environmental Summary Report &amp; Construction Phase Remediation Action Plan produced by RSK reported residual concentrations of contaminants in the made ground on site and localised asbestos. Remedial works were undertaken for the development and validated, providing a clean cover in soft landscaped/ garden areas of the residential development, and constructing drainage to limit potential for migration pathways to be formed to the Canal Feeder. No significant ground gases were recorded and therefore no ground gas protection measures were deemed by RSK to be required for the development.</li> <li>No further pertinent information is reported by the Council.</li> </ul>
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## 2.10 Outline Conceptual Model

- 2.10.1 In accordance with the Environment Agency Land contamination: risk management guidance, potential source-pathway-receptor pollutant linkages identified from the desk study phase are summarised in the following sections.

## 2.11 Potential Sources

- 2.11.1 Potential sources of contamination identified on and within the vicinity of the site are summarised below:

### *On Site Sources*

- Localised areas of made ground of unknown chemical composition;

### *Off Site Sources*

- A number of potentially contaminative land uses have been identified in proximity to the site including historical smithy and builders yard and railway, electrical substations and petrol filling stations/ garages.

## 2.12 Potential Receptor Pathways

- 2.12.1 Potential receptors identified as part of this preliminary risk assessment are:

- Current/future site users;
- Construction workers;
- Controlled waters (stream located approximately 70m to the northeast of the site);
- Proposed development/ structures.

## 2.13 Potential Pathways

- 2.13.1 Potential contaminant pathways relating to the identified receptors and contaminants of concern include:

- Dermal contact – contact with soil, dust or water;
- Ingestion - ingestion of soil, dust or water;
- Inhalation – inhalation of soil, dust or vapours;
- Vertical migration – e.g. seepage of contaminants at the ground surface (i.e. leakage/spillage of hydrocarbons) through cracks in hardstanding and/or leaching of contaminants within the unsaturated zone resulting in vertical contaminant migration; and
- Horizontal migration – e.g. lateral migration of contaminants within the saturated zone and along preferential pathways such as drainage pipe bedding.

## 2.14 Hazard Assessment and Risk Estimation

- 2.14.1 Potential pollutant linkages identified as part of this preliminary risk assessment are summarised in the Outline Site Conceptual Model presented in Table 2.9. References to risk estimations are made in accordance with the methodology presented in CIRIA publication C552 (2001) titled '*Contaminated Land Risk Assessment: A Guide to Good Practice*' and summarised in Appendix E.

Table 2.9: Outline Conceptual Model

Potential Hazard/ Source	Potential Receptor	Potential Pathway to Receptors	Potential Consequence of Source-Receptor Linkage	Potential Likelihood for Significant Source-Receptor Linkage	Risk Classification
Made ground and potentially contaminative processes – on site	Current and future site users and construction workers	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	<b>Low Likelihood to Likely:</b> Given the development history recorded on site, and observations made during the site reconnaissance, the presence of made ground of unknown thickness and chemical composition, or shallow contaminants on site cannot be discounted at this stage.	<b>Low to moderate Risk</b>
	Controlled waters (Surface water.)	Leaching of potential contaminants from made ground and vertical and lateral migration through the saturated zone to controlled waters.	Medium	<b>Unlikely to Low Likelihood:</b> While the presence of made ground of unknown chemical composition cannot be discounted, given the anticipated cohesive nature of the underlying London Clay Formation, designated as Unproductive Strata, a potential risk to controlled waters is considered to be low.	<b>Low Risk</b>
	Current and future site users, construction workers and proposed development	Migration, ingress and accumulation of ground gasses.	Severe	<b>Low Likelihood:</b> Made ground, if present, may act as a potential source of ground gas, subject to thickness and chemical composition.	<b>Low Risk</b>
Historical and current contaminative processes – off site	Current and future site users, construction workers, controlled waters and proposed development.	Potential on-site contaminant / ground gas migration. Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium to Severe	<b>Unlikely to Low Likelihood:</b> Potentially contaminative current and historic processes have been identified in proximity to the site, which may provide a potential source of onsite contamination. Notwithstanding this, given the anticipated cohesive nature of the underlying ground materials, together with the age and/or scale and distance of identified features, the potential for significant migration of contaminants from off-site sources is considered to be low.	<b>Low Risk</b>

### 3 GROUND INVESTIGATION METHODOLOGY

#### 3.1 Background

- 3.1.1 The exploratory ground investigation was undertaken in general accordance with the scope of works detailed by the London Borough of Hillingdon during the tender stage. The ground investigation was undertaken to provide information on the ground conditions to aid with the design of the development; and to investigate the potential pollutant linkages identified as part of the Preliminary Risk Assessment.
- 3.1.2 All site works were undertaken in accordance with BS5930:2015+A1:2020, BS10175+A2:2017 and, where appropriate, Eurocode 7. Works were supervised by a suitably experienced geoenvironmental consultant from TEC.

#### 3.2 Methodology

- 3.2.1 A summary of the ground investigation works undertaken and the rationale for each location is provided in Table 3.1, as follows:

**Table 3.1: Summary of Ground Investigation Works**

Investigation Method	Location	Date(s)	Location Rationale	Purpose
Window Sample Borehole (Dando Terrier)	WS01 – WS06	24.06.2021	Positioned within the approximate locations requested by London Borough of Hillingdon	Characterisation and description of the underlying ground materials Collection of geochemical and geotechnical samples for analysis.

- 3.2.2 Exploratory hole locations are presented on Figure 2. A detailed description of encountered ground conditions are shown on exploratory hole logs presented in Appendix F.

#### 3.3 Field Testing

- 3.3.1 A summary of in situ field testing undertaken as part of these ground investigation works is provided in Table 3.2

**Table 3.2: Summary of Field Testing**

Field Test	Purpose
Hand Shear Vane (HSV)	Estimation of undrained shear strengths of cohesive strata
Pocket Penetrometer (PP)	Indication of unconfined compressive strength of cohesive strata
Standard Penetration Test (SPT)	Provision of strength profile of underlying ground conditions Provision of in situ densities of granular deposits

#### 3.4 Chemical Testing

- 3.4.1 Laboratory testing was scheduled on the basis of the Preliminary Risk Assessment and field observations.
- 3.4.2 Representative soil and groundwater samples were collected and chemically tested at Eurofins Chemtest Ltd, a UKAS/MCERTS accredited laboratory, for a selection of the following parameters:

Soils (Totals)

- Heavy metals and metalloids;
- Total Organic Carbon (TOC);

- *Phenols (monohydric);*
- *Total Cyanide;*
- *Sulphate, sulphide, elemental sulphur and pH;*
- *Speciated Polyaromatic Hydrocarbons (PAH);*
- *Total Petroleum Hydrocarbons (TPH-CWG), including BTEX and MTBE; and*
- *Asbestos Screen.*

3.4.3 Geochemical certificates of analysis are presented Appendix G.

### **3.5 Geotechnical Testing**

3.5.1 Selected soil samples were submitted for geotechnical analysis at Geotechnical Engineering Ltd. Laboratory testing was scheduled upon the basis of field observations for a selection of the following:

- *Atterberg limit tests – natural moisture content, liquid limit and plastic limit; and*
- *BRE SD1 Suite B – Water soluble and acid soluble sulphates, total sulphur and pH.*

3.5.2 Soil geotechnical certificates of analysis are presented in Appendix H.

### **3.6 General Sampling**

3.6.1 Samples were collected in accordance with the following guidance;

- BS5930:2015+A1:2020 – Code of practice for ground investigations;
- BS-EN 1997-2:2007 - Eurocode 7 — Geotechnical design —Part 2: Ground investigation and testing
- BS ISO 10175:2011+A2:2017 - Investigation of potentially contaminated sites – Code of practice;
- BS ISO 18400-105 Soil quality – Sampling - Packaging, transport, storage and preservation of samples; and
- BS ISO 18400-106 Soil quality – Sampling - Quality control and quality assurance.



## 4 GROUND INVESTIGATION FINDINGS

### 4.1 Introduction

4.1.1 A summary of encountered ground conditions for the site is provided below.

4.1.2 Detailed descriptions of encountered ground conditions are shown on exploratory hole logs presented in Appendix F. Photographs of the materials encountered are presented within Appendix A.

#### Made Ground

4.1.3 Made ground was recorded across the site to depths of between 0.3mbgl and 0.66mbgl, although is noted to potentially extend to 1.0mbgl within WS04, where no recovery was recorded between 0.3mbgl and 1.0mbgl.

4.1.4 The encountered material was observed to generally comprise gravelly sand underlain by slightly gravelly, slightly sandy, silty clay / clayey silt. The gravel component throughout the made ground was observed to comprise red brick, clinker, glass, flint and concrete.

#### Solid Geology (LONDON CLAY FORMATION)

4.1.5 The London Clay Formation was encountered below the made ground to depths of between 1.3mbgl and 1.74mbgl and comprised soft to firm, medium strength, brown mottled yellowish brown and light grey slightly gravelly silty clay. The gravel component was recorded to comprise flint with occasional silt concretions and rare pyrite nodules.

#### Solid Geology (LAMBETH GROUP)

4.1.6 The Lambeth Group was encountered below the London Clay Formation and was noted to comprise firm becoming stiff, medium to high strength multicoloured slightly gravelly silty clay. The gravel component was observed to comprise subrounded silt concretions.

### 4.2 Generalised Ground Profile

4.2.1 The general ground profile encountered at the site is summarised in Table 4.1 below.

**Table 4.1: Generalised Ground Profile**

Depth (mbgl)	Encountered Material
<b>MADE GROUND</b>	
0.0 – 0.08 / 0.15	<i>WS01 and WS02 only</i> Brick paving underlain by sand / gravelly sand
0.0 / 0.15 - 0.3/0.0.66 (1.0)	Slightly gravelly slightly sandy silty clay / clayey silt. Gravel of flint, red brick, clinker, concrete and glass.
<b>SOLID GEOLOGY – LONDON CLAY FORMATION</b>	
0.3 / 0.66 – 1.3 / 1.74	Soft to firm slightly gravelly silty clay. Gravel of flint with occasional silt concretions and rare pyrite nodules.
<b>SOLID GEOLOGY – LAMBETH GROUP</b>	
1.3 / 1.74 - >4.0	Firm becoming stiff slightly gravelly silty clay. Gravel of subrounded silt concretions.

### 4.3 Groundwater

4.3.1 Groundwater observations recorded during the ground investigation works and standing depths within the boreholes recorded as part of subsequent monitoring visits are summarised in Table 4.2 below. Groundwater strikes/ observations are also shown on the exploratory hole logs in Appendix F.

**Table 4.2: Summary of Groundwater Conditions**

Location	Groundwater Strike (mbgl)	Standing Depths (mbgl) after 15minutes	Strata
WS04	0.70 (Slight seepage)	Dry	London Clay Formation
WS05	0.72 (Seepage)	2.80	London Clay Formation
WS06	1.10 (Slight seepage)	3.80	London Clay Formation

4.3.2 Groundwater seepages were observed within the northern and eastern borehole locations (WS04 to WS06) at depths between 0.7mbgl and 1.1mbgl, within the London Clay Formation.

4.3.3 It should be noted that groundwater conditions recorded during the investigation may not be representative of long-term conditions and that groundwater levels may vary in response to meteorological/ seasonal changes.

#### **4.4 Contamination Observations**

4.4.1 A small area used as a campfire / fire pit was observed in the north of the site. No further visual or olfactory evidence of potentially gross contamination was recorded during the intrusive works.

## 5 LAND CONTAMINATION - GENERIC QUANTITATIVE RISK ASSESSMENT

- 5.1.1 The generic quantitative risk assessment comprises a screening of identified contaminants against generic assessment criteria (GAC) that are appropriate to the site setting and the receptors concerned.

### 5.2 Human Health

#### Methodology

- 5.2.1 Detailed information on the background legislation and selection of the GAC used within this assessment for human health is presented in Appendix I.
- 5.2.2 It is understood the site is to be used by a Scout company and therefore, a conservative approach has been used within in this generic assessment and defined as "*residential with homegrown produce*" based on the proposed development and in accordance with current guidance.
- 5.2.3 As the site investigation methodology involved targeted sampling, statistical analysis has not been undertaken and the results have been directly compared to the GAC.

#### Summary of Results

- 5.2.4 The full human health generic quantitative risk assessment is presented in Appendix I.

#### Made Ground

- 5.2.5 The results of the assessment recorded localised, marginal exceedances of the GAC and therefore the following contaminants of potential concern (CoPC) have been identified within the made ground;
- PAHs – benzo(b)fluoranthene, dibenz(a,h)anthracene; and
  - Heavy metals – lead.
- 5.2.6 An asbestos screen completed on samples of the made ground at the laboratory recorded no suspected asbestos containing material or detectable asbestos fibres.

### 5.3 Controlled Waters

#### Methodology

- 5.3.1 Leachate analysis has not been undertaken on the sampled made ground and no groundwater samples have been collected as part of this site investigation, owing to the following;
- No visual or olfactory evidence of contamination was noted during the site investigation;
  - While localised contaminants of potential concern were recorded within the sampled made ground, they are not of a nature or concentration considered to be significantly mobile within the aqueous environment;
  - The site is underlain by cohesive strata, which would restrict migration of any potential leachable contaminants;
  - No consistent groundwater body was recorded during the ground investigation works; and
  - There are no reported groundwater abstractions within 1km and the site is not reported to be located within an Environment Agency Source Protection Zone.

- 5.3.2 On this basis, no risk to controlled waters from migration of leachable contaminants within the made ground or migration of dissolved phase contaminants to the wider aquifer has been identified. Therefore, these potential pollutant linkages have not been considered further within this assessment.

## 5.4 Ground Gas

- 5.4.1 In accordance with BS8485:2019 and CL:AIRE RB17, an assessment of the risk posed by ground gases at the site has been undertaken based on the findings of the desk study and ground investigation and the conceptual side model. The following site specific information has been considered as part of the assessment;

- No landfills, areas of potentially significant infilled ground or mine openings/ workings have been identified within proximity to the site;
- A shallow thickness of made ground has been recorded at the site, to average depths of 0.5m. No significant organic material was observed within these soils, which are likely to be removed as part of site preparation works;
- The natural soils were recorded to comprise the London Clay Formation and Lambeth Group of typically low organic content; and
- The site is not located within a radon affected area.

- 5.4.2 No credible source or pathway for ground gas has been identified at the site as part of these works. Therefore, no further ground gas monitoring or assessment is considered to be required and no specific ground gas protection measures are considered necessary for the proposed development.

## 5.5 Updated Conceptual Model

- 5.5.1 The findings of the site investigation and the GORA have been used to update the conceptual model and confirm the relevant pollutant linkages associated with the proposed development.

### Identified Sources

- 5.5.2 Sources of contamination/ ground gas identified on and within the vicinity of the site are summarised below:

#### *On Site Sources*

- Made ground;

#### *Off Site Sources*

- 5.5.3 A number of potentially contaminative current and historical processes have been identified in proximity to the site including a railway, electrical sub-stations, smithy, and a builders' yard.

### Identified Receptors

- 5.5.4 Receptors identified as part of this updated conceptual model are:

- Current/future site users; and
- Construction workers;

### Identified Pathways

- 5.5.5 Potential contaminant pathways relating to the identified receptors and contaminants of concern include:

- Dermal contact – contact with soil, dust or water;
- Ingestion - ingestion of soil, dust or water; and
- Inhalation – inhalation of soil, dust or vapours;

5.5.6 The updated conceptual model is presented in Table 5.1. References to risk estimations are made in accordance with the methodology presented in CIRIA publication C552 (2001) titled '*Contaminated Land Risk Assessment: A Guide to Good Practice*' and summarised in Appendix E.

**Table 5.1: Updated Conceptual Model (Hazard Assessment and Risk Estimation)**

Identified Hazard/ Source	Identified Receptor	Potential Pathway	Potential Consequence of Source-Pathway-Receptor Pollutant Linkage	Potential Likelihood for Source-Pathway-Receptor Pollutant Linkage	Risk Classification
Made ground	Current and future site users and construction workers	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	<b>Low Likelihood:</b> Made ground was observed across the site. Laboratory analysis of representative materials recorded the marginal exceedance of selected PAHs and lead within a single location when considering a conservative residential site end use.	<b>Low to Moderate Risk</b>
	Controlled waters	Leaching of potential contaminants from made ground and vertical and lateral migration through the saturated zone to controlled waters.	Medium	<b>Unlikely:</b> While contaminants of potential concern were recorded within the made ground sampled, they are not of a nature or composition considered to be significantly mobile in the aqueous environment. In addition, the significantly cohesive nature of the underlying ground materials would also limit the potential migration of contaminants.	<b>Low Risk</b>
	Current and future site users, construction workers and proposed development	Migration, ingress and accumulation of ground gasses.	Severe	<b>Unlikely:</b> The encountered made ground is considered unlikely to be a potential source of significant ground gas based on its limited thickness and observed composition (with no visual evidence of degradable/ putrescible materials noted).	<b>Low Risk</b>
Potentially contaminative current and historic processes –off site	Current and future site users and construction workers and proposed development	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	<b>Unlikely:</b> Potentially contaminative current and historic land uses have been identified in proximity to the development site, although the risk of significant on-site migration of contaminants from these features was considered to be low. Laboratory test results, field test data and visual/ olfactory observations during the intrusive investigation confirm no evidence of on-site contaminant migration.	<b>Low Risk</b>

## **6 LAND CONTAMINATION - CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Introduction**

- 6.1.1 No visual or olfactory evidence of significant contamination was noted during the ground investigation.
- 6.1.2 Laboratory analytical results of the encountered shallow made ground reported both organic and inorganic contaminants to be generally below conservative GAC for a residential site end use with homegrown produce. However, localised, marginal exceedances of the GAC have been recorded during the exploratory investigation, including PAHs and lead.
- 6.1.3 No radon protective measures are considered necessary within the construction of new homes. No potential significant source of ground gas been identified as part of this assessment and therefore no ground gas protection measures are considered to be required for the proposed building.

### **6.2 Remedial Appraisal**

- 6.2.1 Localised contaminants of potential concern (CoPC) have been recorded within the shallow made ground when considering a residential site end use.
- 6.2.2 Therefore, where soft landscaping is proposed in such areas and where made ground remains after finished site levels have been achieved, localised exposure to potential contaminants cannot be discounted and a suitable cover system may be required within areas of soft landscaping. Alternatively, given the limited and localised nature of these exceedances further testing may be undertaken once final site levels are achieved, and final proposed development designs are in place, to determine the requirement for any such remedial measures.

### **6.3 General Considerations**

- 6.3.1 Given the presence of general made ground, good brownfield site working practices should be adopted by construction workers to mitigate against potential risks.
- 6.3.2 Should water supply pipes be placed within the made ground encountered at the site, due consideration would need to be given to the UK Water Industry Research Ltd (UKWIR) guidance.
- 6.3.3 Based on our conceptual understanding of the site to-date, it would be anticipated that similar ground conditions to those encountered as part of this assessment exist across the site areas where access has been possible. However, should significant thicknesses of made ground be encountered, or visual or olfactory evidence of potentially significant contamination be identified during the development works, further investigation and assessment may be required.

## 7 GROUND ENGINEERING

### 7.1 Proposed Development

- 7.1.1 The site currently comprises an L-shaped parcel of land within eastern region of Ickenham. 2No. structures are currently present on site, comprising a wooden structure and the main brick scout hut and storeroom.
- 7.1.2 The proposed development is understood to comprise the demolition of existing structures to allow for the construction of a new scout hut.
- 7.1.3 No details have been provided to TEC at this stage and therefore, general recommendations with regards to the ground engineering have been made. However, for the purposes of this assessment, the proposed scout hut is assumed to be a single storey, lightly loaded structure with line loads in the region of 50kN/m<sup>2</sup>.

### 7.2 Site Preparation

- 7.2.1 A number of existing services are present on site. Appropriate easement or removal/re-routing of these features should be undertaken during the construction of the proposed development.
- 7.2.2 Trees have been recorded within the proposed development area. Consideration to these will be required during the construction works.

### 7.3 Geotechnical Test Data Summary

- 7.3.1 Laboratory test data are presented in Appendix H while in situ test results are presented on the engineering logs Appendix F.

#### Plasticity

- 7.3.2 Atterberg Limit tests were undertaken on 4No. cohesive samples, summarised in Table 7.1 below:

**Table 7.1: Summary of Laboratory Test Results**

Strata	Moisture Content (%)	Plasticity Index (%)	% passing 425µm sieve	Modified Plasticity Index <sup>(1)</sup> (%)	Volume Change Potential <sup>(1)</sup>
London Clay Formation: (0.38 to 1.3/1.74m)	24.2 – 25	28 - 31	99 – 100	13 – 37.4	Medium
Lambeth Group: (1.3/1.74m to >3.0m)	26.6 - 32	55 - 63	95 - 98	52.2 – 61.7	High

Note 1: Based on recommendations provided in the NHBC Standard

- 7.3.3 A full desiccation assessment in accordance with the methods outlined in BRE Digest 412 '*Desiccation in Clay Soils*' (1996) has not been undertaken as part of these preliminary works. However, the results of the remaining field testing and laboratory testing to-date generally do not indicate the potential for significant evidence of desiccation within the soils in proximity to the observed trees in comparison to the surrounding soils.

#### Soil Strength

- 7.3.4 A summary of the geotechnical field test data is provided in Table 7.2 below.



**Table 7.2: Summary of Geotechnical Field Test Data**

Stratum	SPT 'N' Value Range	Hand Shear Vane Range (kPa)	Pocket Penetrometer Range (kg/cm <sup>2</sup> )	Characteristic Strength (kPa)
London Clay Formation: Soft to firm sandy silty clay (0.38 - 1.3/1.74m)	6 - 8 (Average 7)	49 - 61	0.9 - 1.5 (Average 1.2)	55
Upper Lambeth Group: Firm to stiff silty clay (1.3/1.74m - >3.0m)	9 - 27 (Average 15)	77 - 230	1.8 - 3.5 (Average 2.4)	100
Lambeth Group: Very stiff silty clay (3.0m to 4.0m)	45 - 57 (Average 51)	160 - 250	3.5 - >4.5 (Average 4.0)	200

#### 7.4 Foundations

- 7.4.1 It is considered that conventional foundations may be suitable for the proposed development. The underlying soils have been recorded to be of medium to high volume change potential, requiring a minimum founding depth of 1.0mbgl to be adopted within the design. However, foundations should be deepened and provided with appropriate heave precautions in accordance with NHBC/ LABC guidance where within the influence of any existing or proposed trees.
- 7.4.2 When founding within the generally firm, medium strength clay deposits of the weathered London Clay Formation encountered below depths of between approximately 0.45mbgl and 1.75mbgl, an allowable bearing resistance of 55kN/m<sup>2</sup> would be considered appropriate, with total settlements of less than 25mm anticipated at the assumed pressures. Where foundations are extended below a depth of 2.0mbgl (in the underlying firm to stiff Lambeth Group), a bearing resistance in the region of 80kN/m<sup>2</sup> would be considered appropriate.
- 7.4.3 Given the reported medium to high volume change potential of the underlying ground materials, suitable voids may be required against the foundations and below and against the sides of ground beams, as outlined in the NHBC Standards.

#### 7.5 Ground Floor Slabs

- 7.5.1 Given the presence of shrinkable soils, the use of suspended floor slabs may be appropriate for the scheme, which should incorporate the minimum void dimensions as outlined in the NHBC Standards.

#### 7.6 Excavations

- 7.6.1 Excavations at the site for conventional foundations may be achievable using conventional equipment.
- 7.6.2 Groundwater seepages were recorded at depths between 0.7m and 1.1mbgl. Based on observations made during the ground investigations, groundwater ingress into excavations is considered unlikely to be significantly problematic although some dewatering may be required, particularly where excavations are left open for any length of time. It would be recommended that formation levels are protected to mitigate against softening associated with any such water ingress.
- 7.6.3 It should be noted that groundwater levels might fluctuate according to the season and from year to year. This may have implications on recommendations, including those for foundations and excavations. Accordingly, a careful watch should be maintained during any future groundworks and the recommendations presented in this report may be subject to amendment should additional information becoming available.
- 7.6.4 It is recommended that appropriate shoring/temporary works are used in accordance with current Health and Safety requirements where access for personnel is required into excavations.

## 7.7 Protection of Buried Concrete

7.7.1 BRE SD1 Suite B testing was undertaken on 5No. samples of the encountered natural ground materials.

7.7.2 The results of the testing, together with the resulting Aggressive Chemical Environment for Concrete (ACEC) Class and Design Sulphate (DS) Class, as derived in accordance with BRE Special Digest 1, are presented in Table 7.3. The full laboratory results are presented in Appendix H and Appendix G.

**Table 7.3: Summary of ACEC**

Stratum	No. of tests	pH	Water Soluble Sulphate (mg/l)	Oxidisable Sulphides (%)	Total Potential Sulphates (%)	ACEC	DS
Made Ground	3	7.5 – 8.2	<10 – 31	-	-	AC-1	DS-1
London Clay Formation	3	7.5 – 8.2	<20 – 52	0.0	0.03 – 0.12	AC-1	DS-1
Lambeth Group	2	8.4 – 8.5	<20 – 68	0.0 – 0.06	0.03 – 0.09	AC-1	DS-1

7.7.3 While evidence of pyrite was recorded within the shallow London Clay Formation deposits during the fieldworks, laboratory testing undertaken to date would suggest these deposits are low in soluble sulphates, with results yielding an ACEC of AC-1, requiring a design sulphate DS-1.

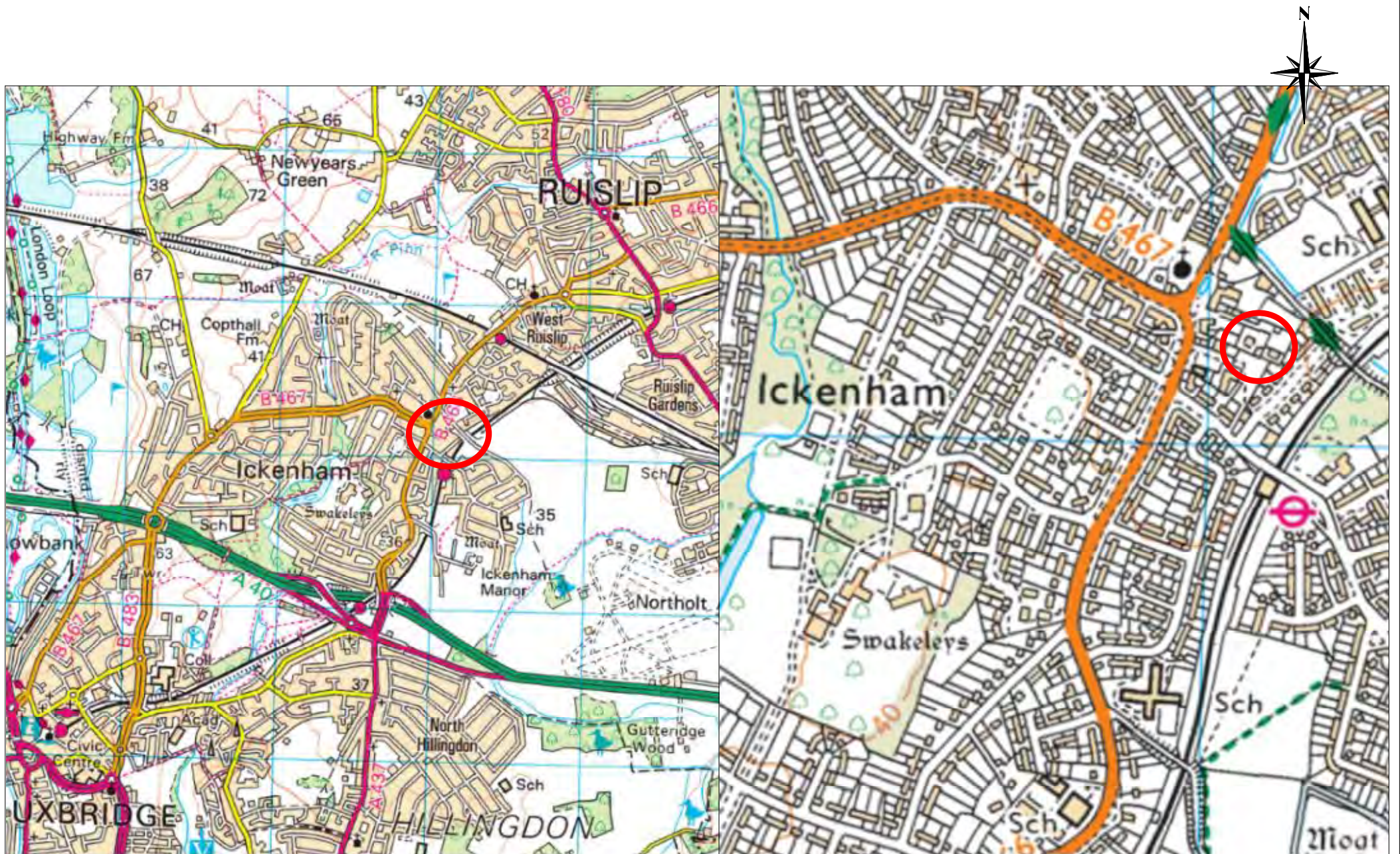
**8 RECOMMENDED FURTHER WORKS**

- 8.1.1 Given the assessment presented within this report, additional sampling and analysis may be undertaken once site preparation works are complete to allow for potential refinement of the remedial requirements on site.

**TEC**

## Figures and Drawings





Approximate Site Location:



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Licence number 100043301



TEC  
The Old Chapel  
35a Southover  
Wells, Somerset  
BA5 1UH  
Tel: 01749 677760  
Email: info@tecon.co.uk  
Web: www.tecon.co.uk

Site Name:  
2nd Ickenham (URC) Scout Group, Ickenham

Drawing Name:  
Site Location Plan

Client Name:  
London Borough of Hillingdon Council

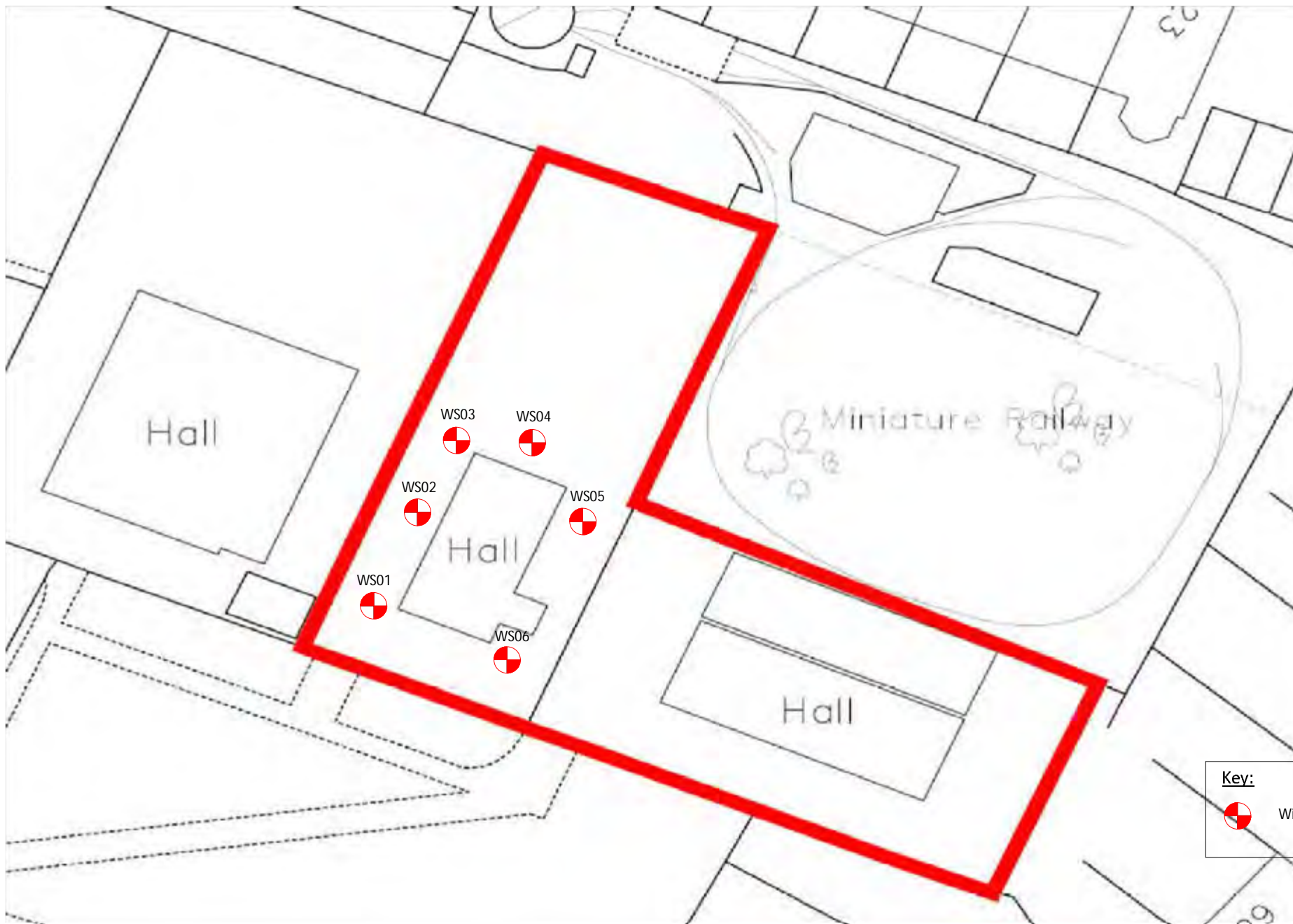
Project No:  
2105013.001

Figure No:  
1

Date:  
July 2021

Scale:  
NTS





Extract provided by London Borough of Hillingdon Council. Existing Site Plan - 2nd Ickenham Scouts, Communitu Close, Ickenham, UB10 8RE. Dated 11/11/2020



TEC  
The Old Chapel  
35a Southover  
Wells, Somerset  
BA5 1UH  
Tel: 01749 677760  
Email: info@tecon.co.uk  
Web: www.tecon.co.uk

Site Name:  
2nd Ickenham (URC) Scout Group, Ickenham

Drawing Name:  
Exploratory Hole Location Plan

Client Name:  
London Borough of Hillingdon Council

Project No:  
2105013.001

Figure No:  
2

Date:  
July 2021

Scale:  
NTS

## Appendix A

### Site Photographs

**2nd Ickenham Scouts Group**



Photograph 1: View facing north towards the entrance of the Ickenham Scouts Group.



Photograph 2: View facing west towards the entrance of the TOCH building.



## 2nd Ickenham Scouts Group



Photograph 3: View facing northwest towards the rear of the TOCH building.



Photograph 4: View facing north towards the soft landscaping located to the northern area of the site with a firepit located to the left-hand side.





Photograph 5: A fire pit / bonfire area located to the northern area of the site.



Photograph 6: View facing southwest toward the rear of the TOCH building.





Photograph 7: A manhole cover for the underground drainage found to connect with the manhole cover from photograph 8, located to the south-western corner of the TOCH building as well as to the south-eastern corner of the TOCH building.



Photograph 8: A drainage manhole cover located at the south-western entrance of the TOCH building.





Photograph 9: Hardstanding brick pavement located at the south-western corner of the site, west of the proposed development area (photo taken after the reinstatement of WS02).



Photograph 10: Dando Terrier Rig used for drilling works (photo taken at WS04).





Photograph 11: Encountered materials from borehole WS01 from 0.0m to 3.0mbgl.



Photograph 12: Encountered materials from borehole WS02 from 0.0m to 3.0mbgl.





Photograph 13: Encountered materials from borehole WS03 from 0.0m to 4.0mbgl.



Photograph 14: Encountered materials from borehole WS04 from 0.0m to 3.0mbgl.





Photograph 15: Encountered materials from borehole WS05 from 0.0m to 4.0mbgl.



Photograph 16: Encountered materials from borehole WS06 from 0.0m to 4.0mbgl.

## Appendix B

### Historical Maps

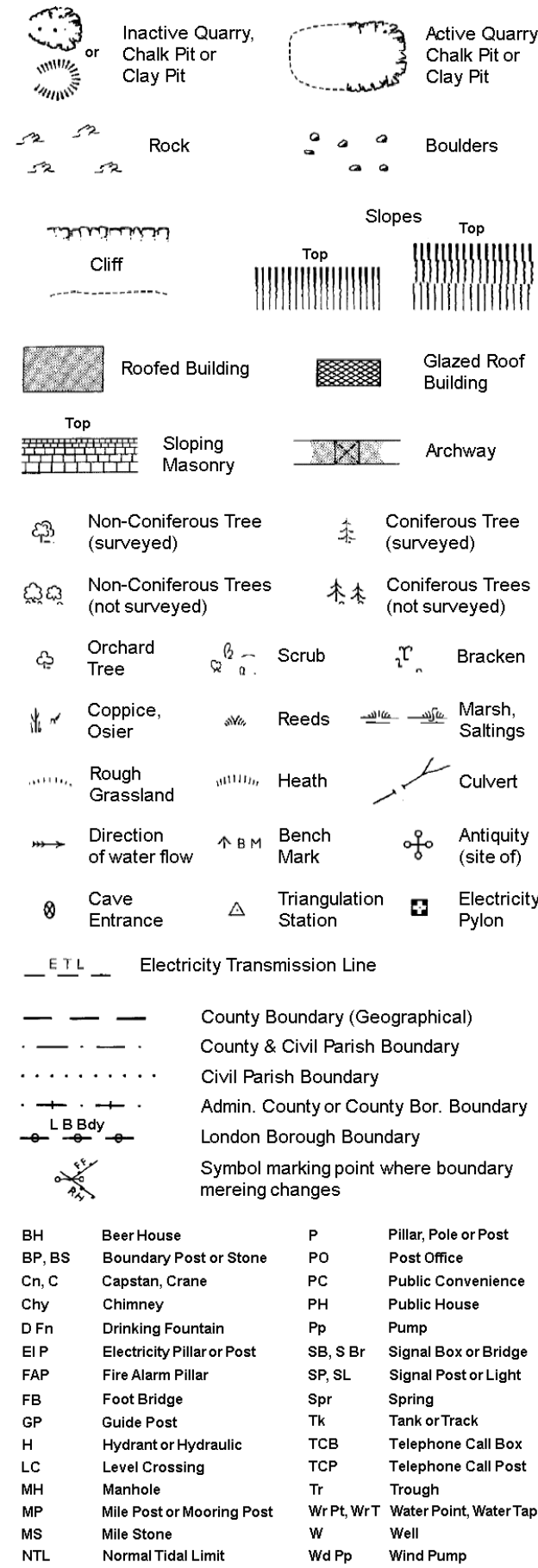


# Historical Mapping Legends

## Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



## Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



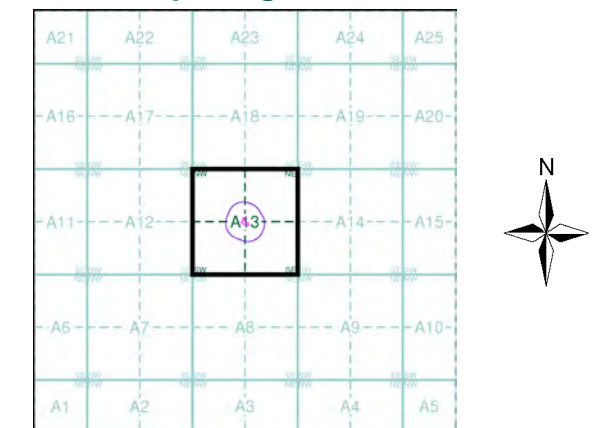
## Large-Scale National Grid Data 1:2,500 and 1:1,250



## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Middlesex	1:2,500	1864 - 1891	2
Middlesex	1:2,500	1896	3
Middlesex	1:2,500	1914	4
Middlesex	1:2,500	1934 - 1935	5
Ordnance Survey Plan	1:1,250	1961 - 1962	6
Ordnance Survey Plan	1:2,500	1962 - 1963	7
Ordnance Survey Plan	1:1,250	1968 - 1972	8
Supply of Unpublished Survey Information	1:1,250	1973	9
Additional SIMs	1:1,250	1979 - 1986	10
Additional SIMs	1:1,250	1987	11
Ordnance Survey Plan	1:1,250	1990	12
Large-Scale National Grid Data	1:1,250	1992	13
Large-Scale National Grid Data	1:1,250	1996	14
Historical Aerial Photography	1:2,500	1999	15

## Historical Map - Segment A13



## Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

## Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM, UB10 8RE



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



Middlesex

Published 1864 - 1891

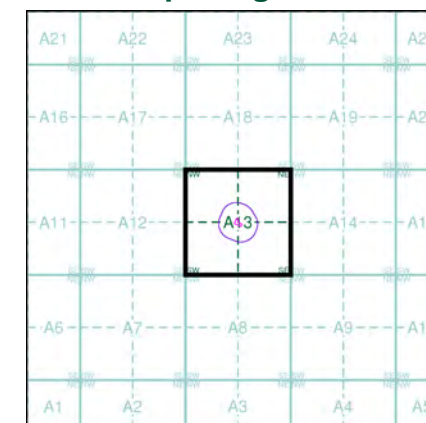
Source map scale - 1:2,500

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)

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009_16 1864 1:2,500	010_13 1864 1:2,500

### Historical Map - Segment A13



### Order Details

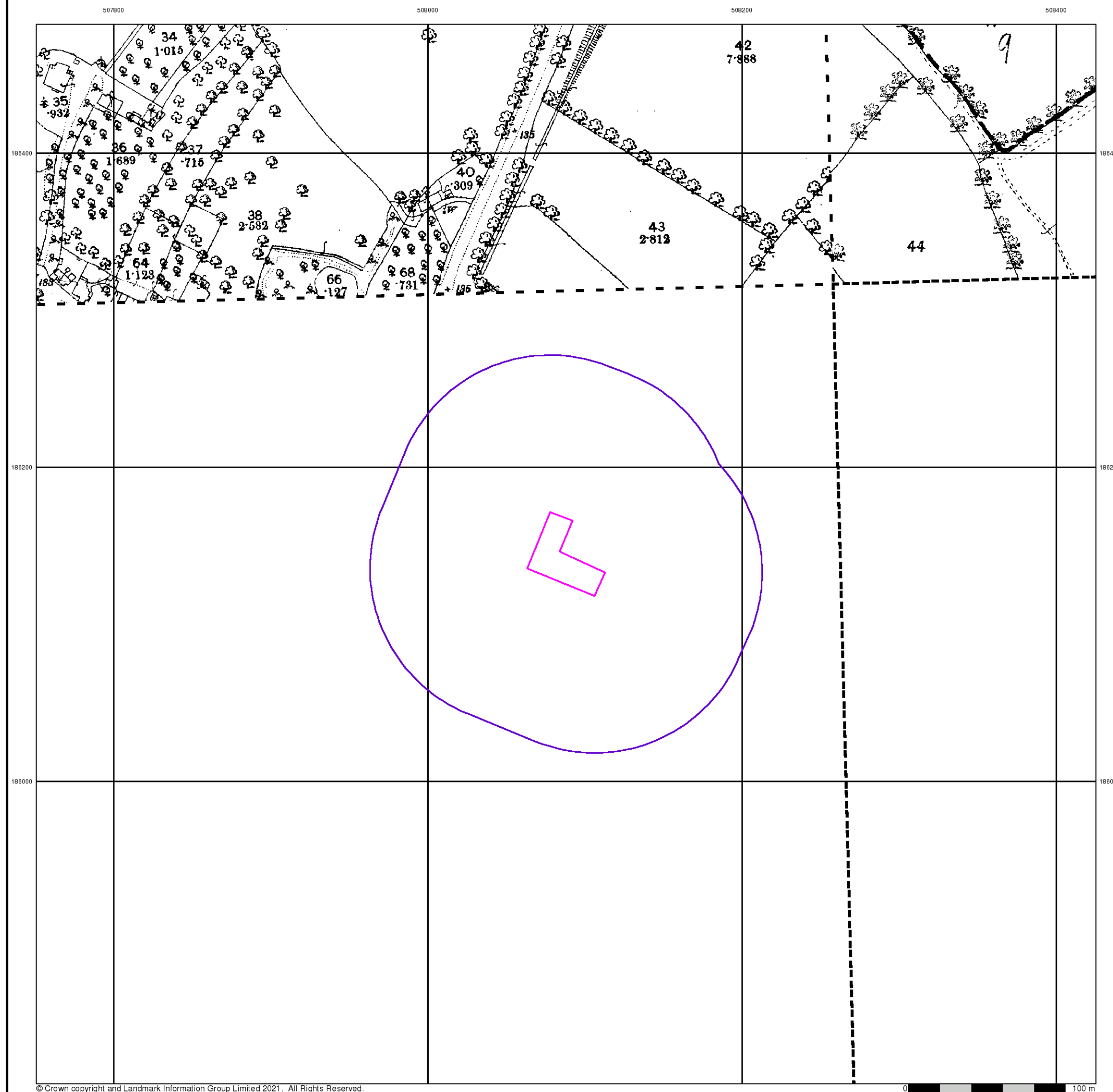
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

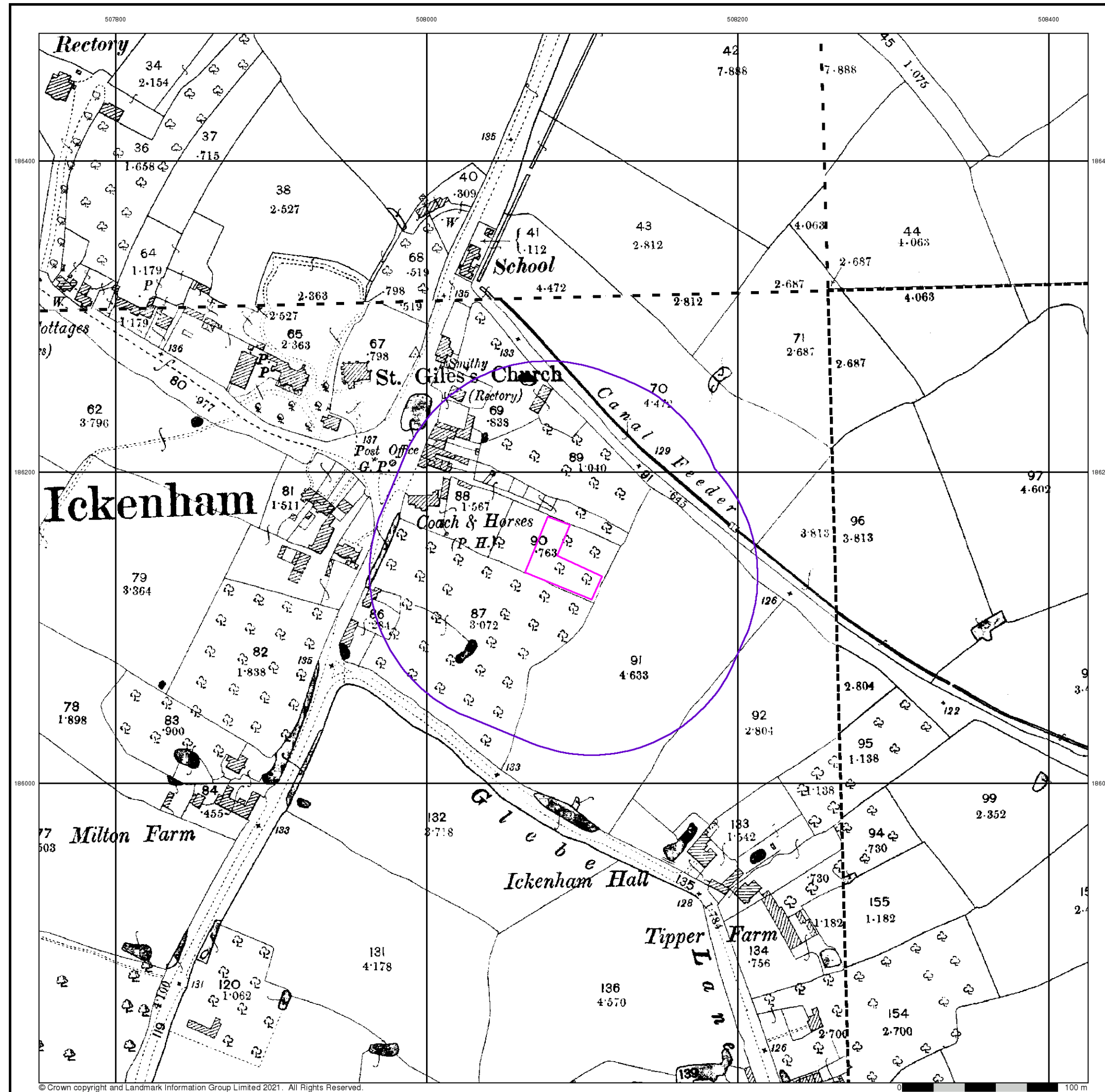
2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

Landmark  
INFORMATION GROUP

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







Middlesex

Published 1896

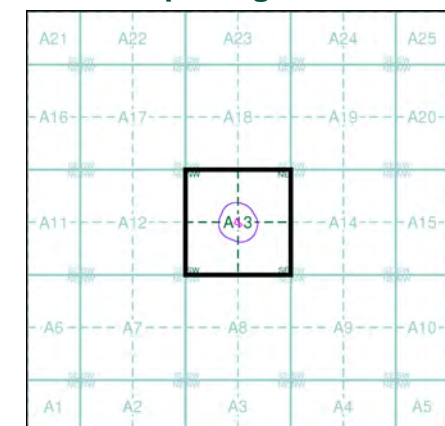
Source map scale - 1:2,500

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)

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009_16 1896 1:2,500	010_13 1896 1:2,500

#### Historical Map - Segment A13



#### Order Details

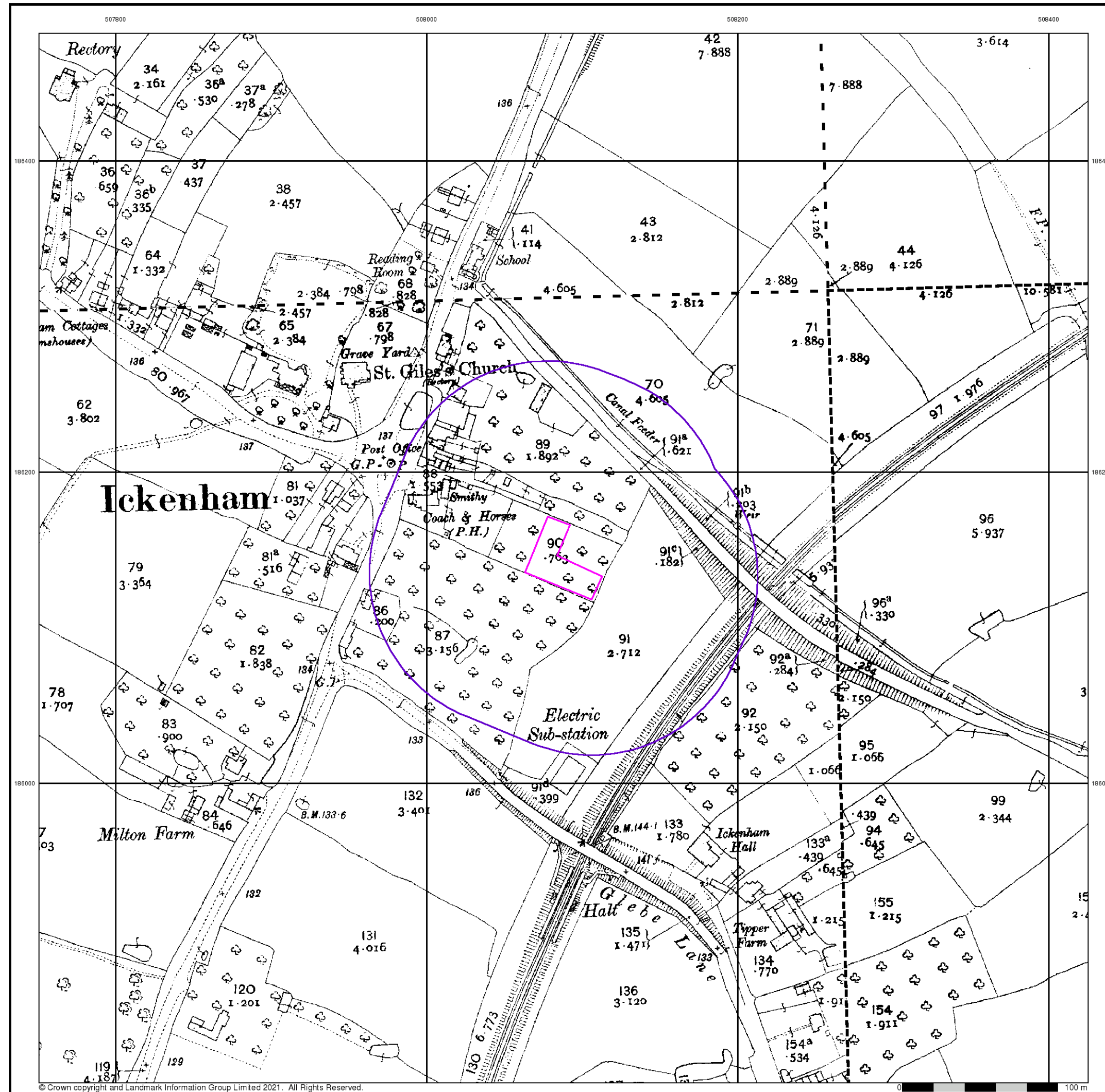
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

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UB10 8RE



Tel: 0844 844 9952  
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Middlesex

Published 1914

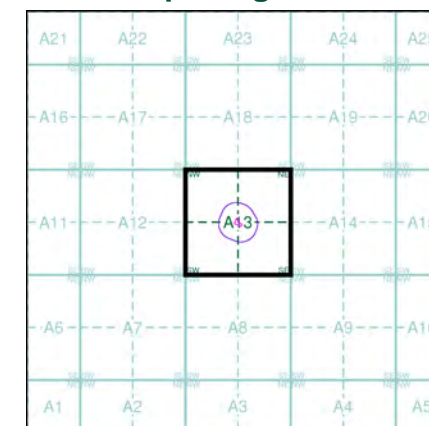
Source map scale - 1:2,500

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)

009_12 1914 1:2,500	010_09 1914 1:2,500
009_16 1914 1:2,500	010_13 1914 1:2,500

### Historical Map - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE



Tel: 0844 844 9952  
Fax: 0844 844 9951  
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Middlesex

Published 1934 - 1935

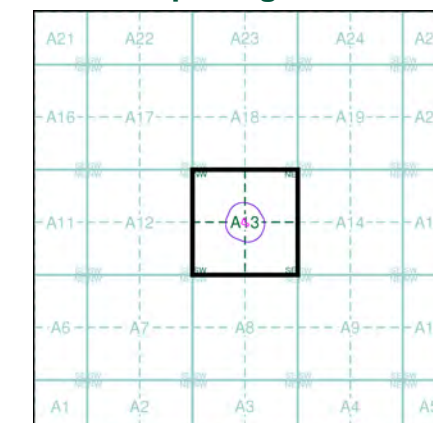
Source map scale - 1:2,500

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)

009_12 1934 1:2,500	010_09 1935 1:2,500
009_16 1934 1:2,500	010_13 1935 1:2,500

### Historical Map - Segment A13



### Order Details

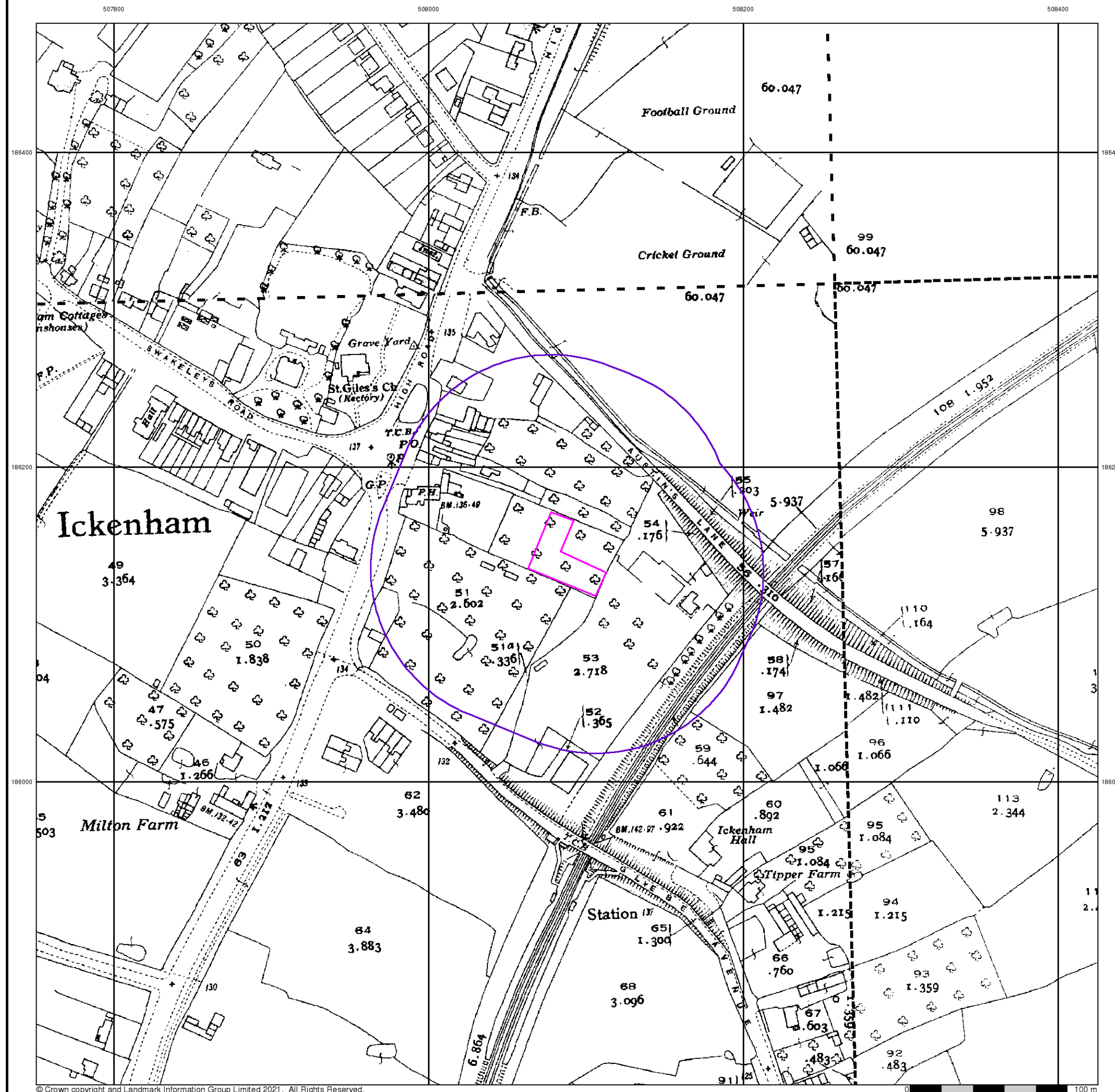
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

**Landmark**  
INFORMATION GROUP

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## Ordnance Survey Plan

Published 1961 - 1962

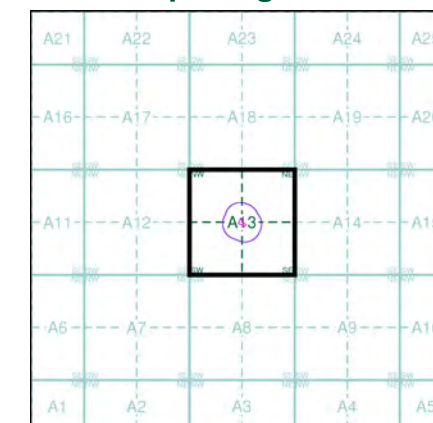
Source map scale - 1:1,250

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)

TQ0786SE 1962 1:1,250	TQ0886SW 1961 1:1,250
TQ0785NE 1962 1:1,250	TQ0885NW 1961 1:1,250

### Historical Map - Segment A13



### Order Details

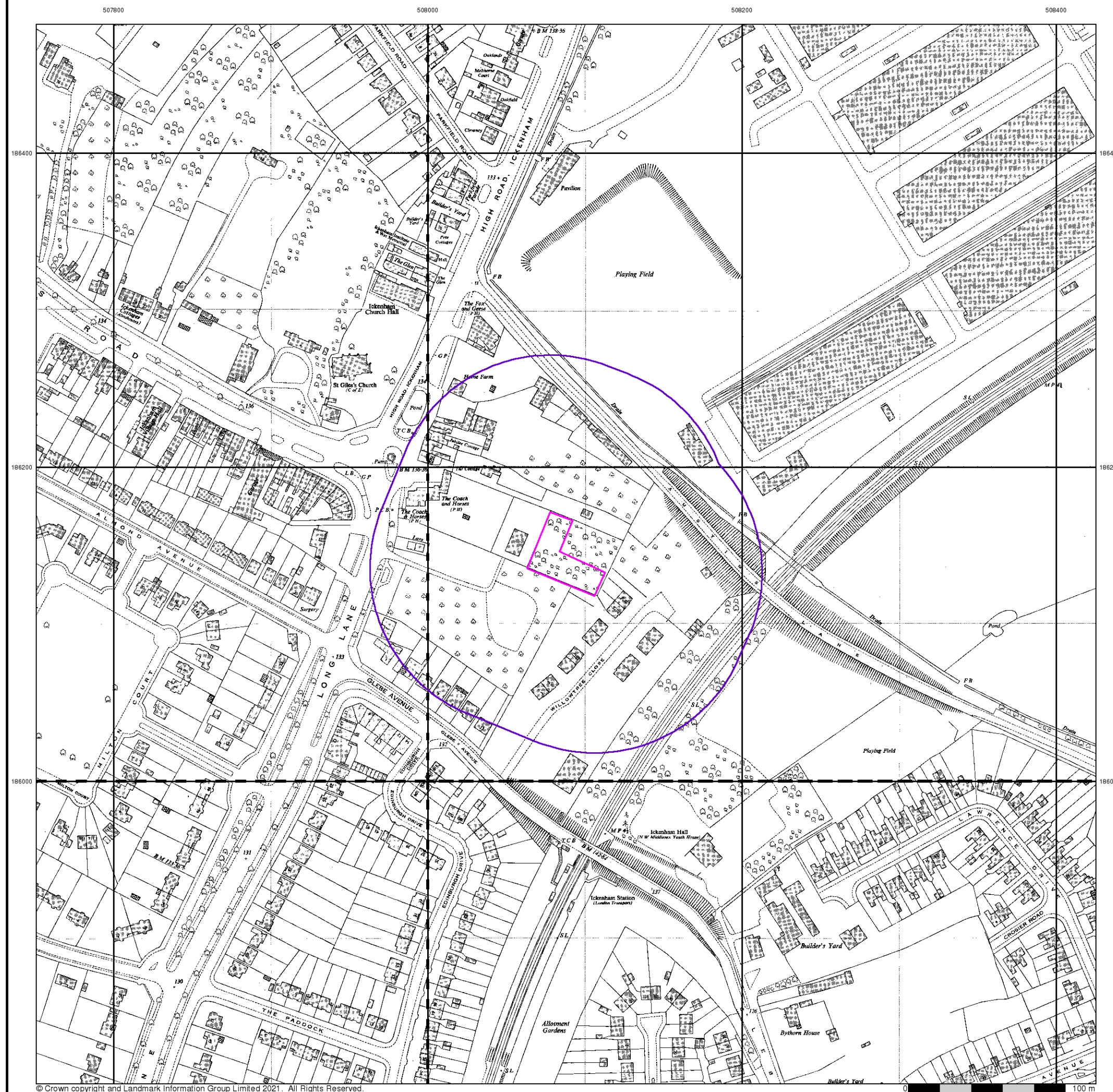
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

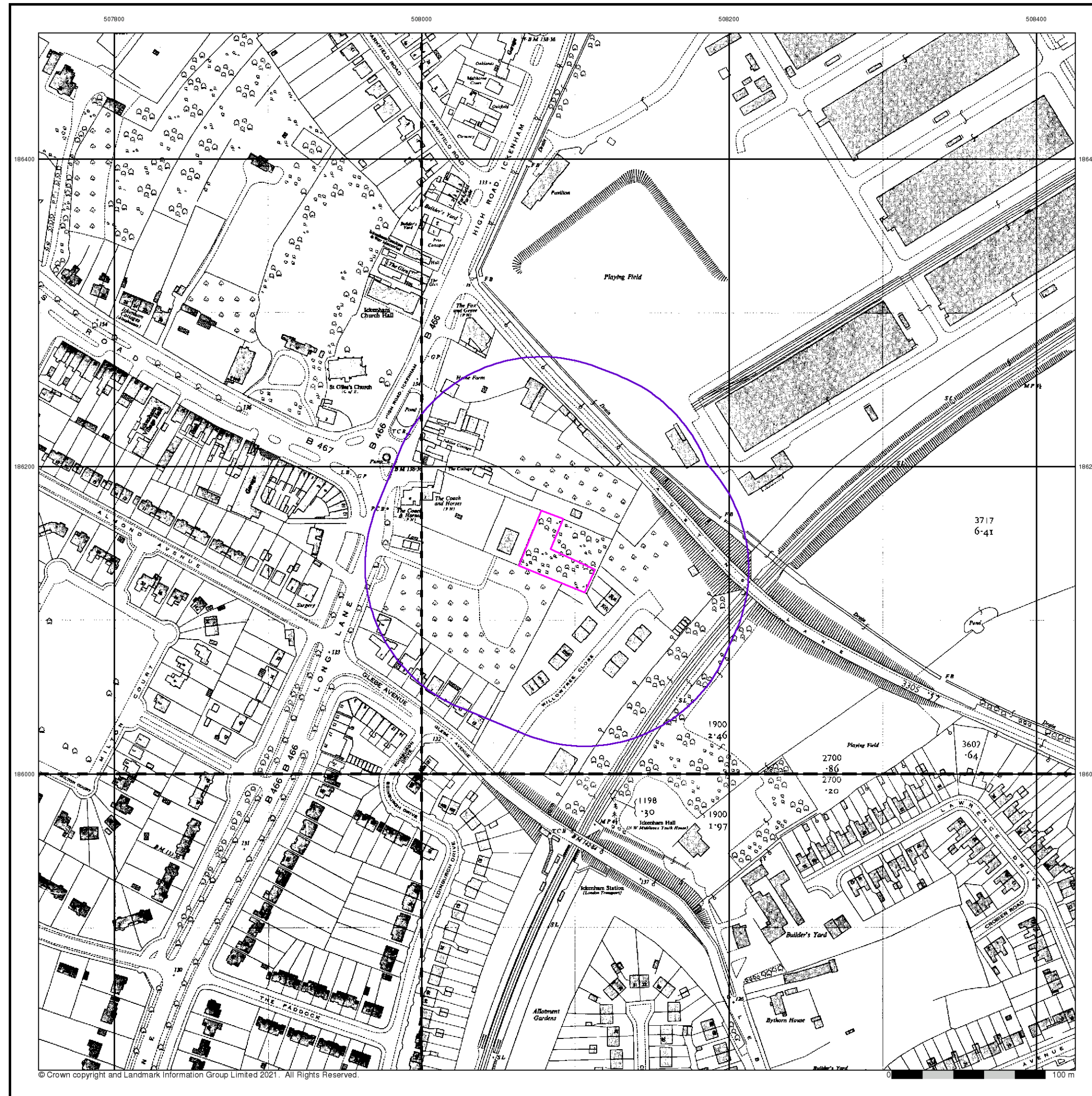
2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

**Landmark**  
INFORMATION GROUP

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Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)







## Ordnance Survey Plan

Published 1962 - 1963

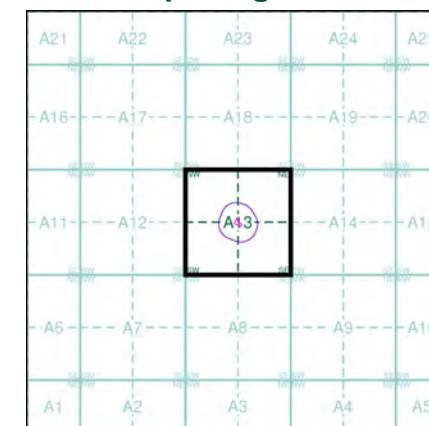
Source map scale - 1:2,500

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)

TQ0786 1963 12,500	TQ0886 1962 12,500
TQ0785 1963 12,500	TQ0885 1962 12,500

### Historical Map - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

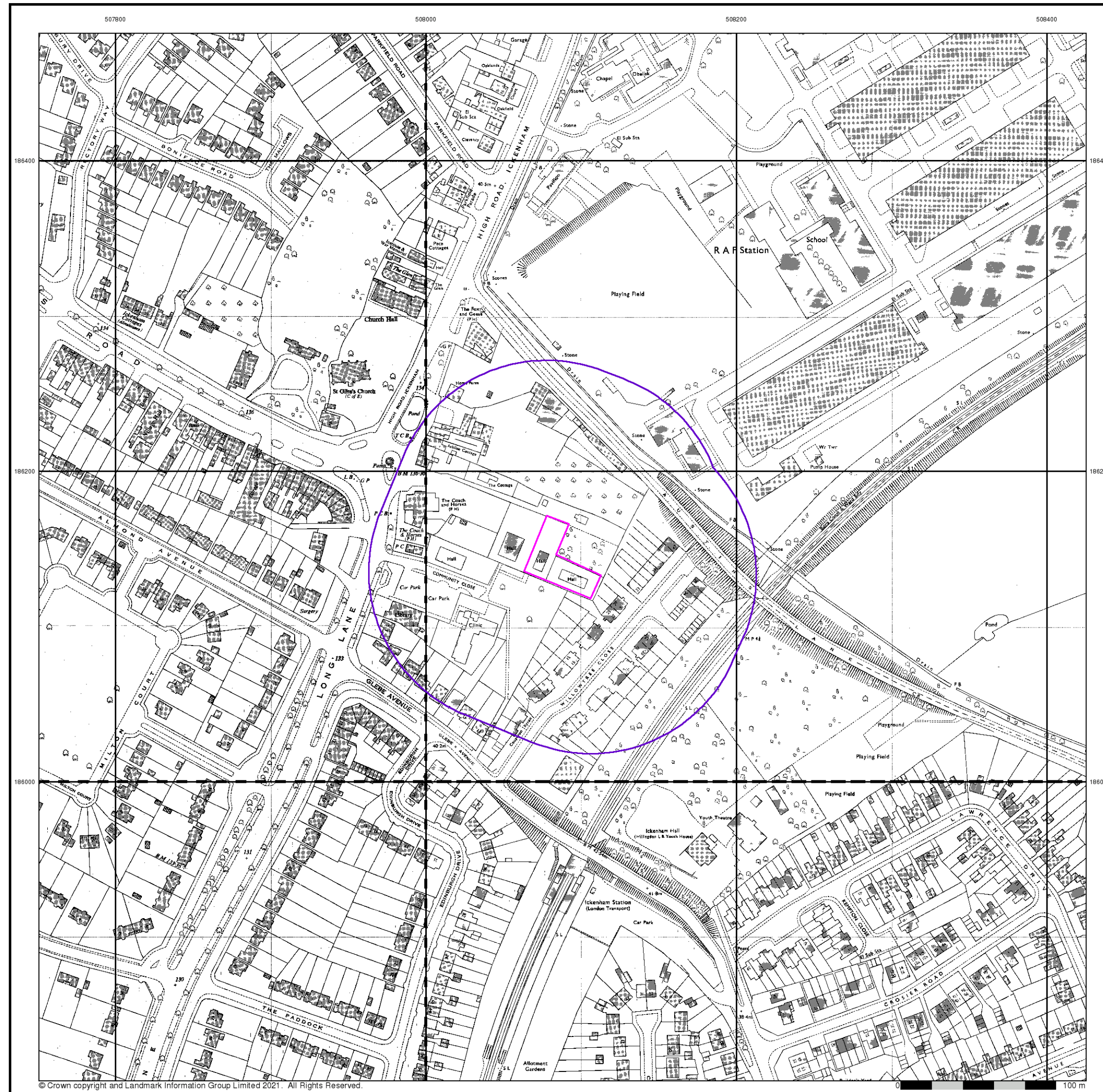
### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

**Landmark**  
INFORMATION GROUP

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## Ordnance Survey Plan

**Published 1968 - 1972**

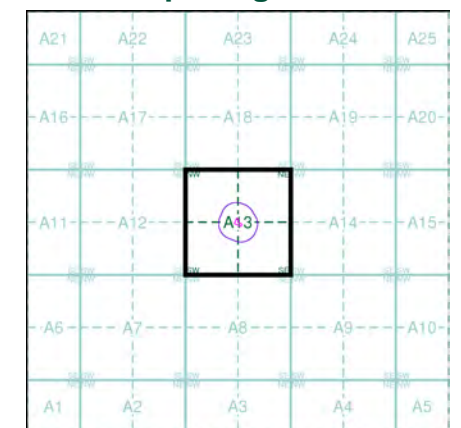
**Source map scale - 1:1,250**

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)

TQ0786SE	TQ0886SW
1968	1972
1:1,250	1:1,250
TQ0785NE	TQ0885NW
1968	1972
1:1,250	1:1,250

### Historical Map - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

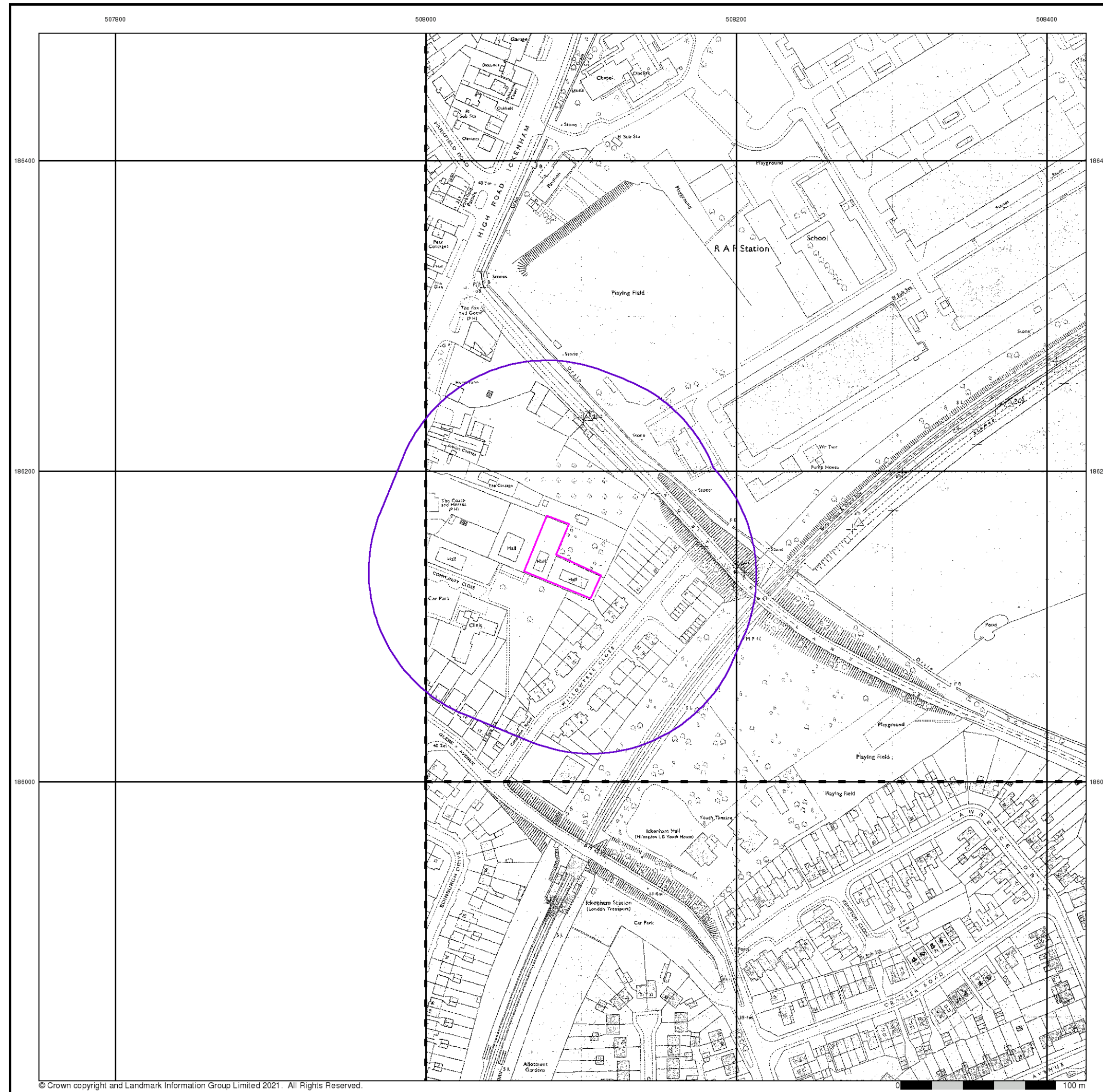
### Site Details

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## Supply of Unpublished Survey Information

Published 1973

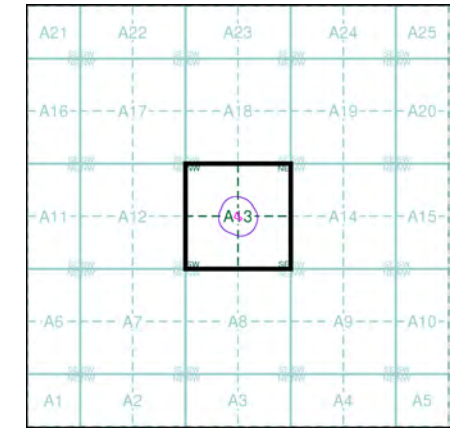
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 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)

TQ0886SW
1973
1:1,250
TQ0885NW
1973
1:1,250

### Historical Map - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

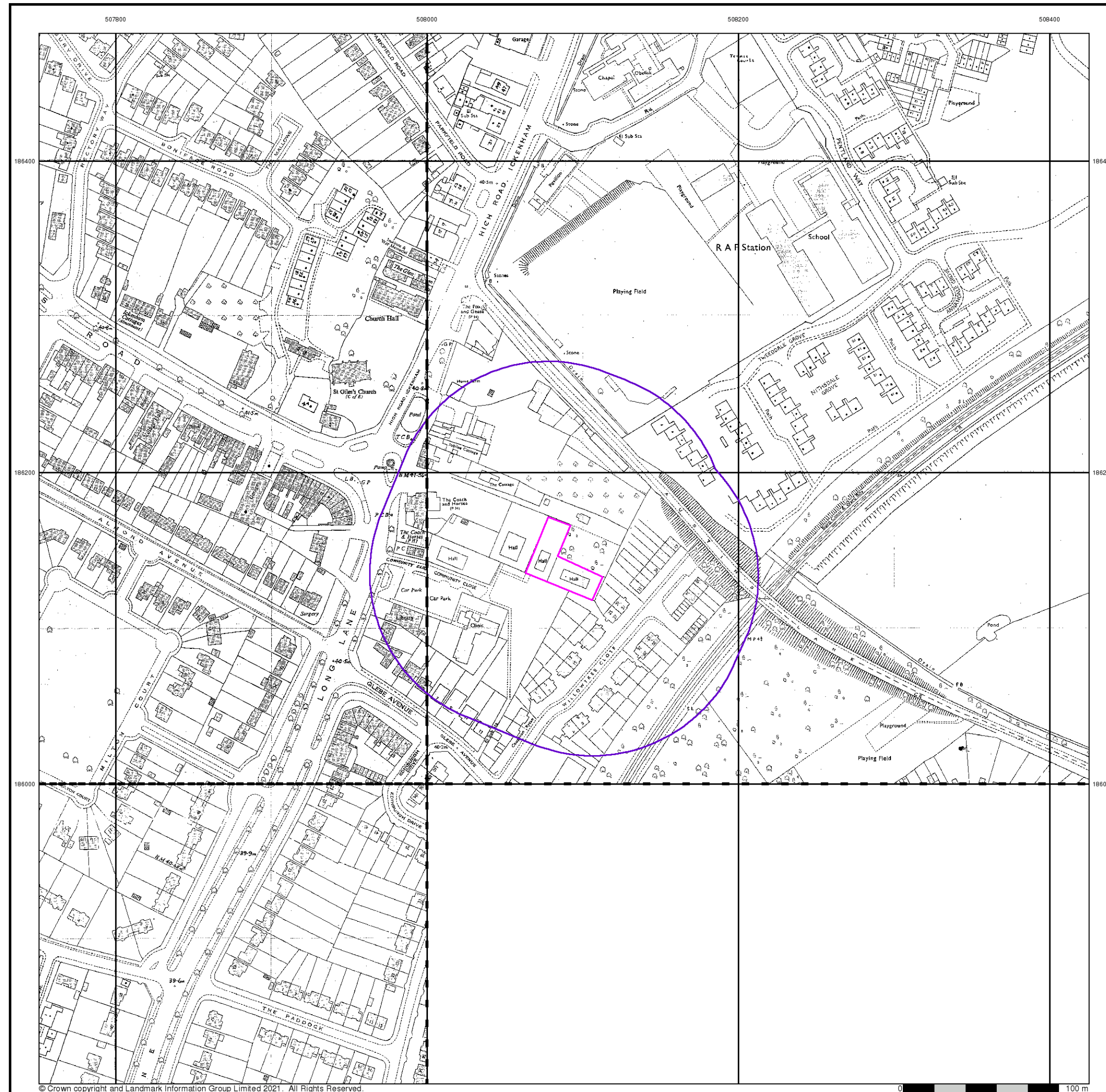
### Site Details

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## Additional SIMs

Published 1979 - 1986

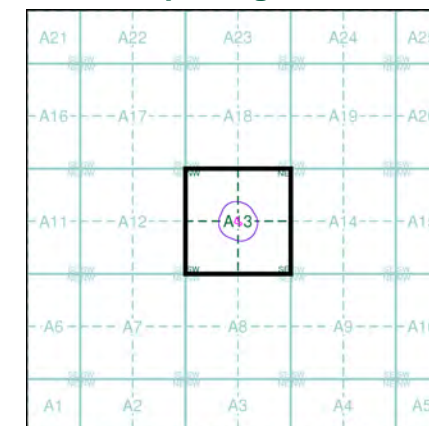
Source map scale - 1:1,250

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)

TQ0786SE	TQ0886SW
1979	1984
1:1,250	1:1,250
TQ0785NE	
1986	
1:1,250	

## Historical Map - Segment A13



## Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

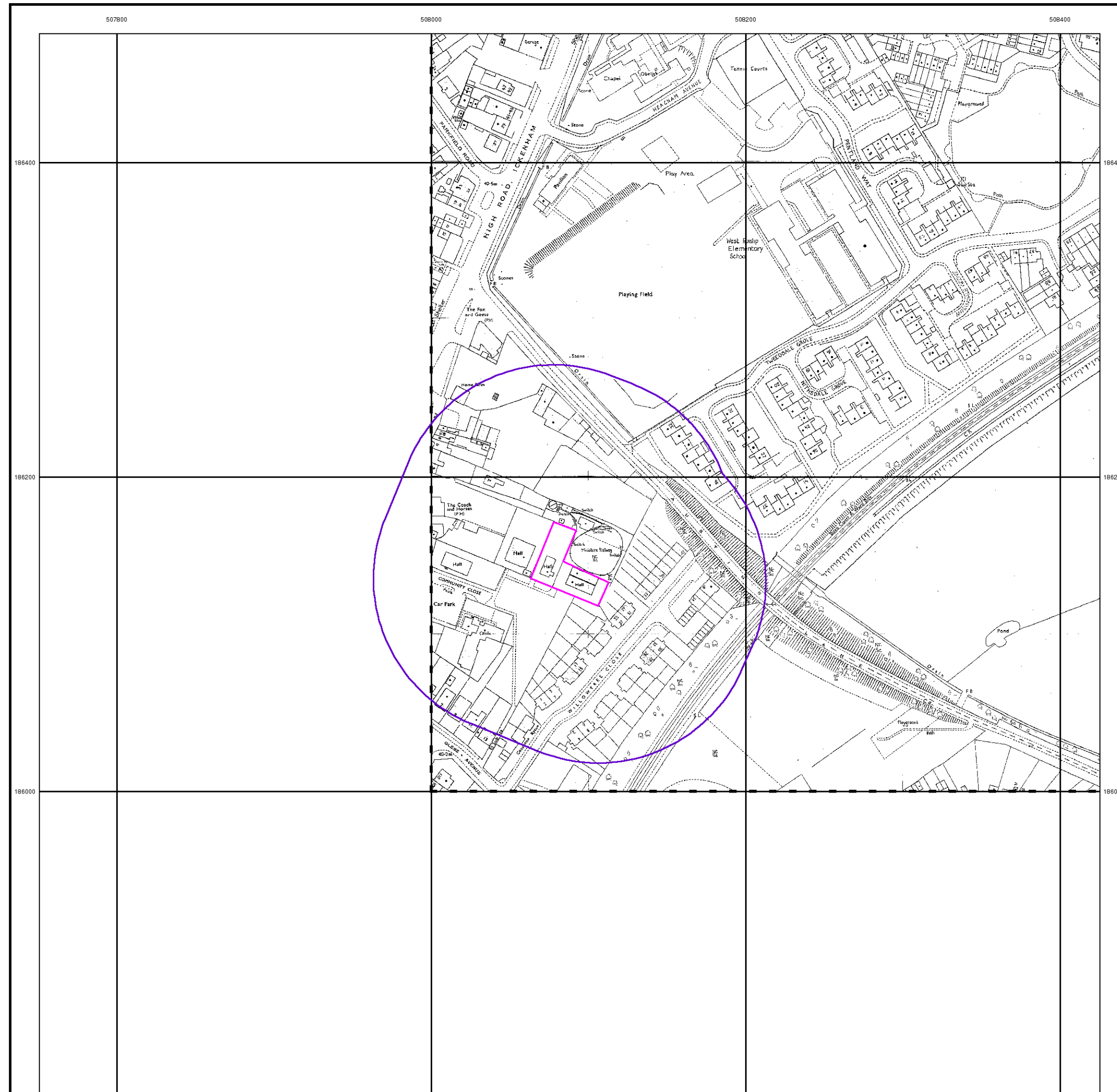
## Site Details

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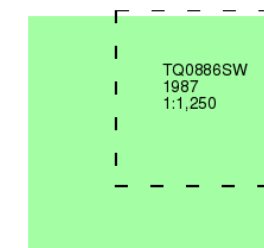
## Additional SIMs

Published 1987

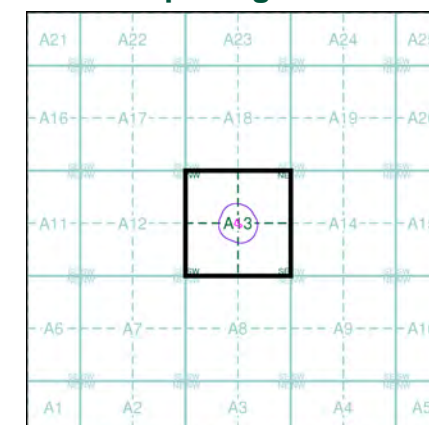
Source map scale - 1:1,250

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

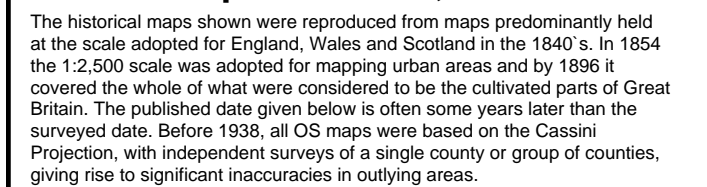
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

## Site Details

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TQ0886SW  
1990  
1:1,250

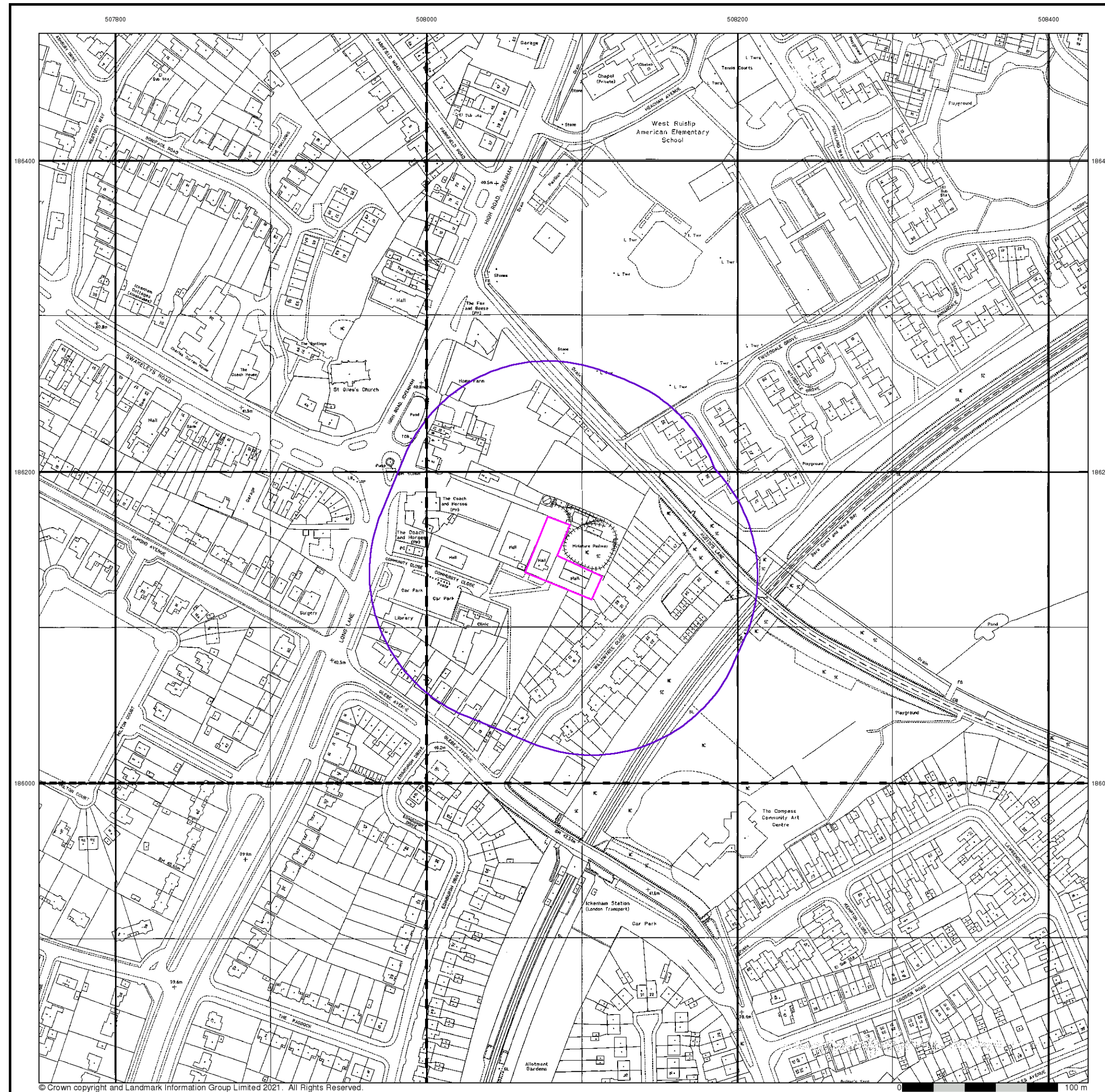
A 5x5 grid of cells labeled A1 to A25. The columns are labeled A1 through A5 at the bottom, and the rows are labeled A1 through A5 on the left. Cell A13 is highlighted with a thick black border and a purple circle.



2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE







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## Large-Scale National Grid Data

Published 1992

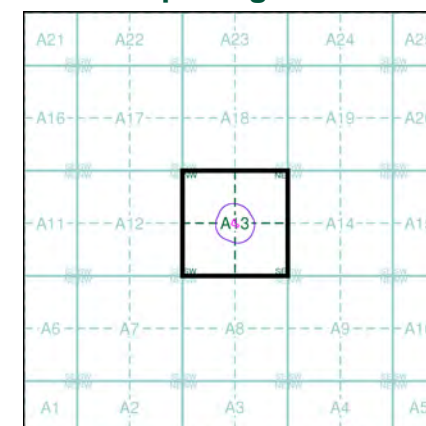
Source map scale - 1:1,250

'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 fore-runners 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)

TQ0786SE	TQ0886SW
1992	1992
1:1,250	1:1,250
TQ0785NE	TQ0885NW
1992	1992
1:1,250	1:1,250

### Historical Map - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE



Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)







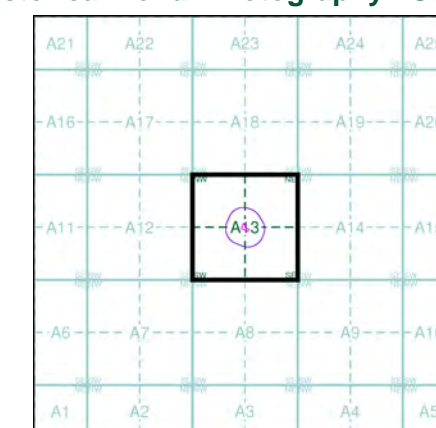


## Historical Aerial Photography

**Published 1999**

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

### Historical Aerial Photography - Segment A13



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 100

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

**Landmark**  
INFORMATION GROUP

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Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)





# Historical Mapping Legends

## Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

## Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS		Ch
	CH		F E Sta
	FB		Fn
	GP		MP
	MS		Pol Sta
	PO		PC
	PH		SB
	Spr		TCB
	TCP		W

## 1:10,000 Raster Mapping

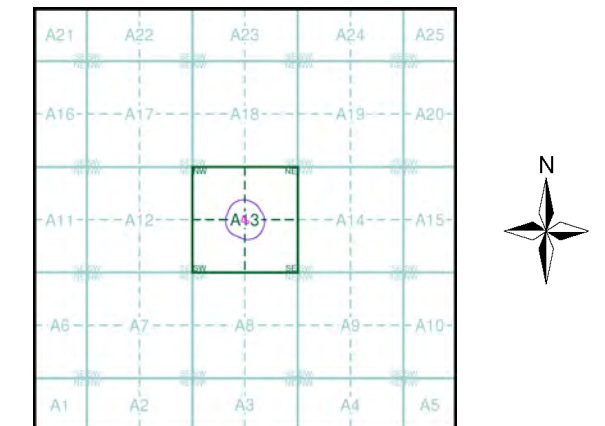
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building



## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Middlesex	1:10,560	1868	3
Buckinghamshire	1:10,560	1881 - 1883	4
Middlesex	1:10,560	1897	5
Buckinghamshire	1:10,560	1900	6
Middlesex	1:10,560	1916 - 1920	7
Middlesex	1:10,560	1916 - 1920	8
Buckinghamshire	1:10,560	1932	9
Middlesex	1:10,560	1935	10
Middlesex	1:10,560	1938	11
Middlesex	1:10,560	1938	12
Historical Aerial Photography	1:10,560	1948	13
Historical Aerial Photography	1:10,560	1948	14
Ordnance Survey Plan	1:10,000	1960	15
Ordnance Survey Plan	1:10,000	1968	16
Ordnance Survey Plan	1:10,000	1970 - 1975	17
Ordnance Survey Plan	1:10,000	1977	18
London	1:25,000	1985	19
Ordnance Survey Plan	1:10,000	1989	20
Ordnance Survey Plan	1:10,000	1990	21
10K Raster Mapping	1:10,000	1999	22
10K Raster Mapping	1:10,000	2006	23
VectorMap Local	1:10,000	2021	24

## Historical Map - Slice A



## Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

## Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM, UB10 8RE



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# Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale



243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

180.12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees.

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A) З з (Z) П п (P) Ч ч (CH)

Б б (B) И и (I) Р р (R) Ш ш (SH)

В в (V) Й й (Y) С с (S) Щ щ (SHCH)

Г г (G) К к (K) Т т (T) Ъ ъ (-)

Д д (D) Л л (L) У у (U) Ы ы (Y)

Е е (E) М м (M) Ф ф (F) Ь ь (')

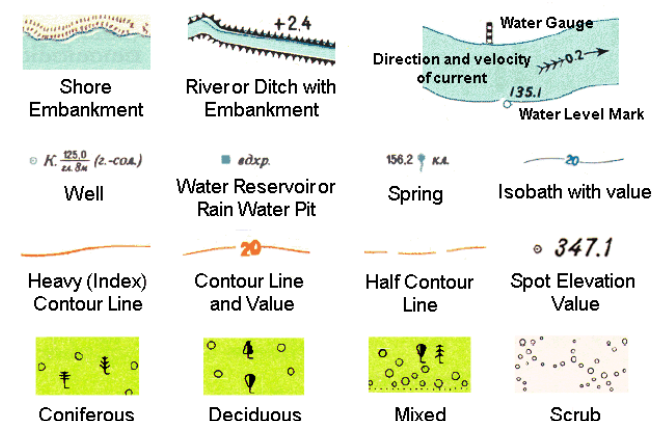
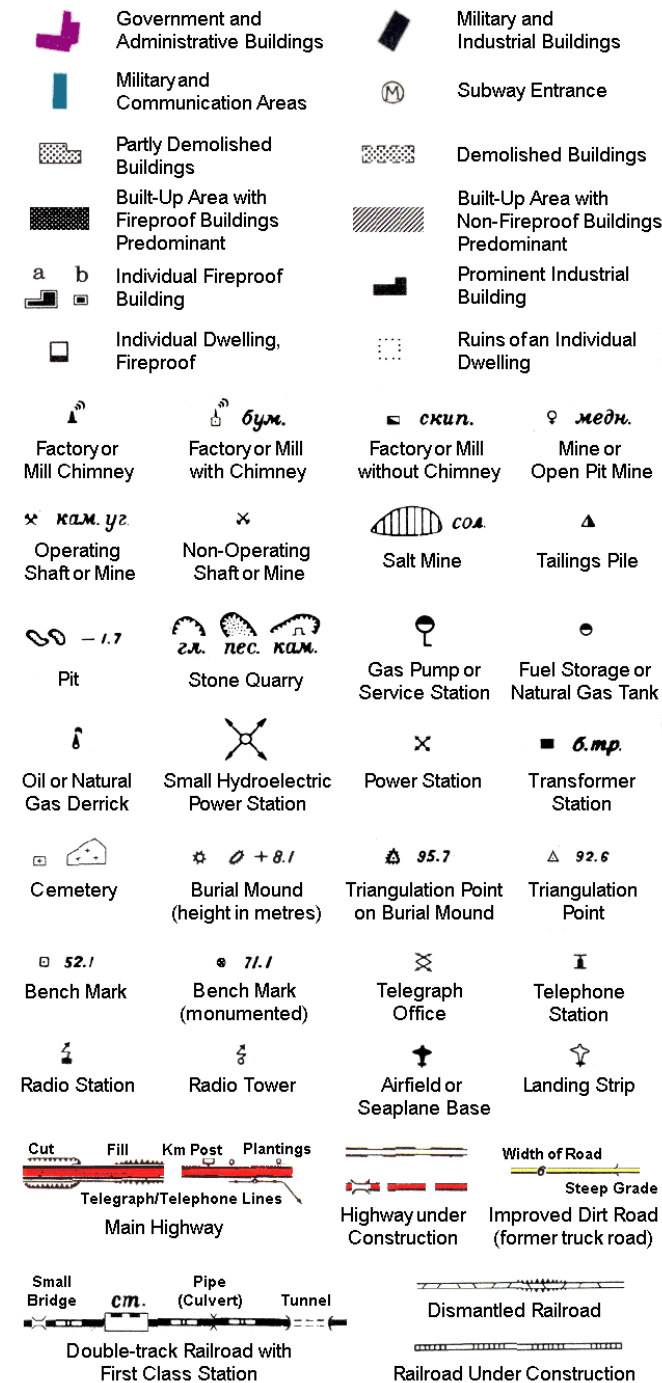
Ё ё (YO) Н н (N) Х х (KH) Э э (E)

Ж ж (ZH) О о (O) Ц ц (TS) Ю ю (YU or IU)

Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale



Key to Numbers on Mapping

TQ08\_London

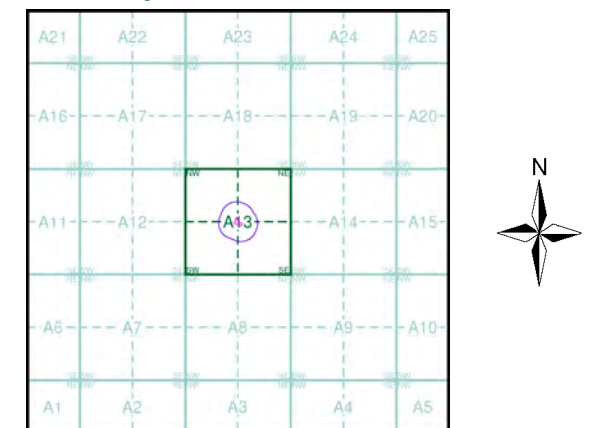
No.	Description
268	Storage (Arms And Ammunition)



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Middlesex	1:10,560	1868	3
Buckinghamshire	1:10,560	1881 - 1883	4
Middlesex	1:10,560	1897	5
Buckinghamshire	1:10,560	1900	6
Middlesex	1:10,560	1916 - 1920	7
Middlesex	1:10,560	1916 - 1920	8
Buckinghamshire	1:10,560	1932	9
Middlesex	1:10,560	1935	10
Middlesex	1:10,560	1938	11
Middlesex	1:10,560	1938	12
Historical Aerial Photography	1:10,560	1948	13
Historical Aerial Photography	1:10,560	1948	14
Ordnance Survey Plan	1:10,000	1960	15
Ordnance Survey Plan	1:10,000	1968	16
Ordnance Survey Plan	1:10,000	1970 - 1975	17
Ordnance Survey Plan	1:10,000	1977	18
London	1:25,000	1985	19
Ordnance Survey Plan	1:10,000	1989	20
Ordnance Survey Plan	1:10,000	1990	21
10K Raster Mapping	1:10,000	1999	22
10K Raster Mapping	1:10,000	2006	23
VectorMap Local	1:10,000	2021	24

Russian Map - Slice A



Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

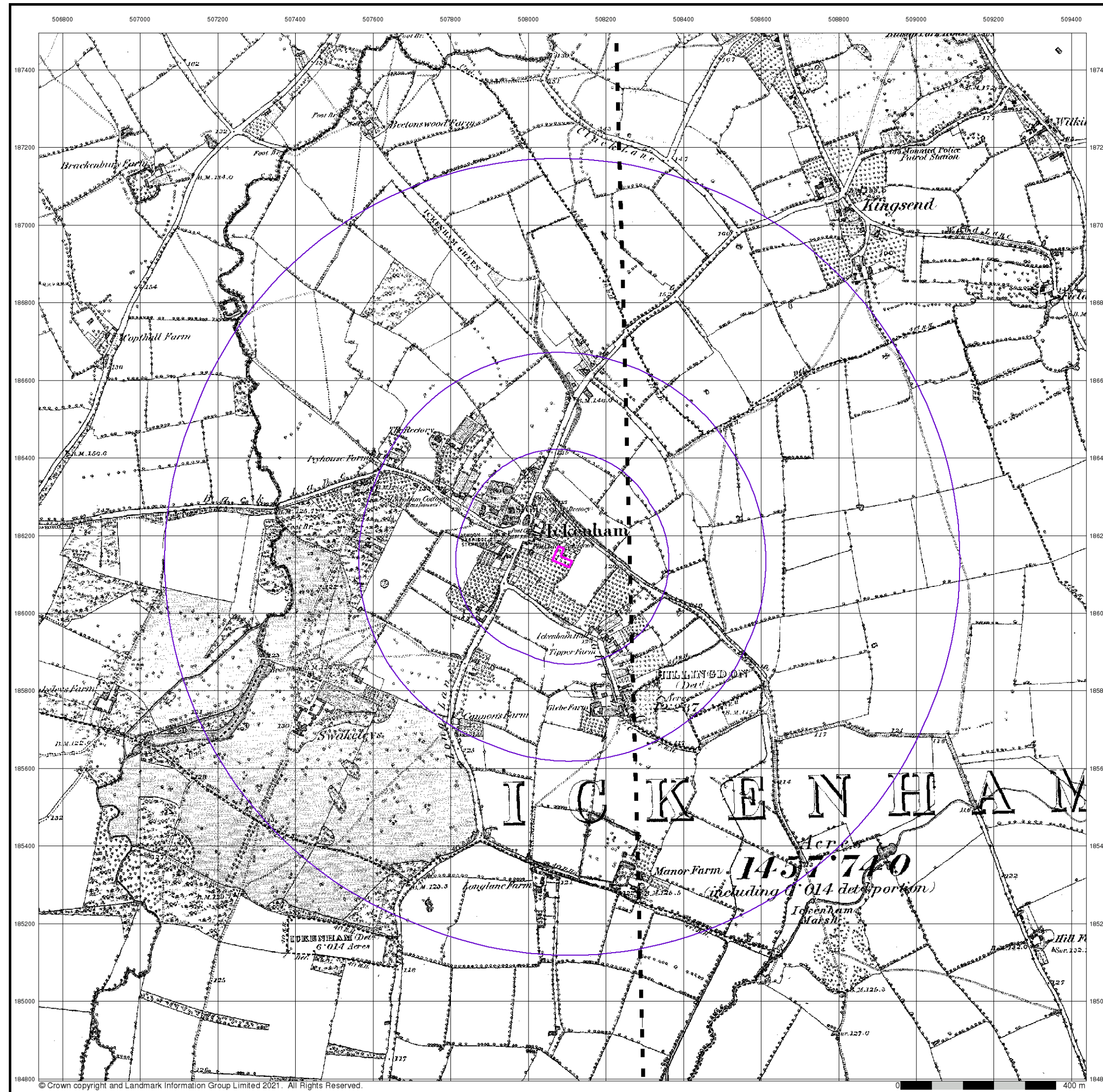
Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM, UB10 8RE

Landmark  
INFORMATION GROUP

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





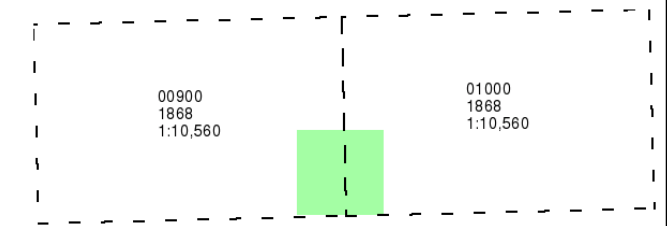
Middlesex

Published 1868

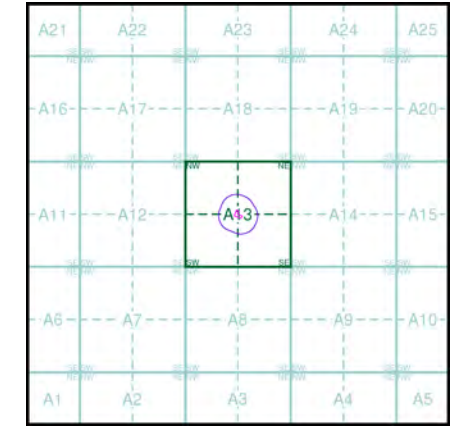
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

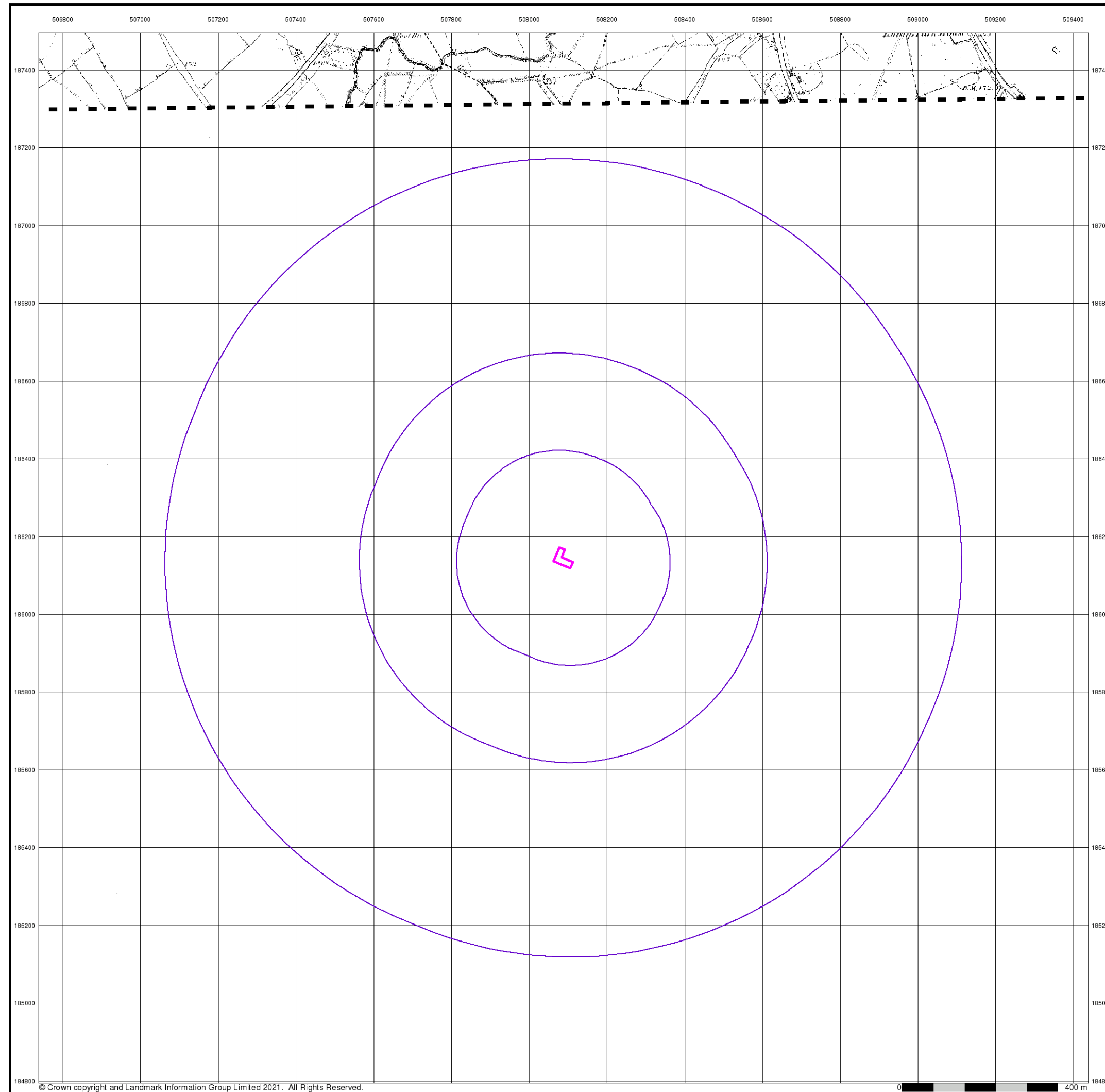
Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

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## Buckinghamshire

Published 1881 - 1883

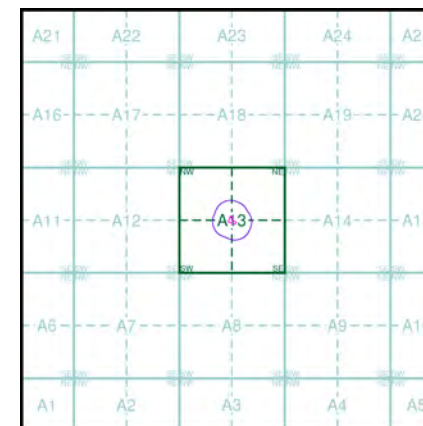
Source map scale - 1:10,560

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 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 1:10,560 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)

04900
1883
1:10,560
05400
1881
1:10,560

### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
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Site Area (Ha): 0.12  
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UB10 8RE



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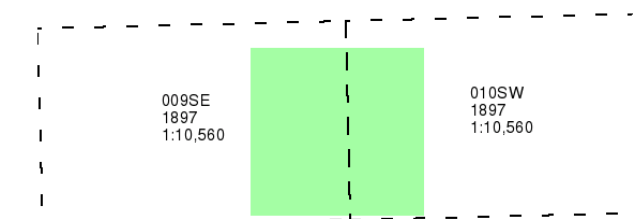
Middlesex

Published 1897

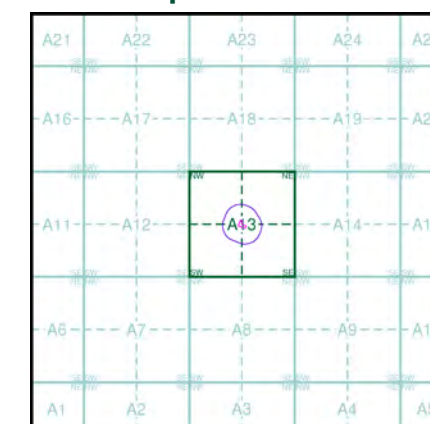
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

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## Buckinghamshire

Published 1900

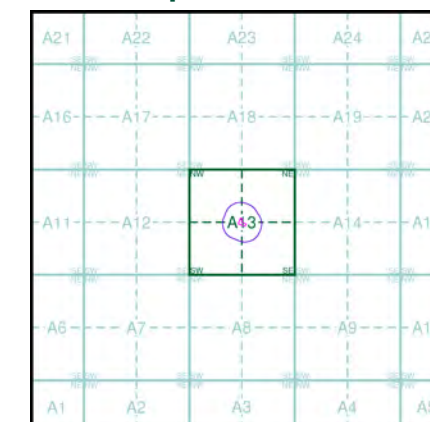
Source map scale - 1:10,560

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 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 1:10,560 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)

049SW	1900	1:10,560
054NW	1900	1:10,560

### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

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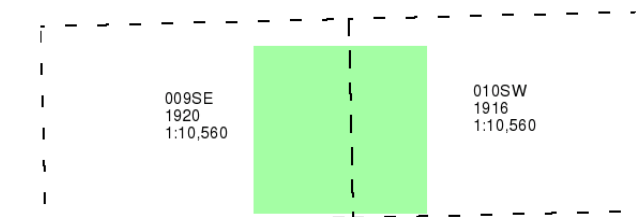
## Middlesex

Published 1916 - 1920

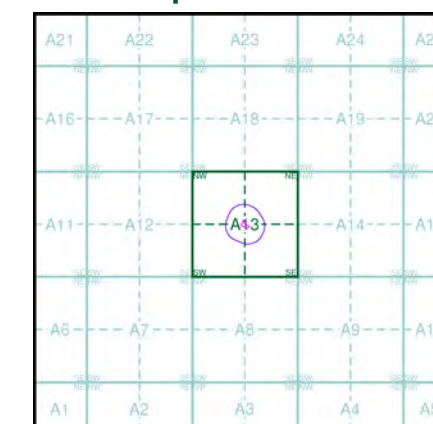
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

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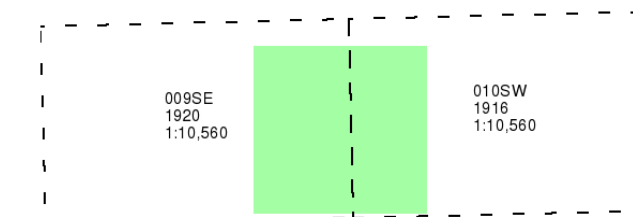
## Middlesex

Published 1916 - 1920

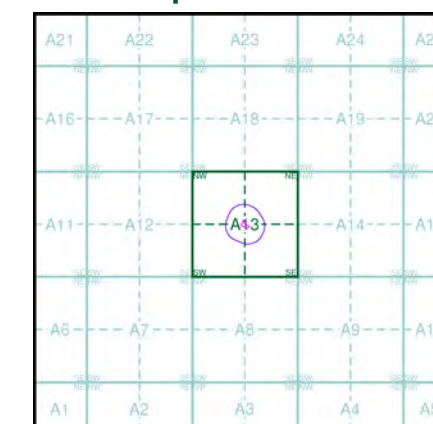
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
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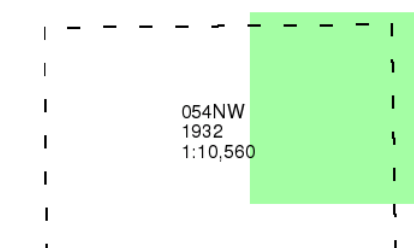
## Buckinghamshire

Published 1932

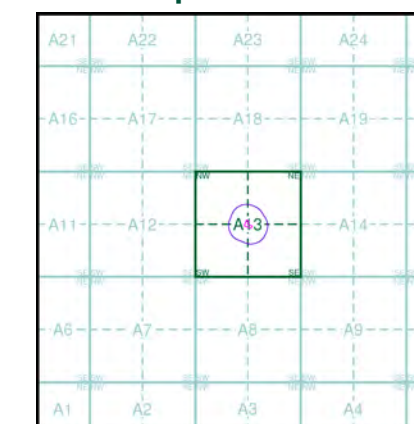
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
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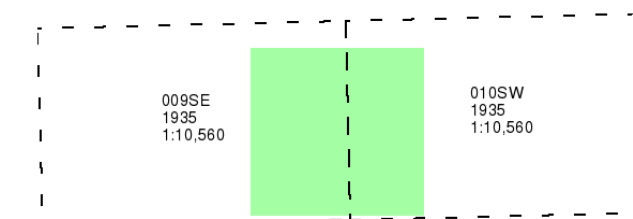
Middlesex

Published 1935

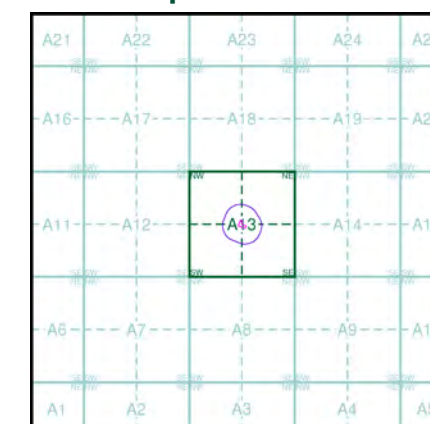
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
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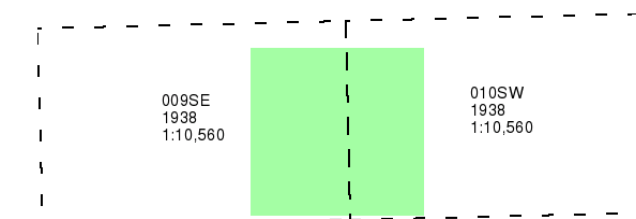
Middlesex

Published 1938

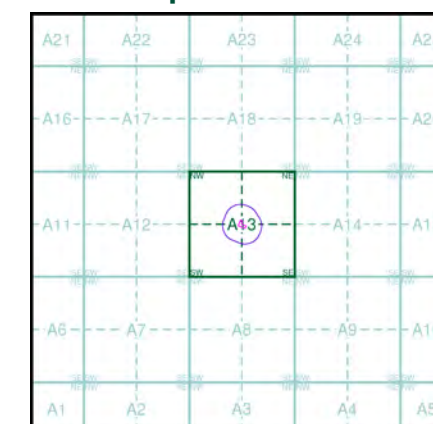
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM, UB10 8RE

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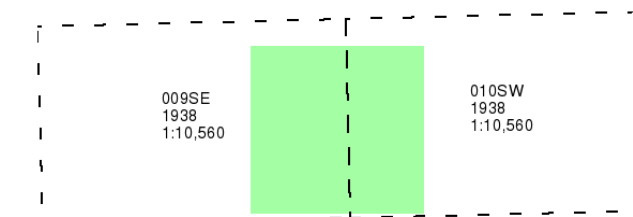
Middlesex

Published 1938

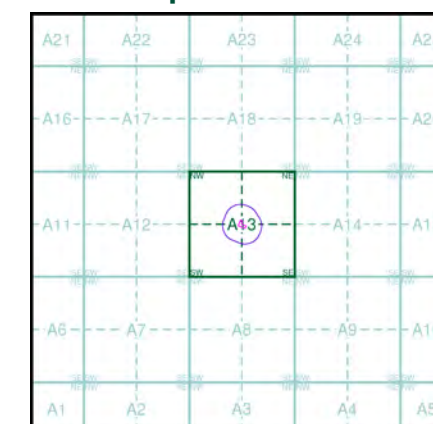
Source map scale - 1:10,560

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
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Site Area (Ha): 0.12  
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## Historical Aerial Photography

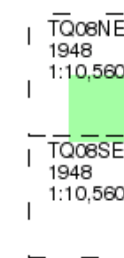
Published 1948

Source map scale - 1:10,560

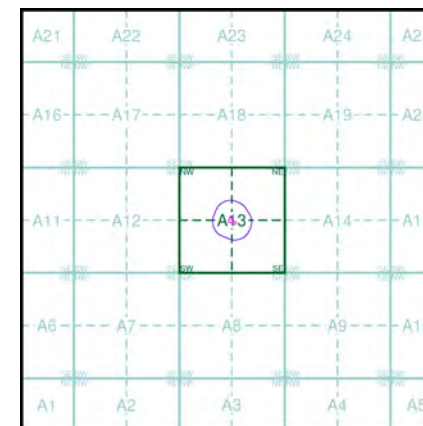
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked 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)



### Historical Aerial Photography - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

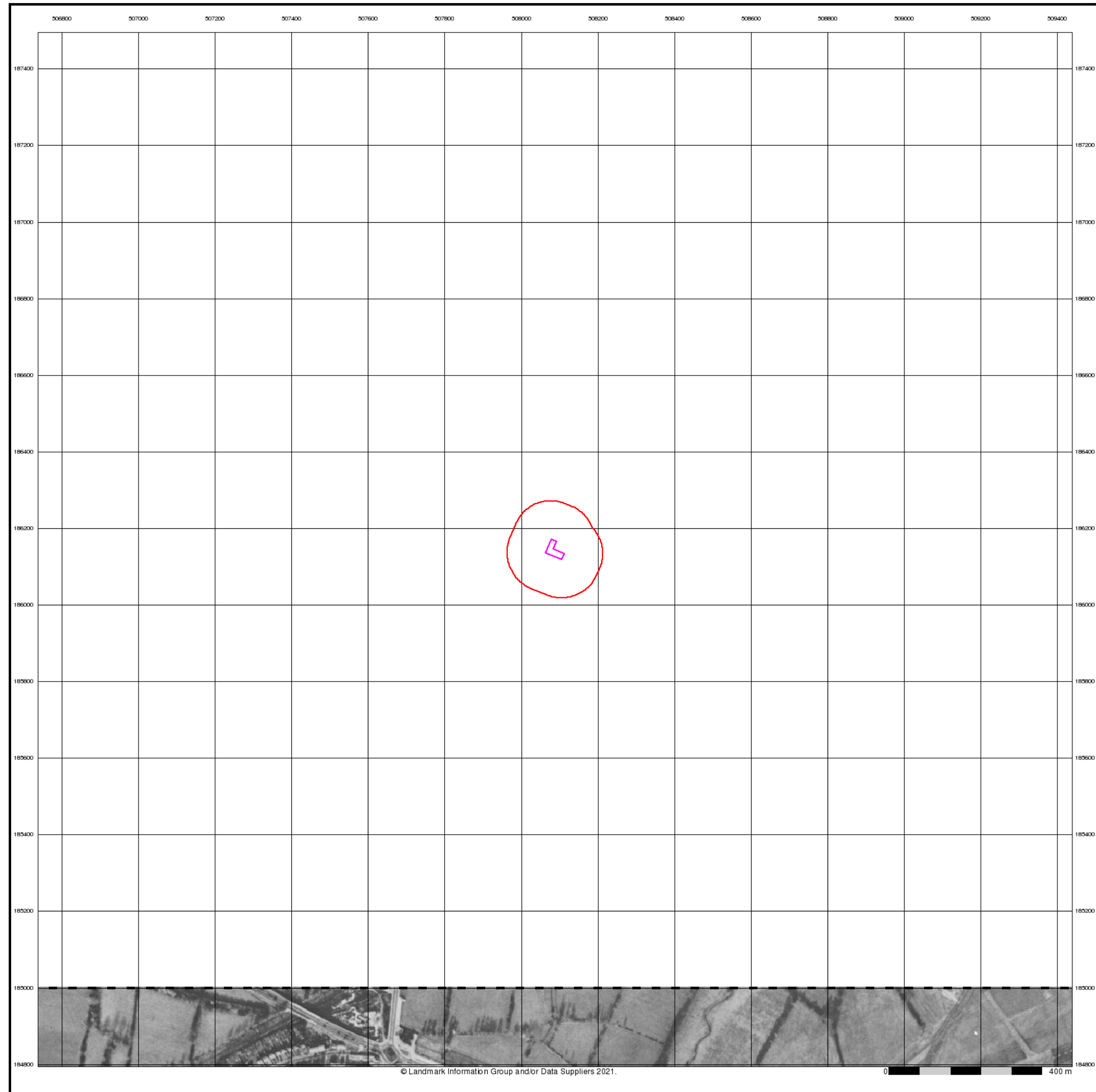
### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM, UB10 8RE



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Historical Aerial Photography

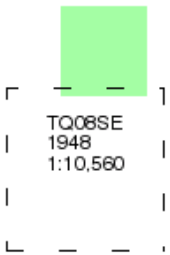
Published 1948

Source map scale - 1:10,560

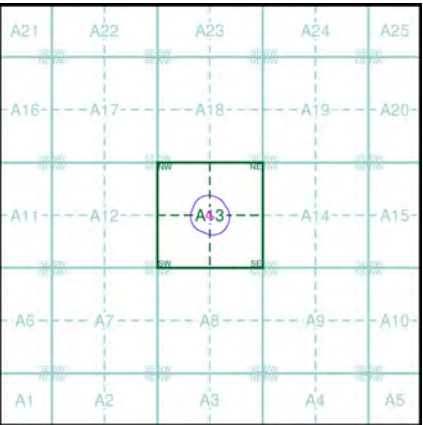
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked 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)



Historical Aerial Photography - Slice A



Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
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## Ordnance Survey Plan

Published 1960

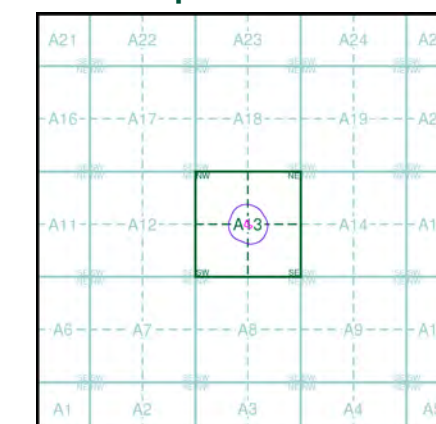
Source map scale - 1:10,000

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 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 1:10,560 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)

TQ08NE
1960
1:10,560
TQ08SE
1960
1:10,560

### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
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INFORMATION GROUP

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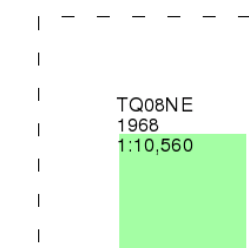
## Ordnance Survey Plan

Published 1968

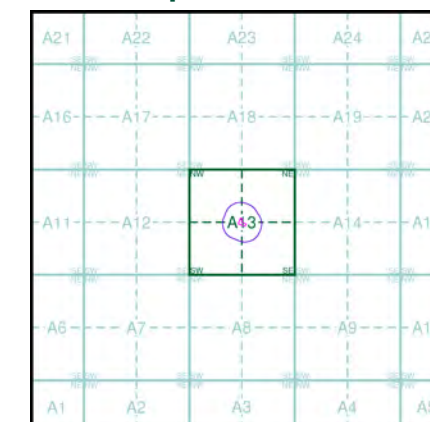
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

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## Ordnance Survey Plan

Published 1970 - 1975

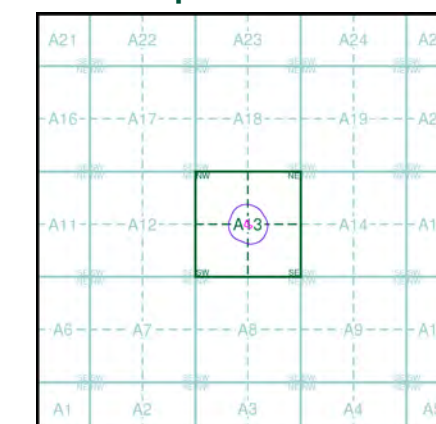
Source map scale - 1:10,000

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 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 1:10,560 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)

TQ08NE
1975
1:10,000
TQ08SE
1970
1:10,560

### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

2nd Ickenham Scout Hut, Community Close, ICKENHAM,  
UB10 8RE

**Landmark**  
INFORMATION GROUP

Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)





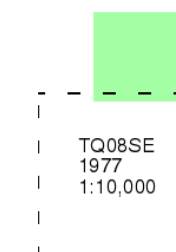
## Ordnance Survey Plan

Published 1977

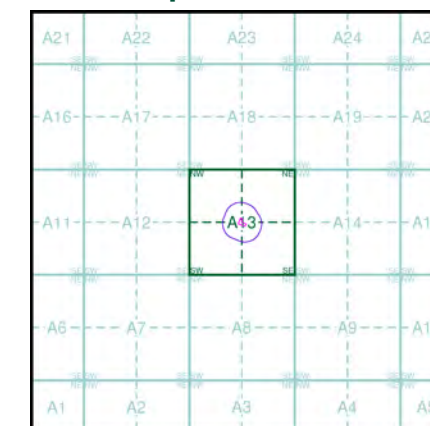
Source map scale - 1:10,000

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 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 1:10,560 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)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details

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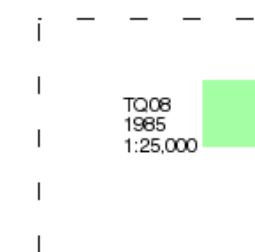
London

Published 1985

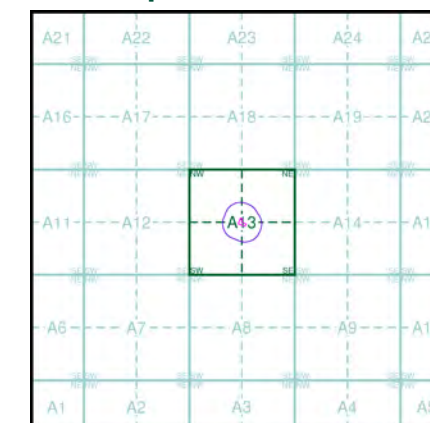
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

### Map Name(s) and Date(s)



### Russian Map - Slice A



### Order Details

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Customer Ref: 2105013.001  
National Grid Reference: 508090, 186140  
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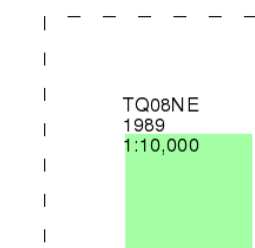
## Ordnance Survey Plan

Published 1989

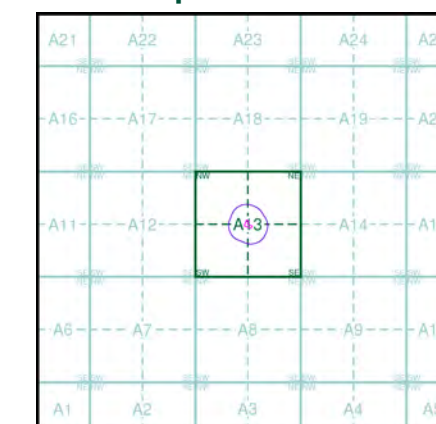
Source map scale - 1:10,000

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### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
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Slice: A  
Site Area (Ha): 0.12  
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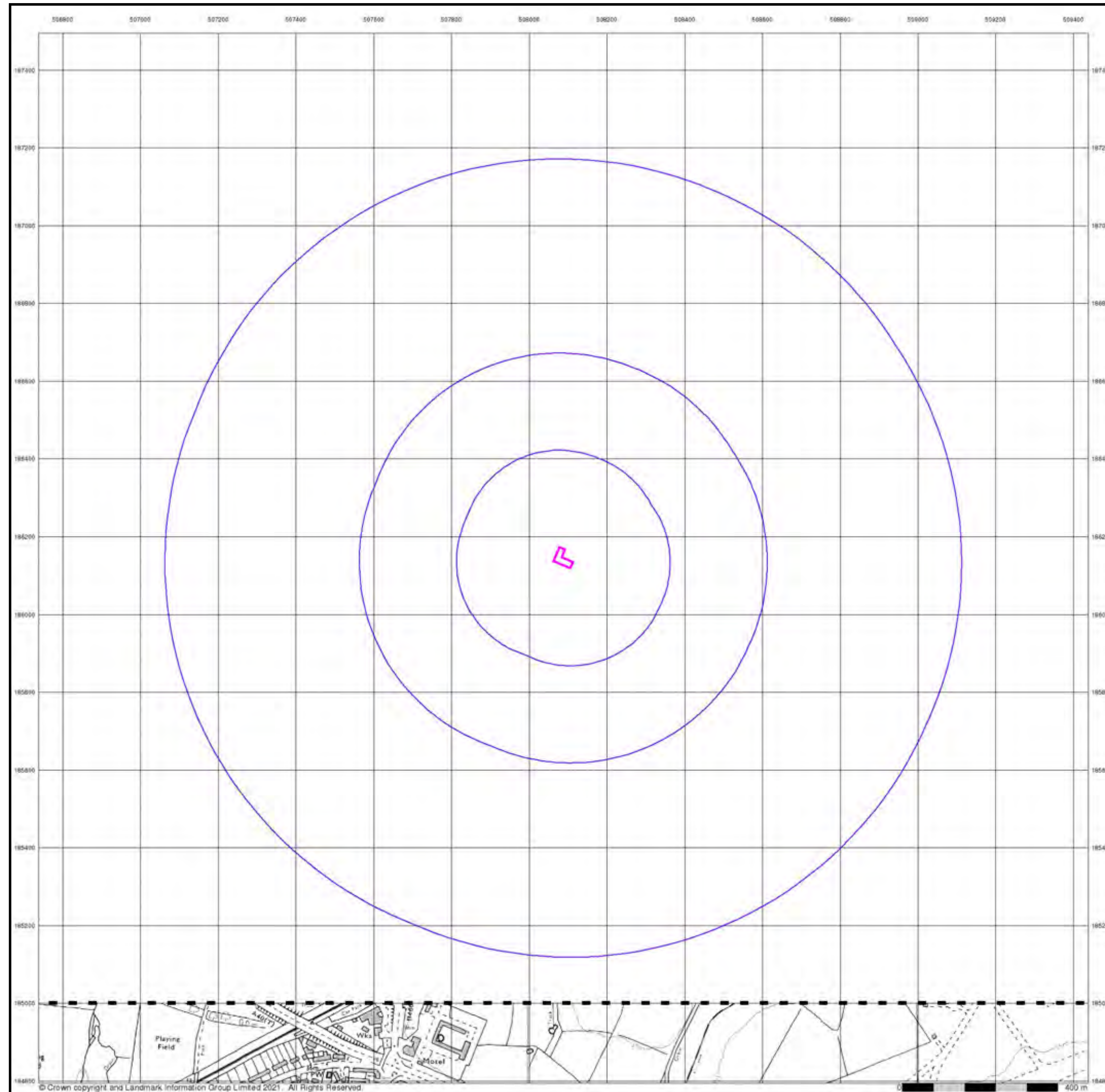
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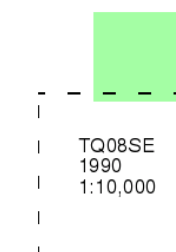
## Ordnance Survey Plan

Published 1990

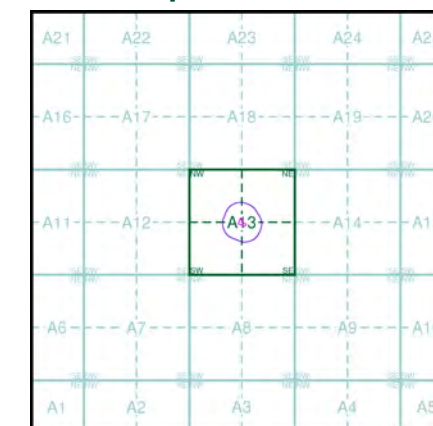
Source map scale - 1:10,000

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 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 1:10,560 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)



### Historical Map - Slice A



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## 10k Raster Mapping

Published 1999

Source map scale - 1:10,000

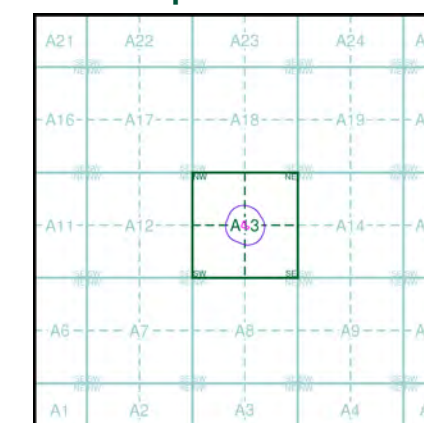
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

TQ08NE  
1999  
1:10,000

TQ08SE  
1999  
1:10,000

### Historical Map - Slice A



### Order Details

Order Number: 280397912\_1\_1  
Customer Ref: 2105013.001  
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Site Area (Ha): 0.12  
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## 10k Raster Mapping

Published 2006

Source map scale - 1:10,000

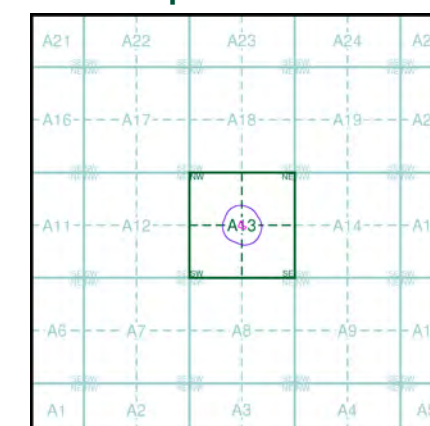
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

TQ08NE  
2006  
1:10,000

TQ08SE  
2006  
1:10,000

### Historical Map - Slice A



### Order Details

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## VectorMap Local

Published 2021

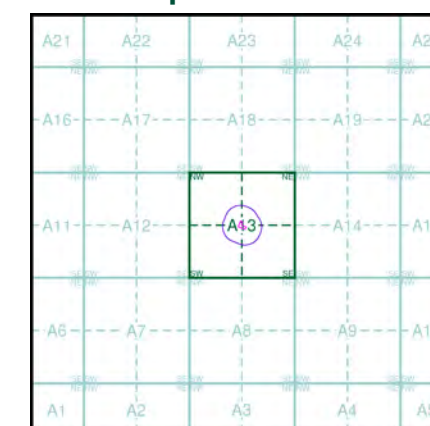
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

### Map Name(s) and Date(s)

TQ08NE  
2021  
Variable  
TQ08SE  
2021  
Variable

### Historical Map - Slice A



### Order Details

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