CONTAMINATED LAND RISK ASSESSMENT

Phase 1 Desk Study Report

Site Address
144 Waldegrave Road
Teddington
TW11 8NA

Client
Kyte Developments & Trading Ltd

Report Reference
PH1-2024-000055

Prepared by
STM Environmental Consultants Ltd

Date
05/07/2024

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Site Coordinates:	515623, 171704
Prepared for:	Kyte Developments & Trading Ltd
Report Reference:	PH1-2024-000055
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3 DISCLAIMER

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STM has exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant when undertaking works of this nature. However, STM gives no warranty, representation or assurance as to the accuracy or completeness of any information, assessments or evaluations presented within this report.

It is noted that some of the findings presented in this report are based on information obtained from third parties (i.e. Environmental Search Report). Whilst we assume that all information is representative of the site and of present conditions, we can offer no guarantee as to its validity regarding the short term or long-term history of the Site.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

It should be noted that this report has been produced for environmental purposes only. It should not in any way be construed to be or used to replace a geotechnical survey, structural survey, asbestos survey, buried services survey, unexploded ordnance survey or Invasive Plant Survey.

4 EXECUTIVE SUMMARY

SECTION	SUMMARY
Site Location And Size	The site is located at 144 Waldegrave Road, Teddington TW11 8NA and is centred at national grid reference 515623, 171704. The site has an area of approximately 0.03ha.
Current Site Use	The site is currently used as a Motor Repair Garage. The main current uses in the immediate surrounding area include residential and commercial properties.
Proposed Development	The development proposal is for the change of use of the existing Motor Repair Garage to residential. It is understood that there are proposals to include soft landscaping in the development.
Site History	Examination of Ordnance Survey historic maps revealed that the site comprised open undeveloped land until c.1934-35, when 1no. unspecified building was constructed in the centre of the site. By c.1959 the site was labelled as No. 144, as well as a Garage. The surrounding area has been predominantly open undeveloped land until widescale residential development occurred between the 1890s and 1930s.
Geology	According to BGS, the bedrock geology beneath the site consists of London Clay Formation comprising Clay and Silt. The superficial deposits are Kempton Park Gravel Member comprising Sand and Gravel.
Topography	The site is at an elevation of approximately 5mAOD (above Ordnance Datum).
Hydrogeology	The site is underlain by a Principal Superficial Aquifer and an Unproductive Bedrock Aquifer.
Hydrology	There are no surface water bodies located on or within 250m of the site.
Ecology	There are no designated ecological receptors located on or within 250m of the site.
Relevant Previous Site Investigations	Richmond upon Thames Council's online planning portal was searched in an effort to identify any relevant planning applications within a 50m radius. Although two applications for adjacent sites were identified with Contaminated Land Conditions (07/3470/FUL and 08/1288/FUL), no Contaminated Land Reports were identified associated with either application.
Contamination Assessment	On site potentially contaminative land uses (PCLUs) have included Motor Repair Garage while off site PCLUs include Builder's Yard/Workshop (45m W), Vehicle Repair Workshop/Vehicle Storage (45m W) and Unspecified Ground Workings (70m S & 230m SE). A conceptual site risk model was developed and a qualitative risk assessment carried out. Potentially significant potential pollutant linkages were identified in respect of: • Human Health Receptors (i.e. Future Occupiers/Users) - via ingestion, dermal absorption and inhalation (indoors and outdoors); • Human Health Receptors - Explosion/ Fire risk due to build-up of

	Methane/ VOCs in confined spaces; - Groundwater receptors – Principal Superficial Aquifer; - Property Receptors - Damage to buildings and services due to exposure to aggressive chemicals in the soil. - Property Receptors – Explosion/ Fire risk due to build-up of Methane/ VOCs in confined spaces The identified risks are considered to be Low-Moderate.
Recommendations	Given that potentially significant potential pollutant linkages were identified, it is recommended that an intrusive site investigation is undertaken with the objective of determining the presence and extent of any soil and gaseous contamination at the site.
This table is intended as a summary of the desk study findings and should be read in conjunction with the main report.	

5 INTRODUCTION

STM Environmental Consultants Ltd (STM) were commissioned by Kyte Developments & Trading Ltd (Client) to undertake a Phase 1 Contaminated Land Risk Assessment (CLRA) at a site located at 144 Waldegrave Road, Teddington TW11 8NA.

The study is required to support a planning application.

5.1 Development Proposal

The development proposal is for the change of use of the existing Motor Repair Garage to residential. It is understood that there are proposals to include soft landscaping in the development.

The proposed development plans are contained in Appendix 1.

6 CONTEXT AND OBJECTIVES FOR THE RISK ASSESSMENT

6.1 Legislative Context

6.1.1 Part IIA

Part IIA of the Environmental Protection Act 1990, which came into force in England in April 2000 and in Wales in July 2001, introduced a new statutory regime for the identification and remediation of contaminated land in the United Kingdom.

The legislation considers risks from contaminated land to human beings, controlled waters (surface and ground water), protected ecological systems and property. Under the legislation “contaminated land” is defined as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that: -

(a) Significant harm is being caused or there is significant possibility of such harm being caused: or

(b) Pollution of controlled waters is being caused, or is likely to be, caused."

In order for land to be considered contaminated, there must be a contaminant, a receptor and a pathway (via which the contaminant can reach the receptor) present at the site. When these three components are identified at a site, a *pollutant linkage* is said to exist.

Pollutant Linkage = Contaminant –> Pathway –> Receptor

In order for a local authority to determine that a site is contaminated land, it must be satisfied that the pollutant linkage is a *significant pollutant linkage* and that the land in question is causing, or that there is a significant possibility that it will cause significant harm (SPOSH) to humans, habitats, buildings or livestock and crops if remedial work is not carried out.

6.1.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the government's policy on dealing with land contamination through the planning process. It states that planning policies and decisions should ensure that:

- a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);
- after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
- adequate site investigation information, prepared by a competent person, is presented.

6.1.3 Environmental Damage Regulations

The Environmental Damage (Protections and Remediation) Regulations 2015 transpose the provisions of the EU Environmental Liability Directive into law in England and Wales.

The Regulations require action in response to the most significant cases of environmental damage. They cover specific types of:

- damage to species and habitats;
- damage to water; or
- risks to human health from contamination of land.

The Regulations apply to both imminent threats and actual cases of damage. Where these arise, those responsible must take immediate action to prevent damage occurring or remediate damage where it does occur.

The Regulations are based on the polluter pays principle 'requiring those responsible to meet the cost of preventive and remedial measures.

6.2 Objectives

This Desk Study has been written so as to provide an initial overview of the nature and extent of contamination hazards that may exist at the site. It has been undertaken in accordance with the specifications outlined in the British Standard BS 10175:2011+A2:2017 Code of Practice for the Investigation of potentially contaminated sites and the Environment Agency Document, LCRM: Stage 1 Risk Assessment.

The main objectives of the study were to:

- Enable a conceptual site risk model to be constructed;
- Provide sufficient information for a preliminary qualitative risk assessment to be undertaken;
- Inform the need for and scope of any intrusive investigations that may be required.

6.3 Summary of Research Undertaken

Details of information sources researched in order to compile this desk study are given below.

- Environment Agency Open Data (GIS)
- English Nature Open Data (GIS)
- English Heritage Open Data (GIS)
- British Geological Survey GeoIndex Web Map Service
- Coal Authority Open Data and Web Map Service.
- Historical Ordnance Survey Maps

- Local Authority Planning Application Portal
- Groundsure Enviro Insight Report & Historical Maps

7 SITE DESCRIPTION

7.1 Site Location and Size

The site is located at 144 Waldegrave Road, Teddington TW11 8NA at grid reference is 515623, 171704. The site has an area of approximately 0.03ha.

The site lies within the jurisdiction of Richmond upon Thames Council in terms of the planning process. See Figure 1 below for the Site Location and Aerial Map.

7.2 Current Site Use

The site is currently used as a Motor Repair Garage.

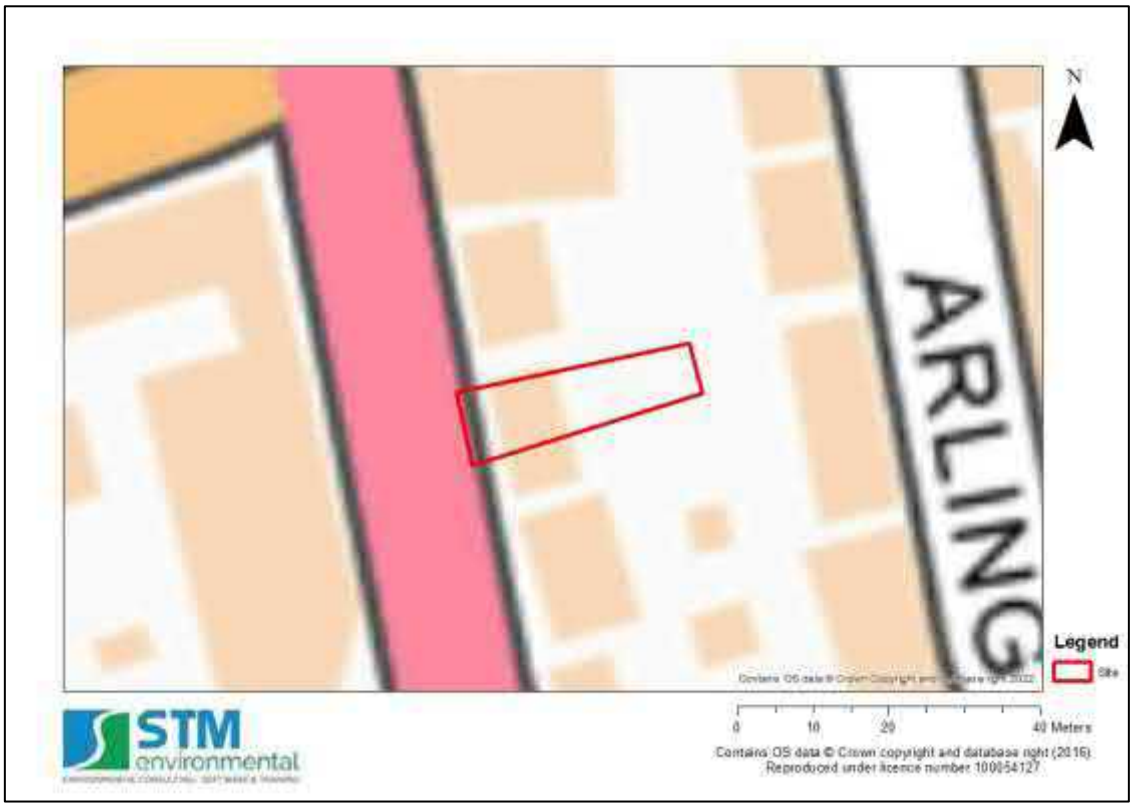
7.3 Surrounding Land Uses

A description of current land uses surrounding the boundaries of the site is given below in Table 1.

Table 1: Summary of surrounding land uses

Boundary	Adjacent Roads	Land Use Description
Northern	-	Residential/Commercial
Eastern	-	Residential
Southern	-	Residential
Western	Waldegrave Road	Residential/Commercial

Figure 1: Site Location and Aerial Map



8 SITE HISTORY

8.1 Analysis of Historical Ordnance Survey Mapping

Historical maps published by the Ordnance Survey dating back to the late 1800's were reviewed in order to ascertain any previous industrial use at the site. The Groundsure Historical Maps are presented in Appendix 2. A summary of the historic map analysis is provided in Table 2.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
1840 1:2,500	Blank map.	Blank map.
1864-68 1:2,500 1:10,560	The site comprises open undeveloped land.	The surrounding area predominantly comprises open undeveloped land. Railway Line 75m W. Orchard 100m NW.
1894-99 1:1,056 1:2,500 1:10,560	No significant changes.	Widescale residential development has occurred to the north and west of the site. Orchard 100m NW no longer present, has been redeveloped as Teddington Cemetery. 2no. Unspecified Ground Workings 70m S & 230m SE. Pond 150m NW. Nursery 115m E.
1912 1:10,560	Blank map.	Blank map within a 250m radius of the site.
1913 1:2,500	Blank map.	Blank map.
1915 1:2,500	No significant changes.	Widescale residential development has occurred to the east of the site. 2no. Unspecified Ground Workings 70m S & 230m SE no longer present, potentially infilled. Pond 150m NW no longer present, potentially infilled.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
1920 1:10,560	No significant changes.	No significant changes.
1933 1:10,560	No significant changes.	No significant changes.
1934-35 1:2,500 1:10,560	1no. unspecified building has been constructed in the centre of the site.	Widescale residential development of the south of the site. Nursery 115m E no longer present.
1938 1:10,560	No significant changes.	No significant changes.
1948 1:10,560	No significant changes.	No significant changes.
1959 1:1,250	The site has been labelled as No. 144, as well as being labelled as a Garage.	No significant changes.
1960-62 1:2,500 1:10,560	No significant changes.	No significant changes.
1963-67 1:1,250 1:10,560	No significant changes.	No significant changes.
1973-74 1:1,250 1:10,000	No significant changes.	2no. Electricity Substations 110m NW & 140m SE.
1979-80 1:1,250	No significant changes.	Partial mapping only; no significant changes.
1983 1:10,000	Blank map.	Blank map within a 250m radius of the site.
1988-94 1:1,250 1:10,000	No significant changes.	No significant changes.
2001 1:10,000	No significant changes.	No significant changes.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
2003 1:1,250	No significant changes.	No significant changes.
2010 1:10,000	No significant changes.	No significant changes.
2024 1:10,000	No significant changes.	No significant changes.
Current Use	The site is currently used as a Motor Repair Garage.	The main current uses in the immediate surrounding area include residential and commercial properties.

9 ENVIRONMENTAL CHARACTERISTICS

A variety of Environmental datasets provided by the Environment Agency, British Geological Society, English Heritage and English Nature and others were screened in order to assess the environmental sensitivity of the site. The Groundsure Environmental Screen Report is presented in Appendix 3. The results are summarised below.

9.1 Geology

9.1.1 Published Geology

According to the BGS Geoindex, the site is located on bedrock of London Clay Formation comprising Clay and Silt. The superficial deposits are Kempton Park Gravel Member comprising Sand and Gravel.

9.1.2 Unpublished Geology

BGS borehole records for the immediate surrounding area were reviewed in order to obtain further information on the ground conditions beneath the site. No relevant information was identified.

9.2 Hydrogeology

The Environment Agency classifies the superficial deposits as a Principal Aquifer. The bedrock is classified as an Unproductive Aquifer. There are no groundwater Source Protection Zones on or within 250m of the site.

9.3 Water Abstractions

No Surface Water or Potable Water Abstraction Licenses were identified on or within 2000m of the site.

The following Groundwater Abstraction License was identified within 1000m of the site:

Table 3: Groundwater Abstraction License identified within 1000m of the site

Point	Status	Details	Source	Distance/ Direction
River Gravels at Fulwell Railway Station	Active	Transfer Between Sources (Post Water Act 2003)	Thames Groundwater	919m W

9.4 Groundwater Level

According to BGS, the groundwater is likely to be between 3.0 and 5.0 metres below the ground surface for at least part of the year.

9.5 Hydrology

No surface water bodies were identified on or within 250m of the site.

9.6 Flood Risk

9.6.1 River and Tidal (Fluvial and Tidal) Flooding

The risk of fluvial and tidal flooding is considered to be low. The site is located within Flood Zone 1, which is defined as land having less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

9.6.2 Surface Water (Pluvial) Flooding

The Environment Agency (EA) long term flooding maps indicate that the site is at Very Low risk of surface water flooding. Very Low risk means that each year this area has a chance of flooding of less than 0.1%.

9.6.3 Groundwater Flooding

The BGS groundwater flood maps indicate that the risk of groundwater flooding at the site is Moderate.

9.7 Environmentally Sensitive Sites and Ecological Protection Zones

No Environmentally Sensitive Sites (e.g. Green Belt Land, Ancient Woodlands) or Ecological Protection Zones (e.g. Special Scientific Interest (SSSI), Ramsar Sites, Special Areas of Conservation (SAC)) were identified on or within 250m of the proposed development.

9.8 Conservation Areas, Designated Protected Buildings and Monuments

No Conservation Areas, Listed Buildings or Scheduled Ancient Monuments were identified on or within 50m of the proposed development.

9.9 Topography

According to Google Earth, the general site level is at 5mAOD.

9.10 Waste Disposal Activities & Landfill Sites

No evidence of Waste Disposal Activities or Landfill Sites were identified on or within 250m of the site.

9.11 Petrol and Fuel Sites

No Petrol or Fuel Sites were identified on or within 500m of the site.

9.12 Historical Tanks

The Groundsure report includes a summary of Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. No Historical Tanks were indicated to have been on site. The nearest Tank was identified approximately 74m NW of the site.

9.13 Sites Determined as Contaminated Land under Part 2A EPA 1990

No Sites Determined as Contaminated Land were identified on or within 500m of the site.

9.14 Dangerous or Hazardous Sites

No Control of Major Accident Hazards (COMAH) or Notification of Installations Handling Hazardous Substances (NIHHS) Sites were identified on or within 500m of the site.

9.15 Hazardous Substance Storage/Usage

No consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015 were identified on or within 500m of the site.

9.16 IPC Authorisations

No Integrated Pollution Control (IPC) Authorisations were identified on or within 500m of the site.

9.17 Part A(1) and IPPC Authorised Activities

No Part A(1) or Integrated Pollution Prevention Control (IPPC) Authorised Activities were identified on or within 500m of the site.

9.18 Part A(2) and Part B Activities and Enforcements

No Part A(2) and Part B Activities and Enforcements were identified on or within 250m of the site.

9.19 Category 3 or 4 Radioactive Substance Authorisations

No Category 3 or 4 Radioactive Substance Authorisations were identified on or within 250m of the site.

9.20 Discharge Consents

No Red List or Licensed Discharge Consents were identified on or within 500m of the site.

9.21 List 1 and List 2 Dangerous Substance Inventory Sites

No List 1 and List 2 Dangerous Substances Inventory Sites were identified on or within 500m of the site.

9.22 Pollution Incidents

No Pollution Incidents occurred on or within 50m of the site.

9.23 Coal Mining

The site is not located in an area potentially affected by Coal Mining.

9.24 Non-Coal Mining

No Non-Coal Mining Areas were identified on or within 50m of the site.

9.25 Radon

A search of the BGS Radon dataset indicates that the property lies in an area with less than 1% chance of being affected by naturally occurring Radon gas. Therefore, it is unlikely to be affected by Radon.

9.26 Asbestos within Buildings

The information available indicates that the building on the site were developed prior to 2010. It is therefore considered possible that Asbestos may exist within them and that an Asbestos survey may be required in line with The Control of Asbestos Regulations 2012. This is outside the scope of this assessment. An Asbestos survey is recommended.

9.27 Unexploded Ordnance

An Unexploded Ordnance (UXO) risk assessment in line with CIRIA C681 is beyond the scope of this report and should be considered depending the site's location.

10 RELEVANT PLANNING HISTORY

Richmond upon Thames Council's online planning portal was searched in an effort to identify any relevant planning applications.

10.1 Planning Applications for the Site

Table 4 below provides a summary of the previously submitted planning applications identified for the site.

Table 4: Summary of planning applications at the site

Application Reference	Date	Description of Proposal	Status
58/0283	1958	Extension at rear of existing service and repair garage.	Granted (prior to Contaminated Land Legislation)
70/0514	1970	Relaying of concrete area for use for storage of cars.	Granted (prior to Contaminated Land Legislation)
83/1344	1984	Retention of extension at rear of existing service and repair garage with variation of condition 2 of planning permission No. 283/58 to enable the use of cellulose spray paint for minor accident repairs within the existing service and repair garage extension.	Granted (prior to Contaminated Land Legislation)
86/0299	1986	Erection of roof over alleyway and replacement of existing paint store including paint mixing scheme. (Plan No 1 of 1 and 2 of	Granted (prior to Contaminated Land Legislation)

Application Reference	Date	Description of Proposal	Status
		2 amended on 24.4.86).	
94/0115/FUL	1994	Removal Of Three Sliding Doors, Brick In Fill Of Centre Section And Renewal Of Two Outer Doors.	Granted (without a Contaminated Land Condition)
24/0943/FUL	2024	Replacement of steel shutter doors and timber doors with new glazing units in front and rear elevations, replacement door in front elevation and replacement of asbestos roof with clay tiled roof	Granted (without a Contaminated Land Condition)

10.2 Planning Applications for Adjacent Sites

Table 5 below provides a summary of the previously submitted planning applications identified for nearby sites within a 50m radius. Although other planning applications were identified on adjacent sites; they were not deemed relevant to this report.

Table 5: Summary of planning applications for adjacent sites

Application Reference	Date	Description of Proposal	Status
63/1001	1963	Use as a builders yard. **(Land at rear of 195/207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
64/0099	1964	Re-construction of workshop. **(R/o 203-207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
73/2079	1974	Use of land for storage of private vehicles awaiting repair and part exchange. **(Land at rear of 195/207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
80/0363	1980	Continued use of land for storage of private vehicles awaiting repair and part exchange. **(Land at rear of 195/207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
82/1027	1983	Continued use of land for storage of private vehicles awaiting repair and part exchange. **(Land at rear of 195/207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
84/0102	1984	Continued use of land for storage of private vehicles awaiting repair or exchange. **(Land at rear of 195/207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
87/1519	1987	Erection of a vehicle repair workshop incorporating a spray bake oven. **(R/o 203-207 Waldegrave Road Teddington – 45m W)**	Granted (prior to Contaminated Land Legislation)
01/1612	2001	Single storey rear extension and use of rear ground floor and first floor as two self contained flats. **(Ladbrokes Bookmakers, 207 Waldegrave Road, Teddington,**	Granted (without a Contaminated Land Condition)

Application Reference	Date	Description of Proposal	Status
		Middlesex – 19m NW)	
07/3470/FUL	2008	Refurbishment of existing public house retaining the A4 use class at ground floor with 3 flats at upper floors. Construction of two new 3 storey buildings comprising of 19 flats with associated parking for 20 cars. **(209 Waldegrave Road Teddington Middlesex TW11 8LX – 20m NW)**	Granted (with a Contaminated Land Condition)*
07/4300/COU	2008	Creation of self contained flat on first floor, existing shop unit connected to unit at 156. Creation of ground floor studio flat **(154 Waldegrave Road Teddington Middlesex TW11 8NA – 34m N)**	Granted (without a Contaminated Land Condition)
08/1288/FUL	2008	Construction of 2 x one bedroom single storey houses **(187 Waldegrave Road Teddington Middlesex TW11 8LU – 37m SW)**	Granted (with a Contaminated Land Condition)**
10/0029/DD01	2011	Discharge condition DV29C relating to contamination **(209 Waldegrave Road Teddington Middlesex TW11 8LX – 20m NW)**	Granted (Condition Discharged)*
23/2181/FUL	2023	Rebuilding of existing domestic garage and change of use to Class E **(Garages Rear Of 140 - 142 Waldegrave Road Teddington – 22m SE)**	Granted (without a Contaminated Land Condition)

**According to the associated Officer's Report, these details were agreed by the Contaminated Land Officer under the original application 07/3470/FUL. No Contaminated Land Reports were identified under either application.*
***No Contaminated Land Reports were identified on the online planning portal at the time of writing.*

11 SITE WALKOVER

A site walkover was not undertaken as part of the initial scope of works. Photographs of the site, which have been provided by the Client, are presented in Appendix 4.

12 PRELIMINARY CONCEPTUAL SITE RISK MODEL (CSM)

A conceptual site risk model (CSM) aims to summarise all the potential pollutant linkages or risk that may be associated with a site. It considers the potential pollution sources, receptors and pathways by which receptors can be impacted.

12.1 Potential Sources

Potentially contaminative land uses (PCLUs) of concern were identified based on their proximity to the site and whether they had the potential to generate significant quantities of ground gases, vapours and/or mobile volatile contamination (i.e. high pollution migration potential).

Any PCLUs within a 50m radius of the site as well as any PCLUs with high pollution migration potential within 250m of the site were considered to be of concern and were included within the assessment.

In addition, the potential for Made Ground to be present was considered to be a possibility.

A summary is provided in Table 6 below.

Table 6: Summary of potential contamination sources, period of operation and distance from site.

Site Name/ Description	Industrial Profile	Approx. Year Use Established	Approx. Year Use Ended	Direction	Approx. Distance from Site (m)
Motor Repair Garage	Road Vehicles: Garages and Filling Stations	c.1959	Current (2024)	Onsite	0
Builder's Yard/ Workshop*	-	c.1963	Unknown	W	45
Vehicle Repair Workshop/ Vehicle Storage*	Road Vehicles: Garages and Filling Stations	c.1974	Current (2024)	W	45

**identified on the online planning portal based on planning applications for nearby sites*

Typical contaminants that may be associated with the above PCLUs are:

- Acids & Alkalis
- Asbestos
- Chlorinated & Non-Chlorinated Solvents
- Fuels & Fuel Oils
- Heavy Metals
- Gases: Methane & Carbon Dioxide
- Organic & Inorganic Compounds
- Pesticides
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Total Petroleum Hydrocarbons (TPHs)
- Volatile Organic Compounds (VOCs)

Please note, this list is not exhaustive of all contaminants that may be present on or off site.

12.2 Potential Receptors

The potential receptors include human, water, ecological and infrastructure receptors.

12.2.1 Potential Human Health receptors

Potential human health receptors include construction workers, future occupants or users of the site and the proposed development and neighbours of the site.

12.2.2 Potential Groundwater Receptors

Potential groundwater receptors include the Principal Superficial Aquifer.

12.2.3 Potential Surface Water Receptors

There are no potential surface water receptors in the vicinity of the site.

12.2.4 Potential Ecological Receptors

There are no potential ecological receptors in the vicinity of the site.

12.2.5 Potential Property Receptors

Potential property receptors include the proposed development as well as neighbouring properties and associated services.

12.3 Potential Pathways

12.3.1 Potential Pathways for Human Receptors

The main pathways via which on and off-site human receptors are likely to come into contact with, or be affected by any contamination present on the site can be summarised as follows:

- Dermal contact with contaminated soil (i.e. absorption through the skin) – through garden activities such as children playing, gardening etc.
- Ingestion of contaminated soil (either directly or via soil adhering to vegetables grown on the site)
- Inhalation of contaminated soil, fugitive dust and vapours.
- Explosion of landfill gases leading to death/injury

12.3.2 Potential Pathways for Groundwater Receptors

The principal means by which contaminants can reach the groundwater is by leaching (i.e. downward movement through the soil pores with percolating and infiltrating water).

12.3.3 Potential Pathways for Surface Water Receptors

Routes by which contaminants from the site could reach surface water include via overland run-off, drainage and groundwater entering nearby rivers as base flow.

12.3.4 Potential Pathways for Ecological Receptors

The exposure pathways for terrestrial ecological receptors will be similar to those for humans. Pathways for aquatic receptors are via uptake of contaminated sediments and water.

12.3.5 Potential Pathways for Property Receptors

Pathways by which property receptors are exposed to potential contaminants include ground gas and vapour migration through the unsaturated zone and absorption of water containing dissolved contaminants (i.e. as in the case of sulphate attack).

12.4 Potential Pollutant Linkages

The Potential Pollutant Linkages (PPLs) were identified as part of the CSM. These were concerned with the following:

- Risk of direct contact (ingestion and absorption) with and inhalation of contaminants to on-site human health receptors including future occupiers and site visitors (PPL1a)

- Risk of injury/death to future occupiers and visitors as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within on-site dwellings/buildings. (PPL1b)
- Risk of direct contact (ingestion and absorption) with and inhalation of contaminants to on-site human health receptors such as Construction Workers (PPL1c)
- Risk of injury/death to construction workers as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within on-site dwellings/buildings. (PPL1d)
- Risk of direct contact with (ingestion and absorption) and inhalation of contaminants to off-site human health receptors as a result of on-site contaminants migrating off-site (PPL2a)
- Risk of injury/death to off-site human health receptors as a result of explosion due to migration of on-site ground gas and subsequent accumulation in confined spaces in off-site buildings. (PPL2b)
- Risk of deterioration of groundwater quality resulting from the migration of on-site contaminants into the underlying aquifer (PPL3)
- Risk of deterioration of surface water quality resulting from the migration and entry of on-site contaminants into the surface water receptor (PPL4)
- Risk of deterioration of ecological quality resulting from the migration and entry of on-site contaminants to the ecological receptor during development and after completion (PPL5);
- Risk of damage to buildings and services from on and off-site contaminants (PPL6a)
- Risk of damage to property as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within buildings (PPL6b).

13 QUALITATIVE RISK ASSESSMENT

For land to be considered ‘contaminated land’ under Part IIA, the potential contamination source must be causing or have the significant possibility of causing harm to designated receptors. It is therefore necessary to focus on pollutant linkages that have the potential to be significant (i.e. those that are most likely to lead to a determination).

The identified PPLs were therefore individually qualitatively assessed using a basic risk assessment methodology which considers “Likelihood” and “Severity” to assess the magnitude of the potential risk. The methodology is summarised in Appendix 5.

Table 7 below summarises the conceptual site risk model (CSM) including the identified PPLs and the results of the qualitative risk assessment.

Table 7: Conceptual Site Risk Model - Potential Sources, Pathways and Receptors identified on the site.

Source/ Potential Contaminants	**Potential Contaminants Associated with Site Use as Motor Repair Garage and Offsite Land Uses as a Builder's Yard/Workshop, Vehicle Repair Workshop/Vehicle Storage:** i.e. Acids & Alkalis, Asbestos, Chlorinated & Non-Chlorinated Solvents, Fuels & Fuel Oils, Heavy Metals, Gases: Methane & Carbon Dioxide, Organic & Inorganic Compounds, PAHs, TPHs, VOCs										
	On and Off-Site Contaminants				**On Site Contaminants**		**On Site Contaminants**			**On and Off-Site Contaminants**	
Potential Pathways	• Ingestion of soils, garden vegetables and dust • Ingestion of contaminated drinking water • Dermal absorption • Inhalation of dusts and vapours indoors and outdoors • Migration of ground gases and vapours into properties						Leaching in the unsaturated zone & diffusion in the saturated zone	• Overland run-off • Drainage channels • Base flow	• Direct contact via absorption and ingestion; • Inhalation	• Migration of ground gases and vapours through the unsaturated zone • Attack on water supply service pipes	
Potential Receptors	**ON SITE HUMANS (AFTER COMPLETION)** Future Occupiers & Visitors		**ON SITE HUMANS (DURING DEVELOPMENT)** Construction Workers		**OFF SITE HUMANS** Neighbours		**GROUND WATER** Principal Superficial Aquifer	**SURFACE WATER** None	**ECOLOGICAL** None	**ON SITE PROPERTY** Buildings and Services	
Potential Hazards	• Adverse health effects • Injury/ • Death	Explosion/ Fire - Build-up of Methane/ VOCs in confined spaces	• Adverse health effects • Injury/ Death	Explosion/ Fire - Build-up of Methane/ VOCs in confined spaces	• Adverse health effects • Injury/ Death	Explosion/ Methane build-up in confined spaces	Deterioration of groundwater quality	• Deterioration of surface water quality • Ecological impacts	Deterioration of ecological receptor quality	Damage to property and services	Explosion/ Fire - Build-up of Methane/ VOCs in confined spaces
Plausible?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**Yes**	**Yes**
PPL ID	**PPL1a**	**PPL1b**	**PPL1c**	**PPL1d**	**PPL2a**	**PPL2b**	**PPL3**	**PPL4**	**PPL5**	**PPL6a**	**PPL6b**
SEVERITY	Major (4)	Major (4)	Major (4)	Major (4)	Major (4)	Major (4)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)
LIKELIHOOD	Remote (2)	Remote (2)	Improbable (1)	Improbable (1)	Remote (2)	Remote (2)	Remote (2)	Improbable (1)	Improbable (1)	Remote (2)	Remote (2)
UPDATED RISK	Low to Moderate (8)	Low to Moderate (8)	Low (4)	Low (4)	Low to Moderate (8)	Low to Moderate (8)	Low to Moderate (6)	Very Low (3)	Very Low (3)	Low to Moderate (6)	Low to Moderate (6)
POTENTIALLY SIGNIFICANT?	**YES**	**YES**	**NO**	**NO**	**YES**	**YES**	**YES**	**NO**	**NO**	**YES**	**YES**

13.1 Assessment of Potential Significance of Potential Pollutant Linkages

13.1.1 Potential Risks to On-Site Human Health Receptors

PPL1a is concerned with the risk of direct contact (ingestion and dermal absorption) with and inhalation of on and off-site contaminants by on site human health receptors. PPL1a is considered to have the potential to be significant as potentially contaminative land uses were identified on and in the vicinity of the site.

As the proposal is to introduce a residential dwelling with associated areas of soft landscaping, it is possible that human health receptors (i.e. future occupiers of the dwellings) could be exposed to any potential contamination via direct contact and ground gases and vapours via indoor inhalation after completion.

PPL1c is concerned with the risk of direct contact (ingestion and dermal absorption) with and inhalation of on and off-site contaminants by construction workers. PPL1c is considered unlikely to have the potential to be significant. Although potentially contaminative land uses were identified on and in the vicinity of the site, it is considered that any potential risks can be satisfactorily mitigated by Construction Workers implementing standard health and safety measures (as described in Section 15.3) as required by CDM regulations

PPL1b is concerned with the risk of injury/death of future occupiers and site visitors as a result of explosion due to the potential accumulation of ground gases and vapours from on and off-site sources. PPL1b is considered to have the potential to be significant as potential sources of explosive ground gases and/or vapours (i.e. Motor Repair Garage, Vehicle Repair Workshop) were identified on and in the vicinity of the site.

PPL1d is concerned with the risk of injury/death of construction workers as a result of explosion due to the potential accumulation of ground gases and vapours from on and off-site sources. PPL1d is considered unlikely to have the potential to be significant as the likely exposure durations for Construction Workers to this potential risk will be relatively short.

13.1.2 Potential Risks to Off-Site Human Health Receptors

PPL2a is concerned with the risk of direct contact and inhalation of contaminants emanating from the site by off-site human health receptors. PPL2b is concerned with the risk of injury/death of off-site human health receptors as a result of explosion due to accumulation of ground gases from on-site sources.

Both PPL2a and PPL2b are considered to have the potential to be significant given the sites previous use as a Garage and its proximity to residential receptors.

13.1.3 Potential Risks to Groundwater Receptors

PPL3 is concerned with the risk of deterioration of groundwater quality resulting from the migration of on-site contaminants into the underlying aquifer. PPL3 is considered to have the potential to be significant as the underlying aquifer is classified as a Principal Aquifer, and given a potentially contaminative land use was identified onsite.

13.1.4 Potential Risks to Surface Water Receptors

PPL4 is concerned with the risk of deterioration of surface water quality resulting from the migration and entry of on-site contaminants into surface water receptors. PPL4 is considered unlikely to have the potential to be significant as no surface water bodies were identified on or within 250m of the site.

13.1.5 Potential Risks to Ecological Receptors

PPL5 is concerned with the risk of deterioration of ecological receptors resulting from potential on-site contaminants. PPL5 is considered unlikely to have the potential to be significant as no designated ecological receptors were identified on or within 250m of the site.

13.1.6 Potential Risks to Property Receptors

PPL6a is concerned with the risk of damage to on site buildings and services from on and off-site contaminants. If contaminated, the soil may contain aggressive chemicals (i.e. Sulphates, VOCs) that can attack building materials and services. PPL6a is considered to have the potential to be significant as potentially contaminative land uses were identified on and in the vicinity of the site.

PPL6b is concerned with the risk of damage to property as a result of explosion due to migration of on and off-site ground gases and vapours and their subsequent accumulation in confined spaces in on-site buildings. PPL6b is considered to have the potential to be significant for the same reasons as PPL1b.

14 CONCLUSIONS

This Phase 1 Desk Study was carried out to support a planning application for the change of use of the existing Motor Repair Garage to residential.

A review of historical maps and planning records suggests that the site and surrounding land have been subject to previous potentially contaminative land uses (PCLUs). On site PCLUs have included Motor Repair Garage while off site PCLUs include Builder's Yard/Workshop (45m W), Vehicle Repair Workshop/Vehicle Storage (45m W).

A conceptual site risk model was developed and a qualitative risk assessment undertaken. The conclusions of the risk assessment are presented in Table 8 below.

Table 8: Summary of qualitative risk assessment

Potential Receptor	Potential Pathway	Potential Hazard	PSPPL?	Risk
On-Site Human Health (Future Occupiers)	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**Yes**	**Low to Moderate**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**Yes**	**Low to Moderate**
On-Site Human Health (Construction Workers)	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**No**	**Low**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**No**	**Low**
Off-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**Yes**	**Low to Moderate**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**Yes**	**Low to Moderate**
Groundwater	Percolation/Leaching	Adverse groundwater quality	**Yes**	**Low to Moderate**

Potential Receptor	Potential Pathway	Potential Hazard	PSPPL?	Risk
Surface Water	Lateral Migration Groundwater baseflow	Adverse Surface water quality	**No**	**Very Low**
Ecology	Ingestion/Absorption	Adverse health Injury/Death	**No**	**Very Low**
Property	Physical Contact/Absorption	Damage to building and services	**Yes**	**Low to Moderate**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Damage to building	**Yes**	**Low to Moderate**

15 RECOMMENDATIONS

15.1 Intrusive Site Investigation

Given that potentially significant potential pollutant linkages (PSPPLs) were identified, it is recommended that an intrusive site investigation is undertaken with the objective of determining the presence and extent of any soil and gaseous contamination at the site.

15.2 Watching Brief and Discovery Strategy

Therefore, it is recommended that a "watching brief" is kept at all times during the development. Should any unexpected contamination be encountered then the discovery strategy outlined below should be followed.

- Works should be halted if any suspicious ground conditions are identified by groundworkers;
- The Contractor should assess the need for any immediate health and safety or environmental management control measures. If control measures are considered to be required, they should be implemented;
- The Contractor should notify the Client's Environmental Consultant and the Local Planning Authority;
- The Environmental Consultant should attend the site to record the extent of 'contamination' and if necessary, to collect samples;
- If remedial action is considered necessary then the proposed works should be agreed with the Local Planning Authority prior to implementation;
- Once remediation is complete, the Environmental Consultant should collate evidence of work carried out for inclusion in a Remediation Verification Report which should be submitted to the Local Planning Authority.

15.3 Health and Safety

All site works should be carried out in accordance with Health and Safety Executive regulations and guidelines, the Contractor's Construction Health and Safety Plan and the Construction (Design and Management) Regulations 2015.

Precautions should be taken to minimise exposure of site workers during ground works through the implementation of site safety. Such precautions should include, but not be limited to:

- Provision of appropriate Personal Protective Equipment (PPE);
- Availability of site welfare;
- Good personal hygiene, washing and changing procedures;

- Daily safety briefings.

15.4 Services

The local Statutory Water Undertaker should be contacted in the event that new services are proposed as part of the redevelopment in order to determine their specification for the type of pipework which should be used on this site.

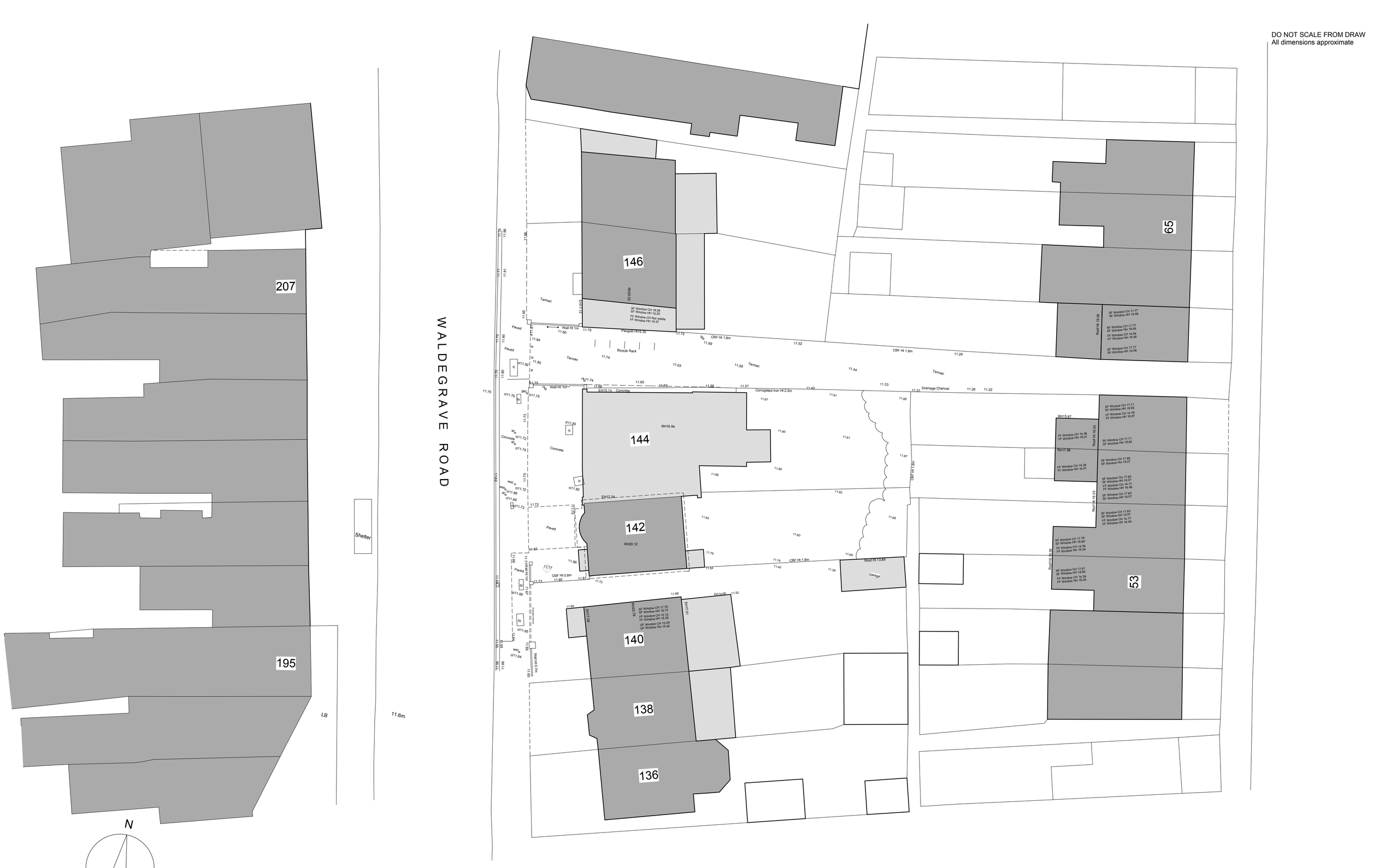
Further information can be found within the published guidance for the '*Selection of Water Supply Pipes to be used in Brownfield Sites'*, issued in January 2011 by the UK Water Industry Research.

16 INFORMATION GAPS AND UNCERTAINTIES

Assumptions have been made regarding the nature and scale of the activities that took place on the site and the types of potential contaminants that may have resulted. These assumptions will need to be reviewed along with the Conceptual Site Model should further information come to light.

17 APPENDIX 1 – PROPOSED DEVELOPMENT PLANS

DO NOT SCALE FROM DRAW
All dimensions approximate



SITE PLAN Scale 1 : 200

Site based on topographical survey by J Brotherton & Partners Jan 2023
Area outside site based on Ordnance Survey Data

NOTE - drawing sheet A2 size

0 5 10 20m

Revisions :

Copyright 20

BRIAN SMITH R.I.B.A.
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Tel: 07763 844441 Email: bs@briansmitharchitect.co.uk

Client :

Scale : 1: 200
Date : Mar 2023
Drawn :

Job title :
142 - 144 Waldegrave Road, Teddington

Drawing title :
SITE PLAN AS EXISTING

601 1

DO NOT SCALE FROM DRAWING
All dimensions approximate

146

SF Window CH 18.08
SF Window HH 19.25
FF Window CH Not visible
FF Window HH 16.57

RH20.52
EH17.12
Tarmac
Wall Ht 1m
Parapet Ht15.30
CBF Ht 1.8m
Bicycle Rack
Tarmac
CBF Ht 1.8m
refuse storage area as existing
existing steel shutters replaced by powder coated aluminium glazing unit
concrete hardstanding as existing
new door + side panel in existing opening
existing steel shutters replaced by powder coated aluminium glazing unit
existing walls lined internally with timber framing incorporating 130mm PIR insulation + vapour barrier
144
LIVING
20m2
store room
bathroom
bathroom
new insulated concrete floor on dpm
fd20
FFL - 12.00
hall
C
dining
kitchen
w
BEDROOM 2
13.9m2
BEDROOM 1
21.9m2
144 W Rd
GIA approx. 104.6m2 (1125ft2)
2 bed / 4 person residential unit
existing steel shutter replaced by powder coated aluminium glazing unit
w
garden
window bricked up
existing timber gates replaced by powder coated aluminium glazing unit
new 1.5m high close boarded timber fence with trellis over
new 2m high close boarded timber fence
CBF Ht 1.8m
no.142 unchanged
142
Lounge
Dining Room
Kitchen
Hall
Porch
Toilet
garden
CBF Ht 1.8m
Roof Ht 13.89
Garage
Drainage Channel
140

N

SITE PLAN Scale 1 : 100

Site based on topographical survey by J Brotherton & Partners Jan 2023
Area outside site based on Ordnance Survey Data

NOTE - drawing sheet A2 size

0 5 10m

Revisions :

BRIAN SMITH R.I.B.A.
Chartered Architect
22 Tabor Grove, Wimbledon, London SW19 4EB
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Client :
Scale : 1: 200
Date : Mar 2024
Drawn :

Drawing title :
SITE + GROUND FLOOR PLAN AS PROPOSED

Job title :
144 Waldegrave Road, Teddington
Proposed residential conversion

601 B 7

DO NOT SCALE FROM DRAWING
All dimensions approximate

WALDEGRAVE ROAD

146

asbestos cement roofing replaced by insulated clay tile roofing

144

insulated flat roof

insulated flat roof

142

no.142 unchanged

EH14.06

EH17.09

RH20.79

EH17.01

140

N

SITE PLAN Scale 1 : 100

Site based on topographical survey by J Brotherton & Partners Jan 2023
Area outside site based on Ordnance Survey Data

NOTE - drawing sheet A2 size

0 5 10m

Revisions :

BRIAN SMITH R.I.B.A.
Chartered Architect
22 Tabor Grove, Wimbledon, London SW19 4EB
Tel: 07763 844441 Email: bs@briansmitharchitect.co.uk

Client :

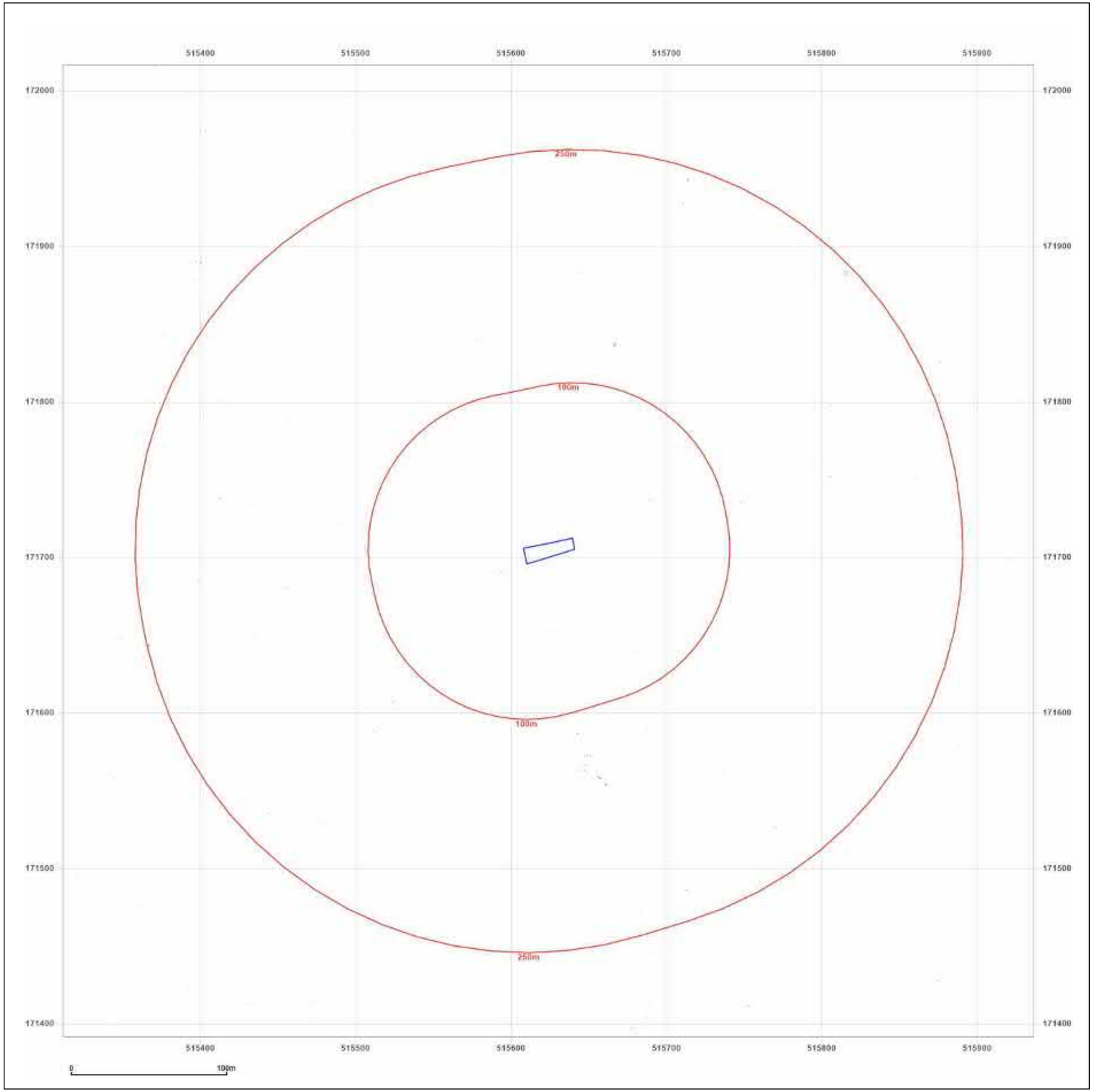
Scale : 1: 200
Date : Mar 2024
Drawn :

Job title :
144 Waldegrave Road, Teddington
Proposed residential conversion

Drawing title :
SITE + ROOF PLAN
AS PROPOSED

601 B 8

18 APPENDIX 2 – HISTORICAL MAPS



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TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

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Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1840**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1840
Revised 1840
Edition N/A
Copyright N/A
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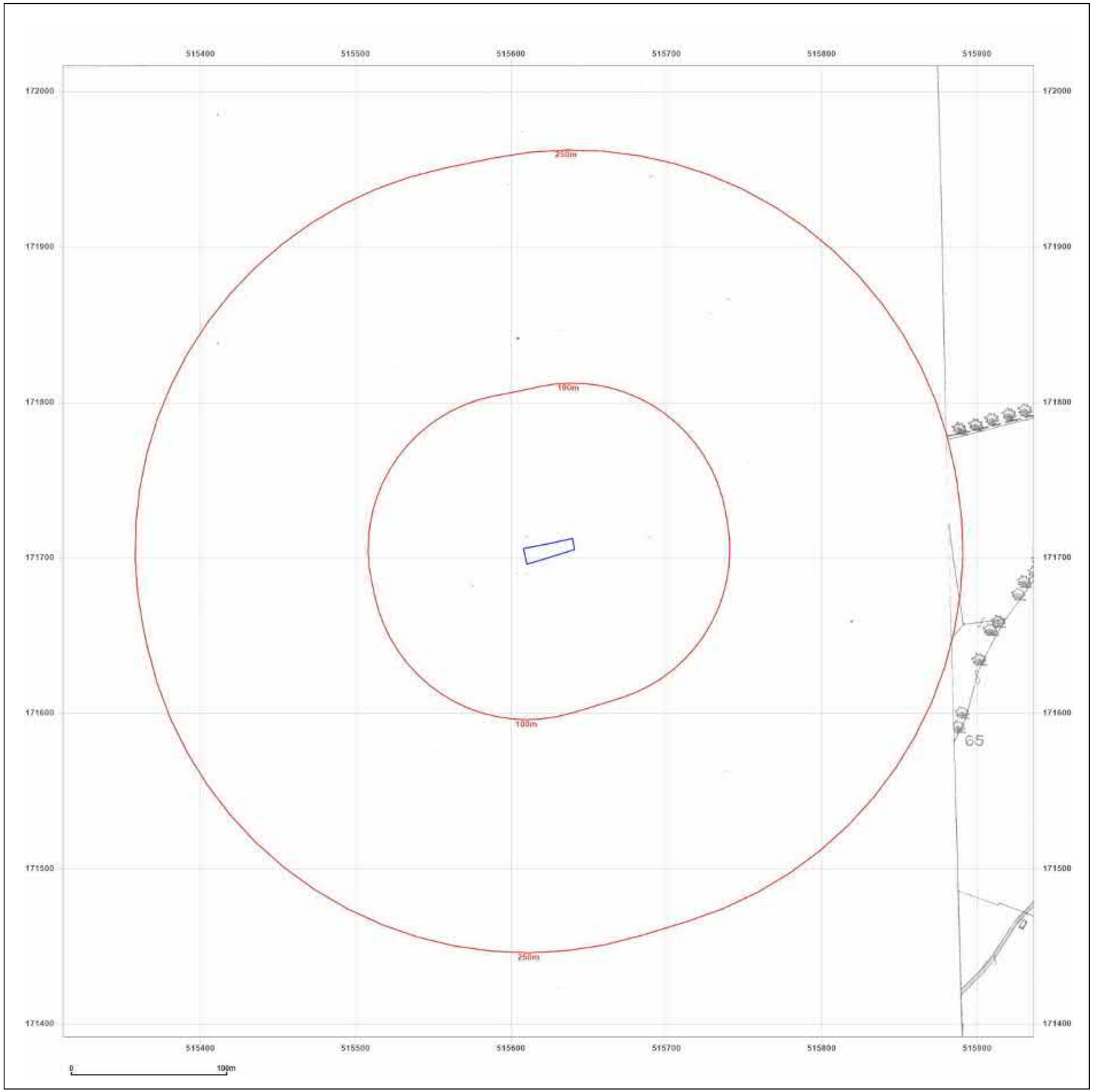

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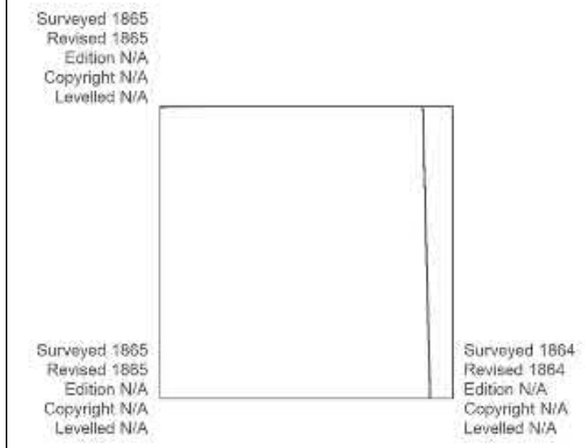

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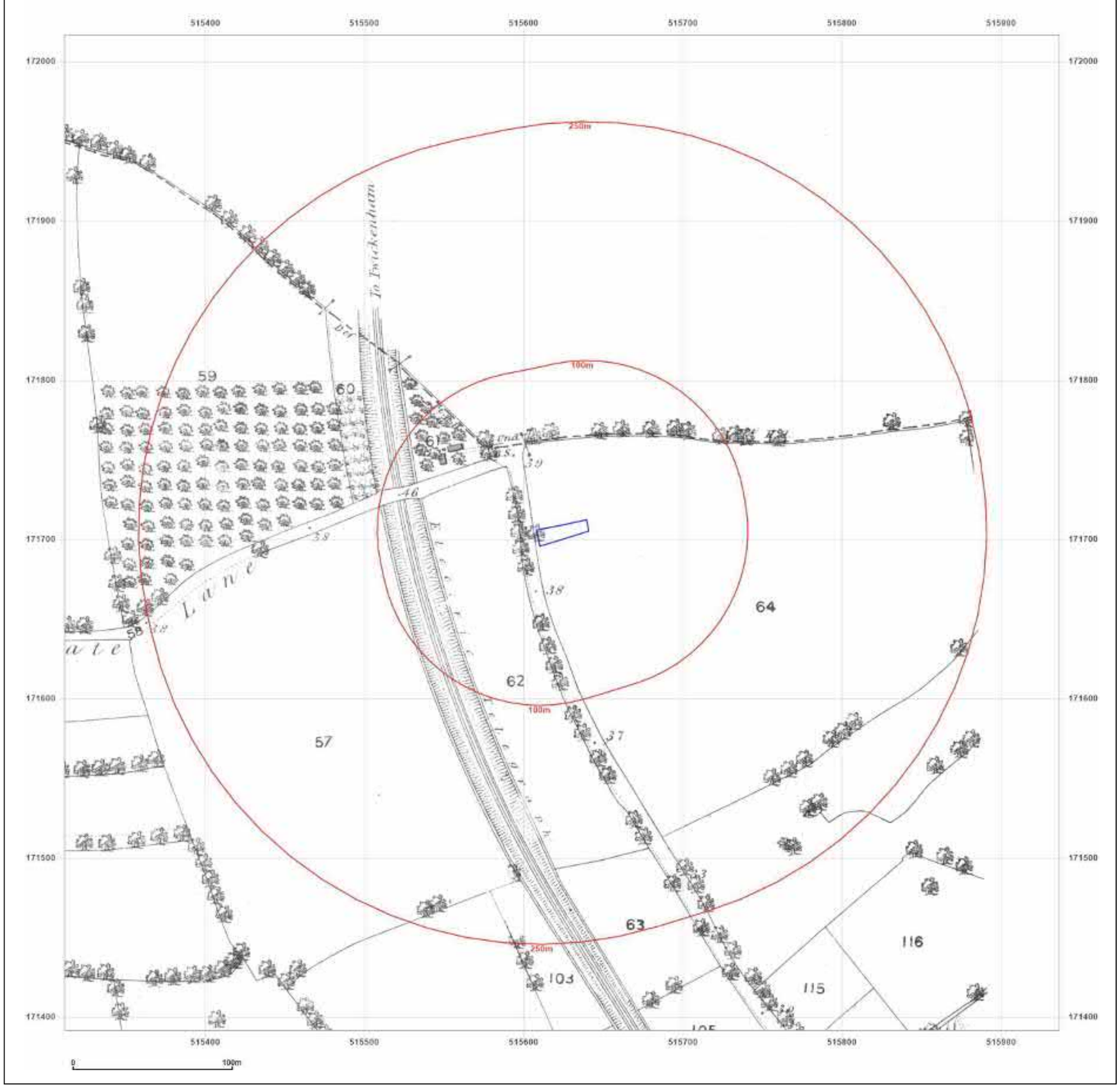

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Map Name: County Series
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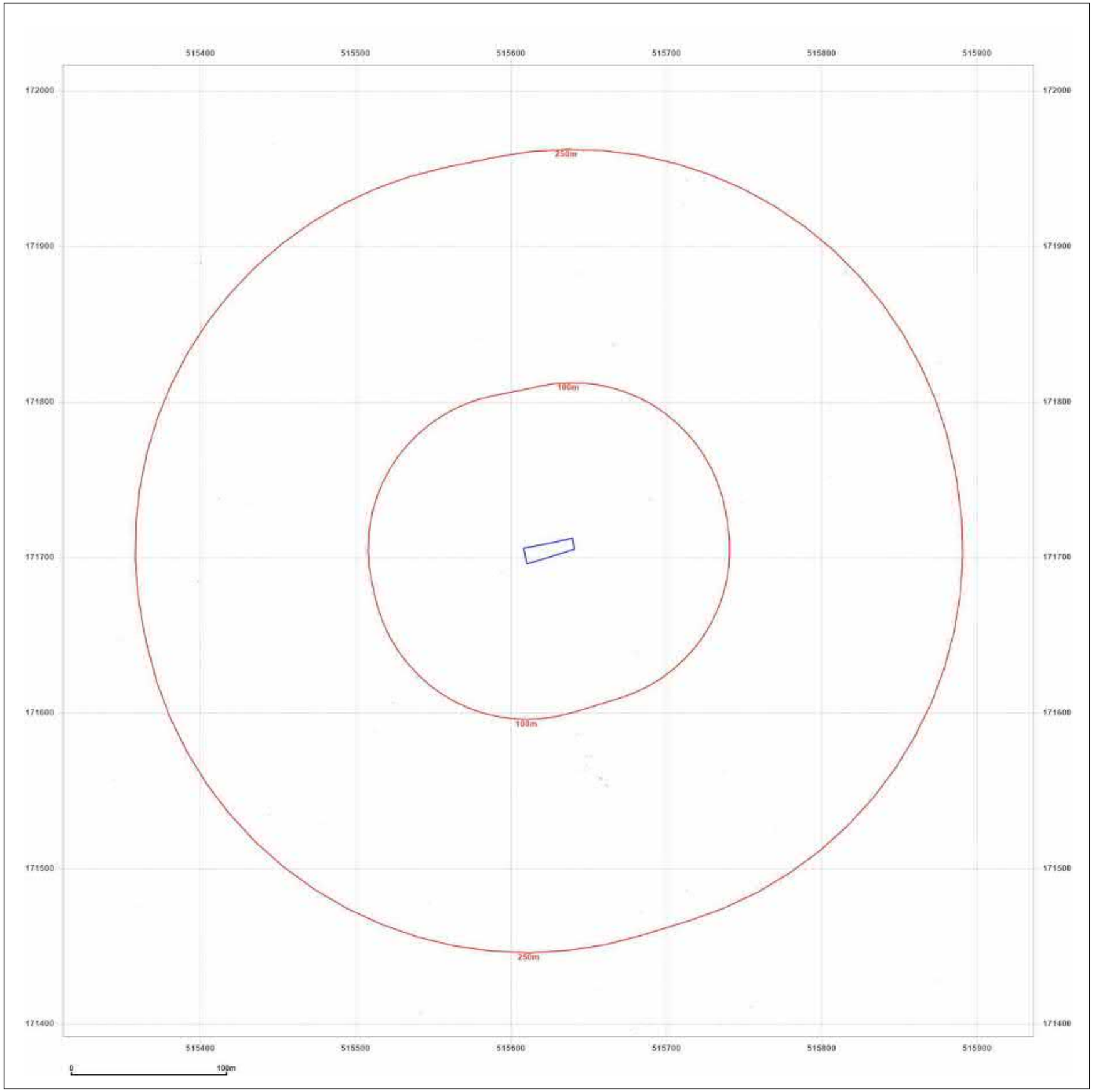

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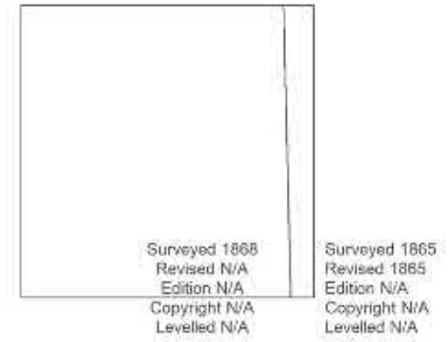

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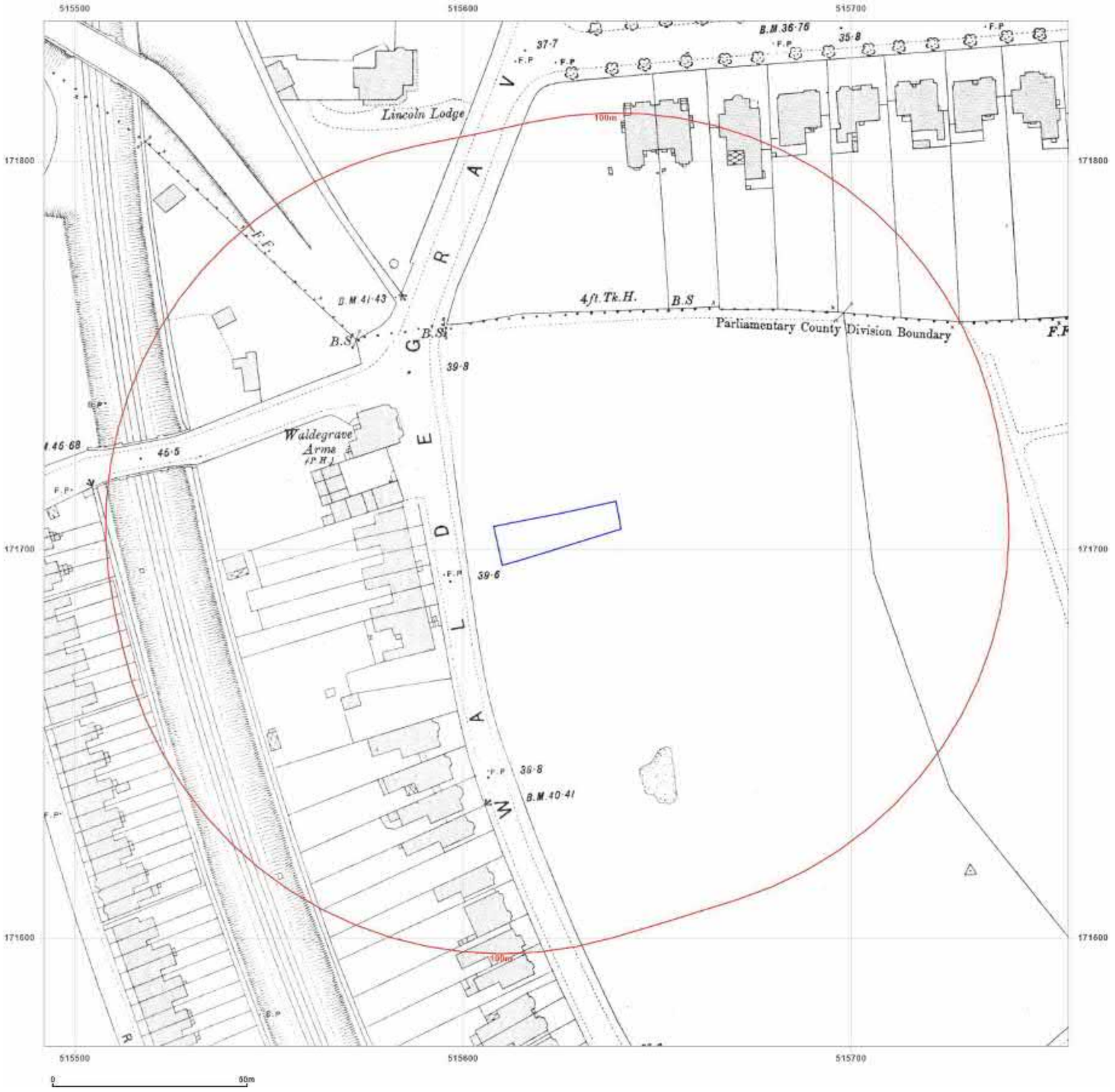

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Map date: **1896**
Scale: 1:1,056
Printed at: 1:1,056

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Edition 1896
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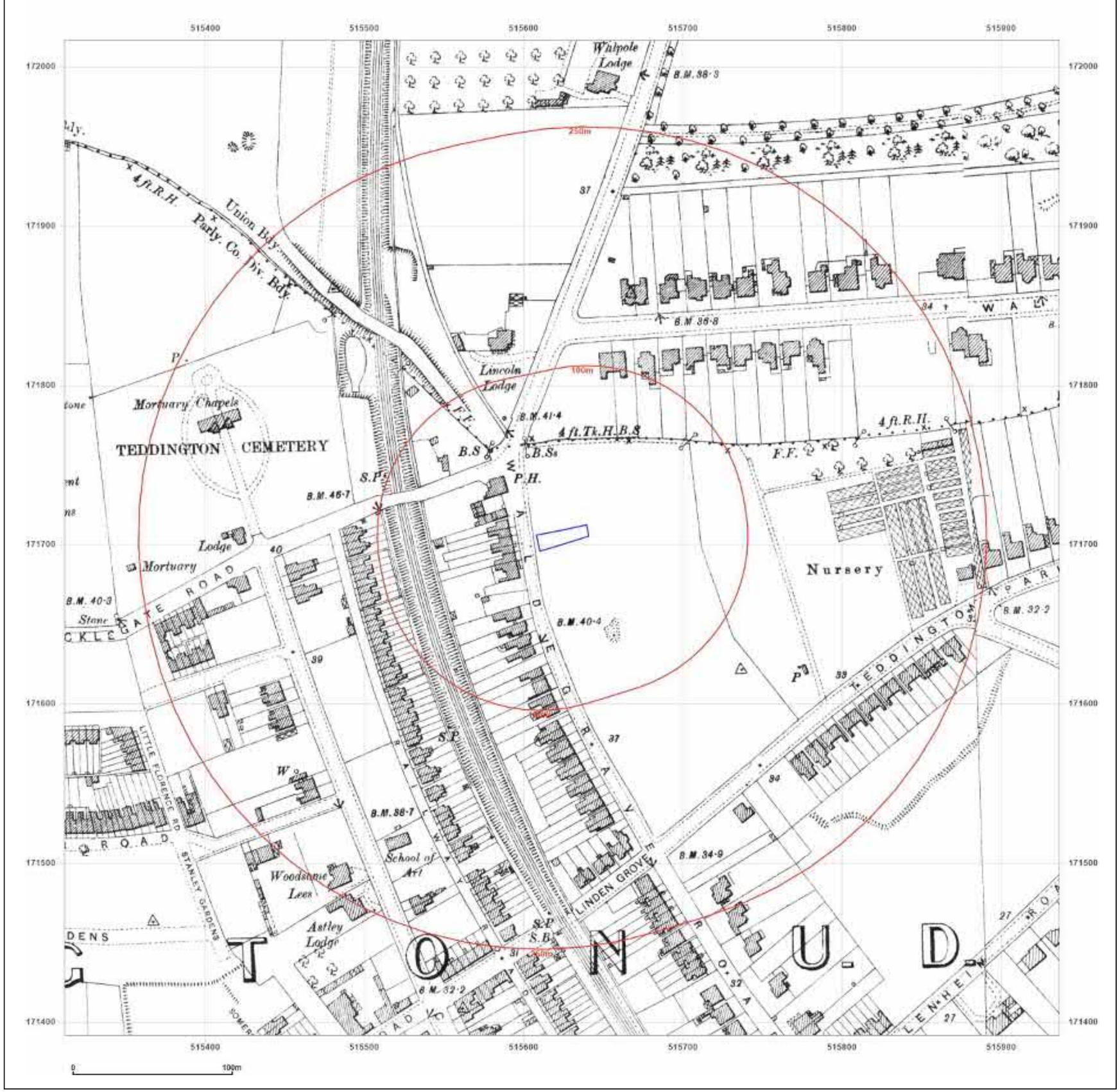

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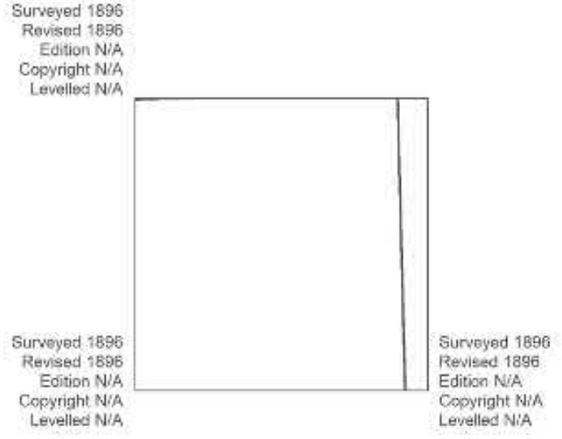

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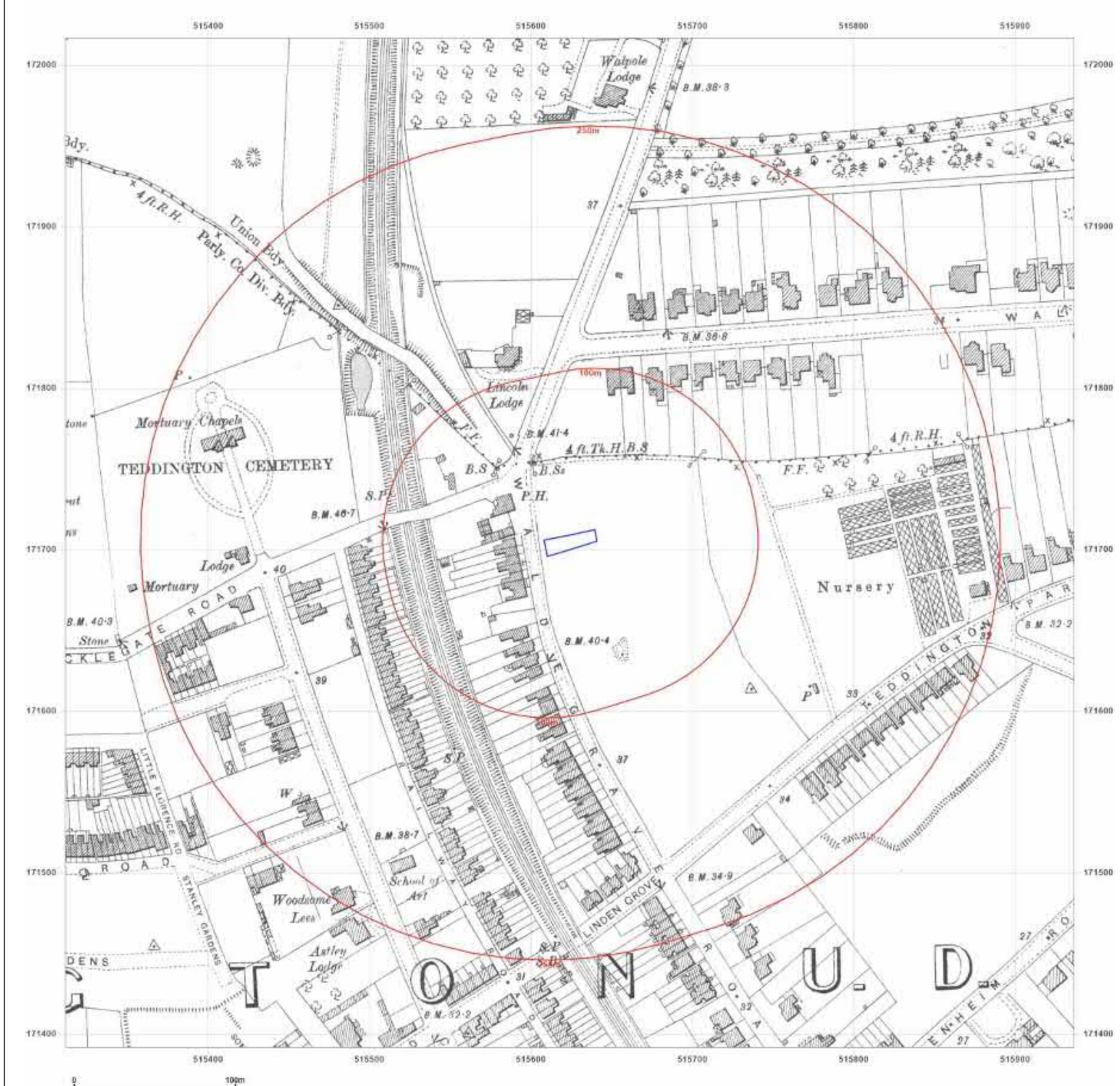

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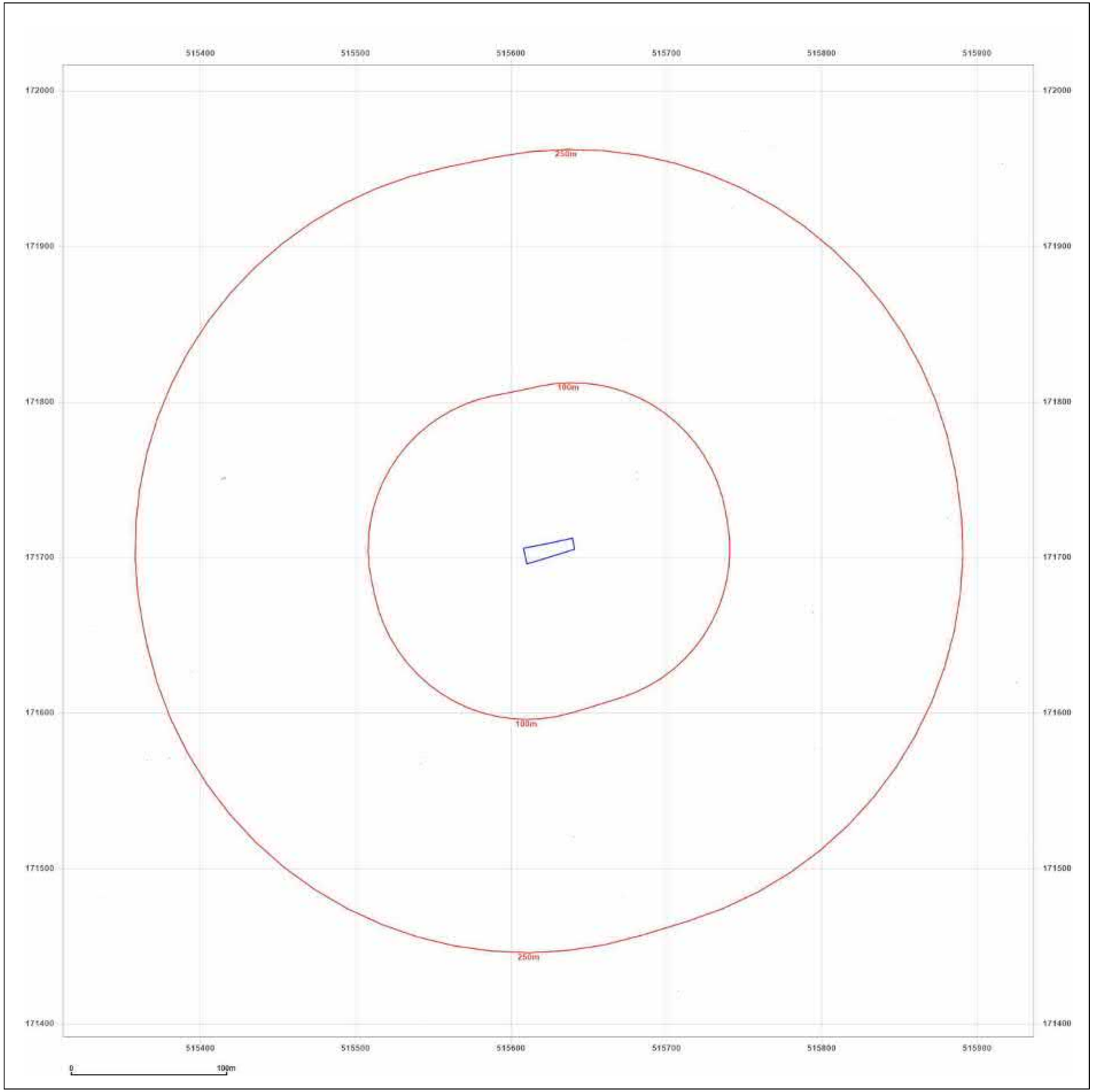

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UPON THAMES, TW11 8NA

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Map Name: County Series

Map date: **1913**

Scale: 1:2,500

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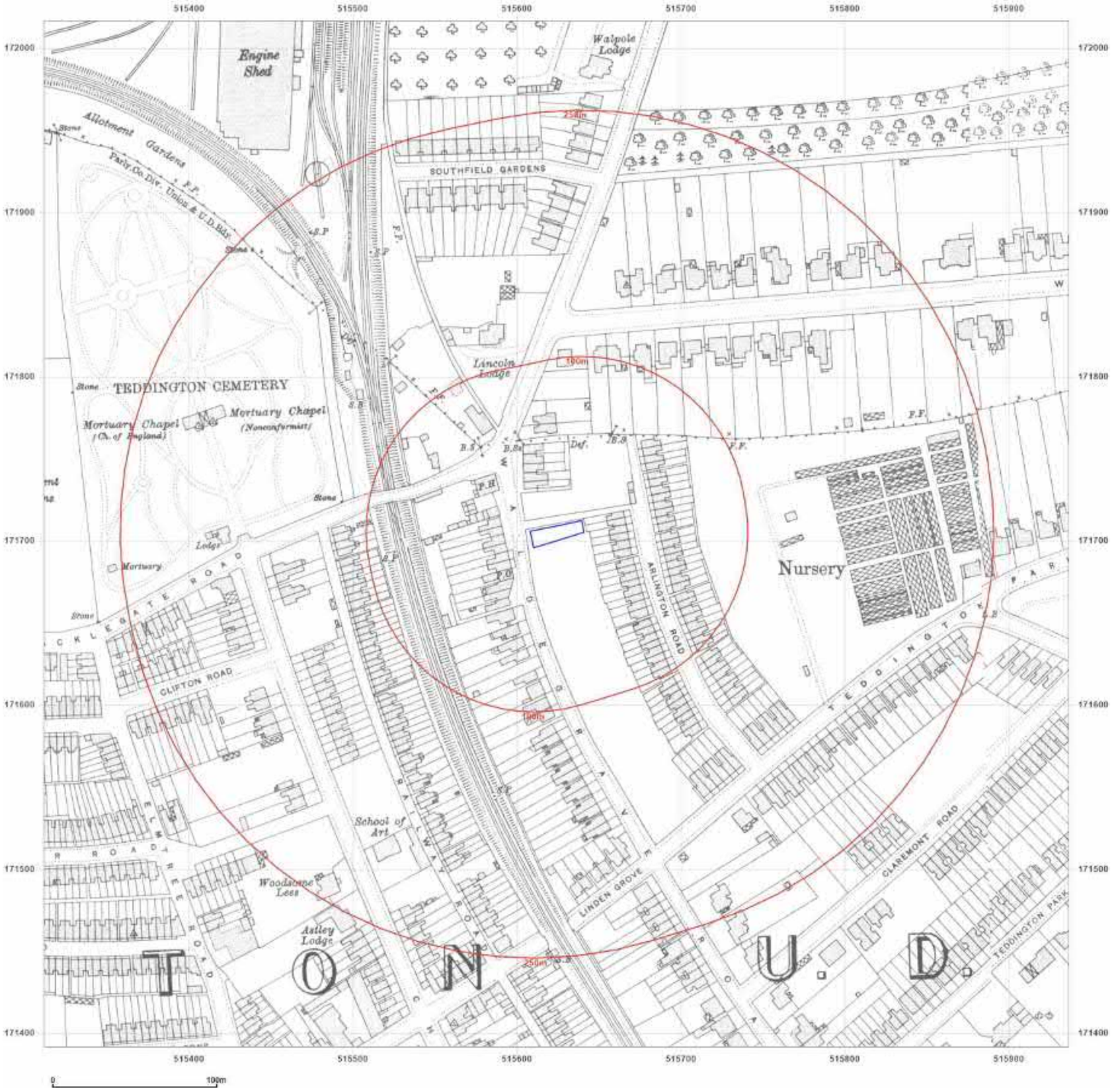

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Printed at: 1:2,500

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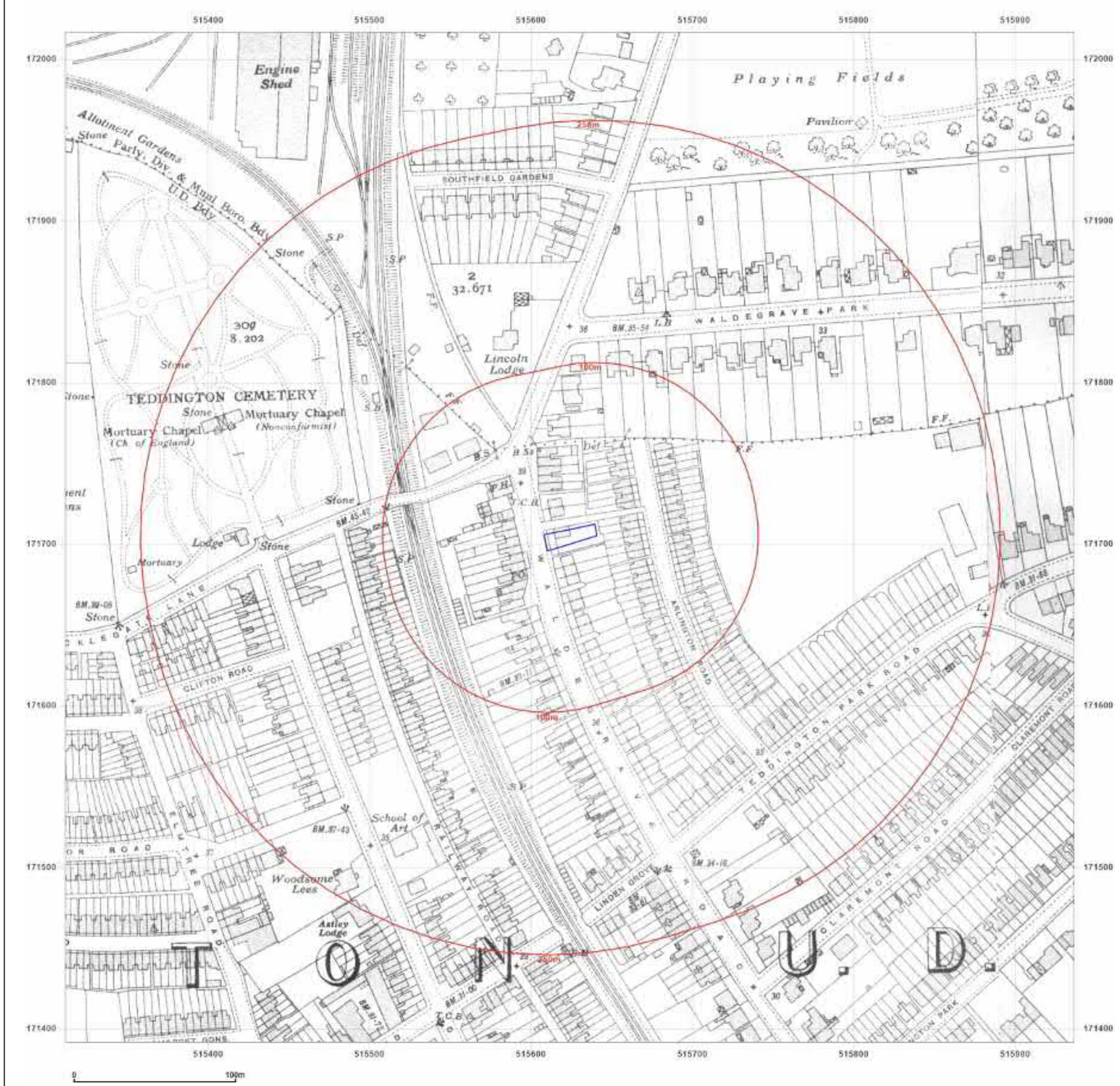

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

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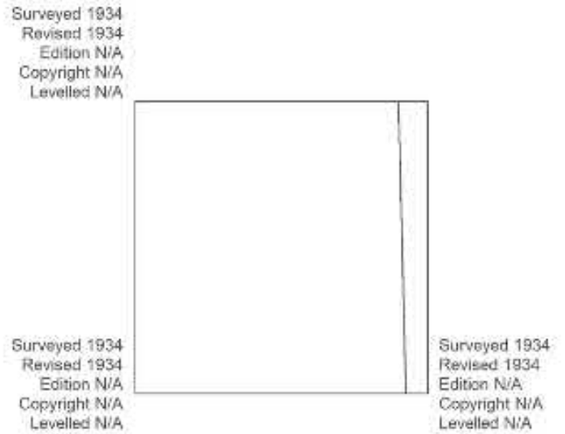

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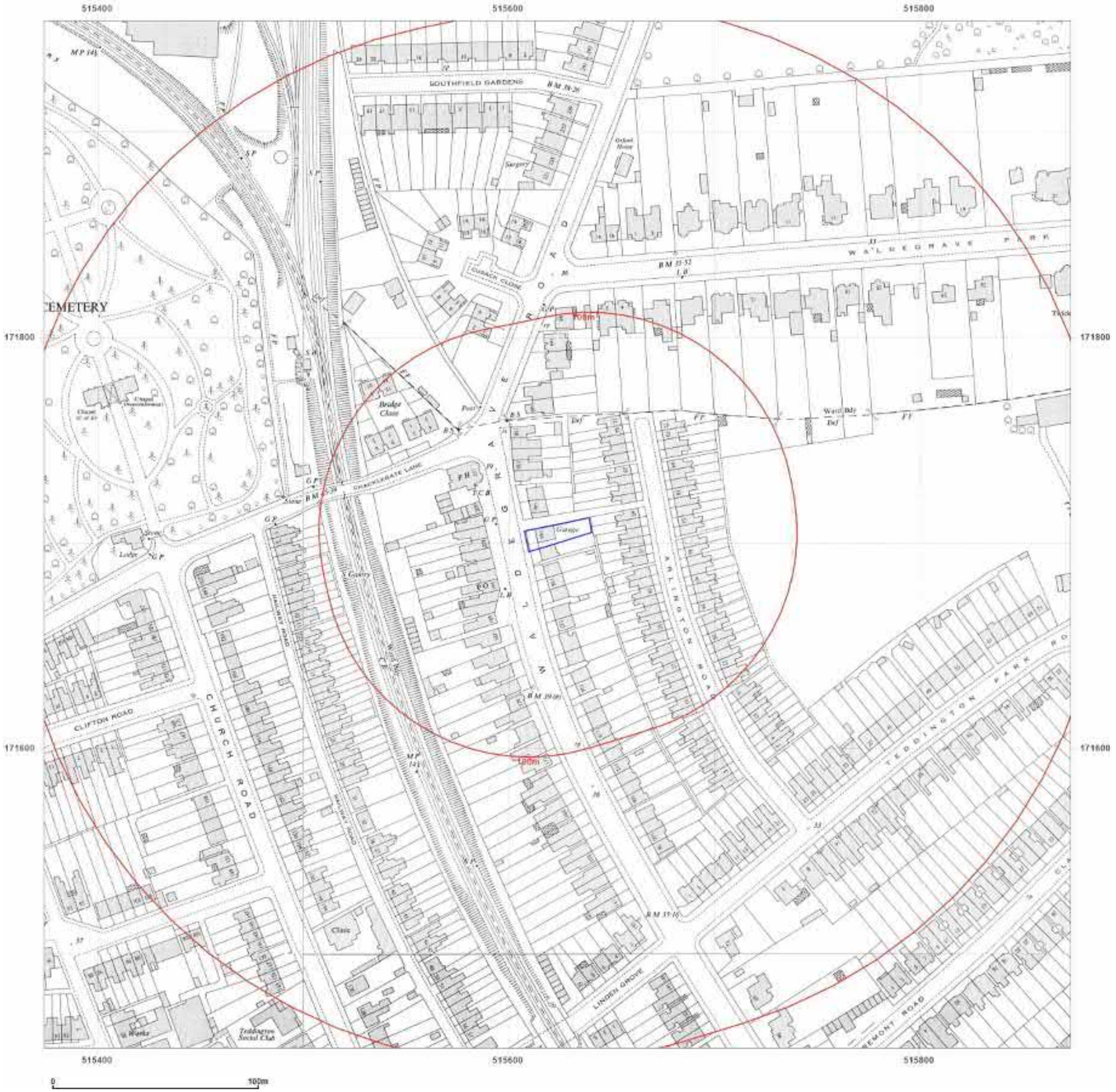

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1959**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1957	Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1957
Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1957	Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1957

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Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1960-1961**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
Edition 1961
Copyright 1961
Levelled 1957

Surveyed 1960
Revised 1960
Edition 1962
Copyright 1962
Levelled 1957

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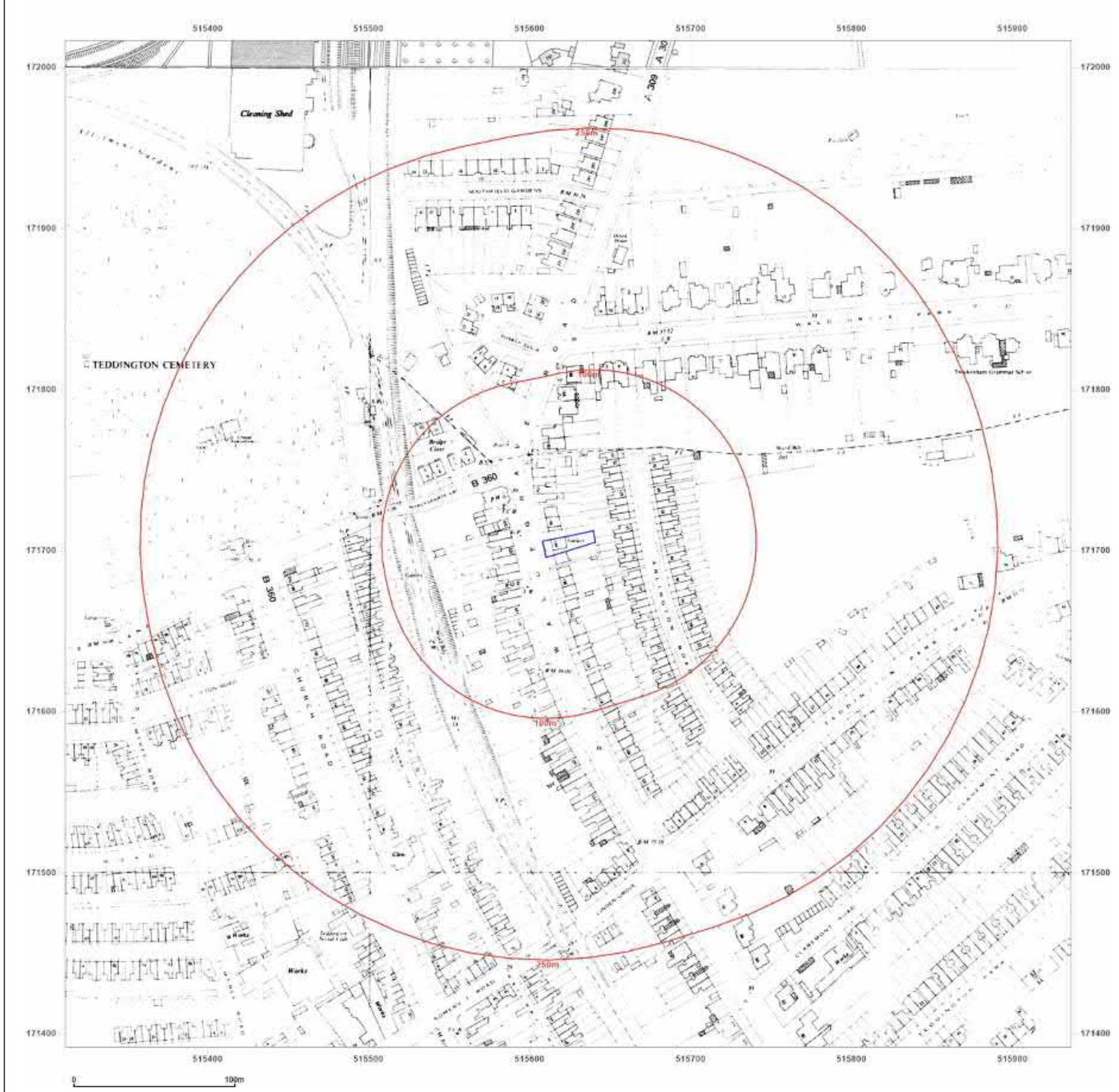

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1961-1962**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1960
Revised 1960
Edition 1961
Copyright 1961
Levelled 1957

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1963-1967**

Scale: 1:1,250

Printed at: 1:2,000

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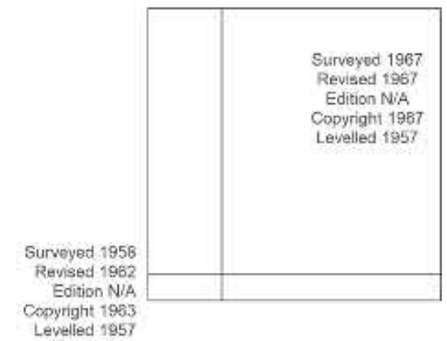

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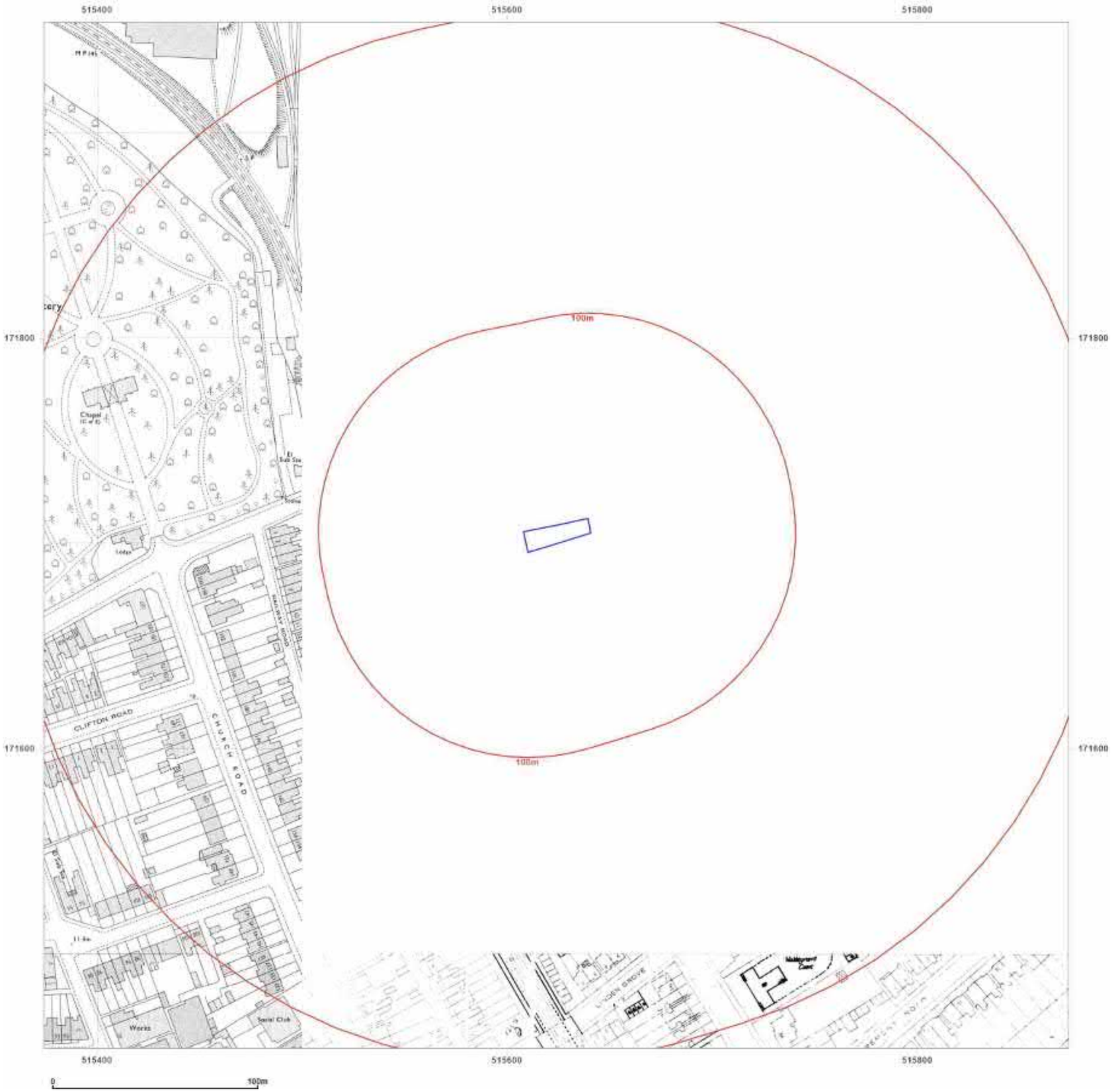

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid
Map date: **1973-1974**
Scale: 1:1,250
Printed at: 1:2,000

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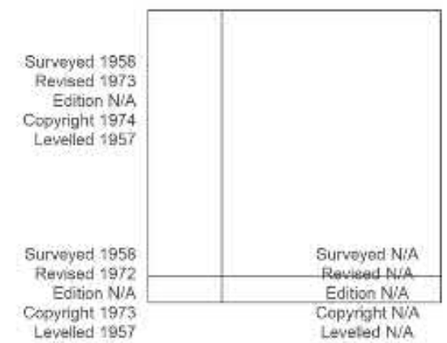

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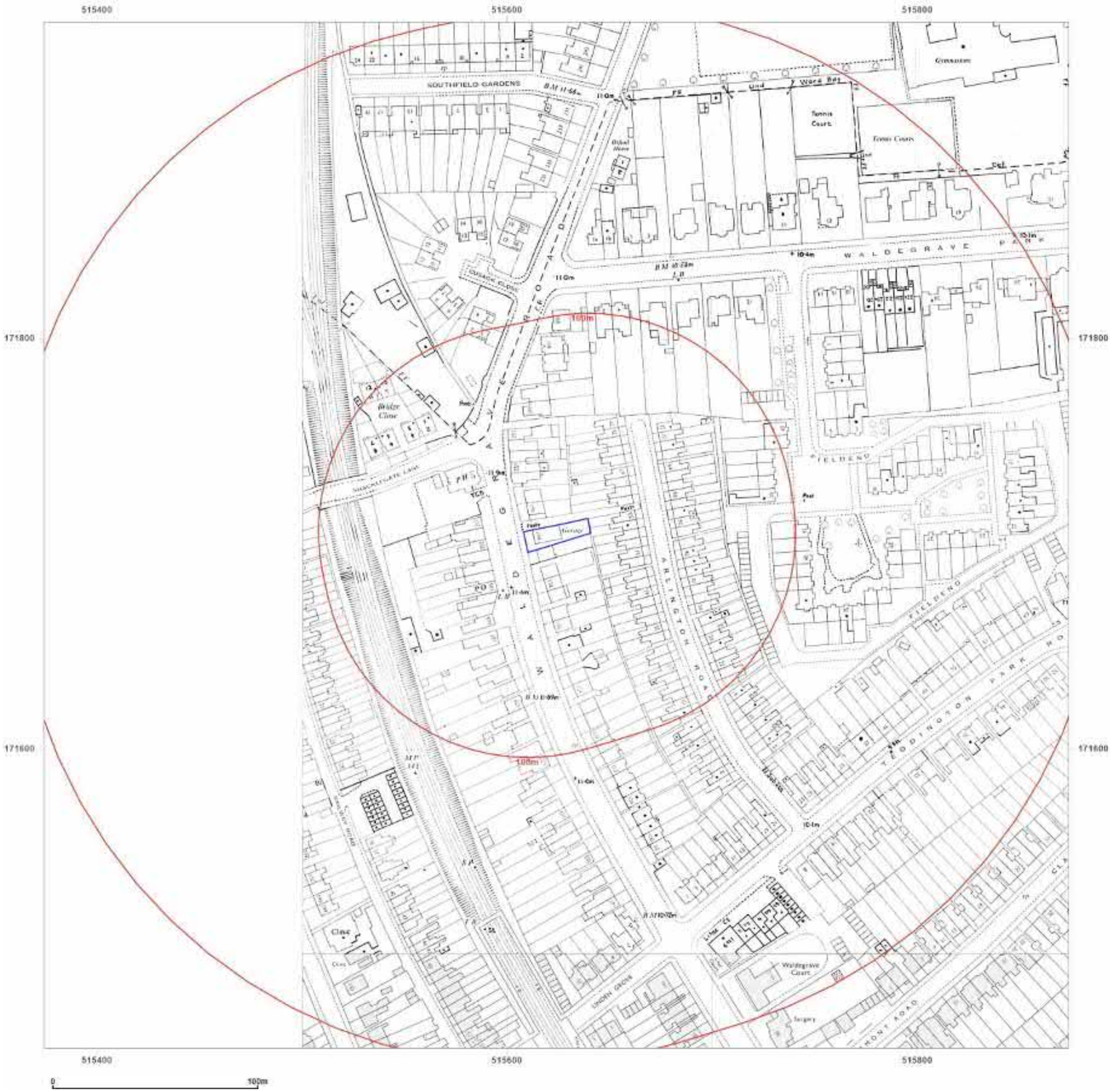

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1979-1980**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1958
Revised 1978
Edition N/A
Copyright 1979
Levelled 1957

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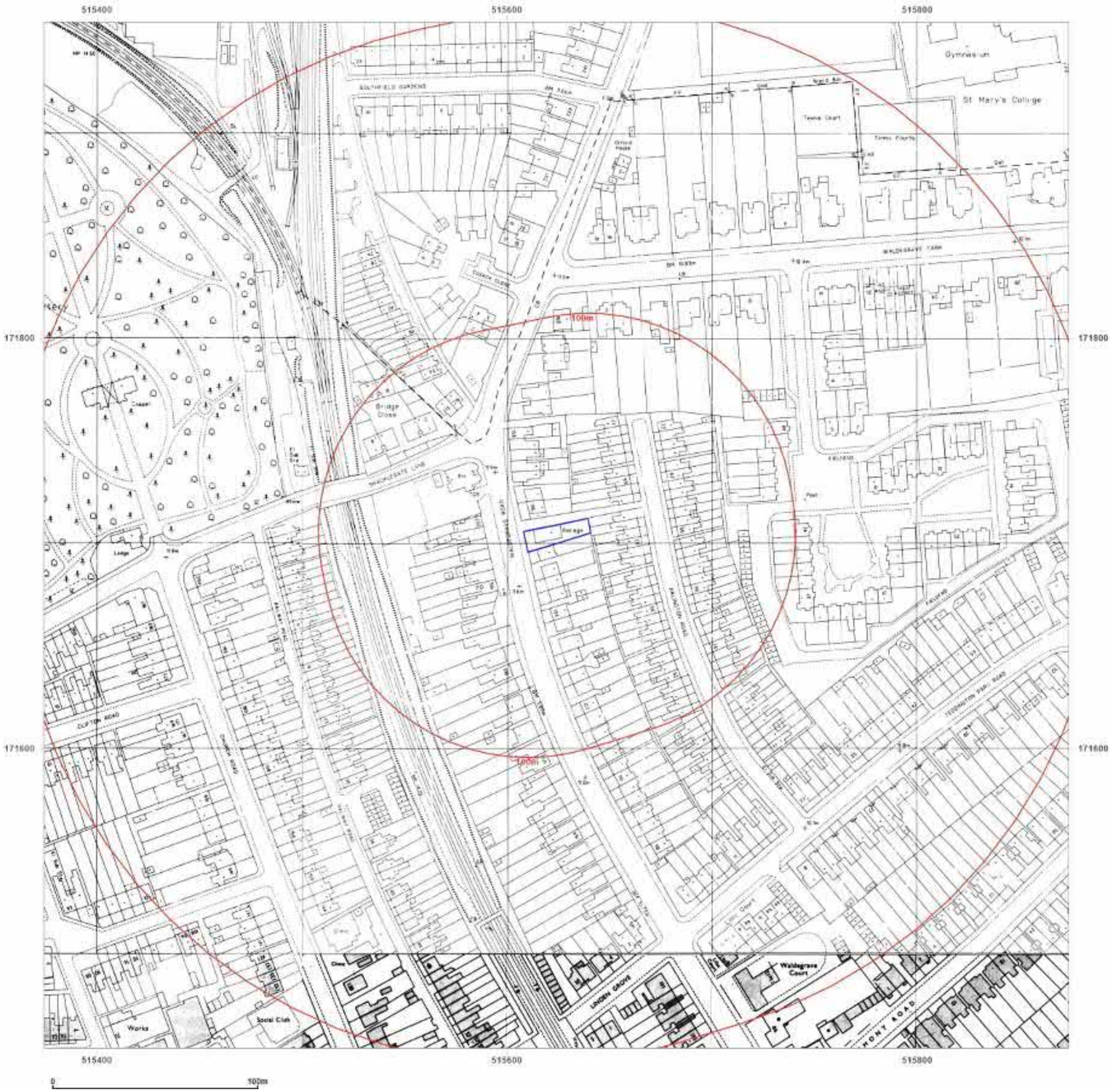

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Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1988-1991**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A
Surveyed 1957 Revised 1988 Edition N/A Copyright 1988 Levelled 1957	Surveyed 1957 Revised 1989 Edition N/A Copyright 1989 Levelled 1957

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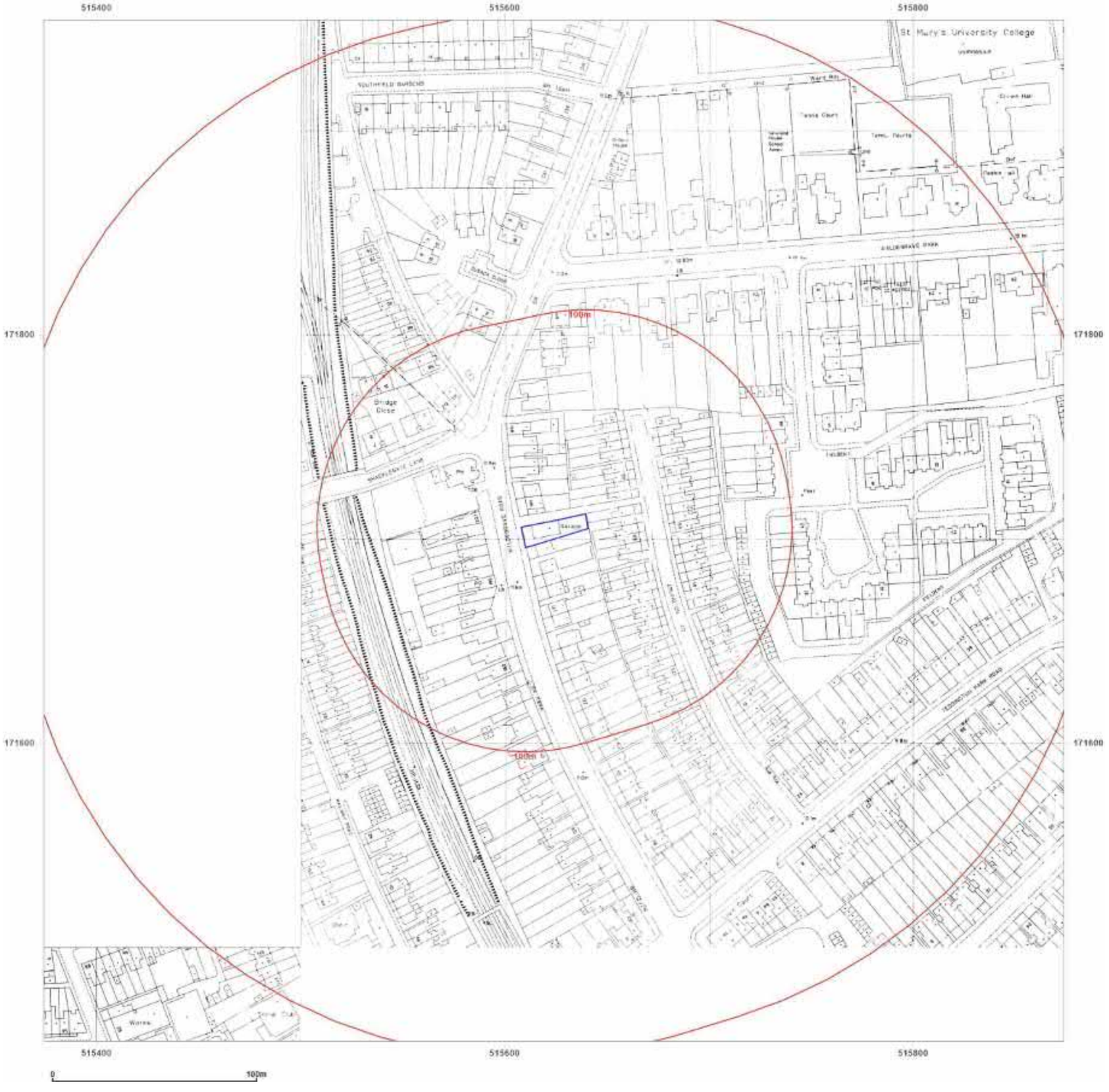

Groundsure INSIGHTS

Site Details:

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Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1991-1994**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1991
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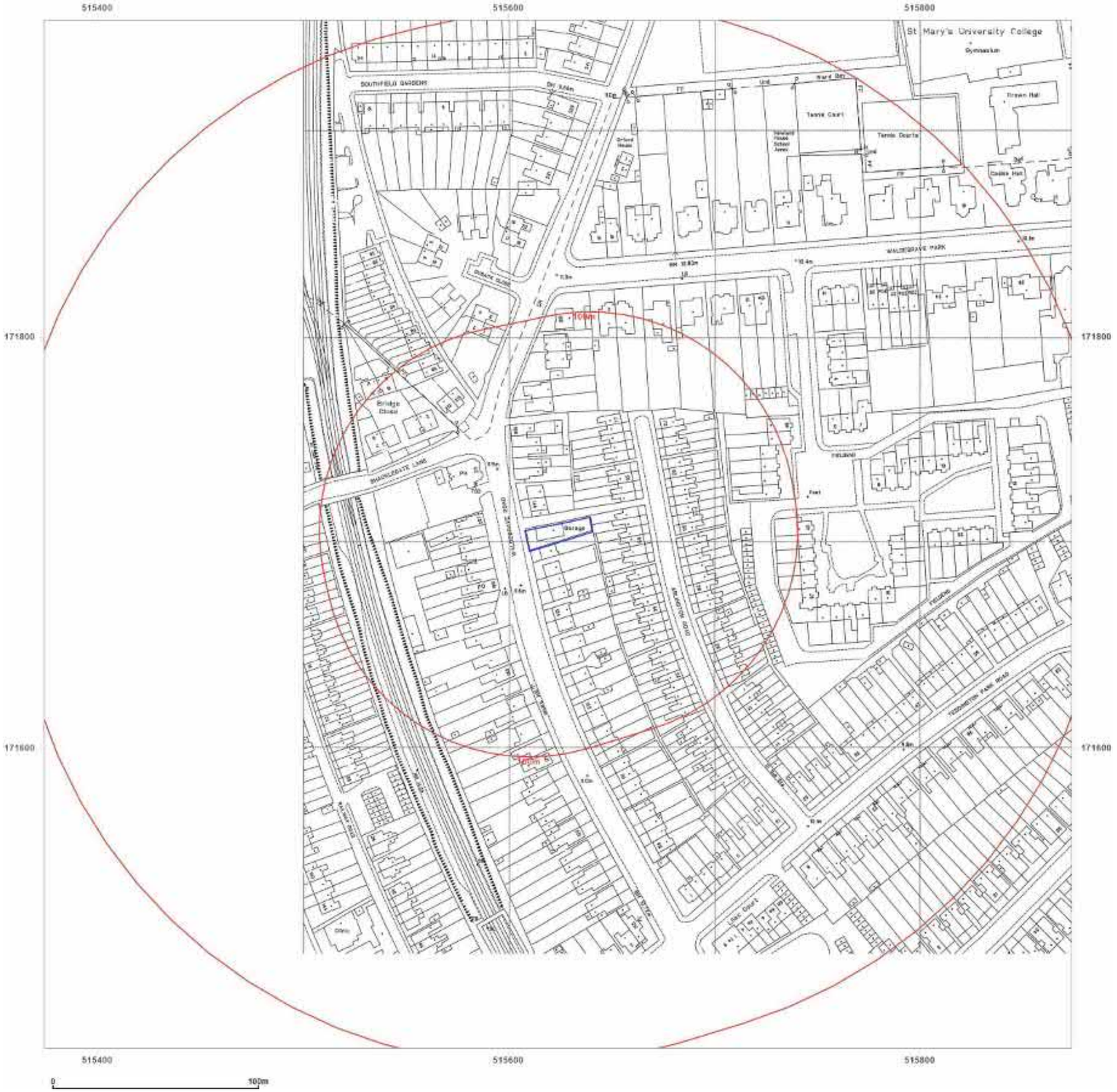

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Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

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Site Details:

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Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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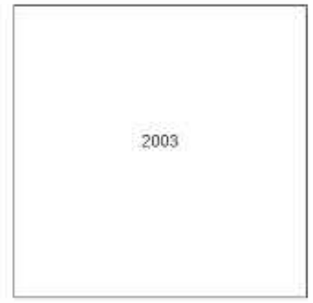

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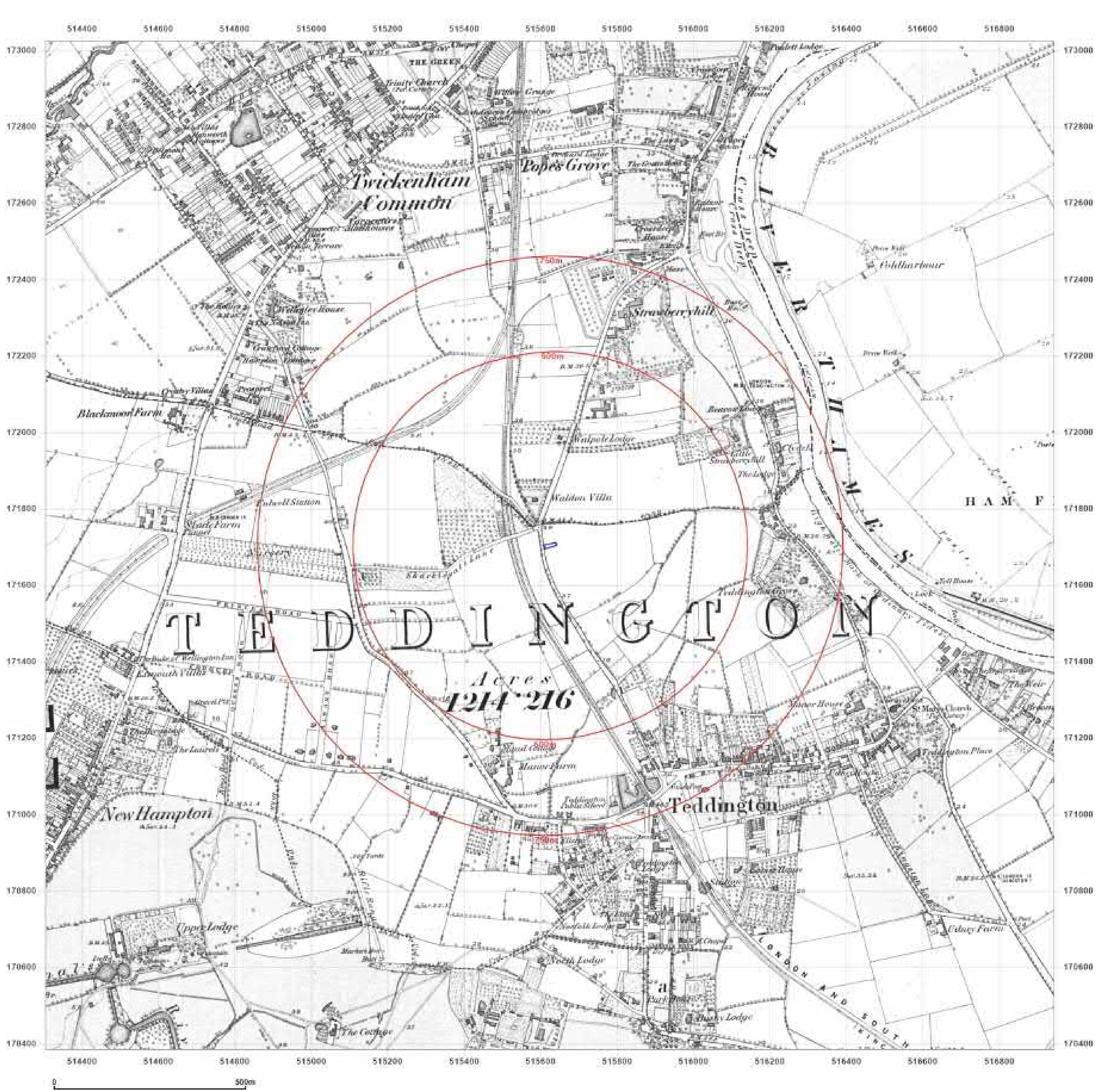

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1865-1868**

Scale: 1:10,560

Printed at: 1:10,560

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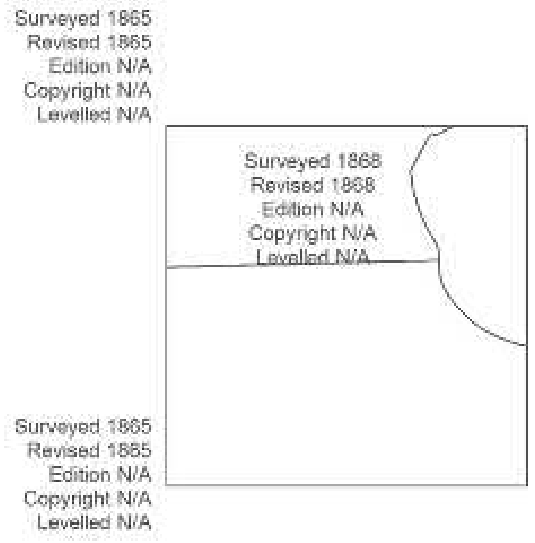

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Production date: 02 July 2024

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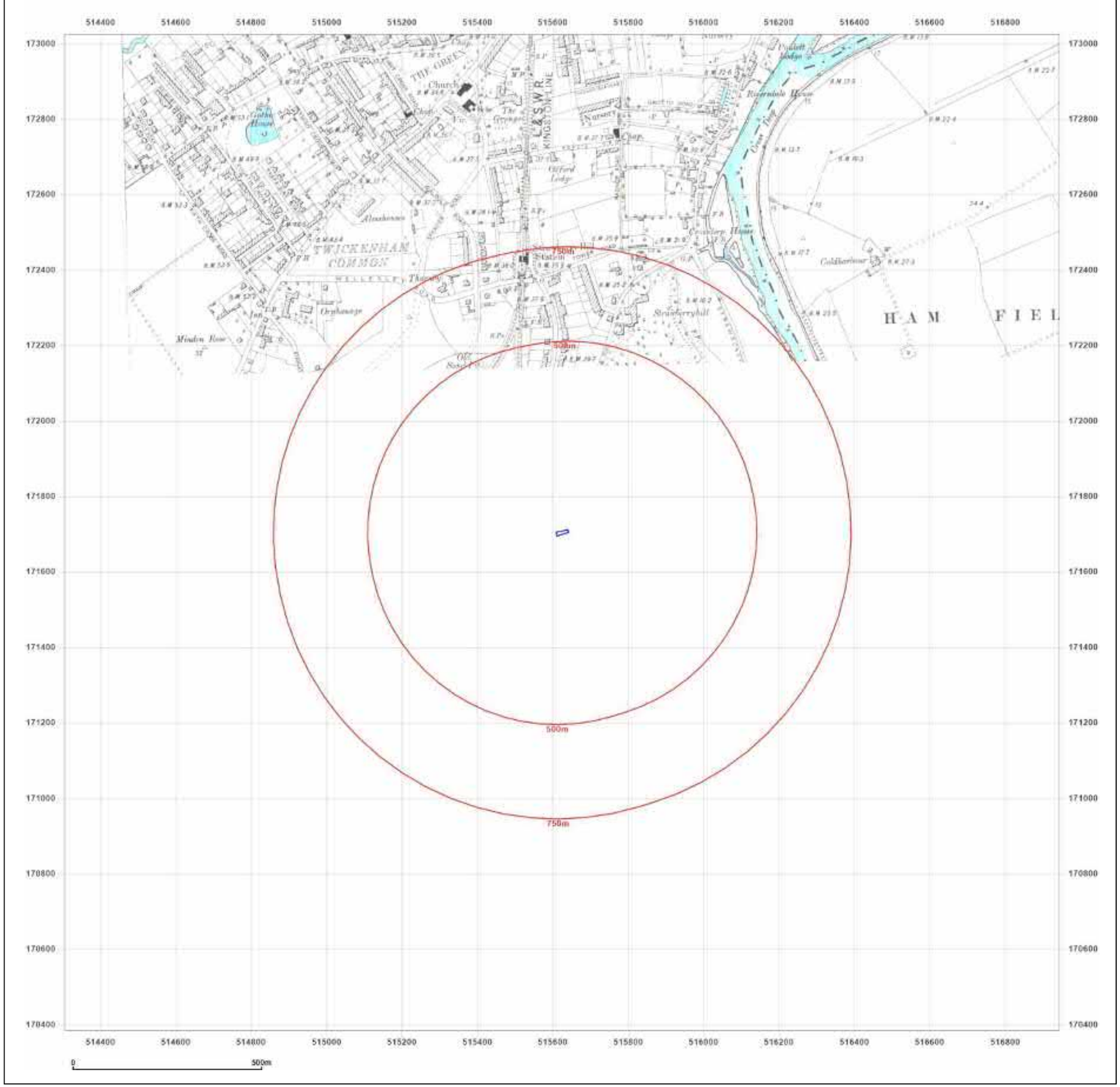

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1894**

Scale: 1:10,560

Printed at: 1:10,560

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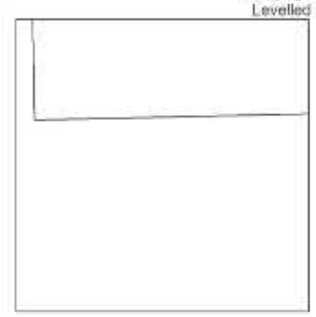
Surveyed 1868
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A



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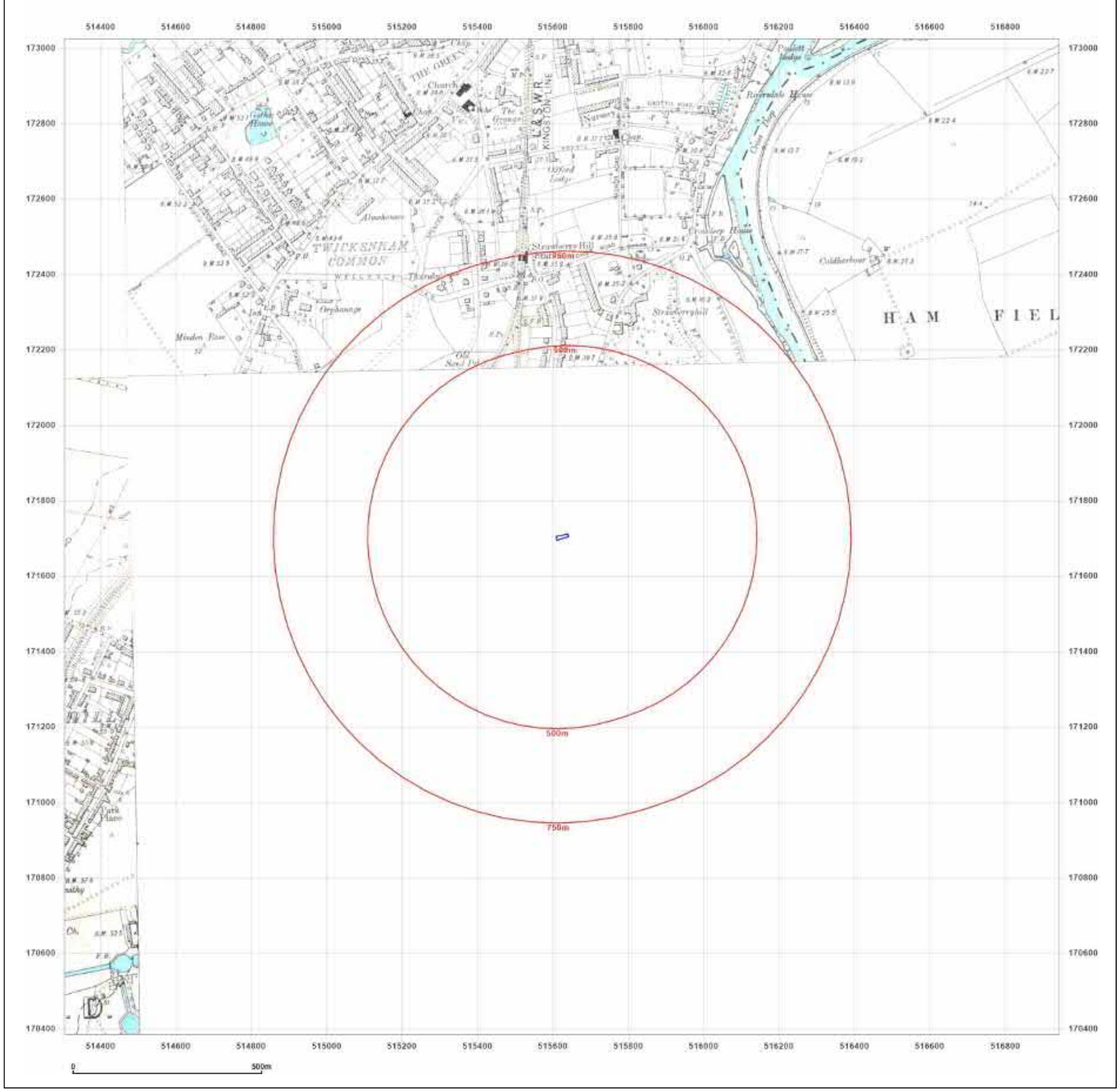

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1894-1895**

Scale: 1:10,560

Printed at: 1:10,560

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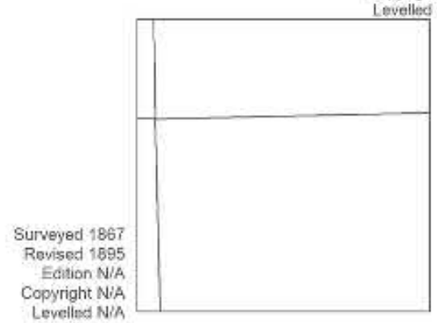
Surveyed 1868
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1867
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

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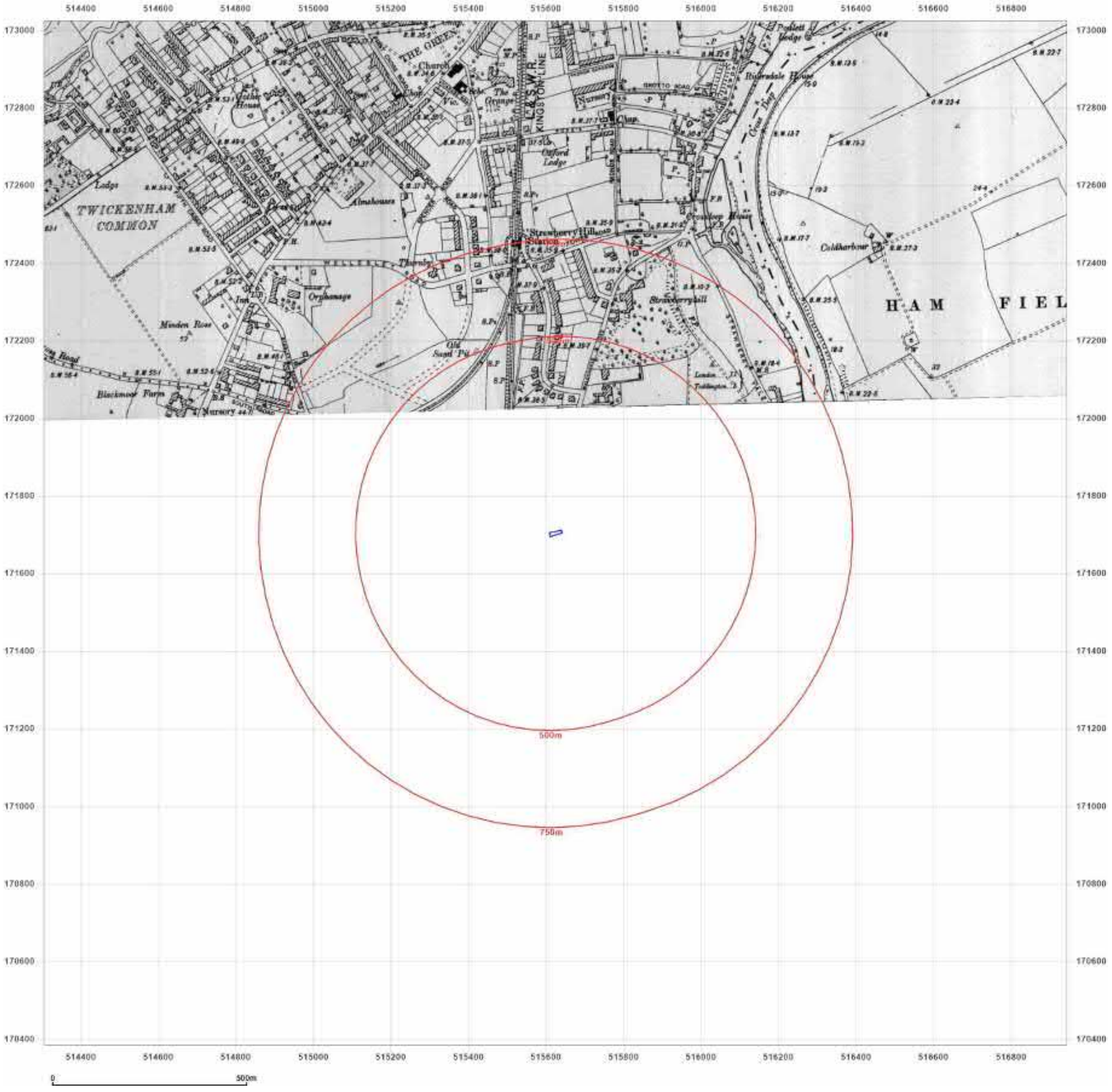

Groundsure INSIGHTS

Site Details:

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TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1896**

Scale: 1:10,560

Printed at: 1:10,560

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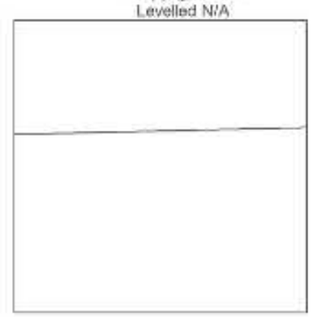
Surveyed 1866
Revised 1894
Edition 1896
Copyright N/A
Levelled N/A



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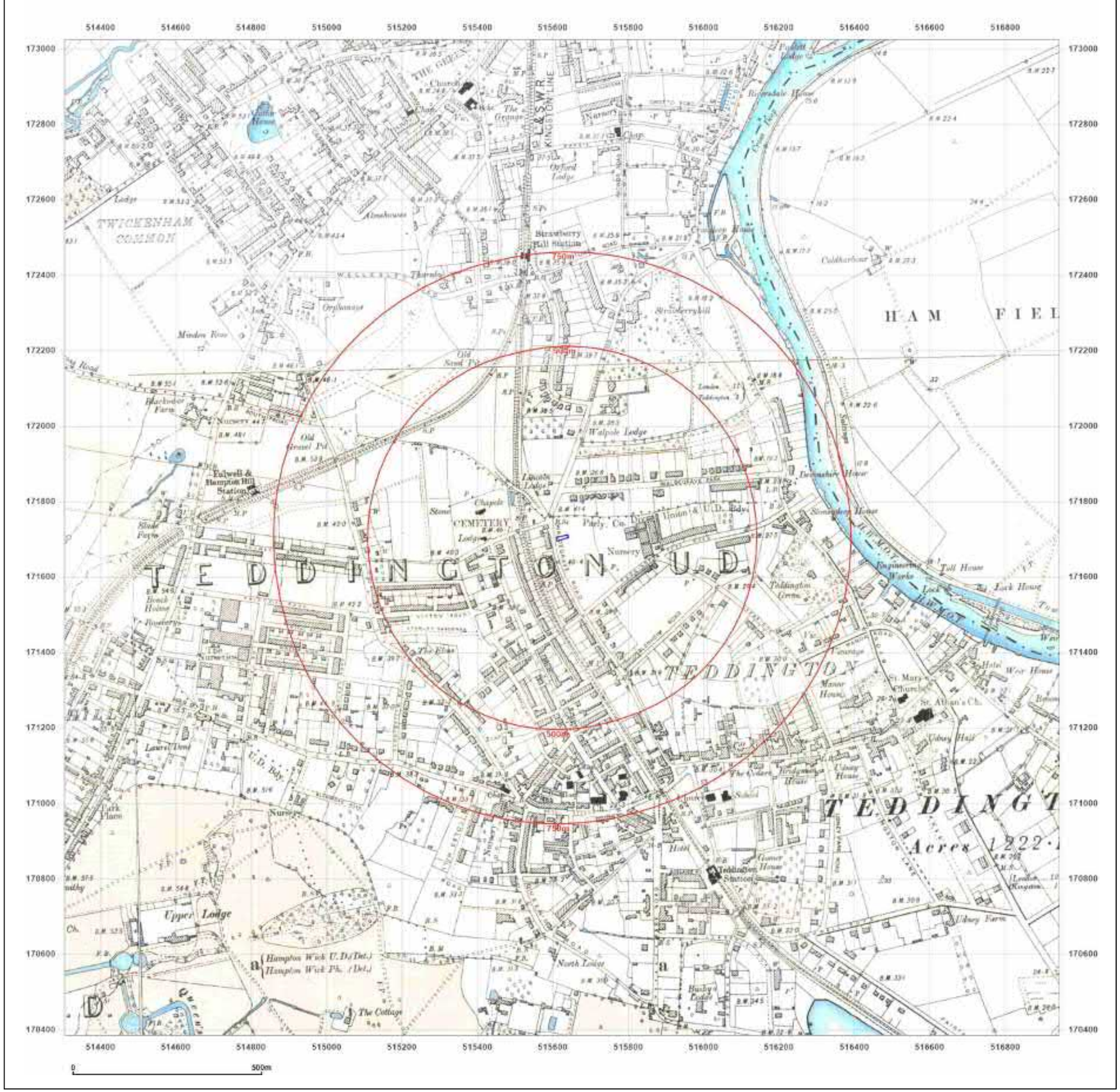

Groundsure INSIGHTS

Site Details:

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Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1894-1899**

Scale: 1:10,560

Printed at: 1:10,560

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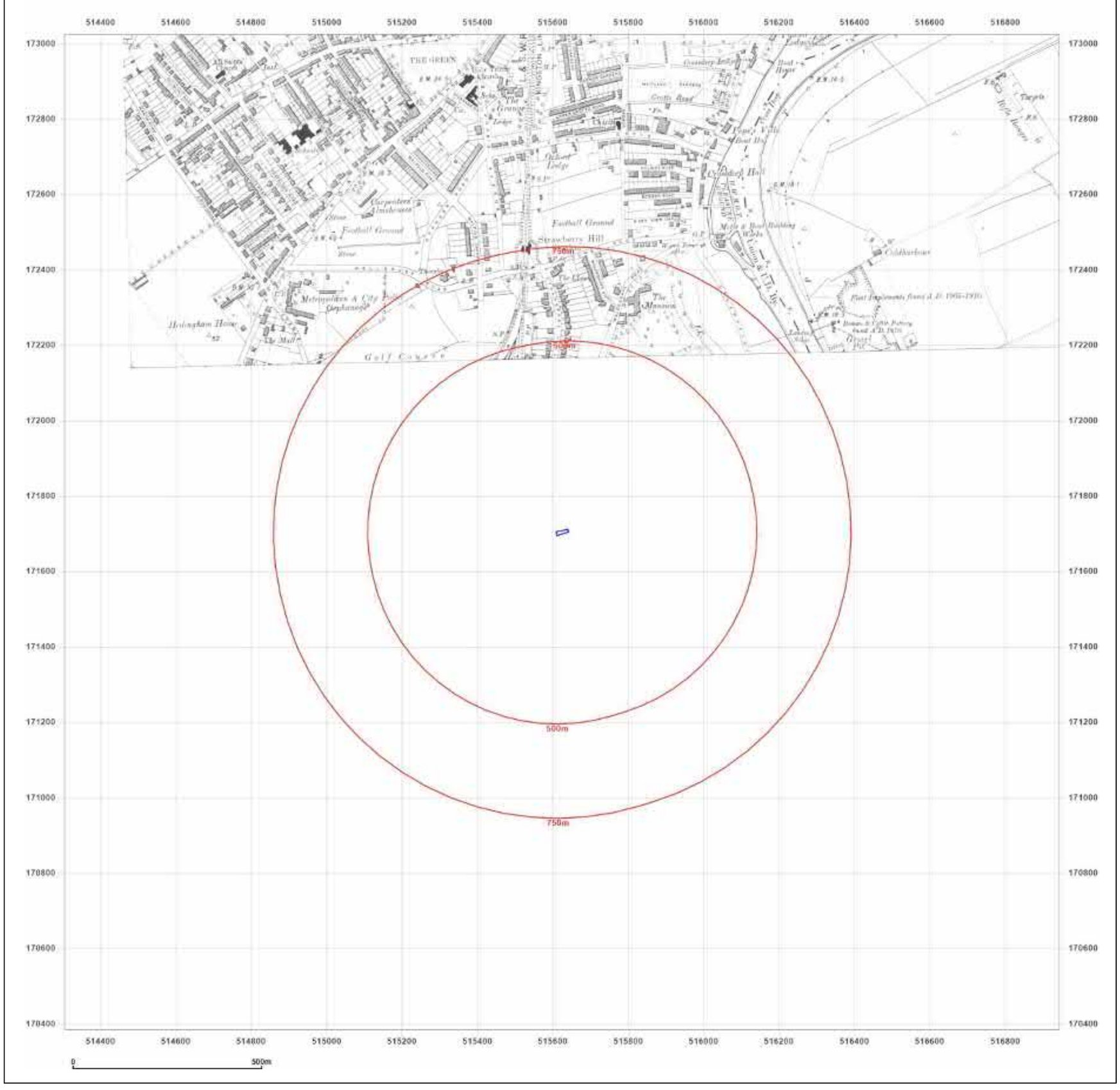

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1912**

Scale: 1:10,560

Printed at: 1:10,560

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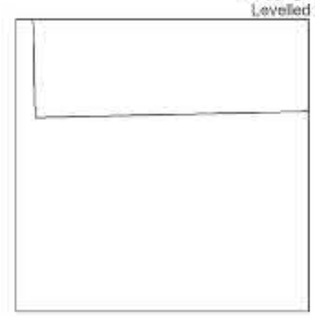
Surveyed 1866
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A



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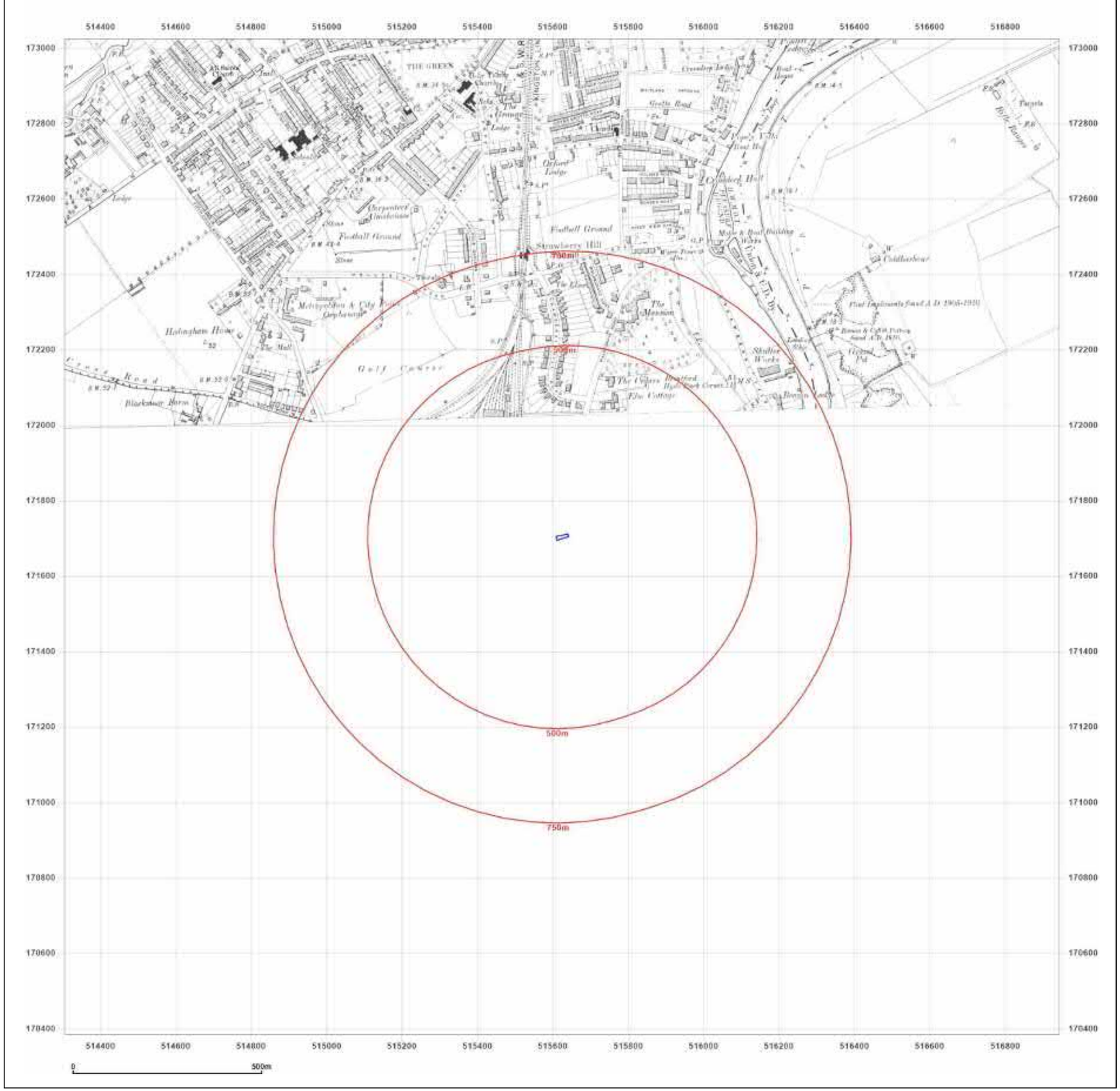

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1912**

Scale: 1:10,560

Printed at: 1:10,560

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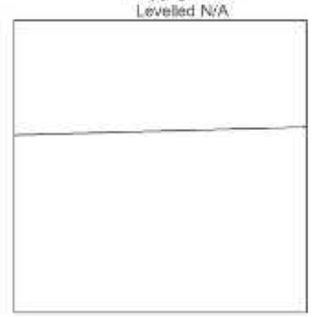
Surveyed 1863
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A



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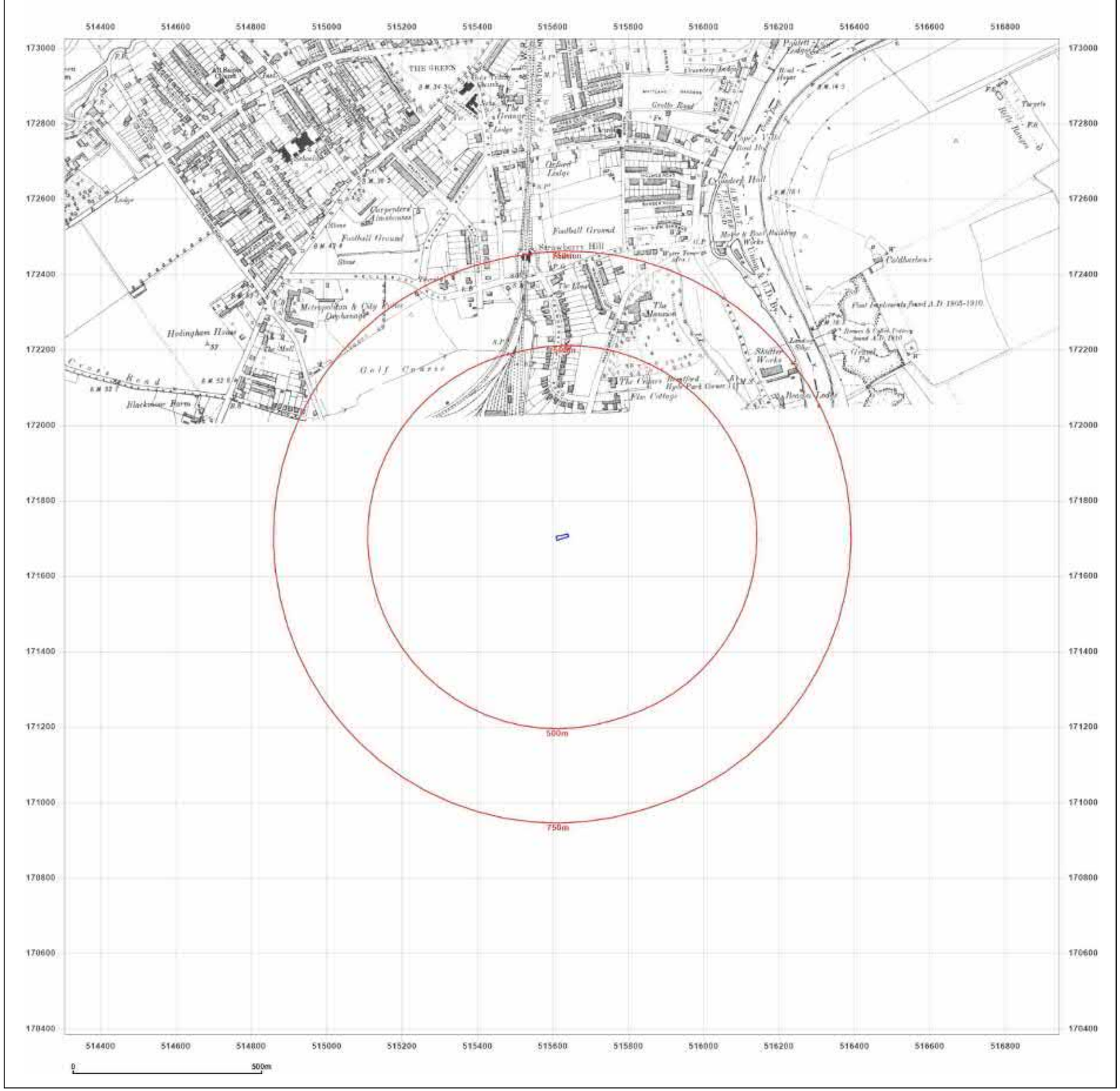

Groundsure INSIGHTS

Site Details:

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Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1912**

Scale: 1:10,560

Printed at: 1:10,560

N
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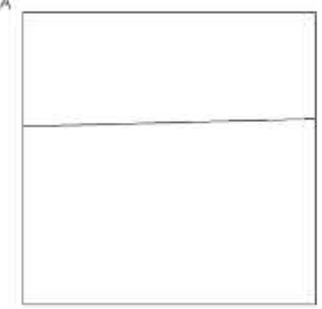
Surveyed 1866
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A



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Production date: 02 July 2024

Map legend available at:
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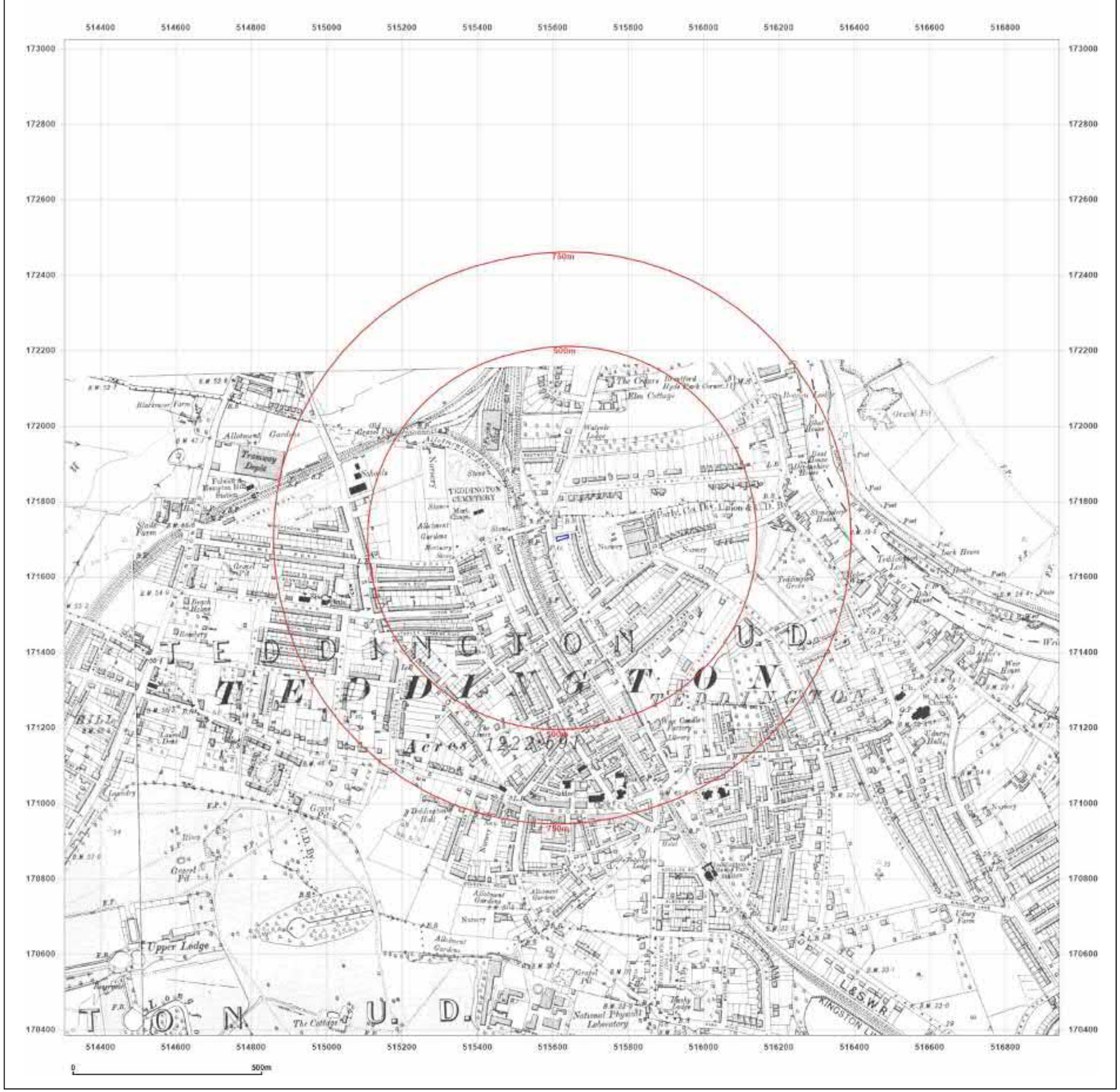

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1920**

Scale: 1:10,560

Printed at: 1:10,560

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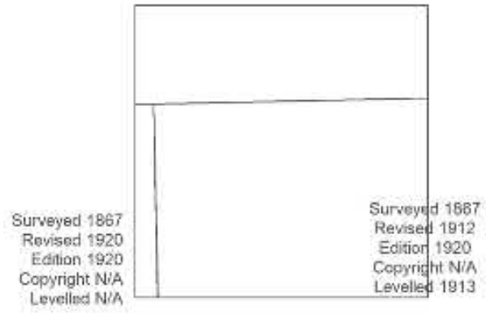

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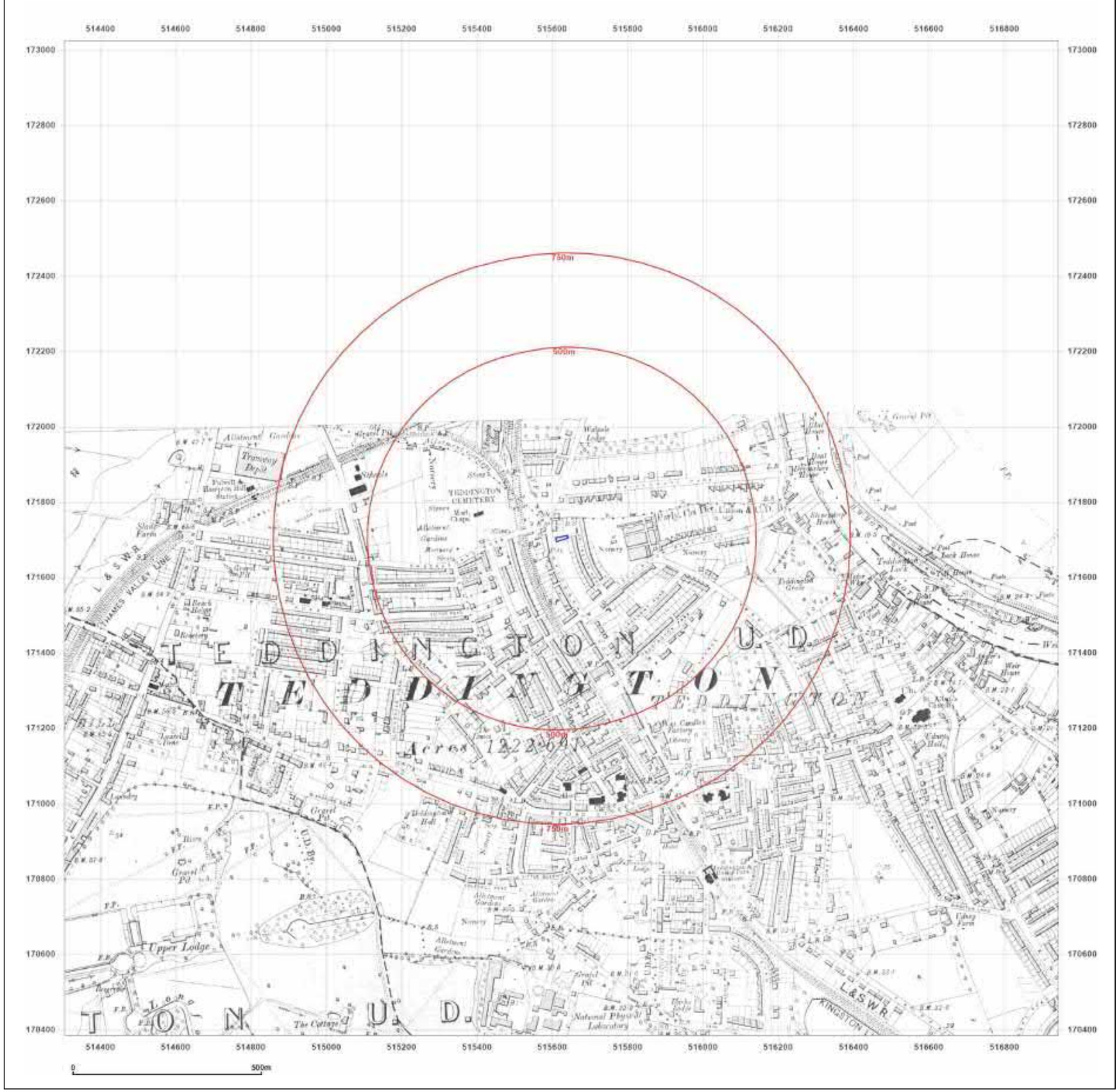

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1920**

Scale: 1:10,560

Printed at: 1:10,560

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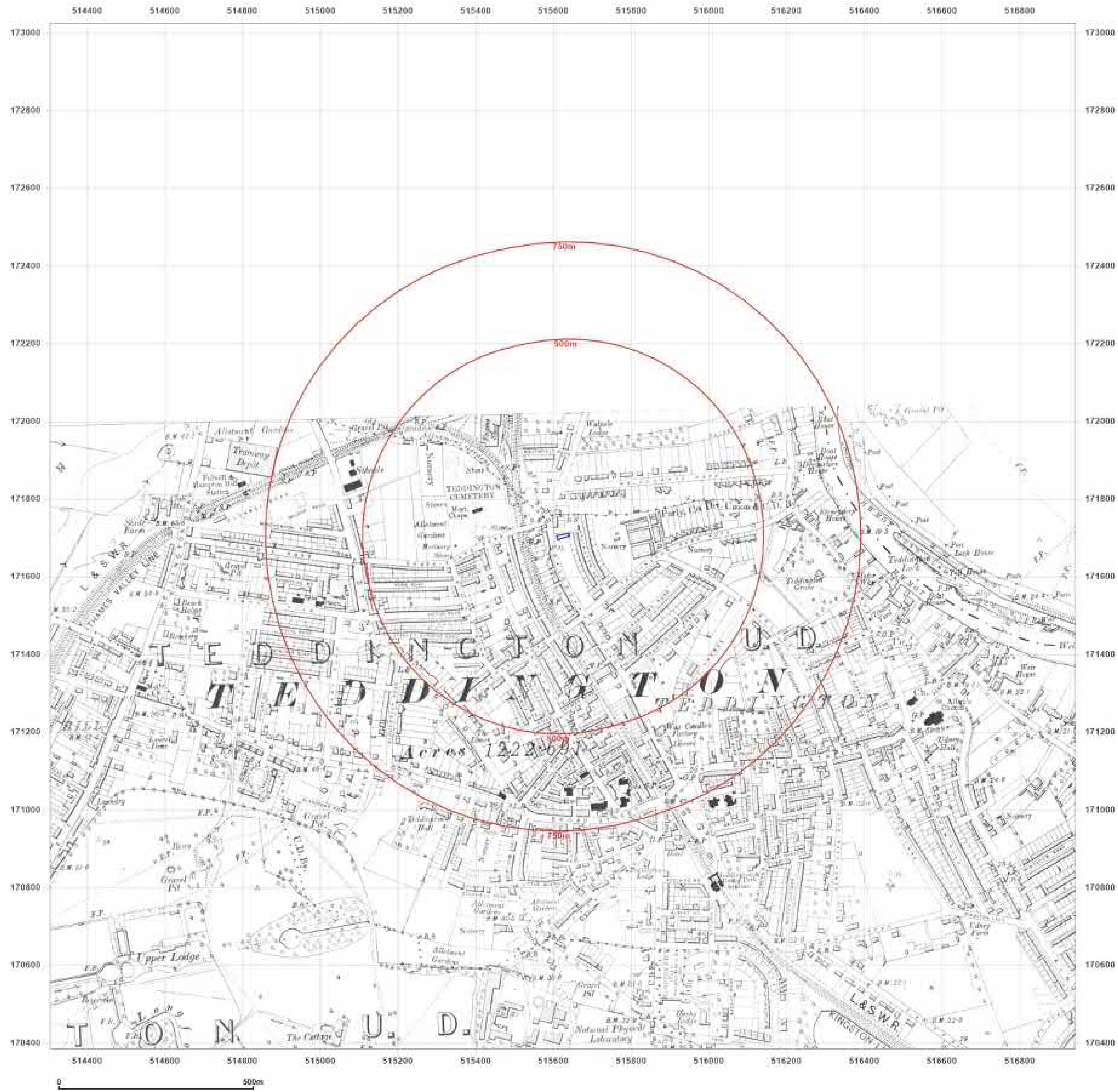

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1920**

Scale: 1:10,560

Printed at: 1:10,560

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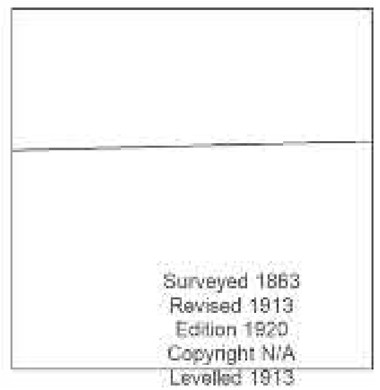

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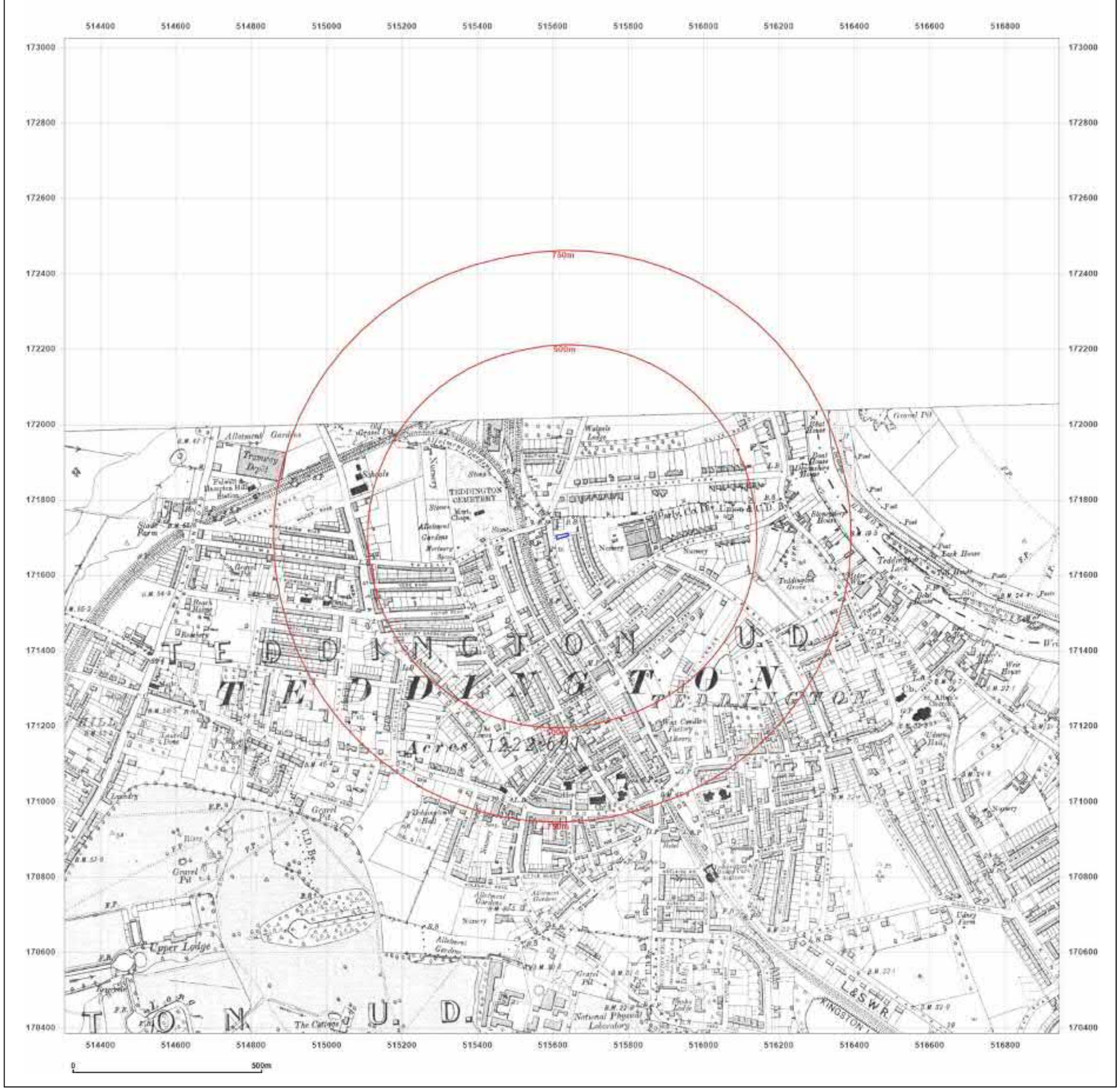

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1920**

Scale: 1:10,560

Printed at: 1:10,560

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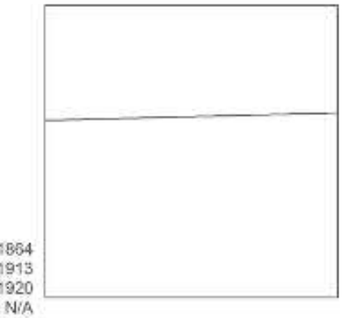

Surveyed 1864
Revised 1913
Edition 1920
Copyright N/A
Levelled 1913

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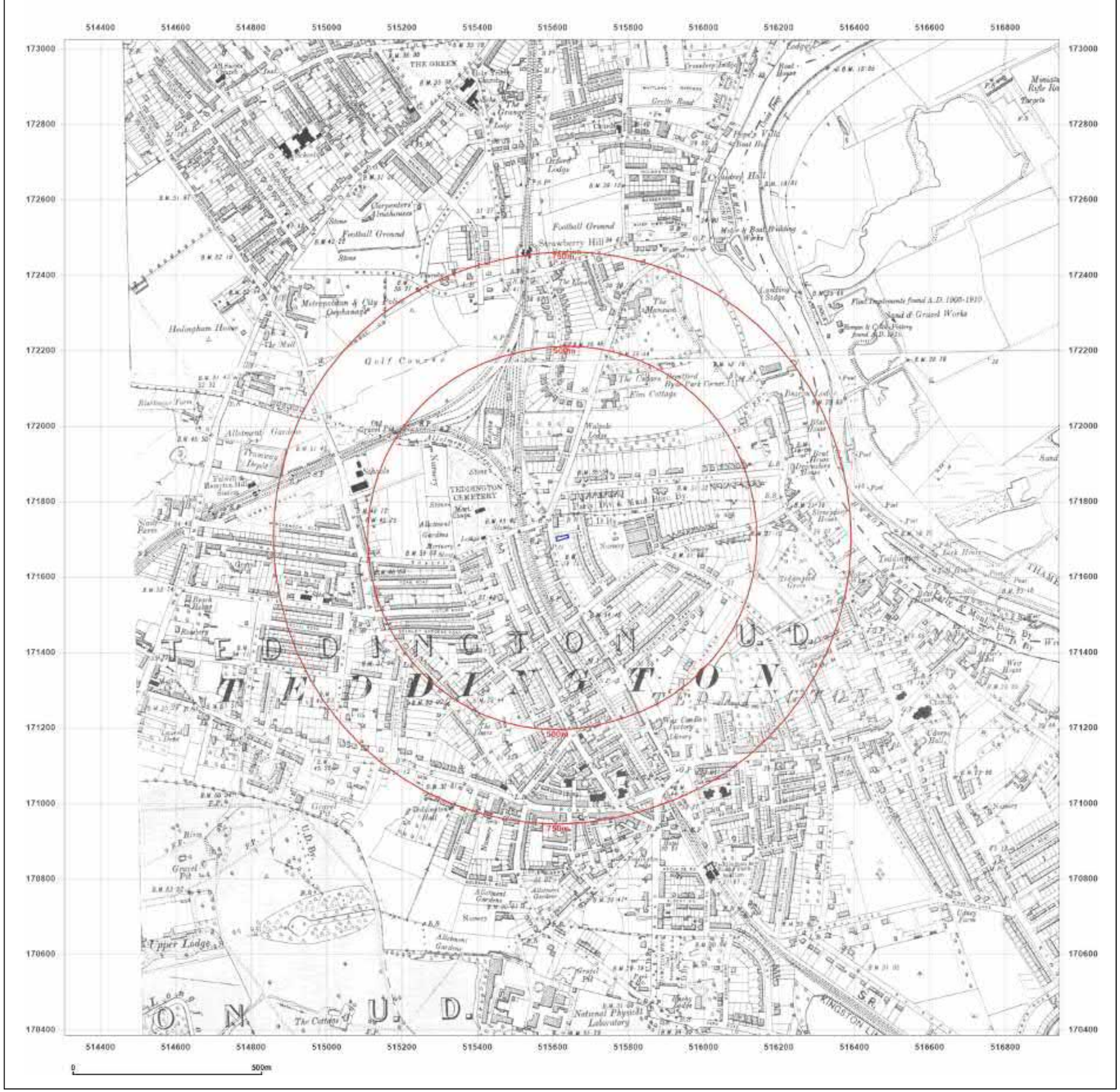

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1933**

Scale: 1:10,560

Printed at: 1:10,560

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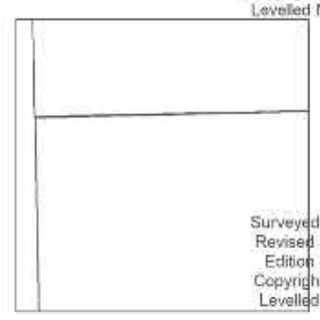

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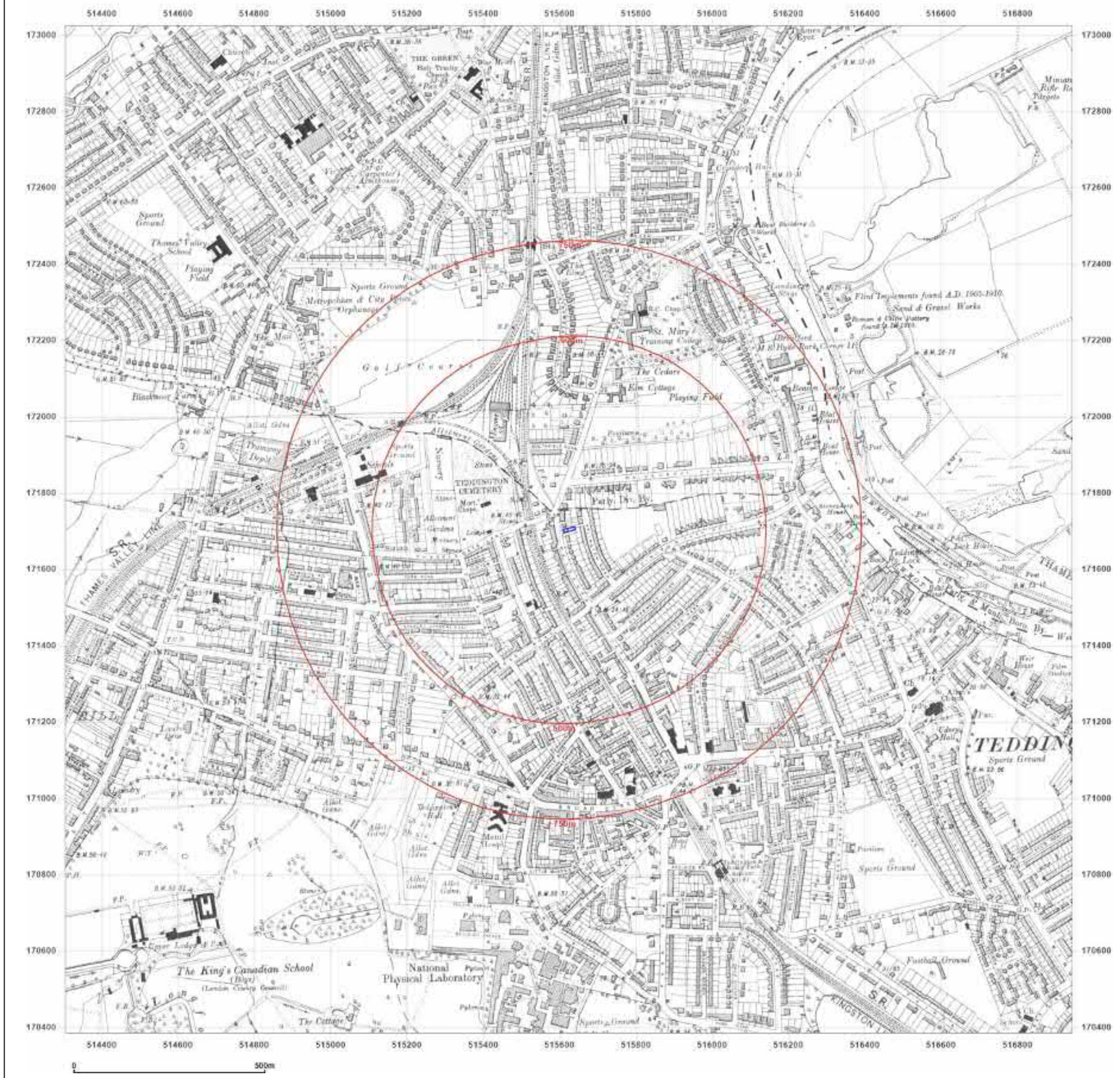

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1934-1935**

Scale: 1:10,560

Printed at: 1:10,560

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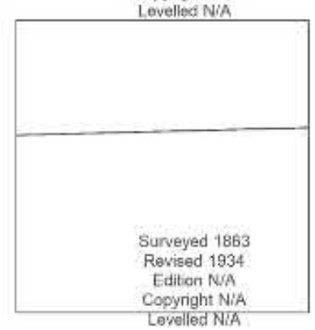
Surveyed 1863
Revised 1935
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1863
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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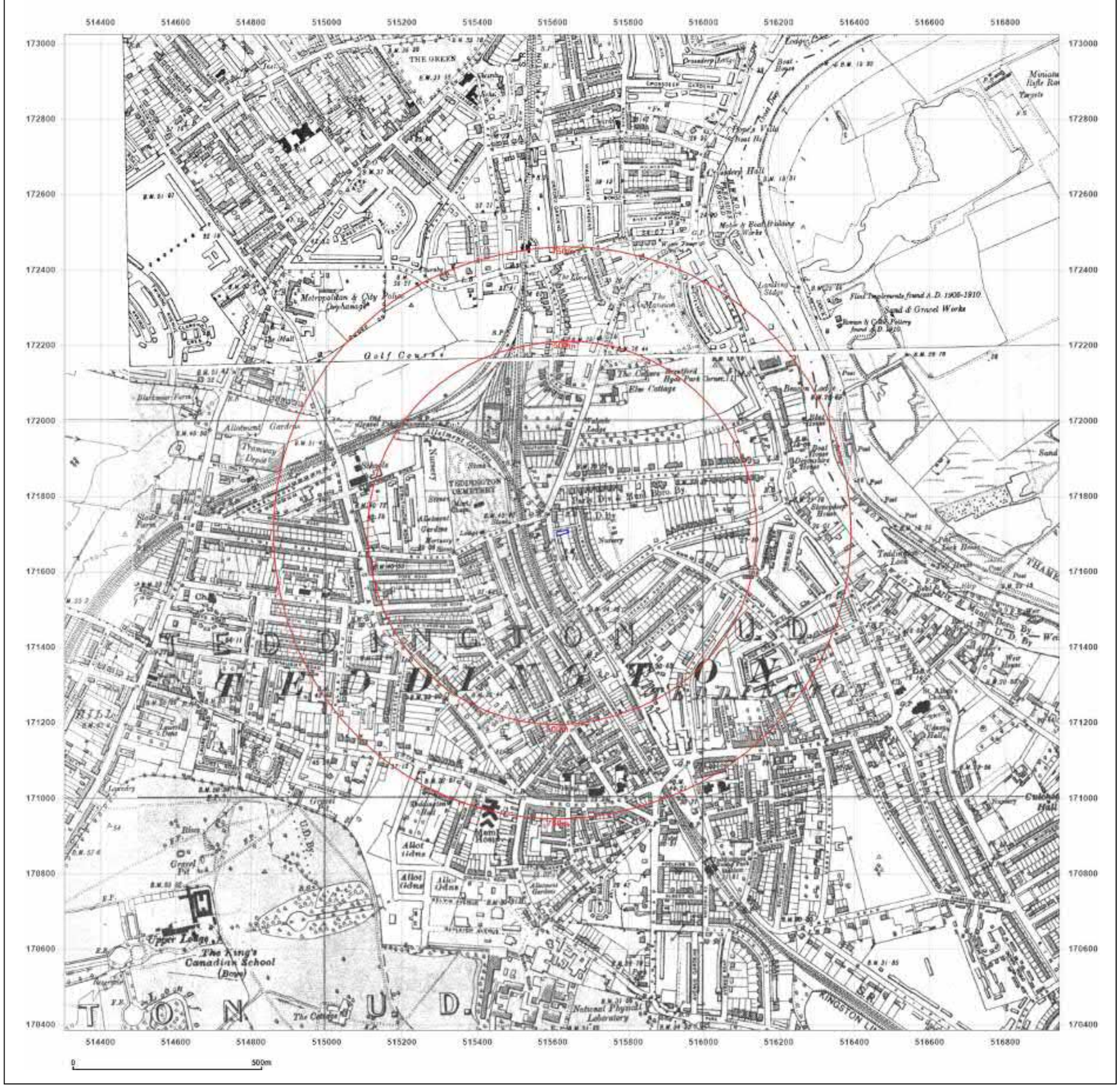

Groundsure INSIGHTS

Site Details:

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UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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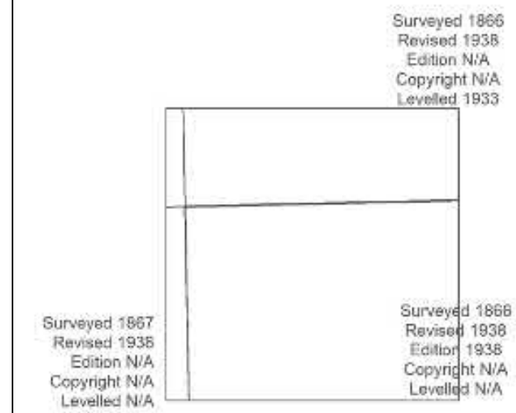

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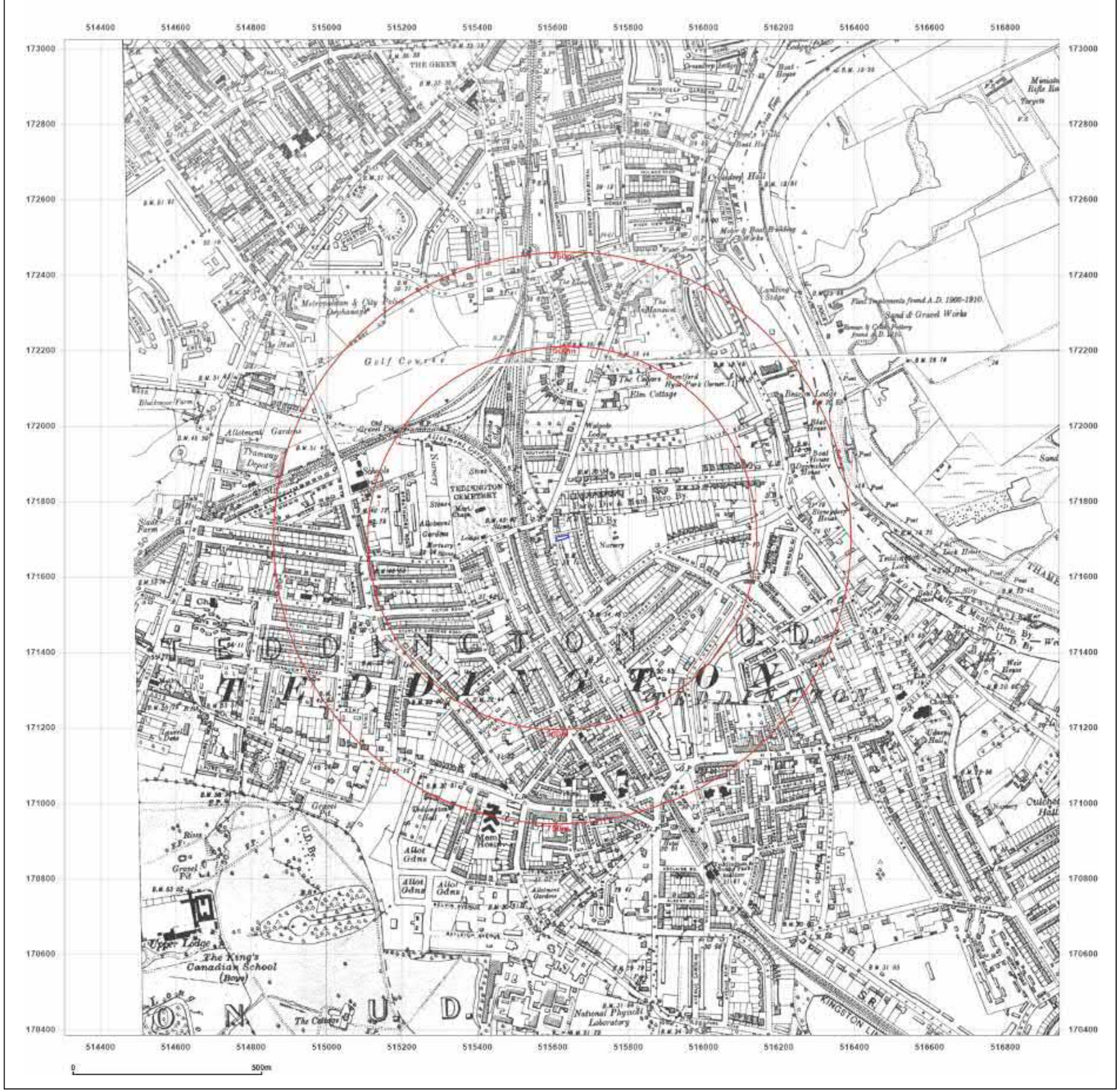

Groundsure INSIGHTS

Site Details:

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TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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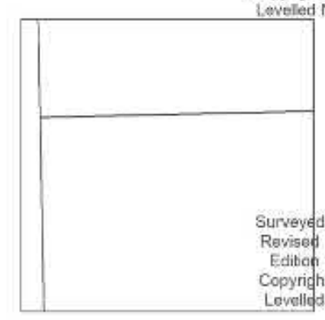

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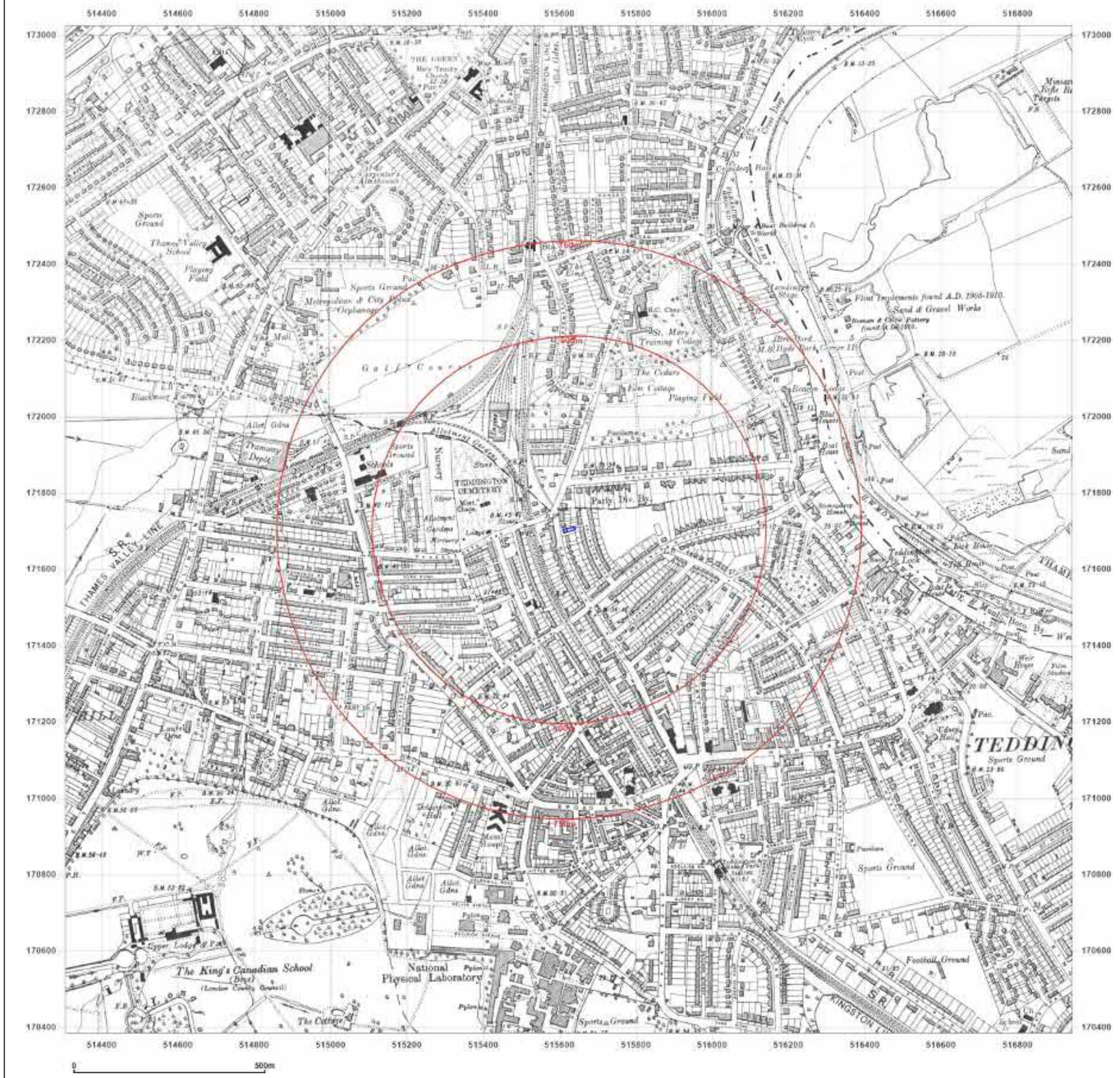

Groundsure INSIGHTS

Site Details:

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TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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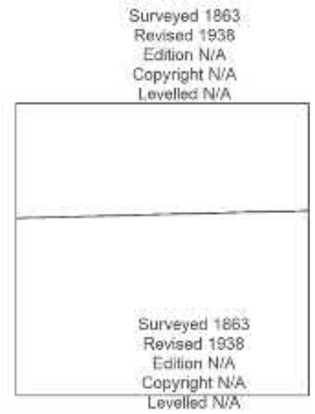

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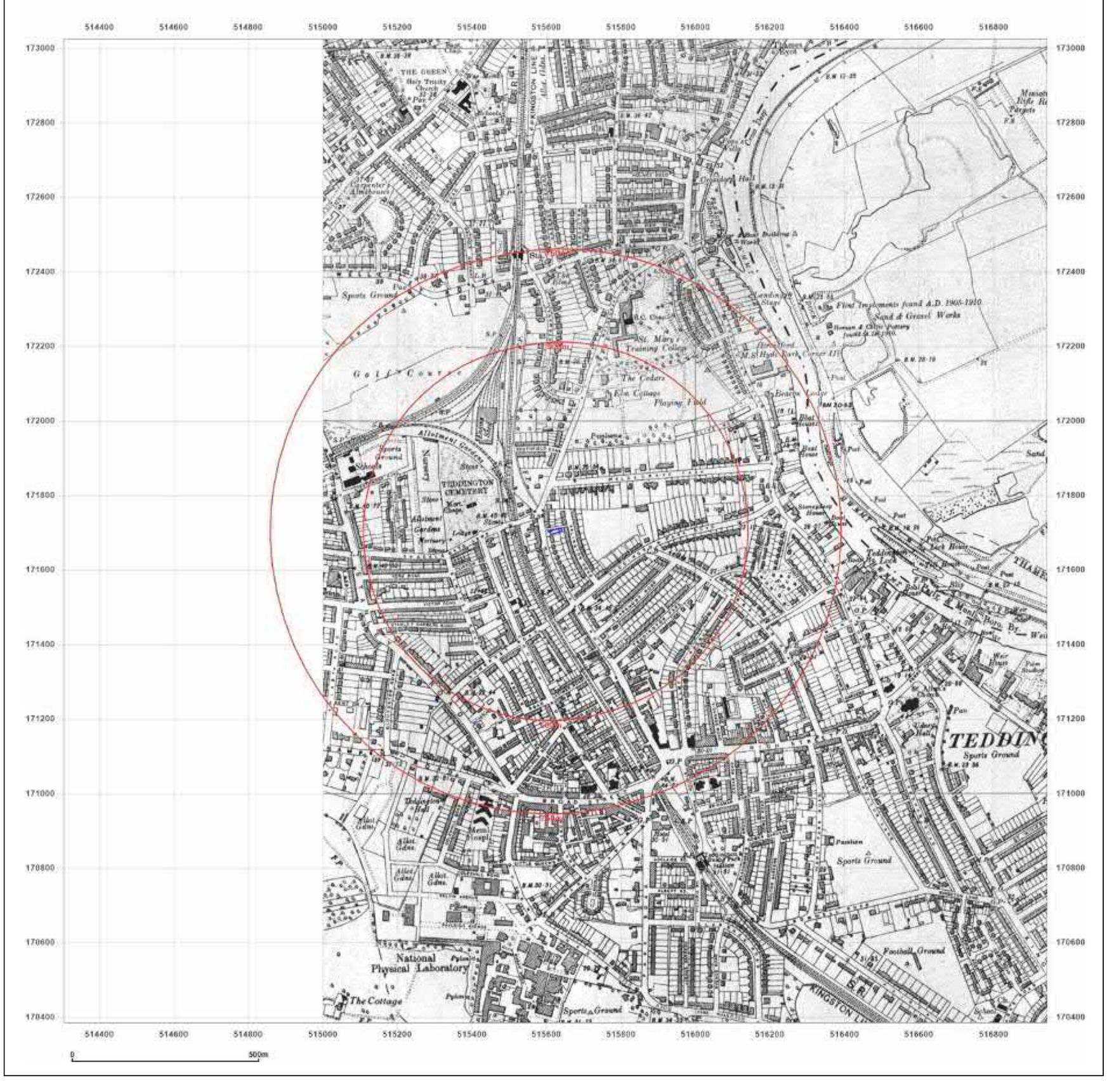

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: Provisional

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1940
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

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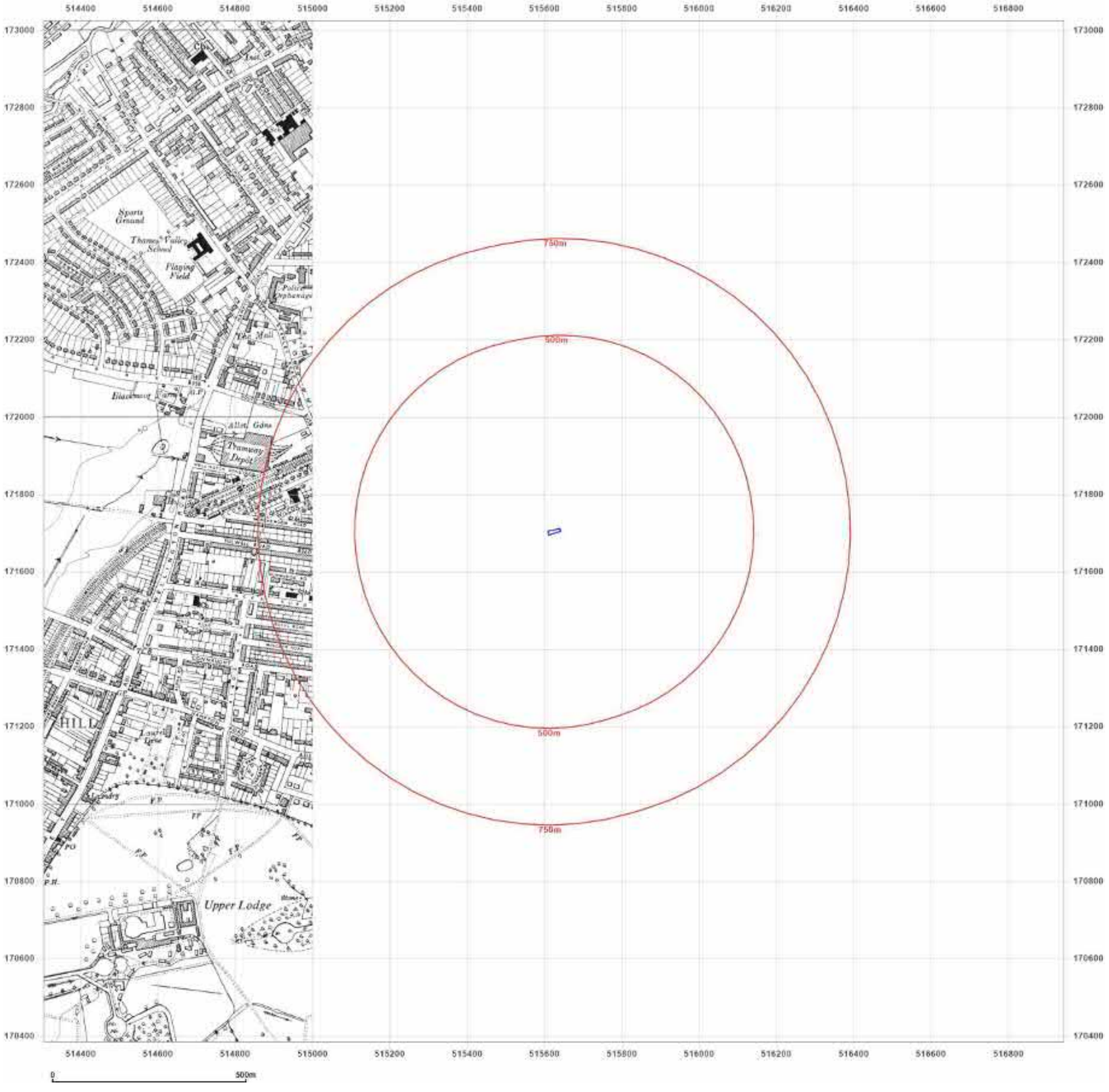

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: Provisional
Map date: **1960**
Scale: 1:10,560
Printed at: 1:10,560

N
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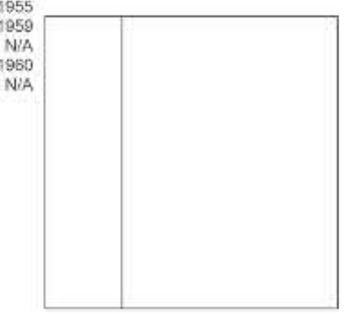
Surveyed 1955
Revised 1959
Edition N/A
Copyright 1960
Levelled N/A



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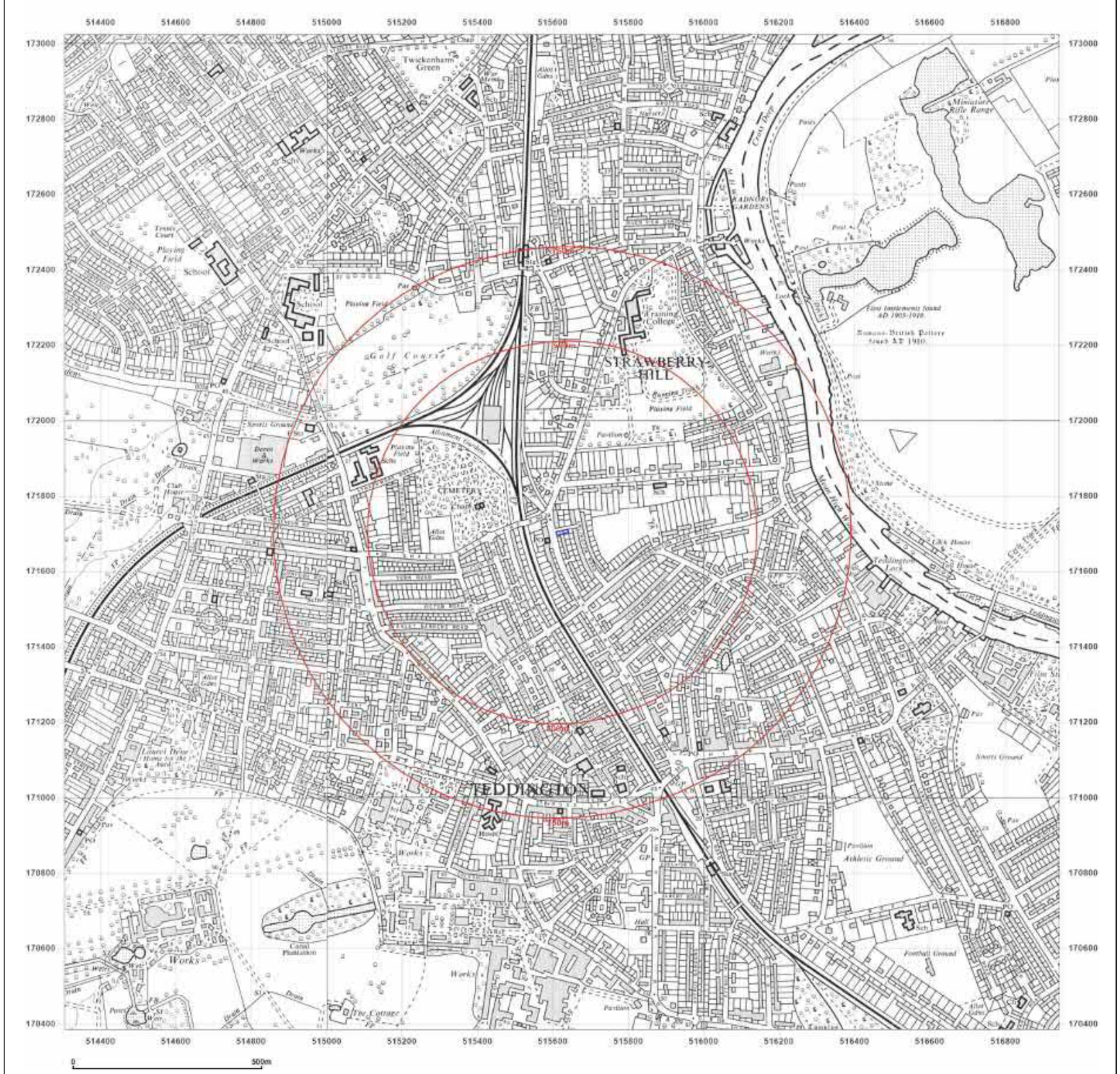

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: Provisional
Map date: **1966**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 02 July 2024

Map legend available at:
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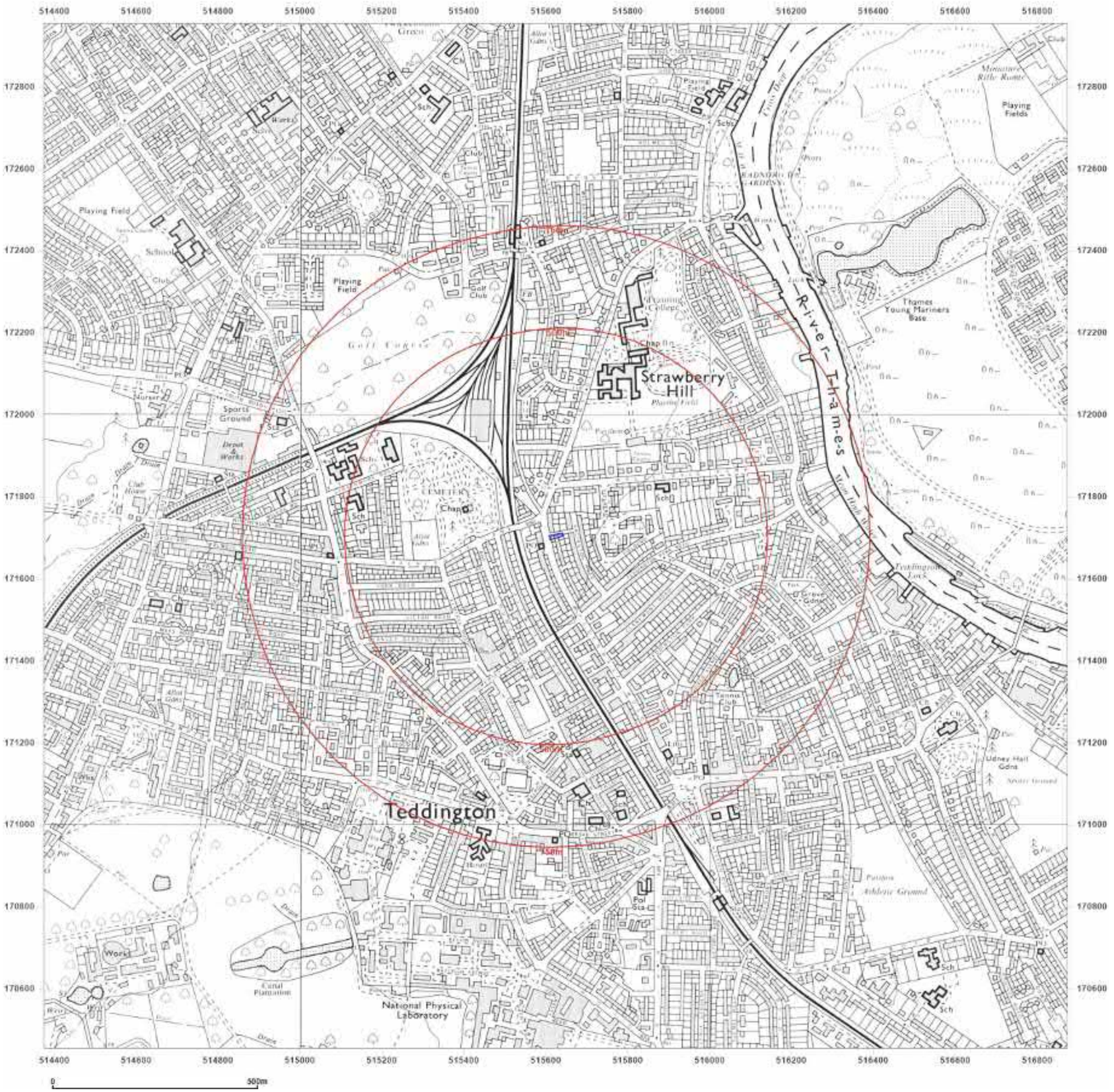

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1973**

Scale: 1:10,000

Printed at: 1:10,000

N
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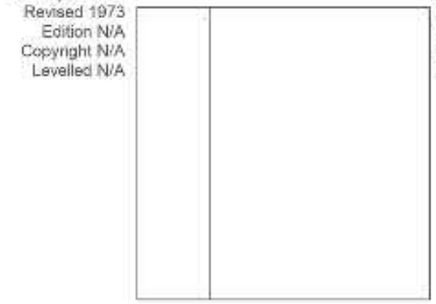
Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

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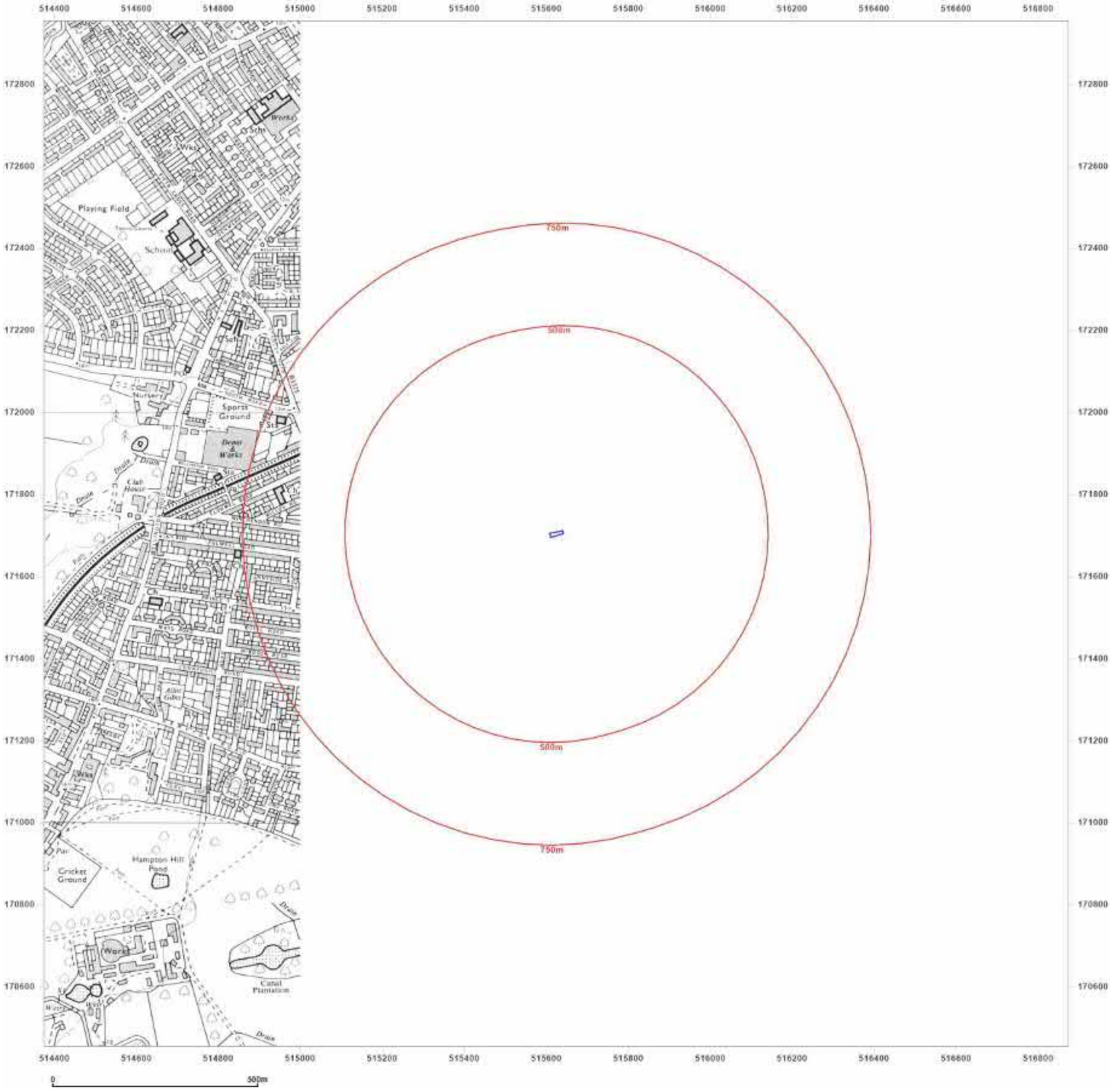

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1983**

Scale: 1:10,000

Printed at: 1:10,000

N
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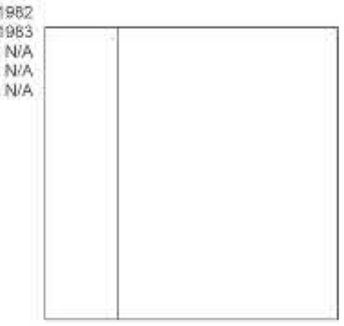
Surveyed 1982
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A



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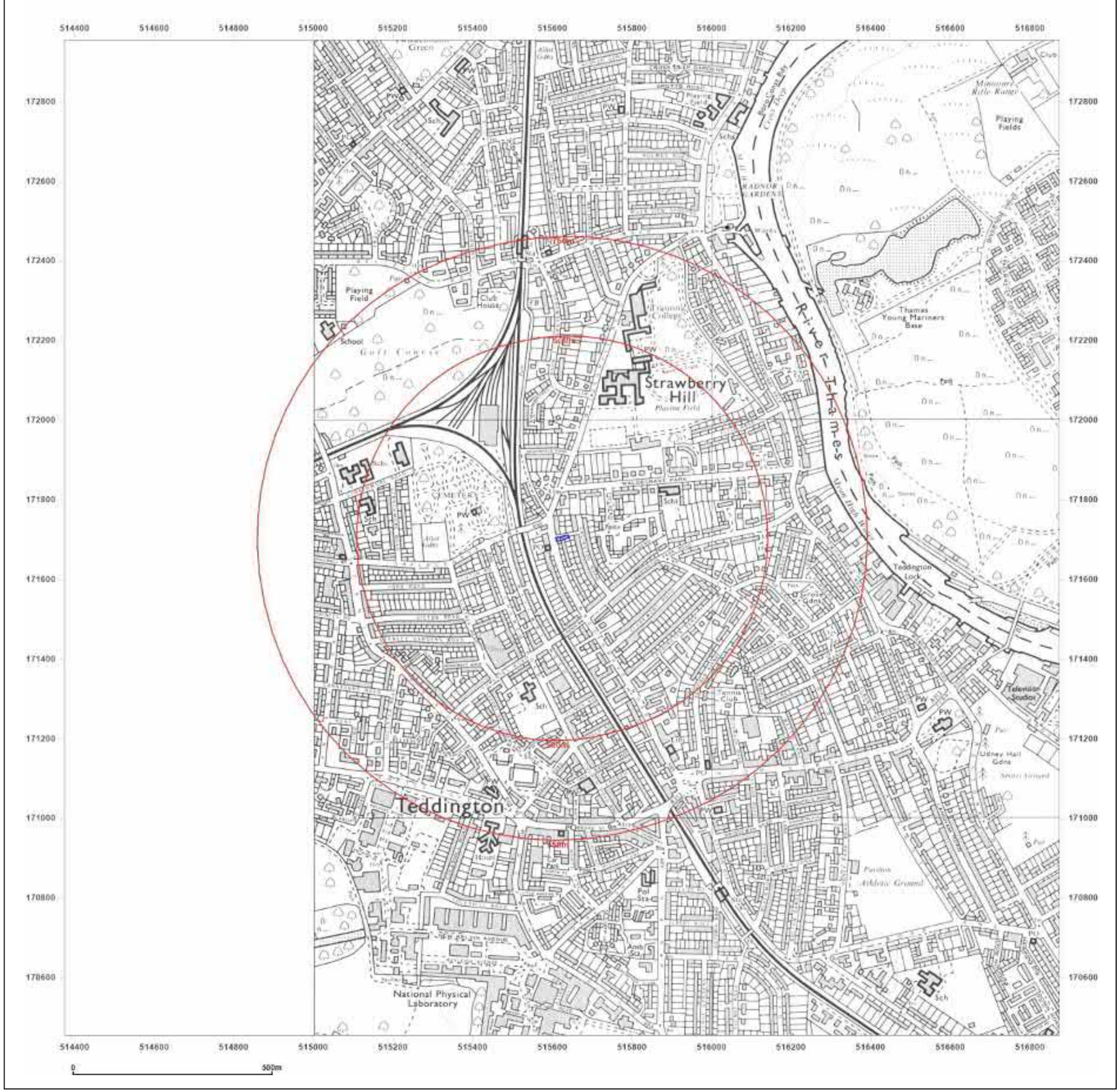

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **1991**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1968
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 02 July 2024

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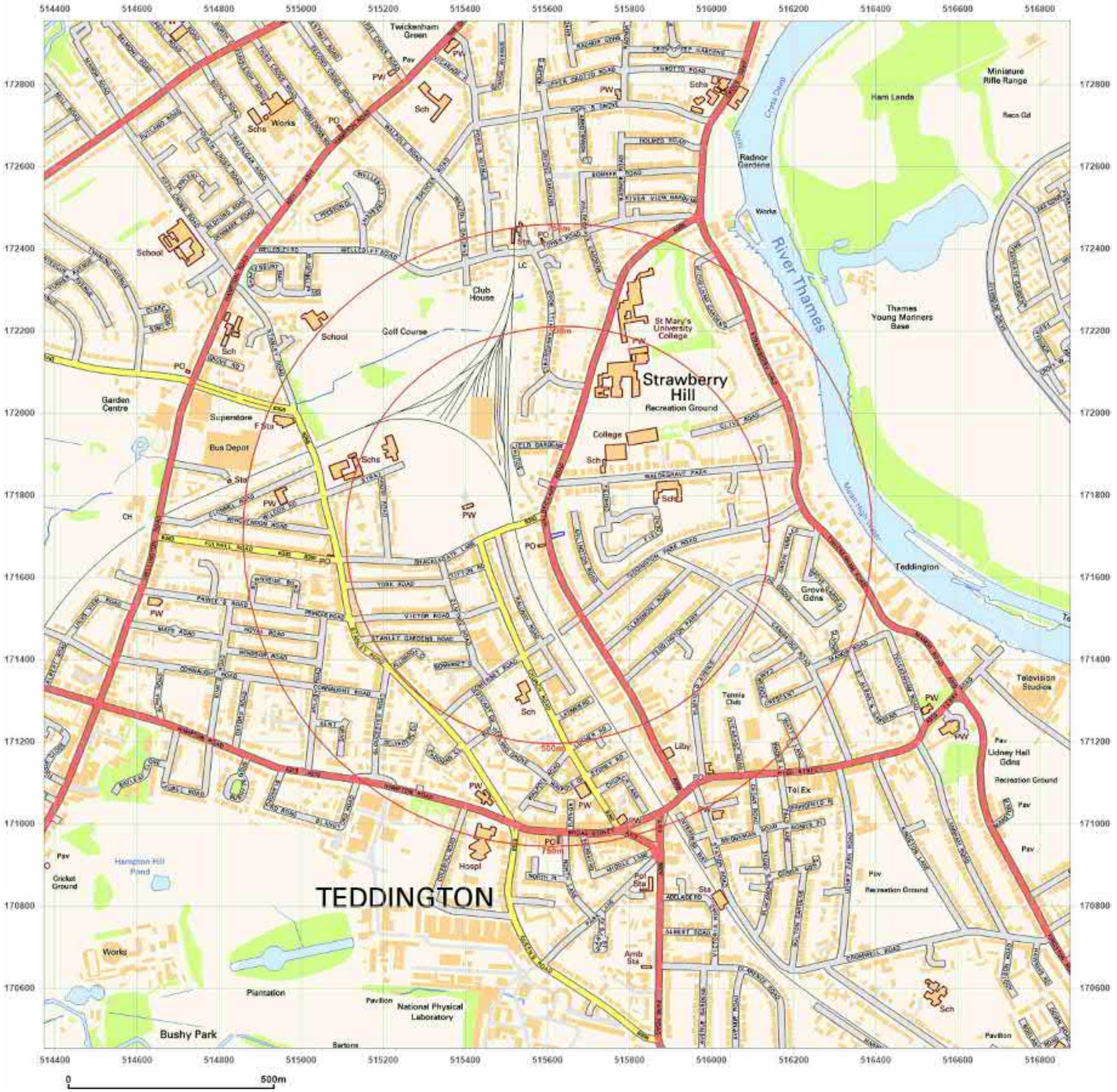

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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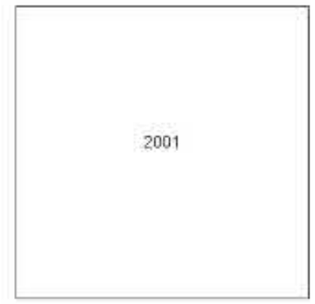

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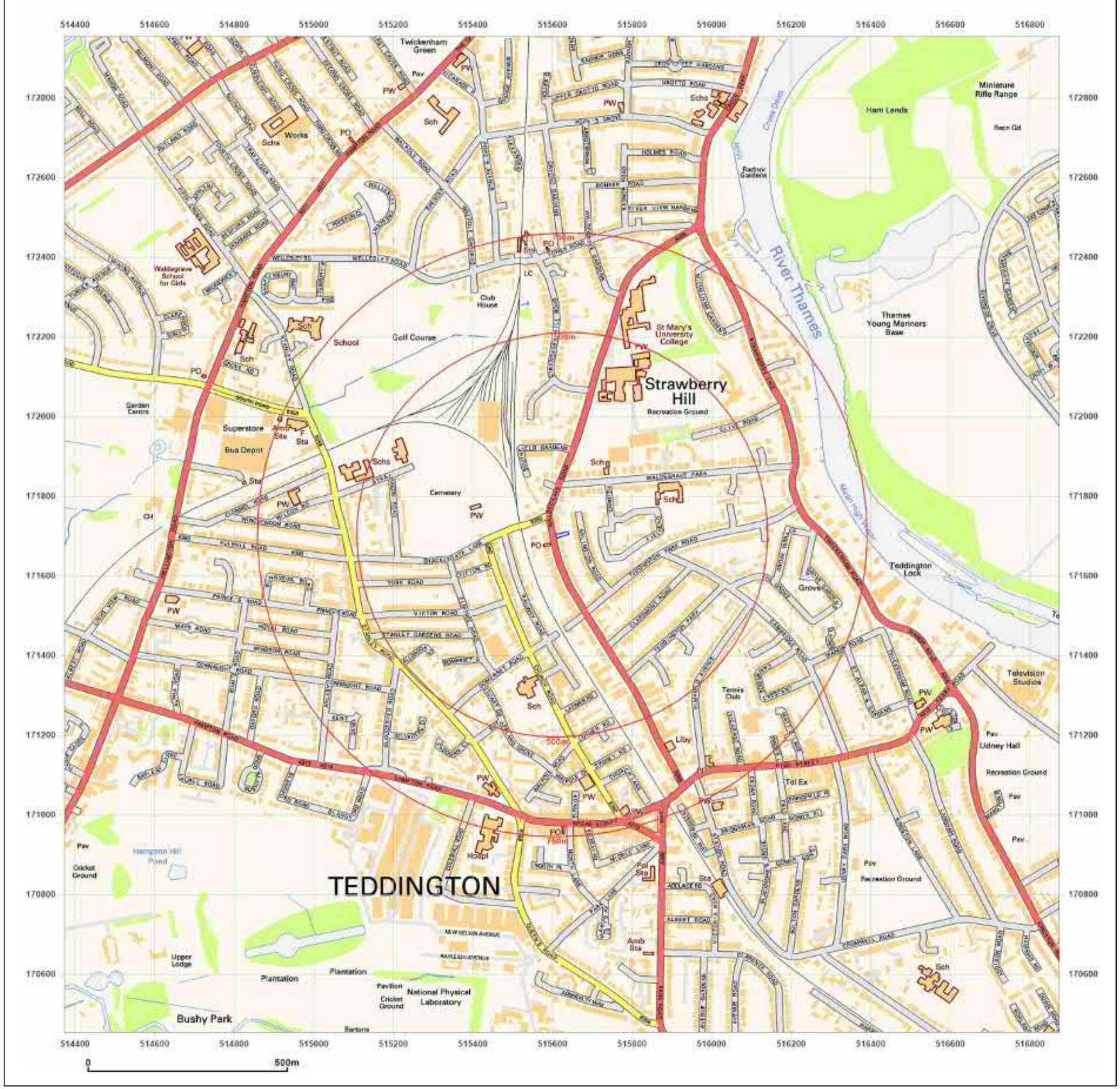

Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

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2010

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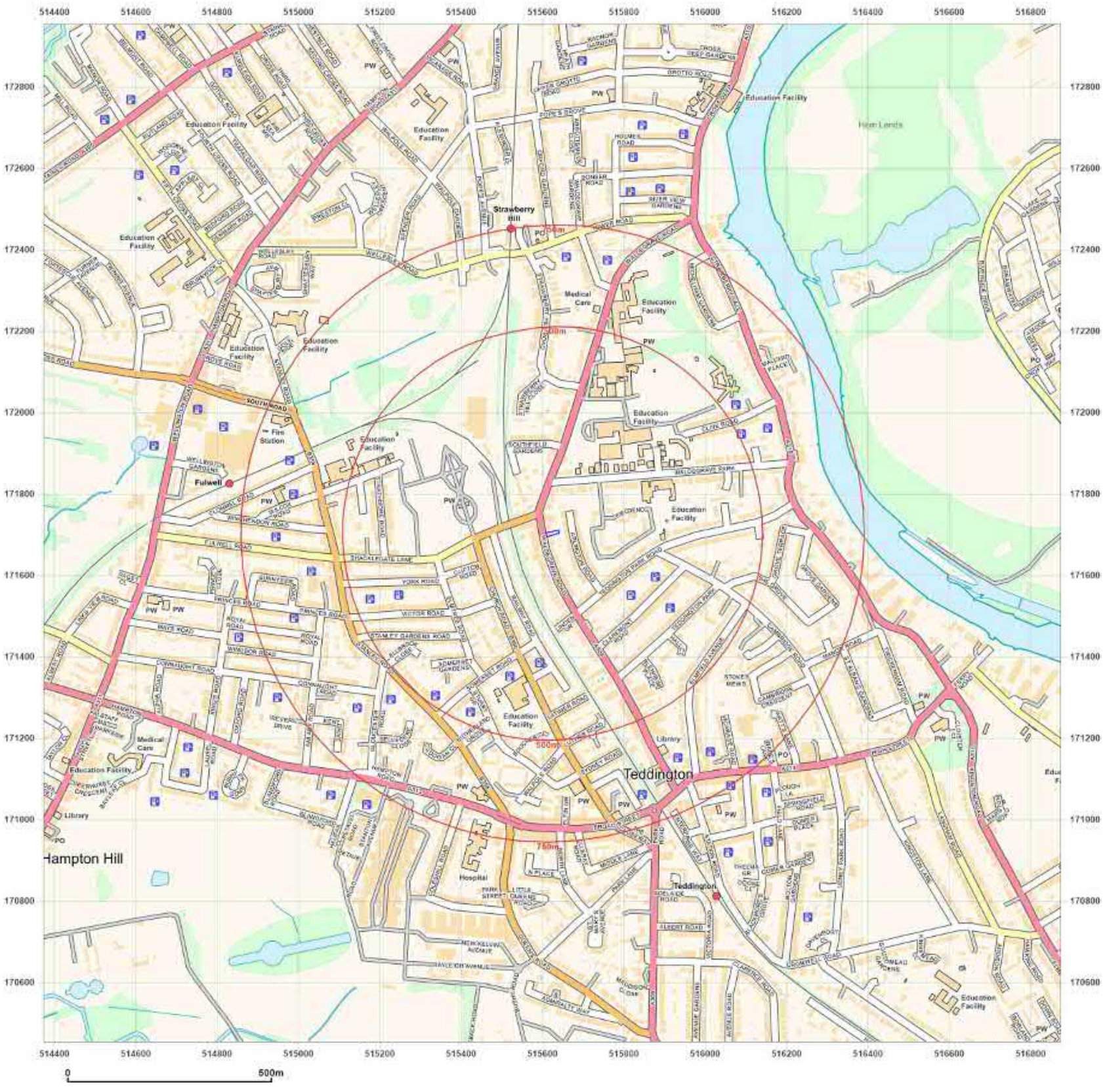
Production date: 02 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

144, WALDEGRAVE ROAD,
TEDDINGTON, RICHMOND
UPON THAMES, TW11 8NA

Client Ref: PH1-2024-000055
Report Ref: GS-P13-XH3-M9M-6BW
Grid Ref: 515624, 171704

Map Name: National Grid

Map date: **2024**

Scale: 1:10,000

Printed at: 1:10,000

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2024

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 02 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

19 APPENDIX 3 – ENVIRONMENTAL SCREENING REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

144, WALDEGRAVE ROAD, TEDDINGTON, RICHMOND UPON THAMES, TW11 8NA

Order Details

Date: 02/07/2024

Your ref: PH1-2024-000055

Our Ref: GS-8QH-26J-2FG-STP

Site Details

Location: 515623 171704

Area: 0.03 ha

Authority: London Borough of Richmond upon Thames ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	64	61	-
20 >	1.2 >	Historical tanks >	0	0	2	1	-
21 >	1.3 >	Historical energy features >	0	0	6	12	-
22	1.4	Historical petrol stations	0	0	0	0	-
22 >	1.5 >	Historical garages >	2	0	0	3	-
22	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	2.1 >	Historical industrial land uses >	0	0	76	81	-
29 >	2.2 >	Historical tanks >	0	0	3	2	-
30 >	2.3 >	Historical energy features >	0	0	8	15	-
31	2.4	Historical petrol stations	0	0	0	0	-
31 >	2.5 >	Historical garages >	5	0	0	3	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
32	3.1	Active or recent landfill	0	0	0	0	-
32	3.2	Historical landfill (BGS records)	0	0	0	0	-
33	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
33	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
33	3.5	Historical waste sites	0	0	0	0	-
33	3.6	Licensed waste sites	0	0	0	0	-
33 >	3.7 >	Waste exemptions >	0	0	0	10	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
35 >	4.1 >	Recent industrial land uses >	0	0	3	-	-
36	4.2	Current or recent petrol stations	0	0	0	0	-
36	4.3	Electricity cables	0	0	0	0	-
36	4.4	Gas pipelines	0	0	0	0	-
36	4.5	Sites determined as Contaminated Land	0	0	0	0	-

36	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
37	4.7	Regulated explosive sites	0	0	0	0	-
37	4.8	Hazardous substance storage/usage	0	0	0	0	-
37	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
37	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
37 >	**4.11 >**	**Licensed pollutant release (Part A(2)/B) >**	0	0	0	2	-
38 >	**4.12 >**	**Radioactive Substance Authorisations >**	0	0	0	2	-
38	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
39	4.15	Pollutant release to public sewer	0	0	0	0	-
39	4.16	List 1 Dangerous Substances	0	0	0	0	-
39	4.17	List 2 Dangerous Substances	0	0	0	0	-
39	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
40	4.19	Pollution inventory substances	0	0	0	0	-
40	4.20	Pollution inventory waste transfers	0	0	0	0	-
40	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
41 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
42 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
43 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
44	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
44 >	**5.5 >**	**Groundwater vulnerability- local information >**	Identified (within 0m)				
45 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	9
48	5.7	Surface water abstractions	0	0	0	0	0
48	5.8	Potable abstractions	0	0	0	0	0
48	5.9	Source Protection Zones	0	0	0	0	-
48	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
49	6.1	Water Network (OS MasterMap)	0	0	0	-	-

49	6.2	Surface water features	0	0	0	-	-
50 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
50	6.4	WFD Surface water bodies	0	0	0	-	-
50 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
52	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
52	7.2	Historical Flood Events	0	0	0	-	-
52	7.3	Flood Defences	0	0	0	-	-
53	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
53	7.5	Flood Storage Areas	0	0	0	-	-
54	7.6	Flood Zone 2	None (within 50m)				
54	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
55	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
56 >	9.1 >	Groundwater flooding >	Moderate-High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
57 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	5
58	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
58	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
58	10.4	Special Protection Areas (SPA)	0	0	0	0	0
59	10.5	National Nature Reserves (NNR)	0	0	0	0	0
59 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	2
59	10.7	Designated Ancient Woodland	0	0	0	0	0
59	10.8	Biosphere Reserves	0	0	0	0	0
60	10.9	Forest Parks	0	0	0	0	0
60	10.10	Marine Conservation Zones	0	0	0	0	0
60	10.11	Green Belt	0	0	0	0	0
60	10.12	Proposed Ramsar sites	0	0	0	0	0

60	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
61	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
61	10.15	Nitrate Sensitive Areas	0	0	0	0	0
61	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
62 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
63 >	10.18 >	SSSI Units >	0	0	0	0	6
Page	Section	**Visual and cultural designations** >	On site	0-50m	50-250m	250-500m	500-2000m
66	11.1	World Heritage Sites	0	0	0	-	-
67	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
67	11.3	National Parks	0	0	0	-	-
67	11.4	Listed Buildings	0	0	0	-	-
67 >	11.5 >	Conservation Areas >	0	0	2	-	-
68	11.6	Scheduled Ancient Monuments	0	0	0	-	-
68 >	11.7 >	Registered Parks and Gardens >	0	0	2	-	-
Page	Section	**Agricultural designations** >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
70	12.2	Open Access Land	0	0	0	-	-
70	12.3	Tree Felling Licences	0	0	0	-	-
70	12.4	Environmental Stewardship Schemes	0	0	0	-	-
70	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	**Habitat designations** >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	13.1 >	Priority Habitat Inventory >	0	0	9	-	-
72	13.2	Habitat Networks	0	0	0	-	-
72	13.3	Open Mosaic Habitat	0	0	0	-	-
72	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale** >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	14.1 >	10k Availability >	Identified (within 500m)				
74 >	14.2 >	Artificial and made ground (10k) >	0	0	0	2	-
75 >	14.3 >	Superficial geology (10k) >	1	0	0	0	-

76	14.4	Landslip (10k)	0	0	0	0	-
77 >	14.5 >	Bedrock geology (10k) >	1	0	0	0	-
78	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	15.1 >	50k Availability >	Identified (within 500m)				
80 >	15.2 >	Artificial and made ground (50k) >	0	0	0	2	-
81	15.3	Artificial ground permeability (50k)	0	0	-	-	-
82 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
83 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
83	15.6	Landslip (50k)	0	0	0	0	-
83	15.7	Landslip permeability (50k)	None (within 50m)				
84 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
85 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
85	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
86	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
87 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
88 >	17.2 >	Running sands >	Very low (within 50m)				
89 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
90 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
91 >	17.5 >	Landslides >	Very low (within 50m)				
92 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
94 >	18.1 >	BritPits >	0	0	0	1	-
95 >	18.2 >	Surface ground workings >	0	0	50	-	-
97 >	18.3 >	Underground workings >	0	0	0	0	2
97	18.4	Underground mining extents	0	0	0	0	-
98	18.5	Historical Mineral Planning Areas	0	0	0	0	-

98	18.6	Non-coal mining	0	0	0	0	0
98	18.7	JPB mining areas	None (within 0m)				
98	18.8	The Coal Authority non-coal mining	0	0	0	0	-
99 >	18.9 >	Researched mining >	0	0	0	1	-
99	18.10	Mining record office plans	0	0	0	0	-
99	18.11	BGS mine plans	0	0	0	0	-
99	18.12	Coal mining	None (within 0m)				
100	18.13	Brine areas	None (within 0m)				
100	18.14	Gypsum areas	None (within 0m)				
100	18.15	Tin mining	None (within 0m)				
100	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
101	19.1	Natural cavities	0	0	0	0	-
101	19.2	Mining cavities	0	0	0	0	0
101	19.3	Reported recent incidents	0	0	0	0	-
101	19.4	Historical incidents	0	0	0	0	-
102	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
103 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	0	-	-	-
105 >	21.2 >	BGS Estimated Urban Soil Chemistry >	2	2	-	-	-
106	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
107	22.1	Underground railways (London)	0	0	0	-	-
107	22.2	Underground railways (Non-London)	0	0	0	-	-
108	22.3	Railway tunnels	0	0	0	-	-
108 >	22.4 >	Historical railway and tunnel features >	0	0	21	-	-
109	22.5	Royal Mail tunnels	0	0	0	-	-

109	22.6	Historical railways	0	0	0	-	-
109 >	**22.7 >**	**Railways >**	0	0	22	-	-
110	22.8	Crossrail 1	0	0	0	0	-
111 >	**22.9 >**	**Crossrail 2 >**	0	0	4	0	-
111	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/04/2022

Site Area: 0.03ha

Recent site history - 2021 aerial photograph

Capture Date: 13/06/2021

Site Area: 0.03ha

Recent site history - 2015 aerial photograph

Capture Date: 20/04/2015

Site Area: 0.03ha

Recent site history - 2011 aerial photograph

Capture Date: 30/09/2011

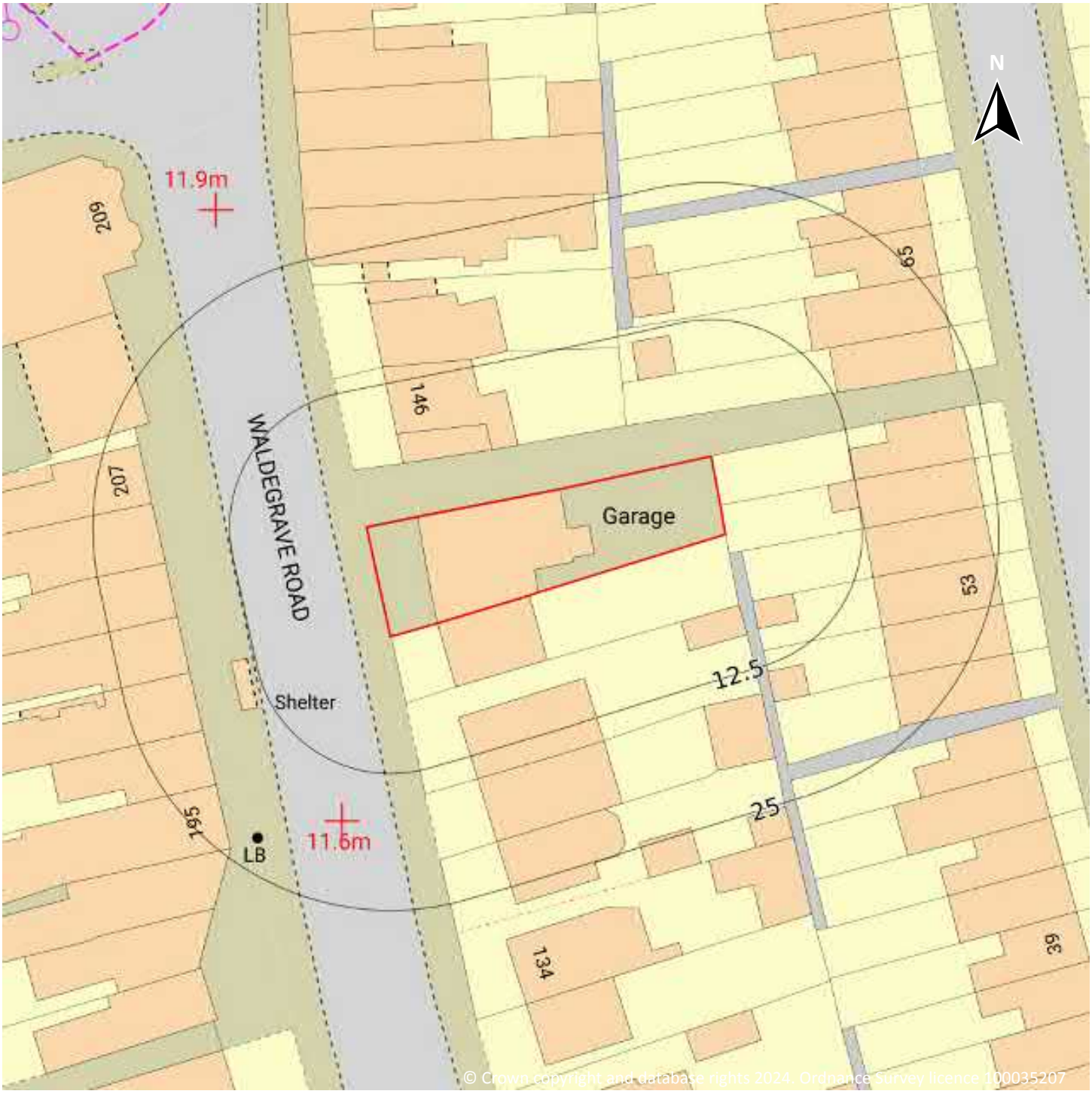
Site Area: 0.03ha

Recent site history - 1999 aerial photograph

Capture Date: 29/08/1999

Site Area: 0.03ha

OS MasterMap site plan



Site Area: 0.03ha

1 Past land use

Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	125

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	62m E	Nursery	1920	2238060

ID	Location	Land use	Dates present	Group ID
B	63m E	Nursery	1938	2232208
B	64m E	Nursery	1938	2309365
B	65m E	Nursery	1896	2286444
B	65m E	Nursery	1933	2230504
B	66m E	Nursery	1894	2231352
C	66m W	Cuttings	1865	2332348
B	67m E	Nursery	1895	2279824
C	68m W	Cuttings	1933	2238233
C	68m W	Cuttings	1895	2276196
B	68m E	Nursery	1920	2276992
B	68m E	Nursery	1895	2310992
C	68m W	Cuttings	1938	2222370
C	68m W	Cuttings	1920	2230432
C	68m W	Cuttings	1895	2261753
C	71m W	Cuttings	1896	2267618
C	71m W	Cuttings	1894	2209176
C	71m W	Cuttings	1938	2310333
C	72m W	Cuttings	1934	2210283
C	72m W	Cuttings	1920	2264343
C	72m W	Cuttings	1938	2301069
C	73m W	Cuttings	1920	2235222
C	73m W	Cuttings	1920	2325854
C	81m W	Cuttings	1865	2308976
C	81m W	Cuttings	1895	2221381
C	82m W	Cuttings	1895	2324302
C	83m W	Cuttings	1920	2312050
C	83m W	Cuttings	1933	2299600
C	87m W	Cuttings	1894	2263142

ID	Location	Land use	Dates present	Group ID
D	87m W	Cuttings	1938	2257430
D	87m W	Cuttings	1920	2302988
E	91m W	Railway Sidings	1948 - 1991	2270798
C	96m W	Cuttings	1948	2281475
B	101m E	Nursery	1920	2211420
2	108m SW	Cuttings	1894	2235723
F	116m W	Cemetery	1894 - 1895	2286616
F	116m W	Cemetery	1895	2272876
F	120m W	Cemetery	1933	2270866
F	120m W	Cemetery	1934	2283814
F	120m W	Cemetery	1920	2212067
F	121m W	Cemetery	1896	2277279
F	121m W	Cemetery	1973	2210108
F	121m W	Cemetery	1991	2216258
F	121m W	Cemetery	1966	2284450
F	121m W	Cemetery	1920	2204313
F	121m W	Cemetery	1920	2233993
F	121m W	Cemetery	1938	2234589
F	125m W	Cemetery	1938	2331134
E	125m NW	Railway Sidings	1920	2237404
C	127m NW	Railway Building	1920	2301832
F	128m W	Cemetery	1948	2253919
C	132m NW	Railway Building	1920	2214101
C	148m NW	Railway Building	1920	2331768
C	152m NW	Railway Building	1920	2225167
E	155m NW	Railway Sidings	1912 - 1934	2225739
E	172m NW	Railway Sidings	1938	2274017
E	188m NW	Railway Sidings	1938	2218085

ID	Location	Land use	Dates present	Group ID
F	199m W	Mortuary	1920	2171988
E	218m NW	Railway Sidings	1938	2250245
H	223m E	Unspecified Tank	1966	2190085
E	229m NW	Cuttings	1938	2290054
E	229m NW	Cuttings	1920	2304730
E	231m NW	Cuttings	1920	2214411
E	234m NW	Cuttings	1933	2228535
I	255m E	Nursery	1920	2313204
J	255m W	Mortuary	1933	2208989
J	257m W	Mortuary	1934 - 1938	2276742
J	258m W	Mortuary	1920	2252730
J	258m W	Mortuary	1920	2280579
J	258m W	Mortuary	1938	2262573
I	259m E	Nursery	1920	2278736
J	260m W	Mortuary	1938	2257293
J	260m W	Mortuary	1920	2311971
I	261m E	Nursery	1933	2315335
E	269m NW	Engine Shed	1920	2315025
E	274m NW	Engine Shed	1920	2286200
E	275m NW	Engine Shed	1938	2205079
E	276m NW	Engine Shed	1934	2235526
E	278m NW	Engine Shed	1938 - 1948	2225786
E	278m NW	Engine Shed	1933	2324381
E	280m NW	Railway Building	1966 - 1991	2297657
E	281m NW	Engine Shed	1938	2216204
E	289m N	Cuttings	1920	2157760
5	292m S	Cuttings	1865	2156749
K	301m W	Nursery	1920	2300335

ID	Location	Land use	Dates present	Group ID
K	303m W	Nursery	1934	2204415
K	304m W	Nursery	1933	2252438
K	304m W	Nursery	1920	2232177
K	305m W	Nursery	1920	2246495
K	305m W	Nursery	1938	2310667
K	307m W	Nursery	1938	2289419
K	312m W	Nursery	1948	2211274
L	317m NW	Railway Sidings	1938	2284564
M	324m SW	Unspecified Ground Workings	1896	2232091
M	325m SW	Unspecified Ground Workings	1894	2276575
E	327m N	Cuttings	1865	2157761
E	328m N	Railway Sidings	1935 - 1938	2232270
E	332m N	Railway Sidings	1912	2320617
E	342m NW	Railway Building	1935 - 1938	2230460
E	343m NW	Railway Building	1912	2288273
E	345m NW	Railway Building	1912	2293006
E	377m N	Railway Buildings	1912	2285761
E	377m N	Railway Buildings	1912	2225038
E	380m N	Railway Building	1938	2202974
E	380m N	Railway Building	1920	2314316
E	382m N	Railway Building	1933	2211341
E	384m N	Railway Buildings	1938	2297924
E	401m N	Railway Building	1966	2207175
E	401m N	Railway Building	1973	2278909
E	401m N	Railway Building	1948	2319041
E	401m N	Railway Building	1935 - 1938	2299693
E	407m N	Railway Building	1920	2219866
E	407m N	Railway Building	1938	2234256

ID	Location	Land use	Dates present	Group ID
E	408m N	Railway Building	1933	2262794
L	427m NW	Cuttings	1865	2156732
Q	451m SE	Unspecified Ground Workings	1896	2162737
8	454m NW	Cuttings	1865	2246241
Q	454m SE	Unspecified Pits	1894	2198428
9	463m NE	Unspecified Heap	1896	2186341
R	466m N	Railway Sidings	1912	2223217
E	477m NW	Old Sand Pit	1894	2291704
E	487m NW	Old Sand Pit	1894	2265696
E	493m NW	Old Sand Pit	1894	2320402
E	494m NW	Old Sand Pit	1896	2219305
R	496m N	Railway Building	1912	2197176

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**3**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
1	74m NW	Unspecified Tank	1896	388381
D	214m NW	Unspecified Tank	1959 - 1962	420249
E	384m NW	Tanks	1981 - 1991	424766

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	18

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
C	108m W	Electricity Substation	1980	293845
C	108m W	Electricity Substation	1994	307543
C	111m W	Electricity Substation	1974	312318
G	140m SE	Electricity Substation	1994	269444
G	143m SE	Electricity Substation	1980	273678
H	237m E	Electricity Substation	1967 - 1994	322637
3	271m SW	Electricity Substation	1974	268606
E	275m N	Electricity Substation	1980 - 1994	283061
N	334m SE	Electricity Substation	1989	272139
N	349m SE	Electricity Substation	1979	267649
N	354m SE	Electricity Substation	1996	267051
O	381m NE	Electricity Substation	1980 - 1994	308248
O	382m NE	Electricity Transformer	1967	276212
P	398m S	Electricity Substation	1988	288843
P	399m S	Electricity Substation	1996	318351
P	399m S	Electricity Substation	1973	315521
6	434m E	Electricity Substation	1978	267637
7	443m W	Electricity Substation	1974	268605

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	5

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Garage**	**1980 - 1994**	**91278**
A	**On site**	**Garage**	**1959 - 1967**	**93601**
4	275m SW	Garage	1996	81460
E	326m NW	Carriage Maintenance Shed	1981	92359
E	327m NW	Carriage Maintenance Shed	1991	92939

This data is sourced from Ordnance Survey / Groundsure.

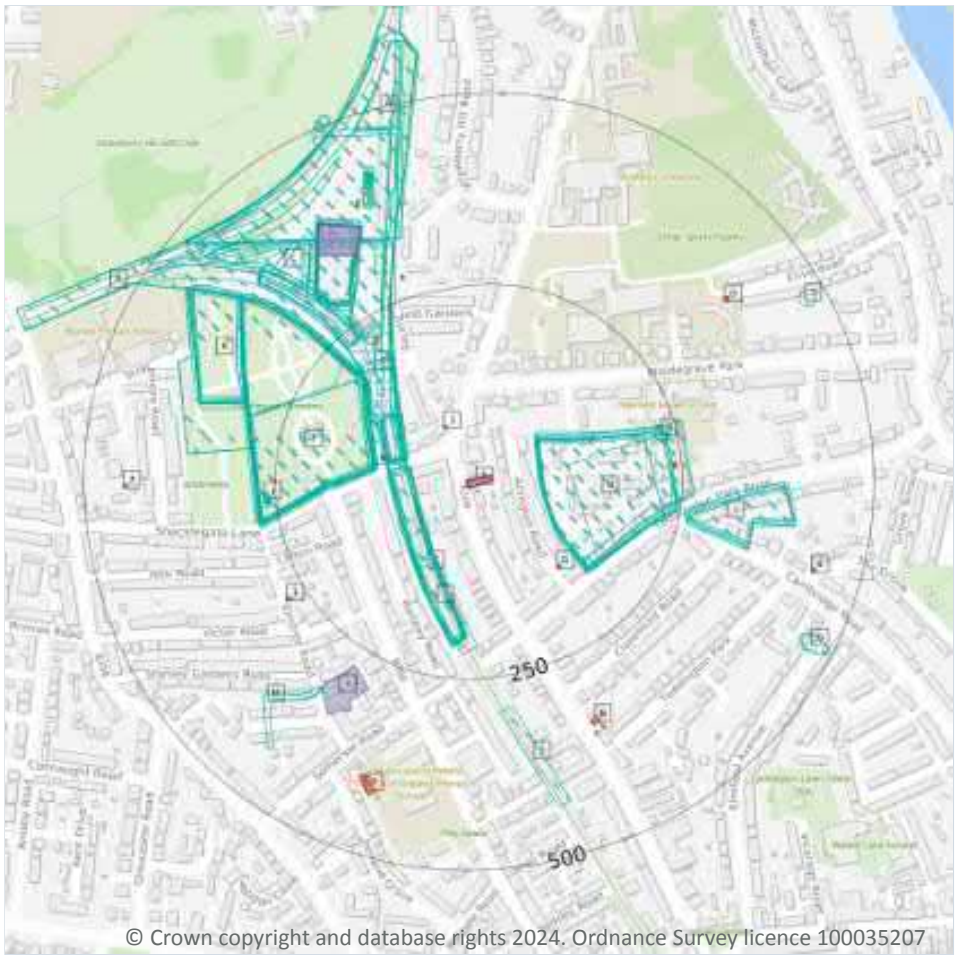
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	157

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
B	62m E	Nursery	1920	2238060
B	63m E	Nursery	1920	2238060
B	63m E	Nursery	1938	2232208

ID	Location	Land Use	Date	Group ID
B	64m E	Nursery	1938	2309365
B	65m E	Nursery	1896	2286444
B	65m E	Nursery	1933	2230504
B	66m E	Nursery	1894	2231352
C	66m W	Cuttings	1865	2332348
B	67m E	Nursery	1895	2279824
C	68m W	Cuttings	1933	2238233
C	68m W	Cuttings	1895	2276196
B	68m E	Nursery	1920	2276992
B	68m E	Nursery	1895	2310992
C	68m W	Cuttings	1938	2222370
C	68m W	Cuttings	1920	2230432
C	68m W	Cuttings	1895	2261753
C	71m W	Cuttings	1896	2267618
C	71m W	Cuttings	1894	2209176
C	71m W	Cuttings	1938	2310333
C	72m W	Cuttings	1934	2210283
C	72m W	Cuttings	1938	2301069
C	72m W	Cuttings	1920	2264343
C	73m W	Cuttings	1920	2235222
C	73m W	Cuttings	1920	2325854
C	81m W	Cuttings	1865	2308976
C	81m W	Cuttings	1895	2221381
C	82m W	Cuttings	1895	2324302
C	83m W	Cuttings	1920	2312050
C	83m W	Cuttings	1933	2299600
C	87m W	Cuttings	1894	2263142
D	87m W	Cuttings	1938	2257430

ID	Location	Land Use	Date	Group ID
D	87m W	Cuttings	1920	2302988
E	91m W	Railway Sidings	1991	2270798
E	91m W	Railway Sidings	1973	2270798
E	91m W	Railway Sidings	1966	2270798
E	91m W	Railway Sidings	1948	2270798
C	96m W	Cuttings	1948	2281475
B	101m E	Nursery	1920	2211420
2	108m SW	Cuttings	1894	2235723
F	116m W	Cemetery	1895	2286616
F	116m W	Cemetery	1895	2272876
F	119m W	Cemetery	1894	2286616
F	120m W	Cemetery	1933	2270866
F	120m W	Cemetery	1934	2283814
F	120m W	Cemetery	1920	2212067
F	121m W	Cemetery	1896	2277279
F	121m W	Cemetery	1991	2216258
F	121m W	Cemetery	1973	2210108
F	121m W	Cemetery	1966	2284450
F	121m W	Cemetery	1920	2204313
F	121m W	Cemetery	1938	2234589
F	121m W	Cemetery	1920	2233993
F	125m W	Cemetery	1938	2331134
F	125m W	Cemetery	1920	2212067
F	125m W	Cemetery	1938	2234589
E	125m NW	Railway Sidings	1920	2237404
C	127m NW	Railway Building	1920	2301832
F	128m W	Cemetery	1948	2253919
C	132m NW	Railway Building	1920	2214101

ID	Location	Land Use	Date	Group ID
C	148m NW	Railway Building	1920	2331768
C	152m NW	Railway Building	1920	2225167
E	155m NW	Railway Sidings	1920	2225739
E	172m NW	Railway Sidings	1938	2274017
E	188m NW	Railway Sidings	1938	2218085
E	188m NW	Railway Sidings	1920	2225739
F	199m W	Mortuary	1920	2171988
E	218m NW	Railway Sidings	1933	2225739
E	218m NW	Railway Sidings	1938	2250245
E	218m NW	Railway Sidings	1920	2225739
H	223m E	Unspecified Tank	1966	2190085
E	227m NW	Railway Sidings	1934	2225739
E	229m NW	Cuttings	1938	2290054
E	229m NW	Cuttings	1920	2304730
E	231m NW	Cuttings	1920	2214411
E	233m NW	Cuttings	1920	2304730
E	234m NW	Cuttings	1933	2228535
I	255m E	Nursery	1920	2313204
J	255m W	Mortuary	1933	2208989
J	257m W	Mortuary	1934	2276742
J	258m W	Mortuary	1920	2252730
J	258m W	Mortuary	1938	2276742
J	258m W	Mortuary	1920	2280579
J	258m W	Mortuary	1938	2262573
I	259m E	Nursery	1920	2278736
I	259m E	Nursery	1920	2278736
J	259m W	Mortuary	1920	2280579
I	259m E	Nursery	1920	2313204

ID	Location	Land Use	Date	Group ID
J	260m W	Mortuary	1938	2257293
J	260m W	Mortuary	1920	2311971
I	261m E	Nursery	1933	2315335
E	269m NW	Engine Shed	1920	2315025
E	274m NW	Engine Shed	1920	2286200
E	275m NW	Engine Shed	1938	2205079
E	275m NW	Engine Shed	1920	2286200
E	276m NW	Engine Shed	1934	2235526
E	278m NW	Engine Shed	1938	2225786
E	278m NW	Engine Shed	1920	2315025
E	278m NW	Engine Shed	1933	2324381
E	279m NW	Engine Shed	1948	2225786
E	280m NW	Railway Building	1991	2297657
E	280m NW	Railway Building	1973	2297657
E	280m NW	Railway Building	1966	2297657
E	281m NW	Engine Shed	1938	2216204
E	289m N	Cuttings	1920	2157760
5	292m S	Cuttings	1865	2156749
K	301m W	Nursery	1920	2300335
K	303m W	Nursery	1934	2204415
K	304m W	Nursery	1933	2252438
K	304m W	Nursery	1920	2232177
K	305m W	Nursery	1938	2310667
K	305m W	Nursery	1920	2246495
K	307m W	Nursery	1938	2289419
K	308m W	Nursery	1938	2310667
K	308m W	Nursery	1920	2246495
K	312m W	Nursery	1948	2211274

ID	Location	Land Use	Date	Group ID
L	317m NW	Railway Sidings	1938	2284564
L	317m NW	Railway Sidings	1920	2225739
L	320m NW	Railway Sidings	1934	2225739
M	324m SW	Unspecified Ground Workings	1896	2232091
M	325m SW	Unspecified Ground Workings	1894	2276575
L	327m NW	Railway Sidings	1920	2225739
E	327m N	Cuttings	1865	2157761
E	328m N	Railway Sidings	1935	2232270
E	329m N	Railway Sidings	1912	2225739
E	332m N	Railway Sidings	1938	2232270
E	332m N	Railway Sidings	1912	2320617
E	342m NW	Railway Building	1935	2230460
E	343m NW	Railway Building	1912	2288273
E	345m NW	Railway Building	1938	2230460
E	345m NW	Railway Building	1912	2293006
E	377m N	Railway Buildings	1912	2285761
E	377m N	Railway Buildings	1912	2225038
E	380m N	Railway Building	1938	2202974
E	380m N	Railway Building	1920	2314316
E	382m N	Railway Building	1933	2211341
E	384m N	Railway Buildings	1938	2297924
E	401m N	Railway Building	1973	2278909
E	401m N	Railway Building	1966	2207175
E	401m N	Railway Building	1948	2319041
E	401m N	Railway Building	1935	2299693
E	402m N	Railway Building	1938	2299693
E	407m N	Railway Building	1938	2234256
E	407m N	Railway Building	1920	2219866

ID	Location	Land Use	Date	Group ID
E	408m N	Railway Building	1933	2262794
L	427m NW	Cuttings	1865	2156732
Q	451m SE	Unspecified Ground Workings	1896	2162737
8	454m NW	Cuttings	1865	2246241
Q	454m SE	Unspecified Pits	1894	2198428
9	463m NE	Unspecified Heap	1896	2186341
R	466m N	Railway Sidings	1938	2274017
R	466m N	Railway Sidings	1912	2223217
R	473m N	Railway Sidings	1933	2225739
E	477m NW	Old Sand Pit	1894	2291704
E	487m NW	Old Sand Pit	1894	2265696
E	493m NW	Old Sand Pit	1894	2320402
E	494m NW	Old Sand Pit	1896	2219305
R	496m N	Railway Building	1912	2197176

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**5**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
1	74m NW	Unspecified Tank	1896	388381
D	214m NW	Unspecified Tank	1962	420249
D	214m NW	Unspecified Tank	1959	420249
E	384m NW	Tanks	1981	424766
E	385m NW	Tanks	1991	424766

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**23**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
C	108m W	Electricity Substation	1980	293845
C	108m W	Electricity Substation	1994	307543
C	111m W	Electricity Substation	1974	312318
G	140m SE	Electricity Substation	1994	269444
G	143m SE	Electricity Substation	1980	273678
H	237m E	Electricity Substation	1980	322637
H	238m E	Electricity Substation	1967	322637
H	238m E	Electricity Substation	1994	322637
3	271m SW	Electricity Substation	1974	268606
E	275m N	Electricity Substation	1994	283061
E	275m N	Electricity Substation	1980	283061
N	334m SE	Electricity Substation	1989	272139
N	349m SE	Electricity Substation	1979	267649
N	354m SE	Electricity Substation	1996	267051
O	381m NE	Electricity Substation	1980	308248
O	382m NE	Electricity Transformer	1967	276212
O	382m NE	Electricity Substation	1994	308248
P	398m S	Electricity Substation	1988	288843
P	398m S	Electricity Substation	1988	288843
P	399m S	Electricity Substation	1996	318351
P	399m S	Electricity Substation	1973	315521
6	434m E	Electricity Substation	1978	267637
7	443m W	Electricity Substation	1974	268605

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	8

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Garage**	**1980**	**91278**
A	**On site**	**Garage**	**1994**	**91278**
A	**On site**	**Garage**	**1967**	**93601**
A	**On site**	**Garage**	**1959**	**93601**
A	**On site**	**Garage**	**1962**	**93601**
4	275m SW	Garage	1996	81460
E	326m NW	Carriage Maintenance Shed	1981	92359
E	327m NW	Carriage Maintenance Shed	1991	92939

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill

Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	10

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 32 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	366m W	Bournemouth Traincare Depot, Nelson Road, Westbourne, Dorset, Tw11 8sf	WEX116681	Treating waste exemption	Not on a farm	Sorting mixed waste
A	366m W	Bournemouth Traincare Depot, Nelson Road, Westbourne, Dorset, Tw11 8sf	WEX116681	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	366m W	Bournemouth Traincare Depot, Nelson Road, Westbourne, Dorset, Tw11 8sf	WEX116681	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	366m W	Bournemouth Traincare Depot, Nelson Road, Westbourne, Dorset, Tw11 8sf	WEX116681	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX343219	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX343219	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX343219	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX215480	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX215480	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	385m W	South Western Railway Traincare Depot, Shacklegate Lane, Teddington, Tw11 8sf	WEX215480	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use

Site Outline

Search buffers in metres (m)

Recent industrial land uses

Licensed pollutant release (Part A(2)/B)

Radioactive Substance Authorisations

4.1 Recent industrial land uses

Records within 250m	3

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Company	Address	Activity	Category
1	112m W	Electricity Sub Station	Greater London, TW11	Electrical Features	Infrastructure and Facilities
2	142m SE	Electricity Sub Station	Greater London, TW11	Electrical Features	Infrastructure and Facilities
3	241m E	Electricity Sub Station	Greater London, TW1	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Address	Details	
4	305m SW	Bollingmores, Elmtree Rd, TW11 8ST	Process: Waste Oil Burner 0.4 MW Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
5	410m SE	Jacksons Ford, 50 Waldegrave Road, Teddington, TW11 8NY	Process: Waste Oil Burner 0.4 MW Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m **2**

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Address	Details	
A	309m S	Laboratory Impex Systems Ltd, 111-113 Waldegrave Road, Teddington, Middlesex, TW11 8LL	Operator: Laboratory Impex Systems Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC4180 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
A	309m S	Hybaid Ltd, 111-113 Waldegrave Road, Teddington, Middlesex, TW11 8LL	Operator: Hybaid Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AY7500 Date of approval: 28/07/1997	Effective from: 01/08/1997 Last date of update: 01/01/2015 Status: Revoked/cancelled

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m **0**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

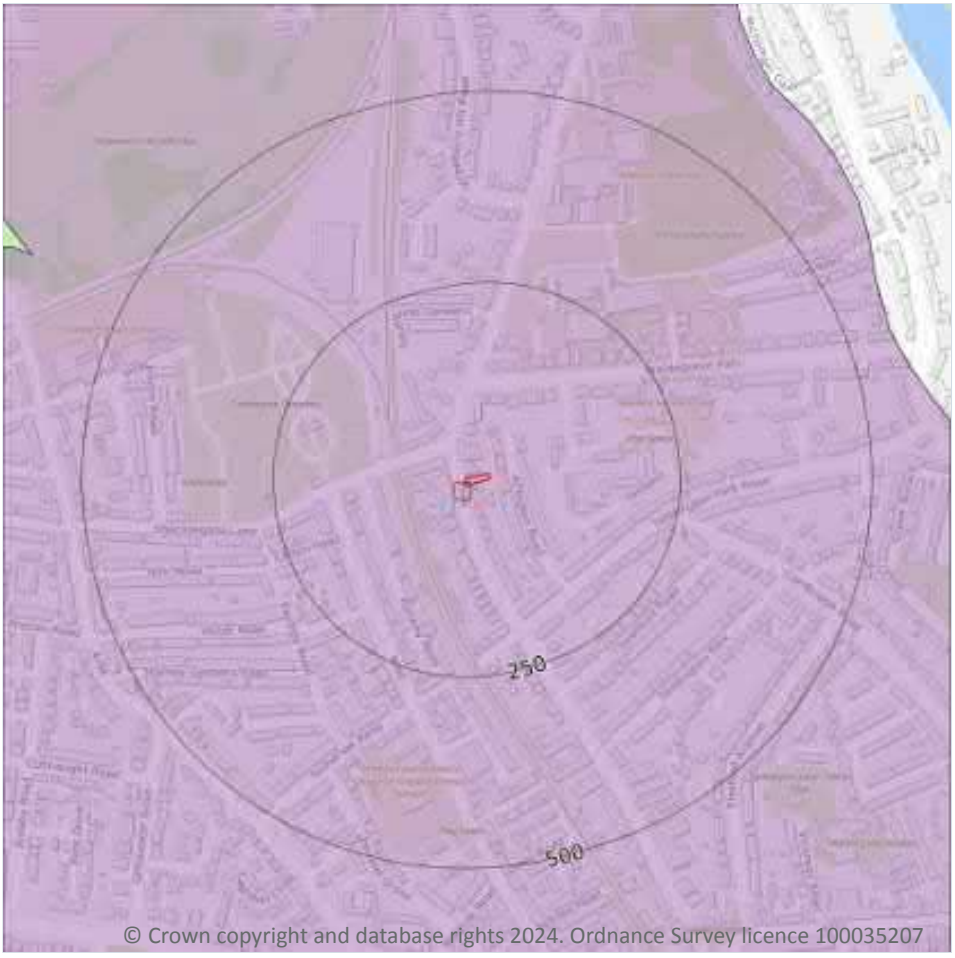
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	1

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 41 >**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer

Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	1

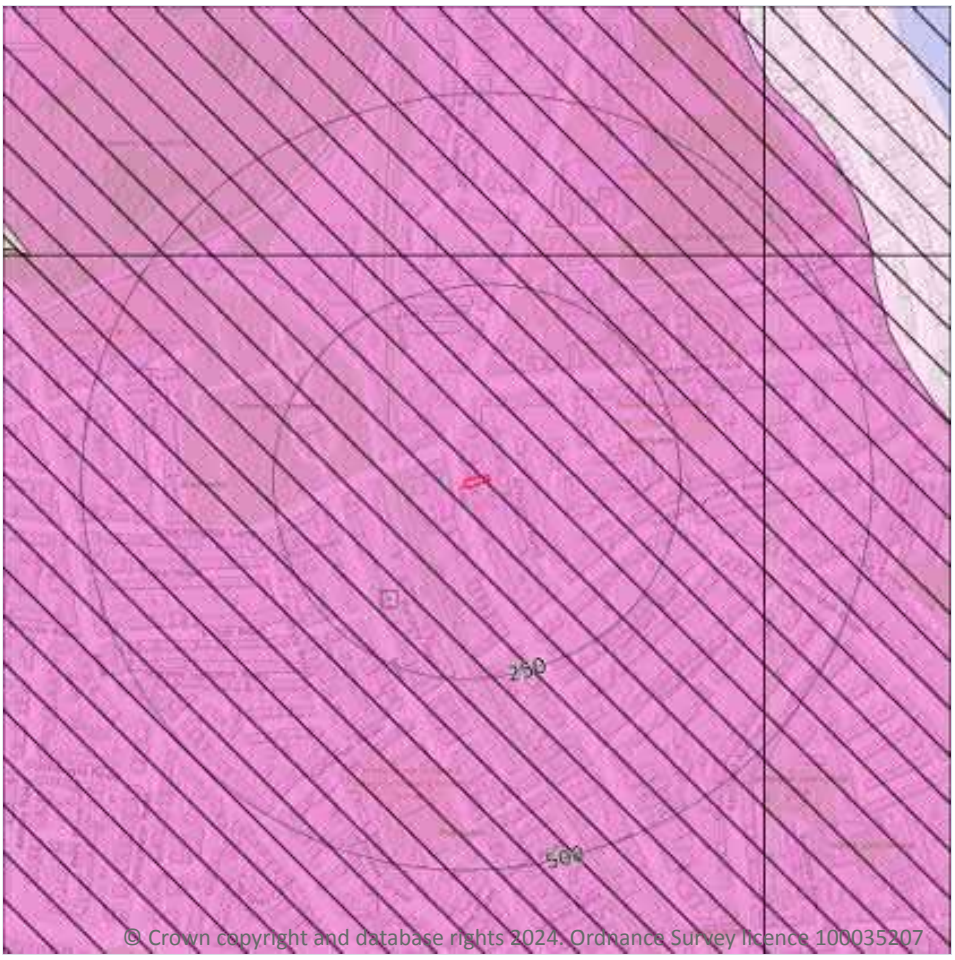
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 42 >**

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 43 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	**On site**	**Summary Classification: Principal superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: Medium Aquifer type: Principal Thickness: 3-10m Patchiness value: >90% Recharge potential: High**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	**1**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

ID	Summary	Additional information
A	**Highly vulnerable Principal superficial aquifer present in river terrace gravels**	**Principal superficial aquifer in river terrace gravels with only a thin cover of low permeability silts and/or alluvium (shown as unproductive)**

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones

Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	9

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45 >**

ID	Location	Details	
-	919m W	Status: Active Licence No: TH/039/0034/005 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES GROUNDWATER Point: RIVER GRAVELS AT FULWELL RAILWAY STATION Data Type: Point Name: Network Rail Infrastructure Limited Easting: 514690 Northing: 171754	Annual Volume (m^3): 745796 Max Daily Volume (m^3): 5212 Original Application No: NPS/NA/001795 Original Start Date: 14/05/2021 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 14/05/2021 Version End Date: -
-	1138m SE	Status: Active Licence No: 28/39/34/0010 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: THE CATHOLIC EDUCATION SERVICE Easting: 516680 Northing: 171240	Annual Volume (m^3): 3000 Max Daily Volume (m^3): 45.45 Original Application No: - Original Start Date: 22/12/2000 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1138m SE	Status: Active Licence No: 28/39/34/0010 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: THE CATHOLIC EDUCATION SERVICE Easting: 516680 Northing: 171240	Annual Volume (m^3): 3000 Max Daily Volume (m^3): 45.45 Original Application No: - Original Start Date: 22/12/2000 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1449m E	Status: Historical Licence No: 28/39/34/0007 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: LENSBURY LIMITED Easting: 517020 Northing: 171260	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/11/1986 Expiry Date: - Issue No: 101 Version Start Date: 22/12/2000 Version End Date: -

ID	Location	Details	
-	1449m E	Status: Historical Licence No: 28/39/34/0007 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: LENSBURY LIMITED Easting: 517020 Northing: 171260	Annual Volume (m^3): 7000 Max Daily Volume (m^3): 100 Original Application No: - Original Start Date: 28/11/1986 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2001 Version End Date: -
-	1454m E	Status: Active Licence No: 28/39/34/0007 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: LENSBURY LIMITED Easting: 517024 Northing: 171257	Annual Volume (m^3): 12000 Max Daily Volume (m^3): 100 Original Application No: NPS/WR/029652 Original Start Date: 28/11/1986 Expiry Date: - Issue No: 105 Version Start Date: 15/02/2019 Version End Date: -
-	1454m E	Status: Active Licence No: 28/39/34/0007 Details: Spray Irrigation - Storage Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: LENSBURY LIMITED Easting: 517024 Northing: 171257	Annual Volume (m^3): 12000 Max Daily Volume (m^3): 100 Original Application No: NPS/WR/029652 Original Start Date: 28/11/1986 Expiry Date: - Issue No: 105 Version Start Date: 15/02/2019 Version End Date: -
-	1454m E	Status: Historical Licence No: 28/39/34/0007 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT LENSBURY CLUB, TEDDINGTON Data Type: Point Name: LENSBURY LIMITED Easting: 517024 Northing: 171257	Annual Volume (m^3): 7000 Max Daily Volume (m^3): 100 Original Application No: - Original Start Date: 28/11/1986 Expiry Date: - Issue No: 104 Version Start Date: 29/02/2016 Version End Date: -
-	1520m W	Status: Active Licence No: TH/039/0034/004 Details: Spray Irrigation - Storage Direct Source: THAMES GROUNDWATER Point: FULWELL GOLF CLUB BOREHOLE Data Type: Point Name: Fulwell Golf Club Ltd Easting: 514126 Northing: 172047	Annual Volume (m^3): 17205 Max Daily Volume (m^3): 80.4 Original Application No: NPS/WR/035481 Original Start Date: 18/05/2022 Expiry Date: 31/03/2037 Issue No: 1 Version Start Date: 18/05/2022 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	0

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology

Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 49 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**131**	**Land area part of London Management Catchment draining to the Tidal Thames**	**London**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	0

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 49 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Lower Thames Gravels**	**GB40603G000300** ↗	**Poor**	**Good**	**Poor**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding

Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

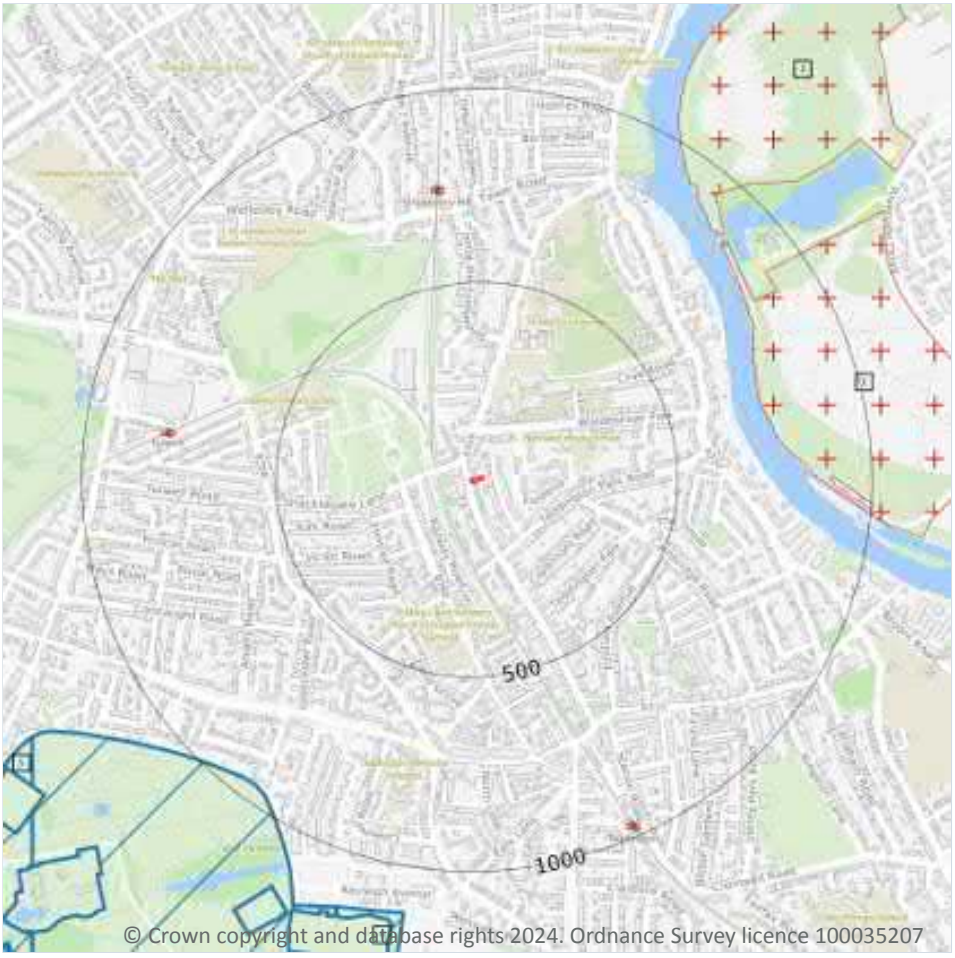
Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate-High**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 56 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	5

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 57 >**

ID	Location	Name	Data source
3	956m SW	Bushy Park and Home Park	Natural England

ID	Location	Name	Data source
4	1119m S	Bushy Park and Home Park	Natural England
5	1305m SW	Bushy Park and Home Park	Natural England
-	1362m S	Bushy Park and Home Park	Natural England
7	1411m SW	Bushy Park and Home Park	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	2

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 57 >**

ID	Location	Name	Data source
1	739m E	Ham Lands	Natural England
2	866m NE	Ham Lands	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units

Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 62 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**6**

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 62 >**

ID: 14
Location: 956m SW
SSSI name: Bushy Park and Home Park
Unit name: North Bushy Park
Broad habitat: Acid Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	16/06/2014
Lowland dry acid grassland (U4)	Favourable	16/06/2014
Population of veteran trees	Favourable	28/03/2017

ID: 16
Location: 1119m S
SSSI name: Bushy Park and Home Park
Unit name: North Bushy Park
Broad habitat: Acid Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	16/06/2014
Lowland dry acid grassland (U4)	Favourable	16/06/2014
Population of veteran trees	Favourable	28/03/2017

ID: -
Location: 1301m S
SSSI name: Bushy Park and Home Park
Unit name: Woodland Gardens & Court Field
Broad habitat: Acid Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	16/06/2014
Lowland dry acid grassland (U4)	Favourable	16/06/2014
Population of veteran trees	Favourable	28/03/2017

ID: -
Location: 1362m S
SSSI name: Bushy Park and Home Park
Unit name: East Bushy Park
Broad habitat: Acid Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	16/06/2014
Lowland dry acid grassland (U1b,c,d,f)	Favourable	16/06/2014
Lowland dry acid grassland (U4)	Favourable	16/06/2014

Feature name	Feature condition	Date of assessment
Population of veteran trees	Favourable	28/03/2017

ID: -
Location: 1432m S
SSSI name: Bushy Park and Home Park
Unit name: N.p.l Woodland
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Unfavourable - Recovering
Reportable features:

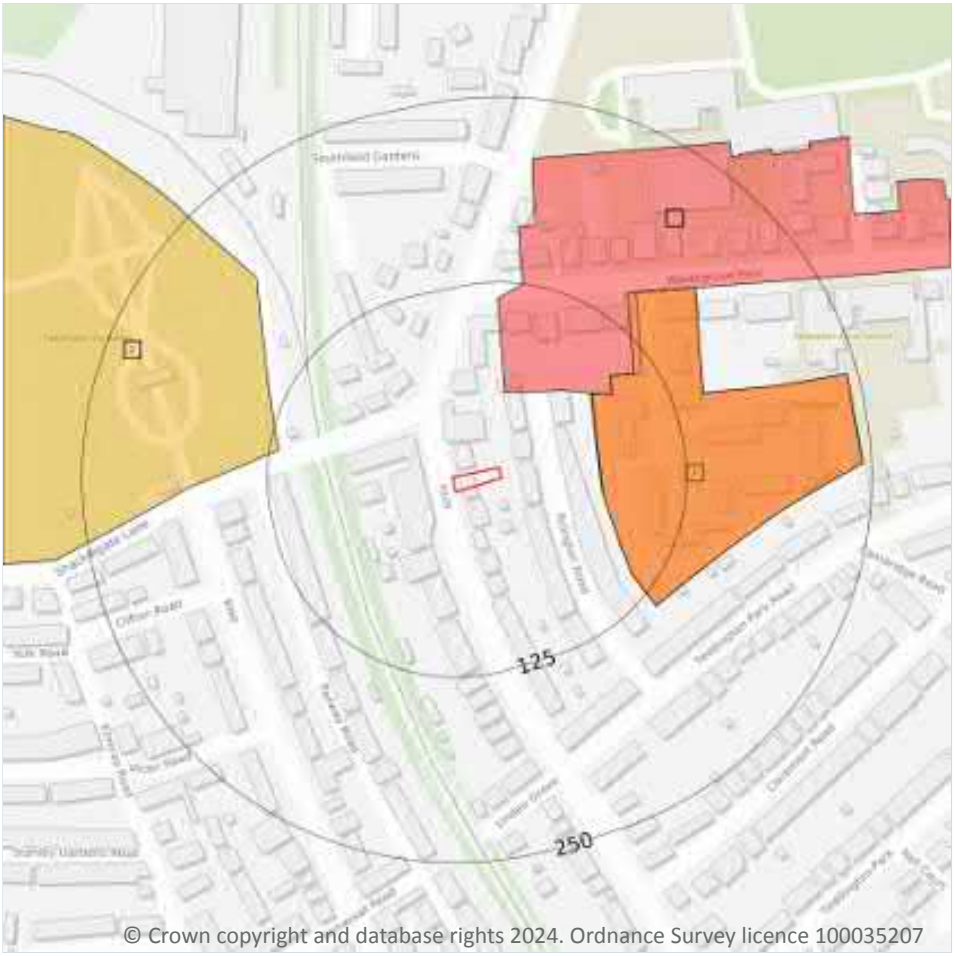
Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	28/02/2014
Population of veteran trees	Unfavourable - Recovering	28/02/2014

ID: 20
Location: 1583m SW
SSSI name: Bushy Park and Home Park
Unit name: West Bushy Park
Broad habitat: Acid Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage A2 wood decay	Favourable	16/06/2014
Lowland dry acid grassland (U4)	Favourable	16/06/2014
Population of veteran trees	Favourable	28/03/2017

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	2

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 66 >**

ID	Location	Name	District	Date of designation
1	51m N	Waldegrave Park	Richmond upon Thames	29/07/1988
A	66m E	Fieldend	Richmond upon Thames	07/11/2005

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	**0**

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m	**2**

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

Features are displayed on the Visual and cultural designations map on **page 66 >**

ID	Location	Name	Grade
A	67m E	Landscape At Fieldend	II
2	119m W	Teddington Cemetery	II

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations

Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 69 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations

Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	9

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 71 >**

ID	Location	Main Habitat	Other habitats
1	155m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	164m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	170m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	180m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
A	185m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	206m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	211m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	224m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	239m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

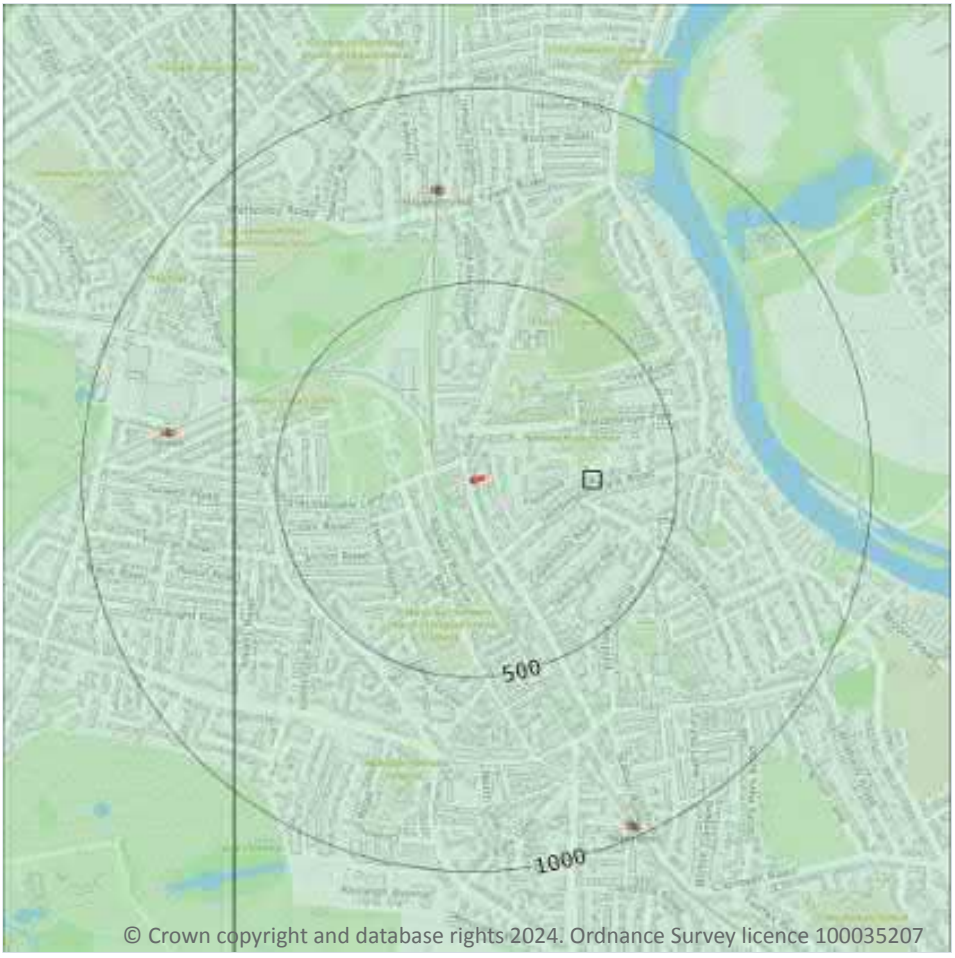
13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

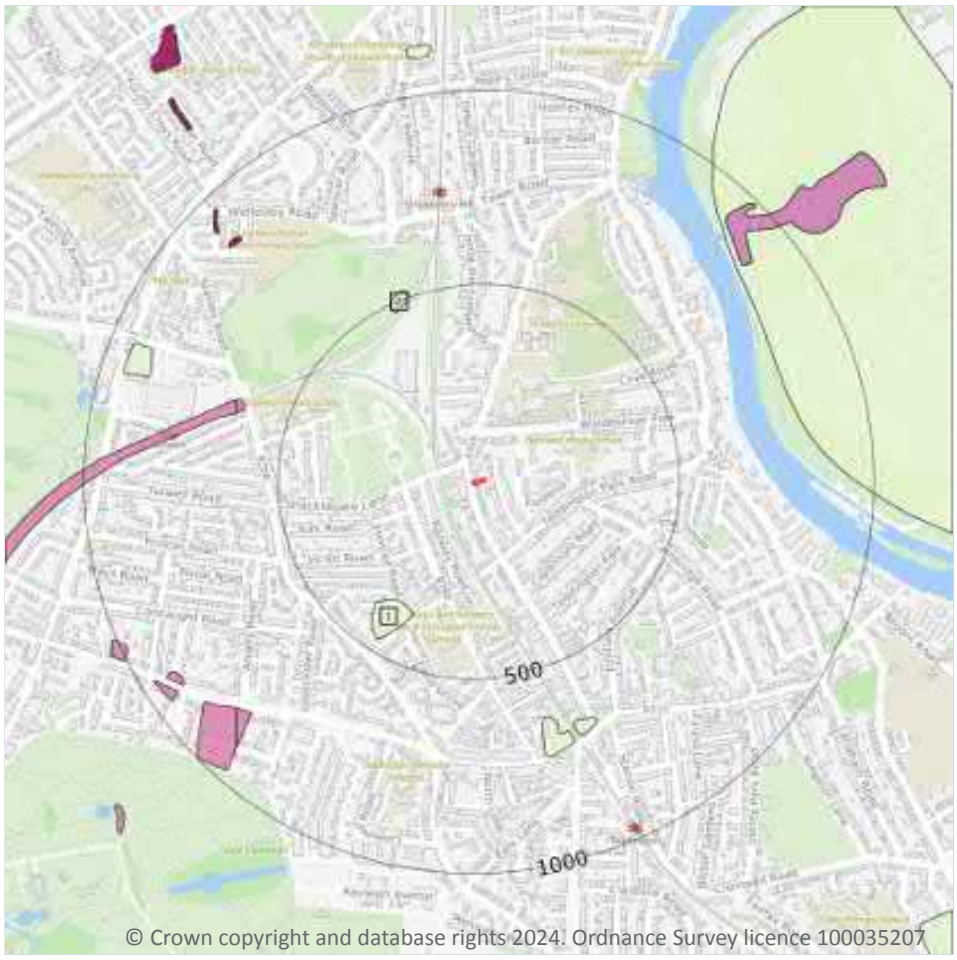
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 73 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**TQ17SE**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	2

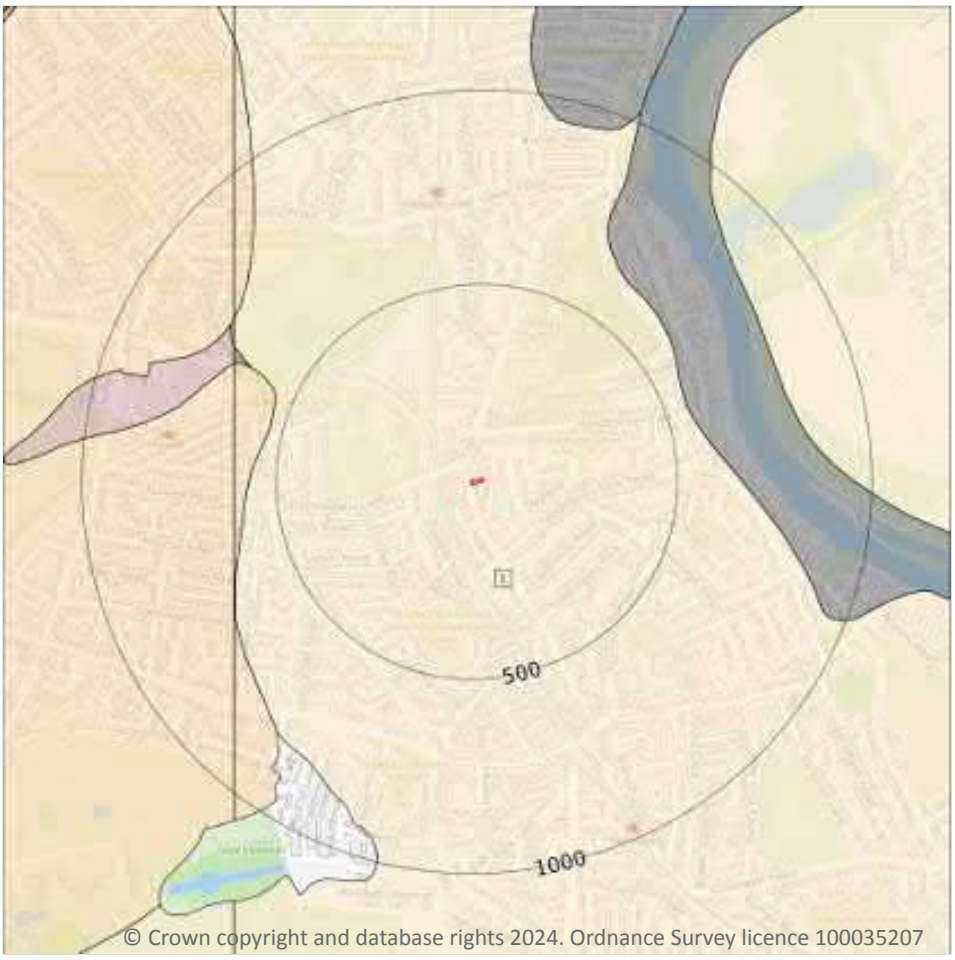
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 74 >**

ID	Location	LEX Code	Description	Rock description
1	354m SW	WMGR-UKNOWN	Infilled Ground	Unknown/unclassified Entry
2	476m NW	WMGR-UKNOWN	Infilled Ground	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m	1

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 75 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**KPGR-XSV**	**Kempton Park Gravel Formation - Sand And Gravel**	**Sand And Gravel**

This data is sourced from the British Geological Survey.

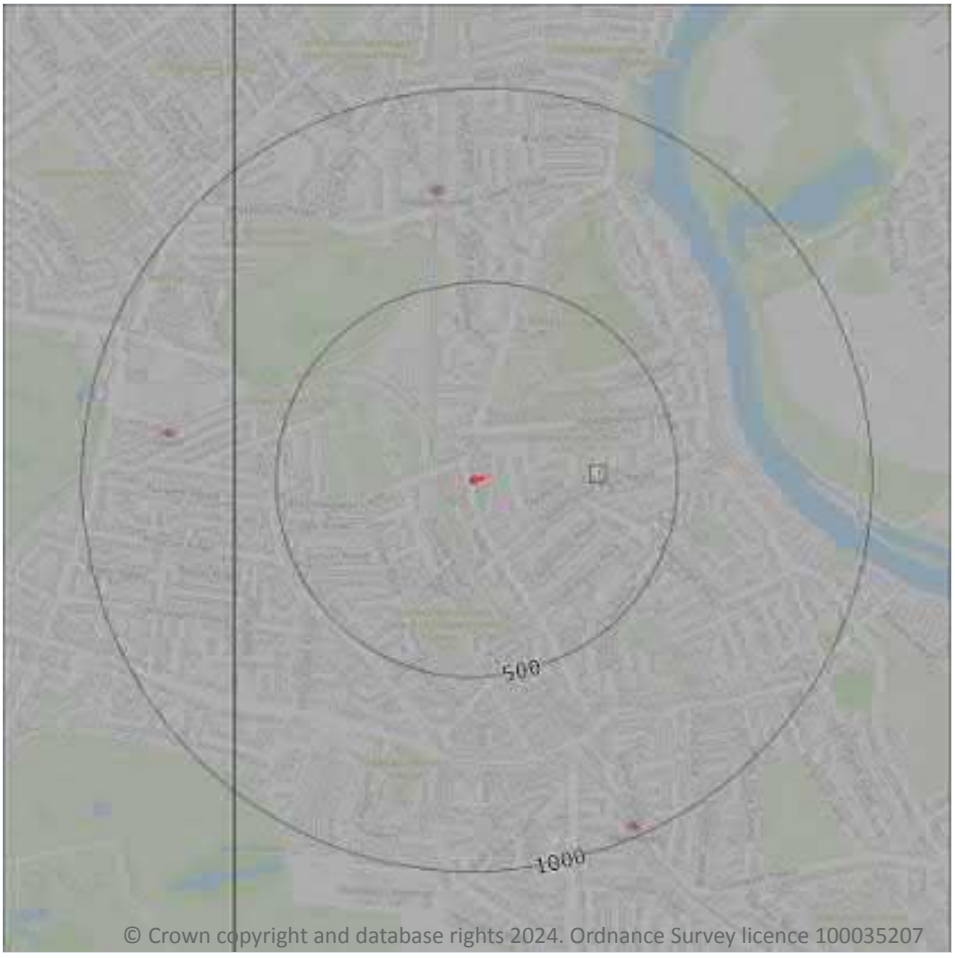
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	1

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 77 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-CLAY**	**London Clay Formation - Clay**	**Eocene Epoch**

This data is sourced from the British Geological Survey.

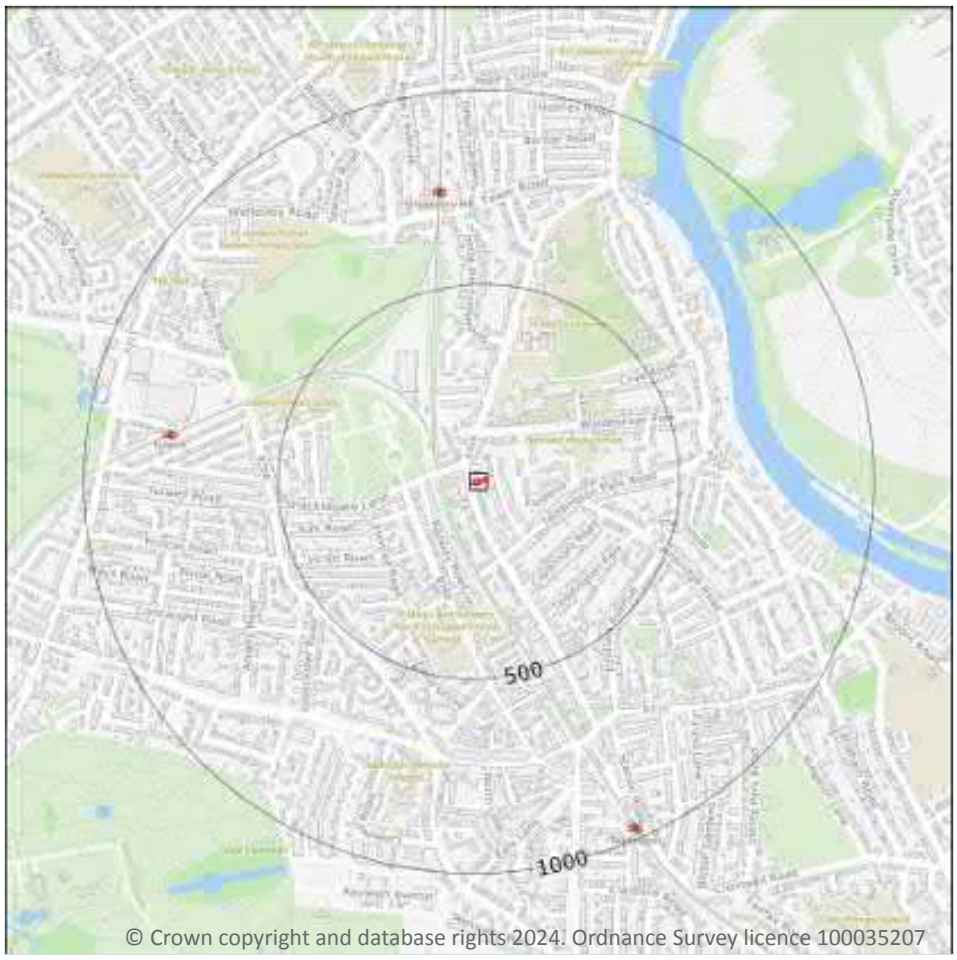
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

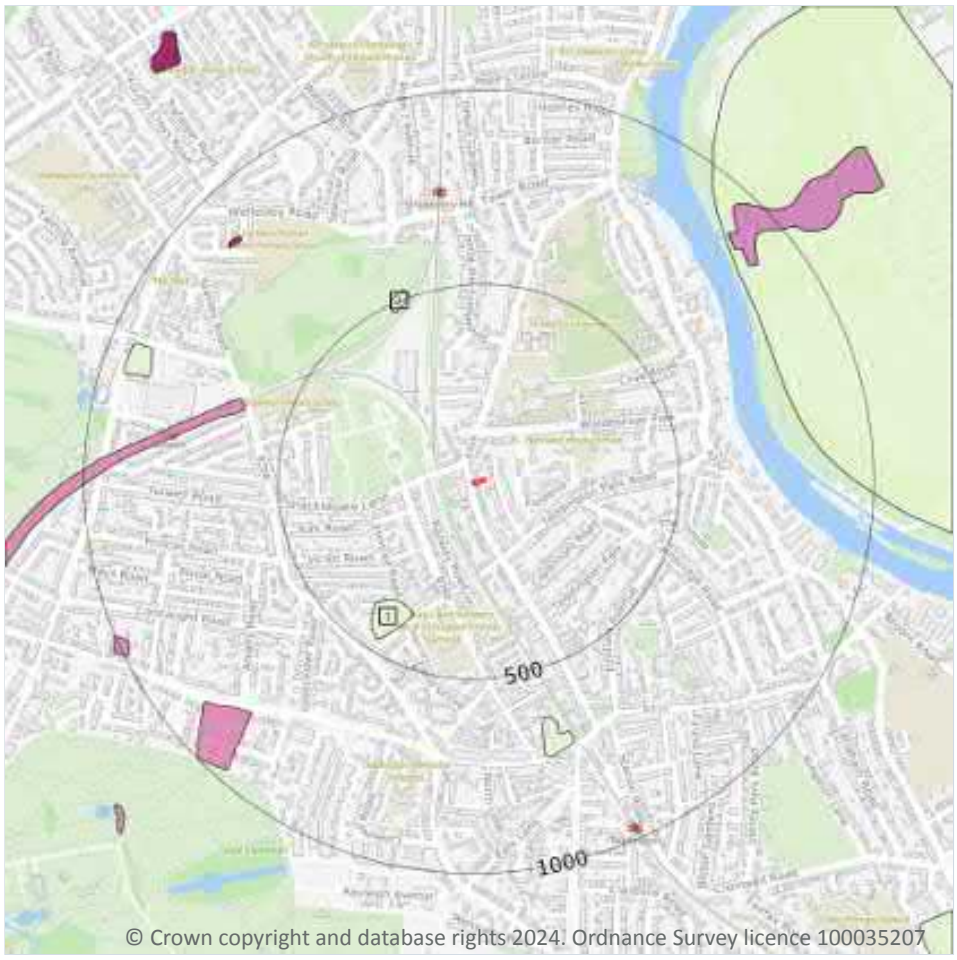
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 79 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW270_south_london_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	2

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 80 >**

ID	Location	LEX Code	Description	Rock description
1	354m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	476m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

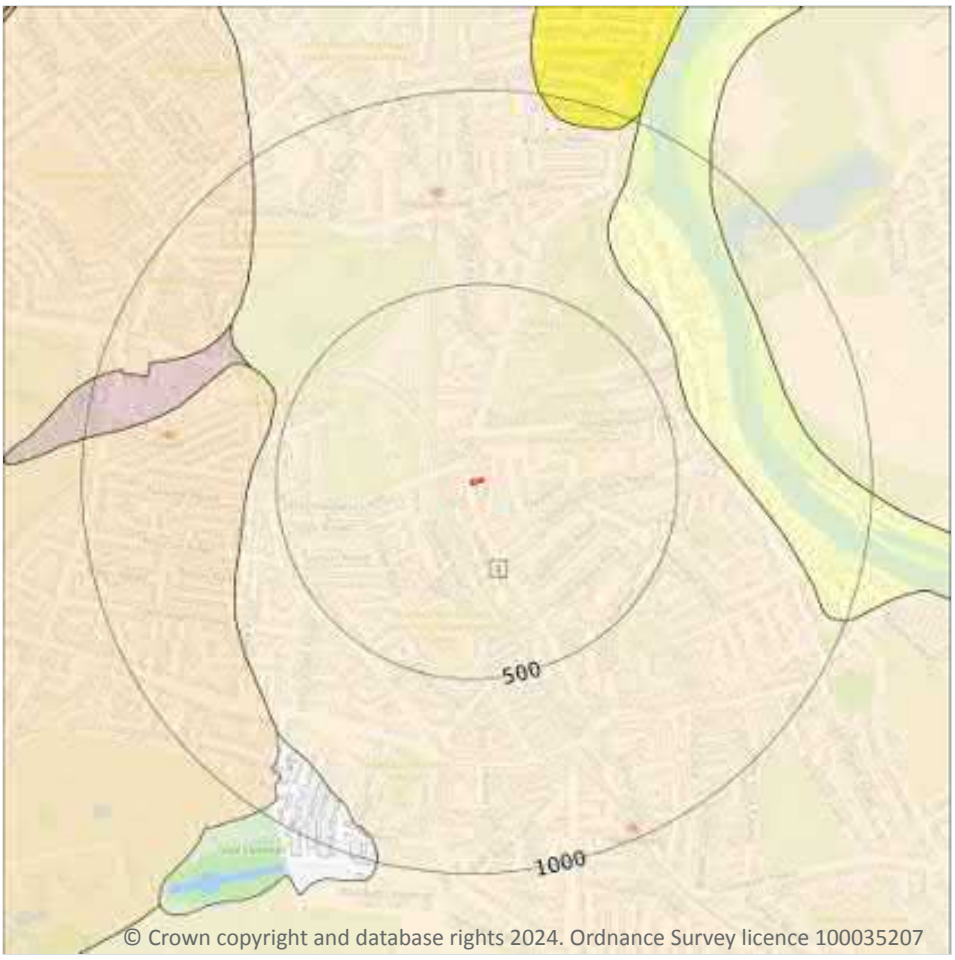
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **1**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 82 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**KPGR-XSV**	**KEMPTON PARK GRAVEL MEMBER**	**SAND AND GRAVEL**

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

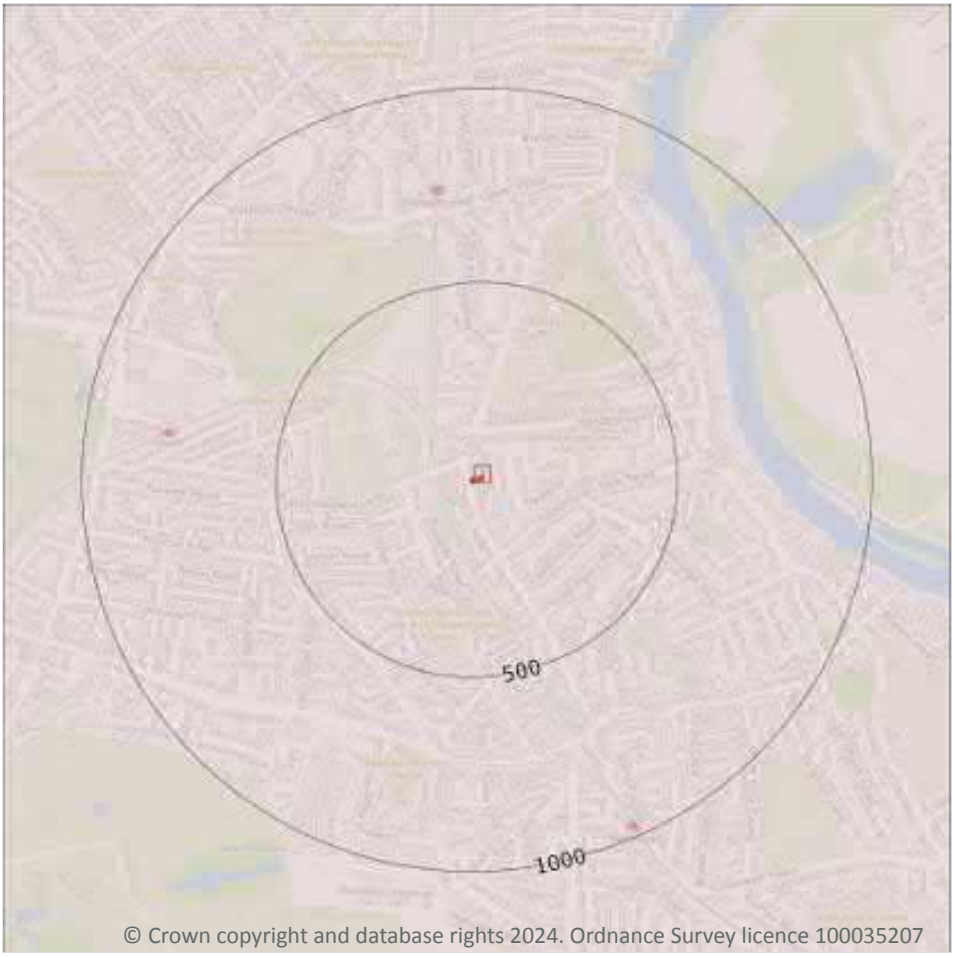
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	1

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 84 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-XCZ**	**LONDON CLAY FORMATION - CLAY AND SILT**	**YPRESIAN**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Low**	**Very Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes

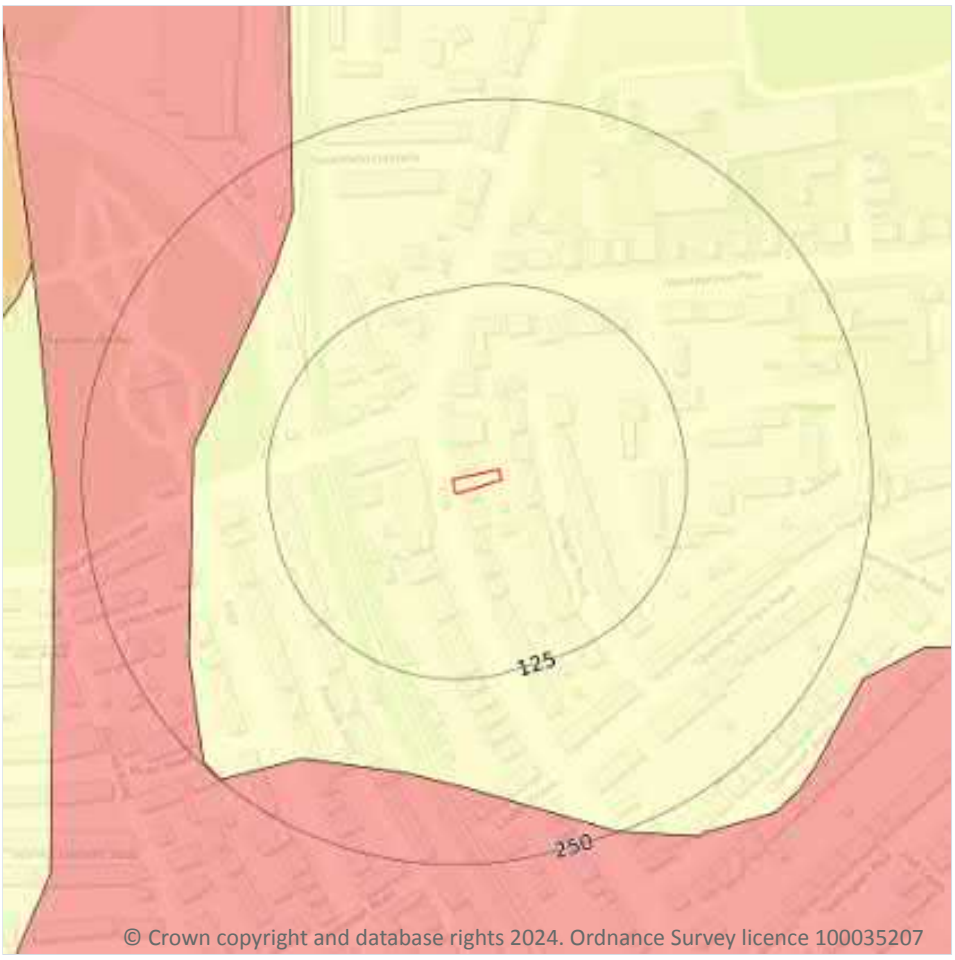
16.1 BGS Boreholes

Records within 250m	0

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 87 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 88 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 89 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 90 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 91 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 92 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings

Site Outline

Search buffers in metres (m)

BritPits

Surface ground workings

Underground workings

Underground mining extents

Historical mineral planning areas

TCA non-coal mining

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	1

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on **page 94 >**

ID	Location	Details	Description
J	499m NW	Name: Twickenham Common Sand Pit Address: TWICKENHAM, Surrey Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	**50**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 94 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	66m W	Cuttings	1865	1:10560
A	68m W	Cuttings	1933	1:10560
A	68m W	Cuttings	1895	1:10560
A	68m W	Cuttings	1938	1:10560
A	68m W	Cuttings	1920	1:10560
A	68m W	Cuttings	1895	1:10560
A	71m W	Cuttings	1896	1:10560
A	71m W	Cuttings	1894	1:10560
A	71m W	Cuttings	1938	1:10560
A	72m W	Cuttings	1934	1:10560
A	72m W	Cuttings	1938	1:10560
A	72m W	Cuttings	1920	1:10560
A	73m W	Cuttings	1920	1:10560
A	73m W	Cuttings	1920	1:10560
B	81m W	Cuttings	1865	1:10560
B	81m W	Cuttings	1895	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
B	82m W	Cuttings	1895	1:10560
B	83m W	Cuttings	1920	1:10560
B	83m W	Cuttings	1933	1:10560
B	87m W	Cuttings	1894	1:10560
C	87m W	Cuttings	1938	1:10560
C	87m W	Cuttings	1920	1:10560
B	96m W	Cuttings	1948	1:10560
1	108m SW	Cuttings	1894	1:10560
D	116m W	Cemetery	1895	1:10560
D	116m W	Cemetery	1895	1:10560
D	119m W	Cemetery	1894	1:10560
D	120m W	Cemetery	1933	1:10560
D	120m W	Cemetery	1934	1:10560
D	120m W	Cemetery	1920	1:10560
D	121m W	Cemetery	1896	1:10560
D	121m W	Cemetery	1966	1:10560
D	121m W	Cemetery	1991	1:10000
D	121m W	Cemetery	1973	1:10000
D	121m W	Cemetery	1920	1:10560
D	121m W	Cemetery	1938	1:10560
D	121m W	Cemetery	1920	1:10560
D	125m W	Cemetery	1938	1:10560
D	125m W	Cemetery	1920	1:10560
D	125m W	Cemetery	1938	1:10560
D	128m W	Cemetery	1948	1:10560
B	141m NW	Pond	1895	1:10560
B	142m NW	Pond	1896	1:10560
B	142m NW	Pond	1894	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
D	199m W	Mortuary	1920	1:10560
E	229m NW	Cuttings	1938	1:10560
E	229m NW	Cuttings	1920	1:10560
E	231m NW	Cuttings	1920	1:10560
E	233m NW	Cuttings	1920	1:10560
E	234m NW	Cuttings	1933	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**2**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on **page 94 >**

ID	Location	Land Use	Year of mapping	Mapping scale
-	937m W	Tunnel	1865	1:10560
-	939m W	Tunnel	1920	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	**0**

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	1

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
418m NE	Stone

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon

Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 103 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	1

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	4

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**17**	**3**	**269**	**185**	**0.5**	**54**	**37**	**21**	**13**
On site	**17**	**3**	**360**	**247**	**0.5**	**51**	**38**	**21**	**15**
8m W	17	3	270	185	0.6	55	42	21	17
9m W	17	3	231	159	0.6	57	40	21	16

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	21

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 107 >**

Location	Land Use	Year of mapping	Mapping scale
77m SW	Railway	1918	-
77m SW	Railway	1897	-
91m W	Railway Sidings	1991	10000
91m W	Railway Sidings	1973	10000
91m W	Railway Sidings	1966	10560
91m W	Railway Sidings	1948	10560
125m NW	Railway Sidings	1920	10560
151m NW	Railway Sidings	1934	2500
155m NW	Railway Sidings	1920	10560
163m NW	Railway Sidings	1959	1250
163m NW	Railway Sidings	1974	1250
172m NW	Railway Sidings	1938	10560
184m NW	Railway Sidings	1915	2500
185m NW	Railway Sidings	1962	2500
188m NW	Railway Sidings	1938	10560
188m NW	Railway Sidings	1920	10560
218m NW	Railway Sidings	1933	10560

Location	Land Use	Year of mapping	Mapping scale
218m NW	Railway Sidings	1938	10560
218m NW	Railway Sidings	1920	10560
227m NW	Railway Sidings	1934	10560
235m S	Railway	1936	-

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	22

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 107 >**

Location	Name	Type
80m W	Not given	Multi Track
80m W	Kingston Loop Line	rail
84m W	Kingston Loop Line	rail
94m W	Not given	Multi Track
119m NW	Shepperton Line	rail

Location	Name	Type
119m NW	Kingston Loop Line	rail
120m NW	Not given	Multi Track
120m NW	Not given	Multi Track
123m NW	Kingston Loop Line	rail
123m NW	Down Shepperton Line	rail
135m NW	Not given	Multi Track
138m NW	Not given	Multi Track
152m NW	Not given	Multi Track
164m NW		rail
180m S	Not given	Multi Track
192m NW	No2 Siding	rail
211m NW	Carriage Washing Road No5	rail
220m NW	Not given	Multi Track
225m NW	Not given	Multi Track
241m S	Not given	Multi Track
242m NW	No1 Siding	rail
248m NW	No3 Siding	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	**0**

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	4

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

Features are displayed on the Railway infrastructure and projects map on **page 107 >**

Location	Route Type	Name	Under consultation
79m W	Network Rail Regional Branch	Kingston Loop Line	No
81m W	Network Rail Regional Branch	Kingston Loop Line	No
127m NW	Network Rail Regional Branch	Shepperton Line	No
131m NW	Network Rail Regional Branch	Shepperton Line	No

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

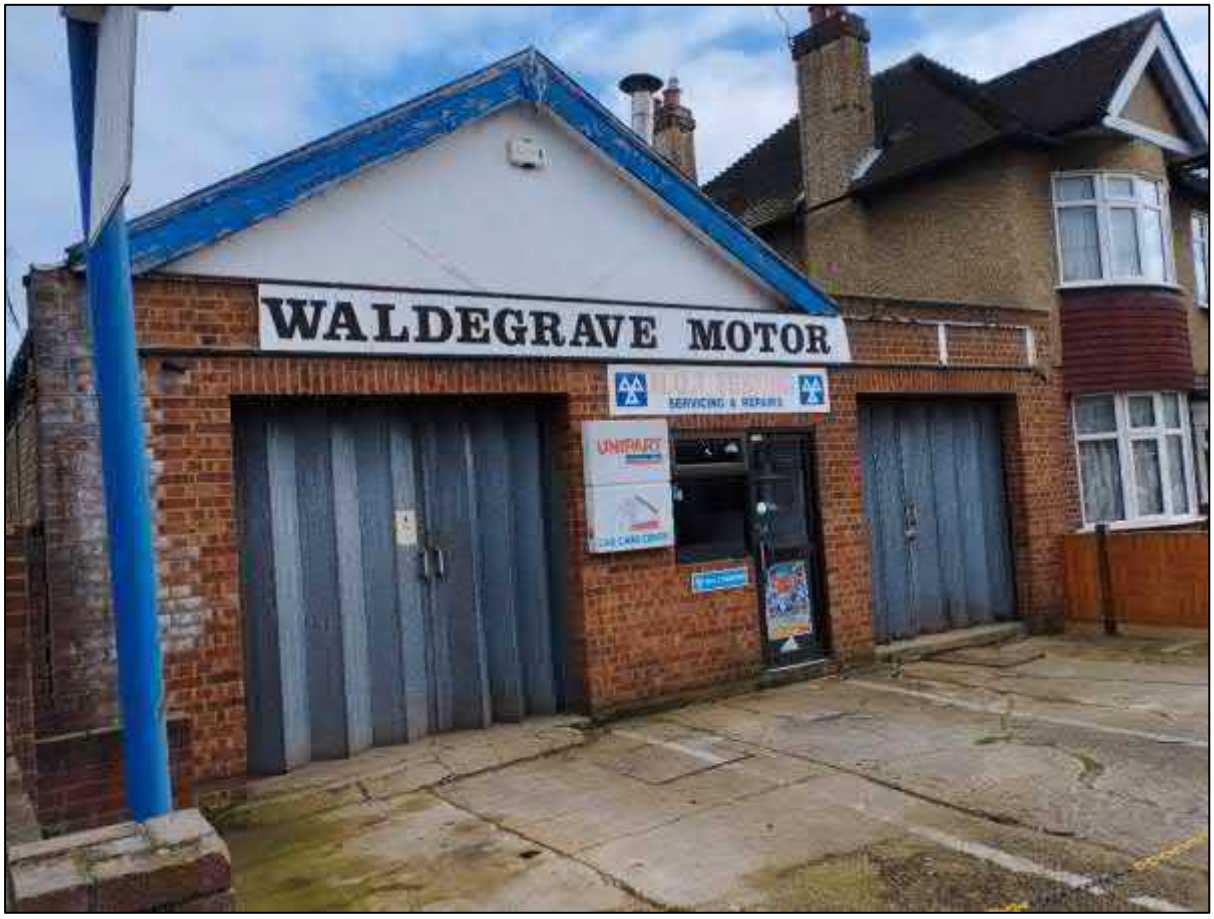
Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

20 APPENDIX 4 – SITE PHOTOGRAPHY



21 APPENDIX 5 - RISK ASSESSMENT METHODOLOGY

- Severity considers the potential impact of the linkage on the receptors, if the linkage was active. Categories range from slight/superficial to fatal.
- Likelihood considers the chances of the linkage occurring and is classified into categories from improbable to frequent.

By assigning scores with each of the above categories, the risk assessment can be undertaken using the formula:

RISK = LIKELIHOOD × SEVERITY

The matrix given in Table 9 provides a means of calculating the overall risk; while Table 10 provides the qualitative assessment based on the risk score.

Table 9: Contamination Risk Matrix

		Potential Severity				
		Fatal 5	Major 4	Moderate 3	Minor 2	Slight 1
Probable Likelihood	Frequent 5	Very High	High	Moderate	Low - Moderate	Low
	Probable 4	High	High	Moderate	Low - Moderate	Low
	Possible 3	Moderate	Moderate	Low - Moderate	Low - Moderate	Very Low
	Remote 2	Low - Moderate	Low - Moderate	Low - Moderate	Low	Very Low
	Improbable 1	Low	Low	Very Low	Very Low	Very Low

Table 10: Assessment description for risk scores

Risk Score	Risk Assessment
1-3	**Very Low**
4-5	**Low**
6-10	**Low to Moderate**
11-15	**Moderate**
16-20	**High**
21-25	**Very High**

Table 11: Risk Classification System

Risk Term	Description
Very Low	The presence of an identified hazard does not give rise to the potential to cause significant harm to groundwater, surface water, ecological and/or property receptors. In the event of such harm being realized, it is not likely to be Severe.
Low	The presence of an identified hazard does not give rise to the potential to cause significant harm to human health receptors. In the event of such harm being realized, it is not likely to be Severe.
Low to Moderate	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action. Investigation is required and remedial works may be necessary in the short term and are likely over the longer term.
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or, there is an evidence that severe harm to a designated receptor is currently happening. Urgent investigation and remediation are likely to be required.

22 ABBREVIATIONS

Abbreviation	Description
AOD	Above Ordnance Datum
AONB	Areas of Outstanding Natural Beauty
BGS	British Geological Survey
c.	circa
CLRA	Contaminated Land Risk Assessment
COMAH	Control of Major Accident Hazards
CSM	Conceptual Site Risk Model
EA	Environment Agency
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention Control
LAPC	Local Authority Pollution Control
LNR	Local Nature Reserves
NIHHS	Notification of Installations Handling Hazardous Substances
NNR	National Nature Reserves
NP	National Parks
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PAHs	Polycyclic Aromatic Hydrocarbons
Part IIA	Part IIA of the Environmental Protection. Act 1990
PCBs	Polychlorinated Biphenyls
PCLU	Potentially Contaminative Land Use
PPL	Potential Pollutant Linkage
PSPPL	Potentially Significant Potential Pollutant Linkage
SAC	Special Areas of Conservation
SI	Site Investigation
SPA	Special Protection Area
SPOSH	Significant Possibility of Significant Harm
SSSIs	Sites of Special Scientific Interest
TPHs	Total Petroleum Hydrocarbons
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds