PHASE 1 DESK STUDY AND
PHASE 2 SITE INVESTIGATION REPORT

Site

**CASCADES LEISURE CENTRE,
THONG LANE, GRAVESEND,
KENT DA12 4LG**

Client

WILLMOTT DIXON CONSTRUCTION LTD

Report Ref

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The following foreword should be read in conjunction with this report. Any variations on the general procedures outlined below are indicated in the text.

FOREWORD

The recommendations made and opinions expressed in this Report are based on the strata conditions revealed by the fieldworks as indicated on the exploratory records, together with an assessment of the data from in situ and laboratory tests. No liability can be accepted for conditions which have not been revealed by the fieldworks, for example, between exploratory positions. While this Report may offer opinions on the possible configuration of strata, both between the excavations and below the maximum depth achieved by the investigation, these comments are for guidance only and no liability can be accepted for their accuracy. The data obtained relate to the conditions which are relevant at the time of the investigation.

The groundwater observations entered on exploratory records are those noted at the time of the investigation. The normal rate of progress does not usually permit the recording of any equilibrium water level for any one water strike. It should be noted that groundwater levels are prone to seasonal variation and to changes in local drainage conditions. The word 'none' indicates that groundwater was sealed off by the borehole casing or that no water was observed in the exploratory hole upon completion.

It should be appreciated that this report does not constitute a Geotechnical Design Report (GDR) as defined in Eurocode 7 and no aspect of this report constitutes a design. Specific sections of this report are generally in line with the guidance set out in Eurocode 7 for a Ground Investigation Report (GIR), as defined within BS EN 1997:-2 (2024). This provides guidance on the number and spacing of investigation positions, methods of investigation and sample quality class to be achieved which may not have been met by this investigation.

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REPORT REF: 25/13244/KJC
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TABLE OF CONTENTS

DOCUMENT CONTROL
FOREWORD

1 INTRODUCTION 1
2 PHASE 1 DESK STUDY - THE SITE 2
3 SITE HISTORY 2
4 GEOLOGY 6
5 ENVIRONMENTAL SETTING 7
6 SITE RECONNAISSANCE 8
7 PRELIMINARY RISK ASSESSMENT 8
8 PHASE 2 INVESTIGATION - FIELDWORKS 10
9 GROUND CONDITIONS 11
10 LABORATORY TESTING 12
11 GROUND CONTAMINATION 12

REFERENCES
LIST OF ABBREVIATIONS

FIGURES

1 Site Layout Plan
2 Proposed Layout
3 Airfield Layout
4 Aerial View (1940)
5 Site Photographs

APPENDICES

1 Groundsure Data
2 UXO map
3 Exploratory Records
4 Laboratory Test Results
5 Waste
6 Ground Gas Monitoring Data

1 INTRODUCTION

1.1 Phase 1 - Objectives

The desk study comprises a review of the readily available geological, historical and environmental sources for information about the site, together with a walkover survey of the area. This includes the commissioning of an Enviro+Geo Insight report supplied by Groundsure Ltd. This report presents the findings of the Desk Study together with an outline Conceptual Site Model and preliminary risk assessment, based upon identified potential sources of contamination which may pose a significant risk to receptors or end-users of the site.

In preparing this report reference has been made to relevant guidance, which includes the 'Investigation of potentially contaminated sites. Code of Practice.' (BSI, 2011) and the Land Contamination: risk management (LCRM) guidance (2020).

1.2 Proposed Development

It is understood that it is proposed to demolish the existing Cascades Leisure Centre and develop a new build leisure centre on "the site". The existing site layout is included as Figure 1 and the proposed layout is shown in Figure 2.

Consequently, following the desk study review a site investigation has been undertaken in order to ascertain the nature of the soils underlying the proposed development site and complete a geo-environmental appraisal of the site. At the time of the works, the site was operational and the existing buildings were still present.

1.3 Scope of Phase 2 Investigation

The programme of this investigation initially comprised the completion of a desk study, which includes an Enviro+Geo Insight by Groundsure Ltd. The subsequent intrusive investigation included the construction of thirty one boreholes using hand-held window sampling techniques. During this work samples were recovered for further examination and geochemical testing. Upon completion of six of the boreholes, standpipes were installed to facilitate long-term ground gas monitoring. This report describes the work undertaken, presents the information obtained and discusses the ground conditions with respect to the long-term risk from potential land contamination and ground gases.

2 PHASE 1 DESK STUDY - THE SITE

2.1 Site Location

The site covers an area of approximately 3.8ha and is located at Ordnance Survey National grid reference 567033, 171710. The site comprises the Cascades Leisure. A residential area is present to the west of Thong Lane. An area of car parking, a miniature railway and a golf centre lie to the north of the site area. Legend Sports and Riverview Football Club comprising two large domed buildings and a rectangular single storey building are present to the east and a golf course is present to the south east of the site.

2.2 Site Topography

The recent OS mapping indicates that levels within Thong Lane rise from 65.0mAOD in the west to 69.5mAOD in the south.

3 SITE HISTORY

3.1 Historical Mapping

The historical Ordnance Survey mapping contained within the Groundsure report has been reviewed. The maps reviewed are included in Appendix 1.

Table 1 - Historical Mapping Summary

Date	Source Scale	Relevant Information	
		On Site	Off Site
1864 1865	1:2500 1:10560	The site forms part of a large area of open land. Stone noted in the far north west corner.	Thong Road is present on the western site boundary.
1888	1:10560	No significant change.	West Wood Farm now present to the west of Thong Road. Old chalk pits are recorded 350m and just over 500m south.
1895	1:2500 1:10560	No significant change.	No significant change.
1909 1907	1:2500 1:10560	No significant change.	Old chalk pits no longer referenced as such.
1933 1932	1:2500 1:10560	No significant change.	Thong Road now Thong Lane.

1936	1:2500	No significant change.	Westwood Cottages now noted to the west.
1938	1:10560	No significant change.	No significant change.
1946	1:10560	A track now traverses the site area.	Buildings now present to the west of the site replacing West Wood Farm.
1955	1:10560	No change.	A factory is now present to the west.
1962/ 1964	1:2500	A number of building are now present on the western boundary. Ruins are noted in the north east and south west.	Airfield (Disused) present to the east of the site. Houses now present to the west and south west of Thong Lane.
1970	1:2500	Site is now part of a sports ground.	More house now present to the west of Thong Lane.
1980-1982	1:2500 1:10000	Thong Lane Sports Centre now present on site.	No significant change.
1990	1:2500	The former Thong Lane Sports centre has been extended to form Cascades Leisure Centre. Electricity substation now present on site.	No change.
2003 2001	1:1250 1:10000	No change.	No change. Golf Centre now present to the north west. Golf course present to the east and south east.
2022	1:10000	No change.	Golf centre and golf course no longer recorded.

An examination of the layout of RAF Gravesend during WWII indicates that the perimeter taxiway traversed the development site. An anti-aircraft gun was also sited to the north east, and a broadcasting house and workshops were present on the western boundary. These three features are noted on the site plan in Figure 1.

3.2 Aerial Imagery

Consideration of the modern aerial imagery contained within Google Earth has been made and is included in the table below.

Table 2 - Modern Aerials Summary

Date	Relevant Information	
	On Site	Off Site
1940	It is apparent that a concrete taxi way associated with an airfield traverses the site with a number of spurs off the main route to the north.	Number of aircraft are present on the area to the west of Thong Lane.
1960	The airfield appears disused.	Housing know present to the west of Thong Lane.
1990	The site is now developed by a sports centre.	Further houses now present to the west of Thong Lane.

An aerial view of the airfield forms part of an exhibition at Cascades Leisure Centre, provided by the Airfields of Britain Conservation Trust, gives further information and an extract forms Figure 3. An extract of the 1940 aerial view from Google Earth is included as Figure 4. Both images confirm that a perimeter taxiway traversed the site with a number of off shoots. The airfield had two grass runways, one to the west and the second to the south and south east of the site.

3.3 Internet & Planning Database Review

A review of the historical planning records stored on the Gravesham Borough Council Planning website has been carried out. A number of entries have been found, none of which relate to any significant development of the site.

3.4 UXO Risk

The website operated by Zetica has been accessed and an Unexploded Bomb Risk Map has been obtained for the site, which is included as Appendix 2. The report records a UXO find to the north of the site and shows that the site is in a high risk area, as the site was part of RAF Gravesend during WWII. The Airfields of Britain Conservation Trust website indicates that the area was first used as a landing field in 1932.

The exhibition at the Leisure Centre also indicates that Gravesend School of Flying operated from the airfield prior to WWII. Images are presented below.









In 1940 the first fighter squadron arrived and the airfield is noted to have managed to avoid significant damage from attacks by the Luftwaffe. It is unlikely that any unexploded bomb strikes would have gone unnoticed and undealt with at the time. It is assumed that any such incidents would have been dealt with in order to keep the airfield operational.

In addition, the site was developed post WWII by a sports centre, latterly the Cascades Leisure Centre. It would be safe to assume that any unexploded ordnance within the footprint of the sports/leisure centre is likely to have been encountered during the development. It is considered, therefore, that the actual risk of the presence of unexploded ordnance is thought to be low.

Nevertheless, a detailed UXO risk assessment should be undertaken by a specialist company. Typically, unwanted and unused ordnance would be disposed on airfield sites in burn/burial pits. Given that the majority of the site has been subject to redevelopment for the existing Leisure Centre, the risk of buried UXO being present is significantly reduced.

Airfield runways were also mined with 'Canadian Pipelines' to deny the runway to invading military. These were 50-70mm diameter steel pipes laid at 6ft in a cris cross pattern.

4 GEOLOGY

4.1 Published Geology

An examination of the 1:50,000 British Geological Survey (BGS) digital mapping and the data contained within the Enviro+Geo Insight report indicates that the majority of the site is underlain by the Seaford Chalk Formation. The Thanet Sand Formation, which overlies the Seaford Chalk, outcrops in the southern tip of the site.

The Enviro+Geo Insight report also indicates that made or worked ground is present in the northern corner of the site.

The 1:10,000 scale mapping indicates further areas of made ground and an extract is provided below:



4.2 Historical Borehole Records

The records of the BGS have been reviewed and a number of entries have been found to the west of the site. The records note made ground of variable thickness overlying cohesive soils probably associated with an unmapped outcrop of Head or Downwash, which in turn overlie

the Seaford Chalk Formation. No groundwater data was noted. The maximum depth was 5.00m. Remarks include that the investigatory locations are in a BDA category RED site.

4.3 Hydrogeology

The site is underlain by a Principal aquifer of high vulnerability appertaining to the Seaford Chalk Formation. The Thanet Sand Formation is a Secondary A aquifer. The site is not underlain by a drinking water Source Protection Zone [SPZ]. There are no groundwater abstraction points within 1700m of the site.

4.4 Radon

The Enviro+Geo Insight report indicates that the majority of the site is an area where between 1% and 3% of properties are above the action level. Nevertheless, Radon protection measures are not necessary in the construction of the proposed structure.

5 ENVIRONMENTAL SETTING

5.1 Hydrology & Flood Risk

There are no surface water features within 500m of the site. However, there is some limited potential for flooding from surface waters in the south of the site. The site is at negligible risk from groundwater flooding.

5.2 Landfill Data

There are no active or inactive registered landfill sites listed in the Enviro+Geo Insight report within 500m of the site. However, the records from boreholes constructed to the south east of the site suggest that made ground is present in this area up to 1.80m in thickness. Harts Hill Chalk Pit is also recorded 340m south east of the site.

5.3 Recent & Current Land Use

The site has historically been used as a sports facility and prior to that was an airfield (1932-1956). No other relevant trade directory information is available for the site or immediate area. An electrical substation is present on site immediately to the north of the leisure centre. An obsolete fuel station is noted 357m south west of the site.

5.4 Ecologically Sensitive Receptors

There are no sensitive environmental or ecological receptors highlighted within the Enviro+Geo Insight within 500m of the site.

6 SITE RECONNAISSANCE

A visit to site was made on 13th October 2025 using the procedures outlined in CLR 2. At the time of the survey the conditions were dry with low sun and some cloud.

The existing leisure centre occupies the north and north east of the site area. Two tennis courts and an area with macadam surfacing is present to the west of the centre. Car parks are present in the north west of the site and to the south of the centre. An access road to the centre is present at the north east corner, which follows a one way system to cross to the south of the centre, accessing the southern parking area. A bus stop and shelter are noted within the eastern part of the site. A children's play area is noted in the west of the site within soft landscaping. Two other grassed areas are present in the east and south of the site. An electrical sub-station was present in the north of the site to the rear of the centre.

No obvious potential sources of contamination were noted externally during the walkover survey. It is understood that the heating system for the centre is gas fired. The leisure centre includes a number of pools which are heated. It is assumed that water is also treated to maintain a safe environment for swimming and that the necessary chemicals are stored in a suitable manner.

During the visit a number of photographs were taken, which include close ups of areas of concern. An index to the photographs taken and the photographs are presented in Figure 5 drawing no's 25/13244/5 to 25/13244/9 attached to this report.

7 PRELIMINARY RISK ASSESSMENT

7.1 Conceptual Site Model

In accordance with current LCRM guidance, a Conceptual Site Model has been prepared for this site. The model prepared for the site in tabular format below lists potential sources of contamination, identified receptors on and within the immediate vicinity of the site, together with the pathways between them. A pathway must exist for an identified source to pose a risk to a receptor, thereby forming an active pollutant linkage. The primary receptors are considered to be future residents (human health), surrounding ecology (plants and animals),

controlled waters and proposed buildings. Reference has also been made to the DoE industry profile for Airports.

A qualitative assessment of the risk of each potential pollutant linkage is given based upon the CIRIA guidance document 'Contaminated Land Risk Assessment: A Guide to Good Practice' (Rudland, Lancefield and Mayell, 2001). The risk is a combination of the probability or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

Table 3 – Preliminary Conceptual Site Model

Source(s)	Potential Pathway(s)	Receptor(s)	Risk Level
Asbestos and ACM within existing building fabric	Inhalation	Site workers and end-users	Low - it is recommended that an asbestos survey is completed prior to demolition of the existing structures. Any ACM should be removed prior to demolition
Vehicular activity past and present - *Hydrocarbons, Heavy Metals*	Migration, ingestion, inhalation and dermal contact	Site workers and end-users	Low
Former Airfield Workshop & Broadcasting House - made ground associated with demolition of structures - *PAH, Hydrocarbons, Heavy Metals* Cleaners/Degreasers (TCE/PCE)	Migration, ingestion, inhalation and dermal contact	Site workers and end-users	Low to moderate
	Leaching	Principal Aquifer and SP2	Low
Pool chemicals (pH extremes)	Migration, ingestion, inhalation and dermal contact	Site workers and end-users	Low to moderate - chemicals are stored in secure bunded areas on a concrete base. Risk is mitigated by use of appropriate PPE
	Leaching	Principal Aquifer	Very low
Ground gas (possible infilled area to the south east) - *ground gas* Made Ground (on site)	Migration, ingress and accumulation	Proposed buildings (asphyxiation or explosion)	Low to moderate

Electrical substation - *PCB's*	Migration, ingestion, inhalation and dermal contact	Site workers and end-users	Very low - the substation appears on the 1990 OS map and it is considered that PCB's would not have been used
UXO	Explosion	Site workers, SI personnel and end-users	To be assessed by specialised UXO risk assessment

It is known that aircraft instrument panels can contain low levels of radioactive materials and if waste materials were buried on site, then radium would also be a potential contaminant of concern.

7.2 Groundwater

The anticipated groundwater profile is thought to be in excess of 20m below ground level. Hence, the proposed redevelopment is unlikely pose a threat.

7.3 Geotechnical Hazards

The majority of the northern part of the site is indicated as being within an area at very low risk of ground dissolution features. However, the southern part of the site is in areas of moderate risk. No natural cavities are recorded within 500m of the site.

7.4 Further Investigation

It would be prudent to carry out an intrusive investigation to prove the underlying natural strata and absence of any made ground and confirm that the near surface soils are suitable for their intended setting. This should target historical features such as former structures, AA gun site and workshops, as well as areas of made ground highlighted on geological mapping.

The proposed scope of testing should include for contaminants identified within the CSM, which includes heavy metals and hydrocarbons. It would also be advisable to complete ground gas monitoring in view of the possible presence of made ground on site and to the south east of the site.

8 PHASE 2 INVESTIGATION - FIELDWORKS

8.1 Site Works

The boreholes were constructed during the period 13th to 15th October, 2025, at locations as shown on the site plan, which is presented as Figure 1. The exploratory positions were located

in order to provide adequate site coverage and to target the areas where former structures were present.

The depths and descriptions of the strata encountered in the boreholes are given on the exploratory records, which comprise Appendix 3 to this report. These records note the depths at which samples were taken and any groundwater observations noted at the time of the fieldworks.

8.2 Installations

Upon completion of six of the boreholes 15, 17, 18, 25, 26 and 27, standpipes or monitoring wells were installed in order to carry out long-term ground gas monitoring. These comprised of 1.00m plain pipe extended to depths of between 2.50m and 3.10m by geowrapped slotted pipe. Each instrument was provided with a flush metal cover and gas valve.

9 GROUND CONDITIONS

9.1 Stratigraphy

Consideration of the borehole records indicates that made ground varying from macadam overlying brown silty sand with flint gravel to brown/grey very sandy clay with chalk fragments was observed at the investigatory locations and was shown to extend to the concluding depth of borehole 2 (possible presence of services) and borehole 13 due to (obstruction) at 0.75m and 0.40m, and to depths of between 0.20m and 1.20m.

Soils ranging from brown very sandy clay to pale brown silty sand with chalk fragments and flint gravel were observed upon penetration of the made ground in boreholes 1, 3, 7, 9, 10, 14 to 17, 19 to 29 and 31. The geological origin of these soils is unclear. However, it is suggested that they represent unmapped outcrops of locally derived Downwash of Recent age. Boreholes 7, 14, 21 and 28 were concluded with the Downwash at between 1.30m and 1.60m.

Cream-white chalk with rare flints and brown staining was encountered upon penetration of the made ground and Downwash and was proved to the full depth of this investigation at between 1.20m and 3.10m.

No visual or olfactory evidence of contamination was noted during the siteworks with the exception of borehole 20, where a slight odour of hydrocarbons was observed from 0.40m to 0.70m. This location is within a car park. Hence, the slight odour may be associated with leakages from vehicles using this area.

9.2 Groundwater

No groundwater strikes were encountered during the construction of the exploratory positions and all the excavations remained dry throughout.

9.3 Monitoring

Return visits were made on 5th and 17th November 2025 to monitor the standpipes installed as part of the intrusive investigation. The results of the monitoring are included in Appendix 6 and discussed in section 11.5. The instruments were all noted to be dry on each of the visits.

10 LABORATORY TESTING

A sample of the made ground from each of the investigatory locations has been submitted to the UKAS accredited laboratories operated by i2 Analytical Ltd. The testing comprises a suite of typical inorganic and organic priority contaminants including metals, PAH, TPH CWG and an asbestos screen. Three samples from boreholes 11, 13 and 14 at 0.10m depth have also been analysed for VOC's/SVOC's. The results are presented in Appendix 4. Due to positive identification of asbestos screens, quantification analysis was automatically performed on five samples.

11 GROUND CONTAMINATION

11.1 Human Health

A preliminary assessment of the chronic or long-term risk to human health from soil contamination has been made using the available generic screening criteria. The screening values include the Category 4 Screening Levels [C4SLs] (DEFRA, 2014) and Suitable for Use Levels [S4ULs] (LQM/CIEH, 2014) derived using the CLEA software. It should be appreciated that these do not consider the short-term or acute risks, such as to construction workers or SI personnel.

The results obtained have been compared against the GAC for the continued end-use assessment category Public Open Space near Residential Housing and 1% SOM. A study of the data reveals that the majority of the results lie below the GAC, with the exception of elevated concentrations of PAH compounds at the location of boreholes 1 and 4 to 7. Specifically the level of benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene recorded lie above the S4SL GAC levels of 7.1mg/kg, 5.7mg/kg and 0.57mg/kg. An appraisal of the double ratio

PAH plot infers that these are generally coal or coal tar derived, as opposed to being from a petroleum hydrocarbon source. No significantly elevated levels of VOC's or SVOC's were recorded.

Traces of chrysotile asbestos (loose fibres) at the location of boreholes 4 to 7, at between 0.20m and 0.30m were detected. Asbestos cement (chrysotile) was also noted at 0.10m in borehole 11. Quantification analysis was completed on all the above samples. 0.002% was recorded on the sample from BH4 with <0.001% noted for the samples from BH5 to BH 7. A result of 0.194% was recorded on the sample from borehole 11 at 0.10m, in the form of asbestos cement containing chrysotile.

Due to the fact that these are free fibres and owing to the granular matrix of the made ground, there is still a medium risk to site workers, particularly those forming excavations. Hence appropriate PPE and RPE should be worn by operatives, with manual/localised dust suppression measures employed unless works are undertaken during wet or raining periods. Further information can be found in the recent publication (CL:AIRE, 2016) "Control of Asbestos Regulations 2012 - Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry guidance".

Whilst the concentrations of zinc are not a risk to human health the result of 1400mg/kg was noted at 0.10m depth in borehole 25, which would be phytotoxic.

In view of the results recorded it is apparent that some localised remedial measures will be required as part of the proposed redevelopment. It should be noted that no investigation has been completed within the existing Leisure Centre. BH's 1, 4, to 7 will be areas of proposed hard cover ie car parking areas which will act to encapsulate. It is considered that in order to accommodate the new pavement construction some 0.50m of material will be removed, which will result in the removal of the asbestos and PAH contaminated soils. Moreover, no pathway will exist between the site receptors and any residual PAH's and asbestos, once the new paving has been implemented.

BH11 is located within the area of the former Broadcasting House. It is understood that the proposed new play area is no longer being considered. Hence, remedial measures should be considered in this part of the site in order to eliminate the risk to health posed by the presence of asbestos cement. It should also be noted that an area of soft landscaping is proposed between BH5 and BH6 and to the north of BH7. Further investigation of these areas could be undertaken to delineate the areas and depths of soil requiring remediation. Alternatively, the soils could be removed to a depth of 0.60m and replaced with clean material. A Remediation Method Statement is likely to be required for the remediation of the above areas.

11.2 Discovery Strategy

Given areas of the site are covered by existing structures or car parking any visual evidence of historical contamination can be concealed beneath these surfaces. Thus, it would be advisable that the site manager maintain a discovery strategy or watching brief during the lifting of hardstanding. Should any potential sources of contamination be identified following the enabling works, they should be fully investigated by a competent person to ensure that the correct remedial measures are employed if considered necessary.

The watching brief would comprise the regular inspection of all excavations. If any materials suspected of containing contamination, such as oily material or soils of unusual colouration or odour are identified, then the following procedures should be adopted.

- Work to cease in that area.
- Notify the geoenvironmental engineer to attend site and carry out sampling and testing of suspected contaminated material, which should be segregated and stockpiled within a bunded area and covered to prevent rainfall infiltrating.
- Notify the Local Authority Contaminated Land Officer, where appropriate, or if amendments to the remediation plan area are necessary.
- Soil sampling of excavated area from bases and sides to demonstrate the area of contamination has been excavated.
- Photographic evidence of all stages of the development, particularly of any excavations, should be routinely kept and retained. Detailed records of any stockpiled material, its size and location, together with any duty of care transfer notes. Where necessary, this information should be incorporated within the final validation report.

11.3 Groundwater

The groundwater table is known to be at depth. Hence, the groundwater is not at risk from the observed levels of PAH compounds, which are of low mobility and semi-volatile.

11.4 Vegetation

The metals boron, copper, nickel and zinc are phytotoxic at certain levels, with their availability being dependent upon soil pH. These levels may not pose a significant long-term health risk to humans, but could be detrimental to plant growth or function. The results obtained suggest that problems in this regard are not anticipated with the exception of isolated elevated level of copper of 420mg/kg and zinc of 1000 mg/kg at 0.25m in BH5. This

location is within proposed car parking. Hence, these elevated levels will not be of concern. A value of 1400mg/kg for zinc was recorded at 0.10m in BH25. This issue would need to be considered for any proposed planting in this part of the site.

11.5 Preliminary Waste Assessment

It is likely that, if excavated soils cannot be re-used or retained on site, these surplus materials will require off-site disposal. It may be possible to divert the unwanted material to a soil treatment hub where it can be recycled. Where material cannot be re-used or recycled then disposal at a licensed landfill site can be considered. It will then be necessary to classify the spoil as inert, non-hazardous or hazardous. A discussion of the current regime for the classification and treatment of waste soils is included in Appendix 5.

An initial assessment of the geochemical results obtained from this investigation has been carried out to provide a preliminary classification of the surplus materials. The HazWaste Online tool determines whether waste soil should be classified as being non-hazardous or hazardous. The output from the HazWaste assessment is located in Appendix 5. Asbestos was detected in five of the samples screened. Based on the output waste soil arisings from this site at the majority of the investigatory locations have been tentatively identified as being non-hazardous waste. Two hazardous designations were recorded at borehole 6 relating to an elevated level of TPH and borehole 11 where the presence of asbestos is an issue. Moreover, the underlying natural Downwash and chalk are considered to be inert for disposal purposes.

This assessment is preliminary and based upon the information obtained from the investigation. Where made ground is excavated then these materials should be stockpiled and segregated. Further sampling, testing and characterisation to accurately classify waste soil arisings may be required. It should be appreciated that it is the responsibility of the waste producer to sufficiently characterise their waste. Moreover, the agreement of the waste acceptor should be sought.

11.6 Ground Gases

The desk study highlighted a limited potential risk posed by ground gas generation from made ground and historic ground working associated with the former use as an airfield. Consequently, six standpipes were installed across the site and a regime of ground gas monitoring is underway with two visits completed to date.

The monitoring data, which is included in Appendix 6, has not recorded any significant levels of ground gas. The first monitoring visit was during relatively low atmospheric pressure at around 1000mb. No flow has been recorded during the visits. It would be prudent to complete a third visit. Once completed it is considered that the risk of ground gas will have been suitably

investigated and that no special precautions are likely to be required as part of the proposed commercial redevelopment. It should be appreciated that current guidance states a minimum of six visits are required to adequately characterise a site and the agreement of the local Authority would be required.

The results have been reviewed in accordance with BS 8485 (2015) Code of Practice for the characterisation and remediation of ground gas in effected developments.

The hazardous gas flow rate has been determined based upon the worst case from these monitoring visits, which are a carbon dioxide of 2.4% and methane of 0.1% together with a flow of 0.0l/h (zero).

Q_{hg}	=	$(C_{hg}/100)q$
Q_{hg}	=	$(2.4/100) \times 0.0$
Q_{hg}	=	$0.0l/h$
where:		
Q_{hg}	=	calculated hazardous gas flow rate/gas screening value
C_{hg}	=	measured hazardous gas concentration
Q	=	measured flow rate

Based upon the calculated gas screening value of 0.0 litres/hour, the hazard potential of the site can be considered very low or characteristic gas situation 1. It would be advisable to complete a third visit during a period of low pressure. Thereafter, it should be possible to confirm that the ground gas situation has been suitably investigated and confirm that no remedial or specific protection measures will be required regarding ground gas.

REFERENCES

- British Standards (2016). Methods of test for soils for civil engineering purposes, BS 1377-1:2016. *British Standard Institution, London.*

- British Standards (2011). Investigation of potentially contaminated sites. Code of Practice. BS 10175+A2:2017. *British Standard Institution, London.*

- British Standards (2013). Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs). BS 8576. *British Standard Institution, London.*

- British Standards (2015). Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. BS 8485+A1:2019. *British Standard Institution, London.*

- British Standards (2015). Code of practice for ground investigations, BS 5930:2015. *British Standard Institution, London.*

- Building Research Establishment [BRE] (2004). *Cover systems for land regeneration: Thickness of cover systems for contaminated land (BR 465)*. BRE Watford, UK.

- Building Research Establishment [BRE] (2005). *Concrete in aggressive ground: Special Digest 1* (3rd Ed.). BRE Watford, UK.

- Building Research Establishment [BRE] (2015). *Guidance on protective measures for new buildings. (BR 212)*. BRE Watford, UK.

- Contaminated land: Applications in Real Environments. (2013). *SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Final Project Report.*

- Chartered Institute of Environmental Health and Contaminated Land: Applications in Real Environments (2008). *The Guidance on Comparing Soil Contamination Data with Critical Concentration.* London, UK.

- Environment Agency (2004). *Model Procedures for the Management of Contaminated Land.* Contaminated Land Report (CLR) 11, SC02000028, Environment Agency, Bristol, UK.

- Environment Agency (2015). Interpretation of the definition and classification of hazardous waste. 1st edition. Technical Guidance WM3. *Environment Agency, UK.*

- Nathanail, C.P., McCaffrey, C., Gillett, A.G., Ogden, R.C. and Nathanail, J.F. (2015). *The LQM/CIEH S4ULs for Human Health Risk Assessment.* Land Quality Press, Nottingham. Publication Number S4UL3073.

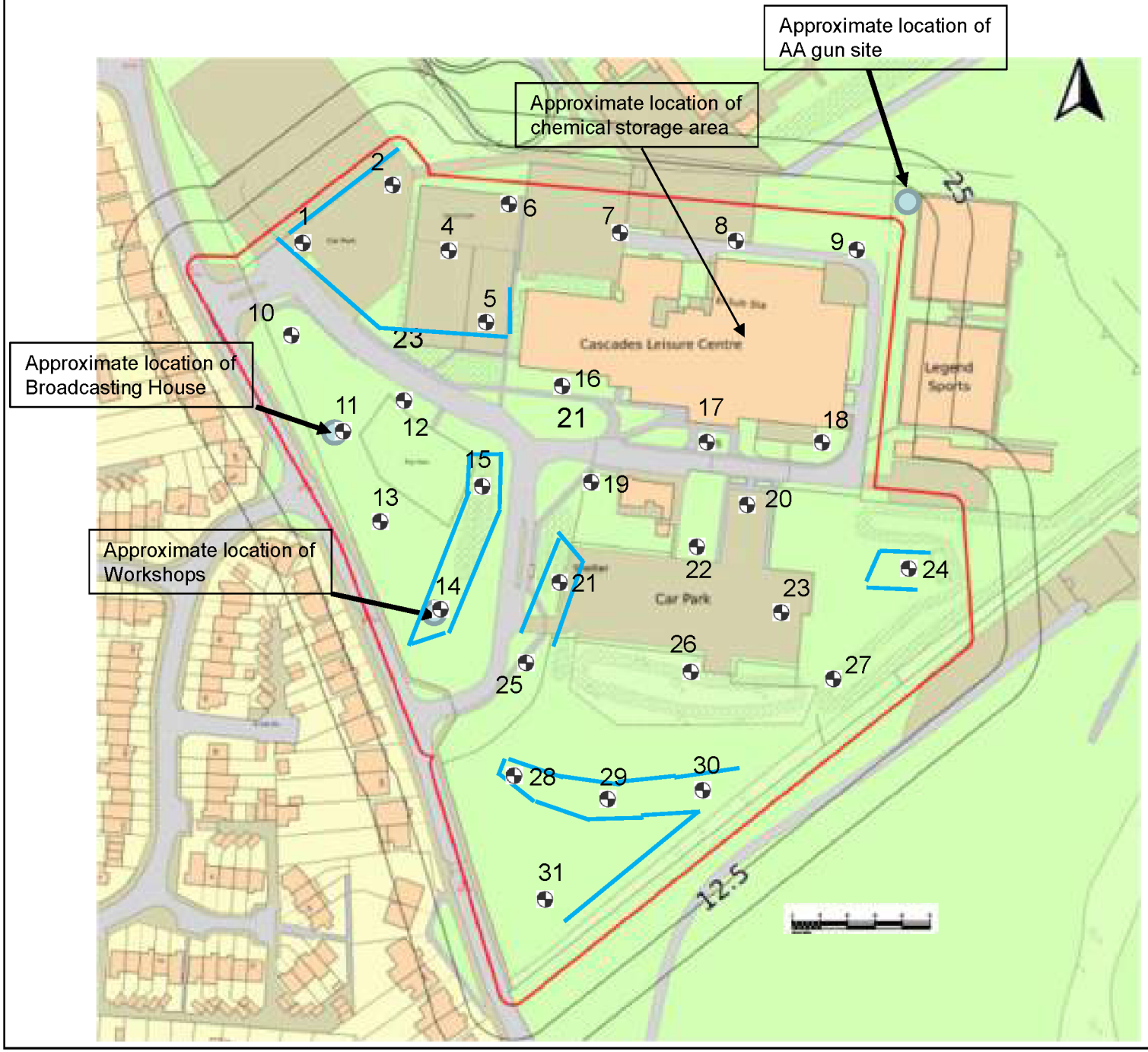
- Stroud, M. A. (1974). The standard penetration test in insensitive clays and soft rocks. *Proceedings of the European Symposium on Penetration Testing, Stockholm*, *2*, 367-375.

LIST OF ABBREVIATIONS

AOD	-	Above Ordnance Datum
ACM	-	Asbestos-containing Material
AST	-	Above-ground Storage Tank
BGS	-	British Geological Survey
BH	-	Borehole
BRE	-	Building Research Establishment
BSI	-	British Standards Institution
BS	-	British Standard
C4SL	-	Category Four Screening Level
CIRIA	-	Construction Industry Research and Information Association
CP	-	Cable Percussive
DPH	-	Dynamic Probing Heavy
DPSH	-	Dynamic Probing Super Heavy
EA	-	Environment Agency
GAC	-	Generic Assessment Criteria
LL	-	Liquid Limit
mAOD	-	Metres Above Ordnance Datum
mBGL	-	Metres Below Ground Level
mOD	-	Metres Ordnance Datum
OS	-	Ordnance Survey
PAH	-	Polycyclic Aromatic Hydrocarbons
PCB	-	Polychlorinated Biphenyl
PID	-	Photo Ionisation Detector
PL	-	Plastic Limit
PSD	-	Particle Size Distribution
SGV	-	Soil Guideline Value
SOM	-	Soil Organic Matter
SPT	-	Standard Penetration Test
SPZ	-	Source Protection Zone
SVOC	-	Semi-volatile Organic Compounds
TPH	-	Total Petroleum Hydrocarbon
UST	-	Underground Storage Tank
UXB	-	Unexploded Bombs
UXO	-	Unexploded Ordnance
VOC	-	Volatile Organic Compound

FIGURE 1

SITE LAYOUT PLAN



Worked or made ground

Title:	Site Layout Plan
Dwg No:	25/13244/1
Drawn by:	KJC

Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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FIGURE 2

PROPOSED LAYOUT


N
Gravesham Borough Council
SPACE PLACE
Cascades Leisure Centre
Site Plan

FIGURE 3

AIRFIELD LAYOUT



Title:	RAF Gravesend Airfield Layout
Dwg No:	25/13244/3
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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Surrey GU8 5LH

FIGURE 4

AERIAL VIEW (1940)



Aerial view from Google earth c1940

Title:	Aerial view (c1940)
Dwg No:	25/13244/4
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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Surrey GU8 5LH

FIGURE 5

SITE PHOTOGRAPHS





Car park in north west corner





Existing children's play area

Title:	Site Photographs
Dwg No:	25/13244/5
Drawn by:	KJC
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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WWII Memorial stone



Front of Leisure Centre





Disused Cafe

Title:	Site Photographs
Dwg No:	25/13244/6
Drawn by:	KJC
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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North west corner





Rear of Leisure Centre

Title:	Site Photographs
Dwg No:	25/13244/7
Drawn by:	KJC
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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Play areas and tennis courts

Title:	Site Photographs
Dwg No:	25/13244/8
Drawn by:	KJC
Client:	Willmott Dixon Construction Ltd
Contract:	Thong Lane, Gravesend
Job Ref:	25/13244/KJC
Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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Southern car park





Southern part of site

Title:	Site Photographs
Dwg No:	25/13244/9
Drawn by:	KJC

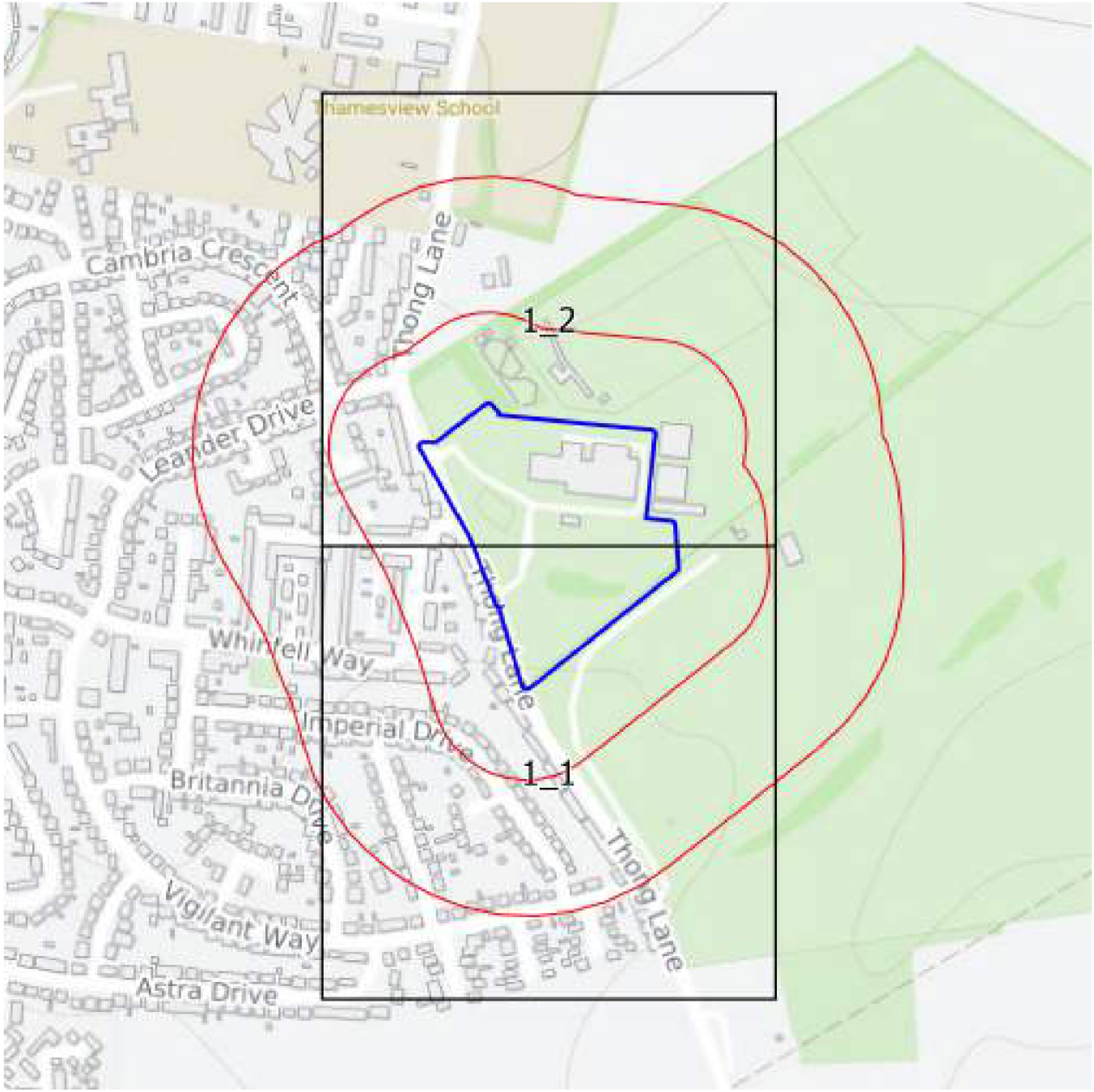
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Contract:	Thong Lane, Gravesend
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Scale:	NTS
Revision:	1
Issue Date:	21/11/2025

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APPENDIX 1

GROUNDSURE DATA





1:1,250 Scale Grid Index





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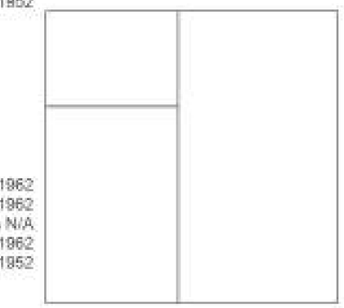
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KENT, DA12 4LG

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Grid Ref: 567023, 171413

Map Name: National Grid
Map date: **1962**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1962
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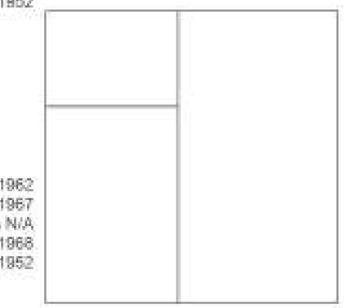
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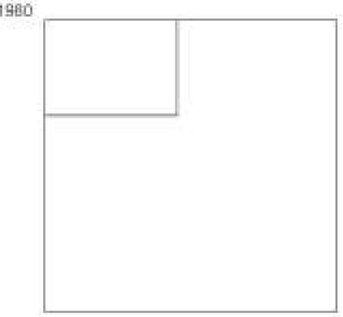
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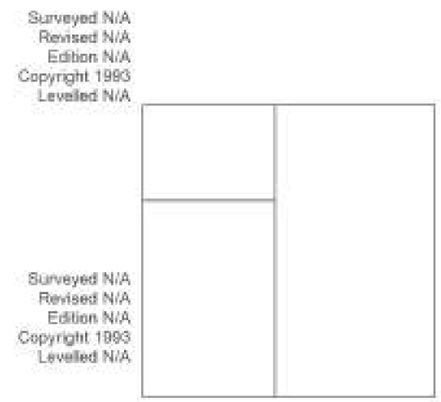
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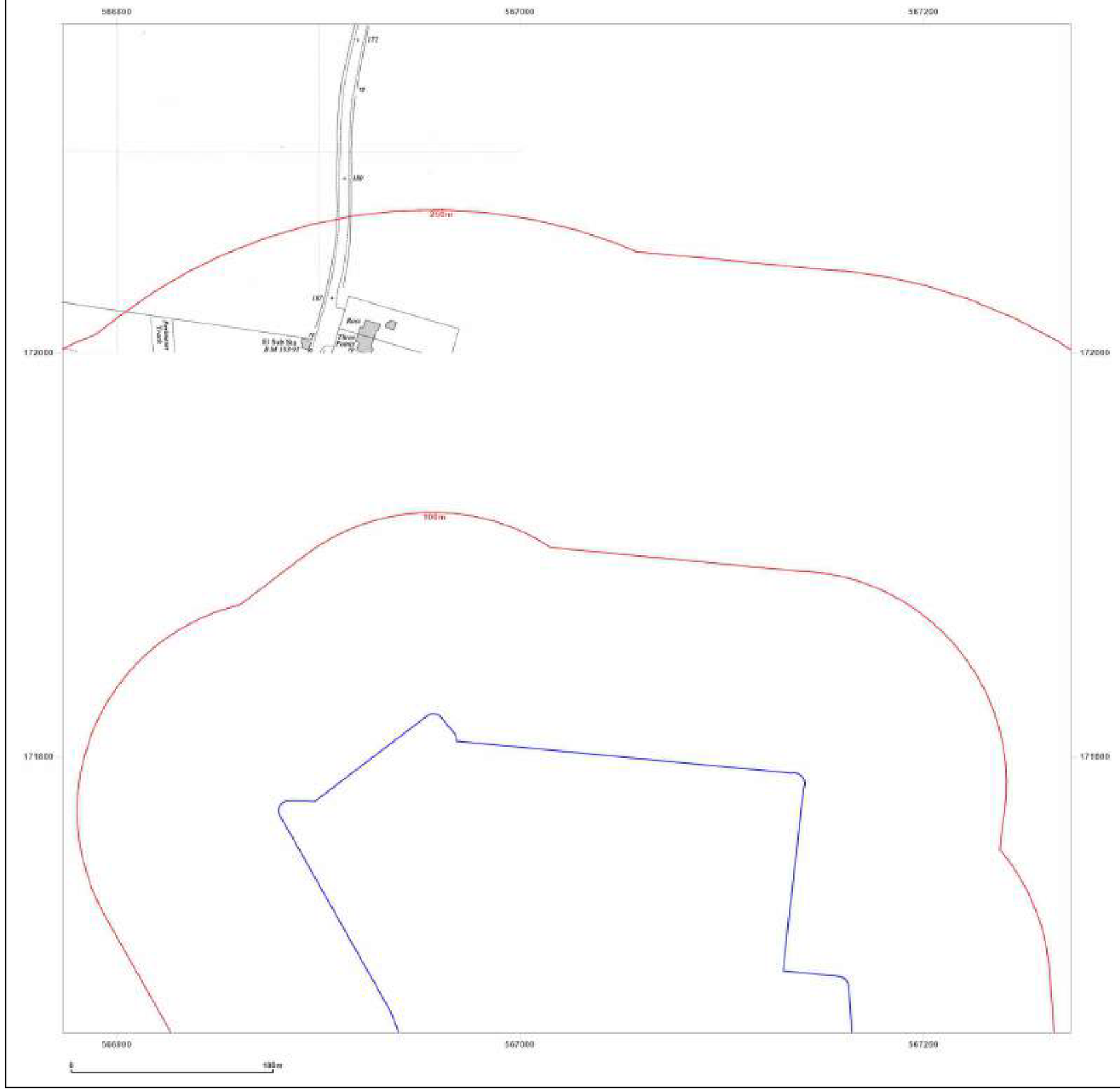
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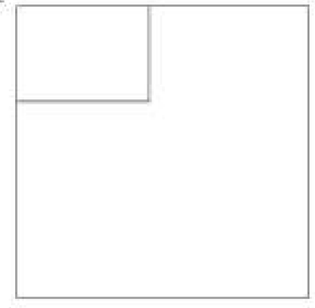
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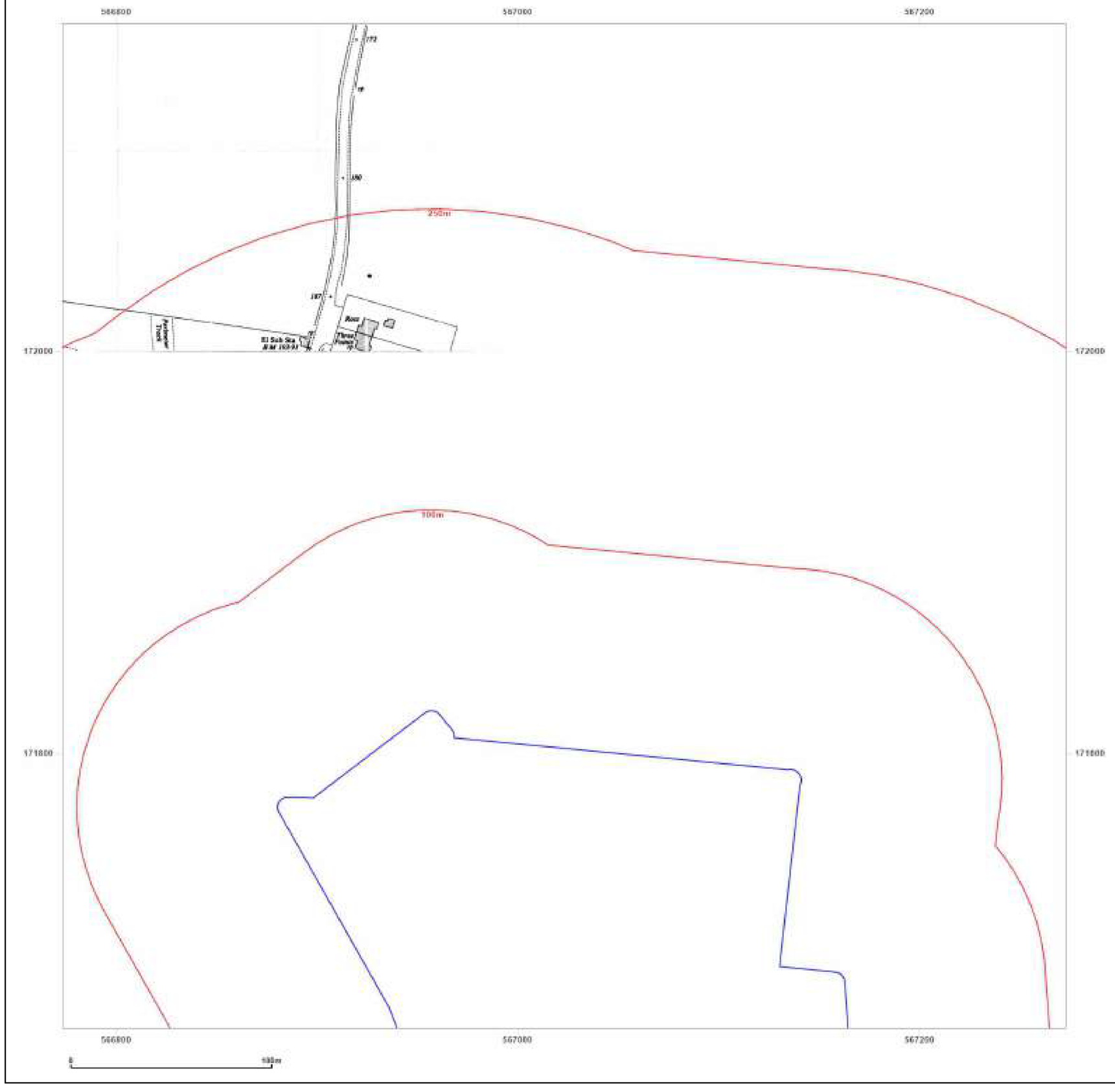
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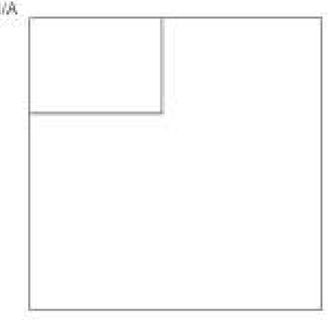
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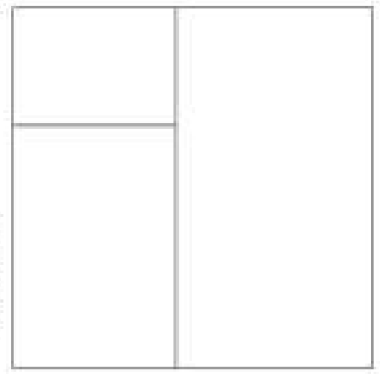
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Edition N/A
Copyright 1969
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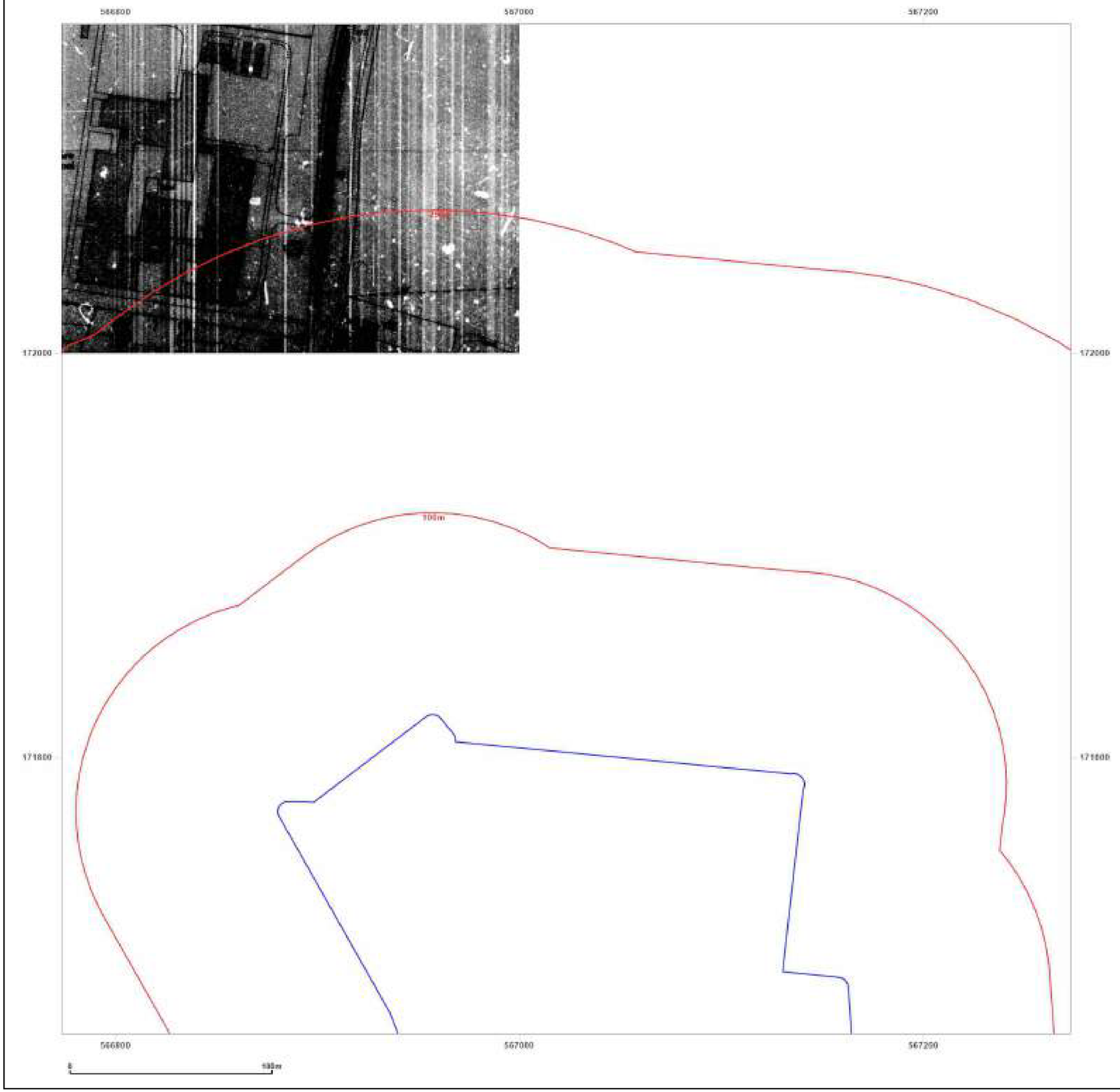
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Map date: **1973**
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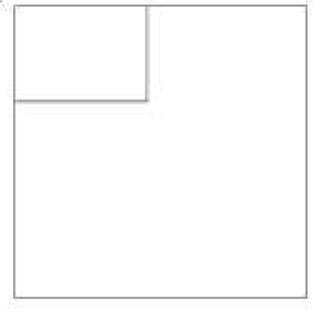
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Printed at: 1:2,000

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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_1250_1_2
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Scale: 1:1,250
Printed at: 1:2,000

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Surveyed N/A
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THONG LANE, GRAVESEND,
KENT, DA12 4LG

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Report Ref: ALB-NYA-6UT-SP3-CWF_1250_1_2
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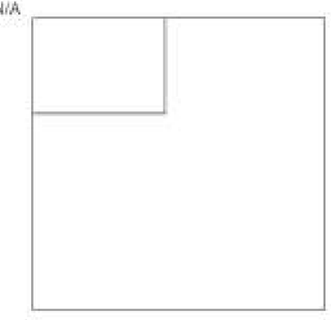
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Edition N/A
Copyright 1993
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KENT, DA12 4LG

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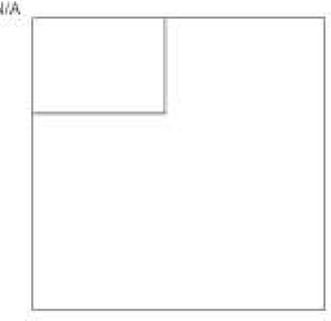
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THONG LANE, GRAVESEND,
KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_1250_1_2
Grid Ref: 567023, 171913

Map Name: National Grid
Map date: **1993**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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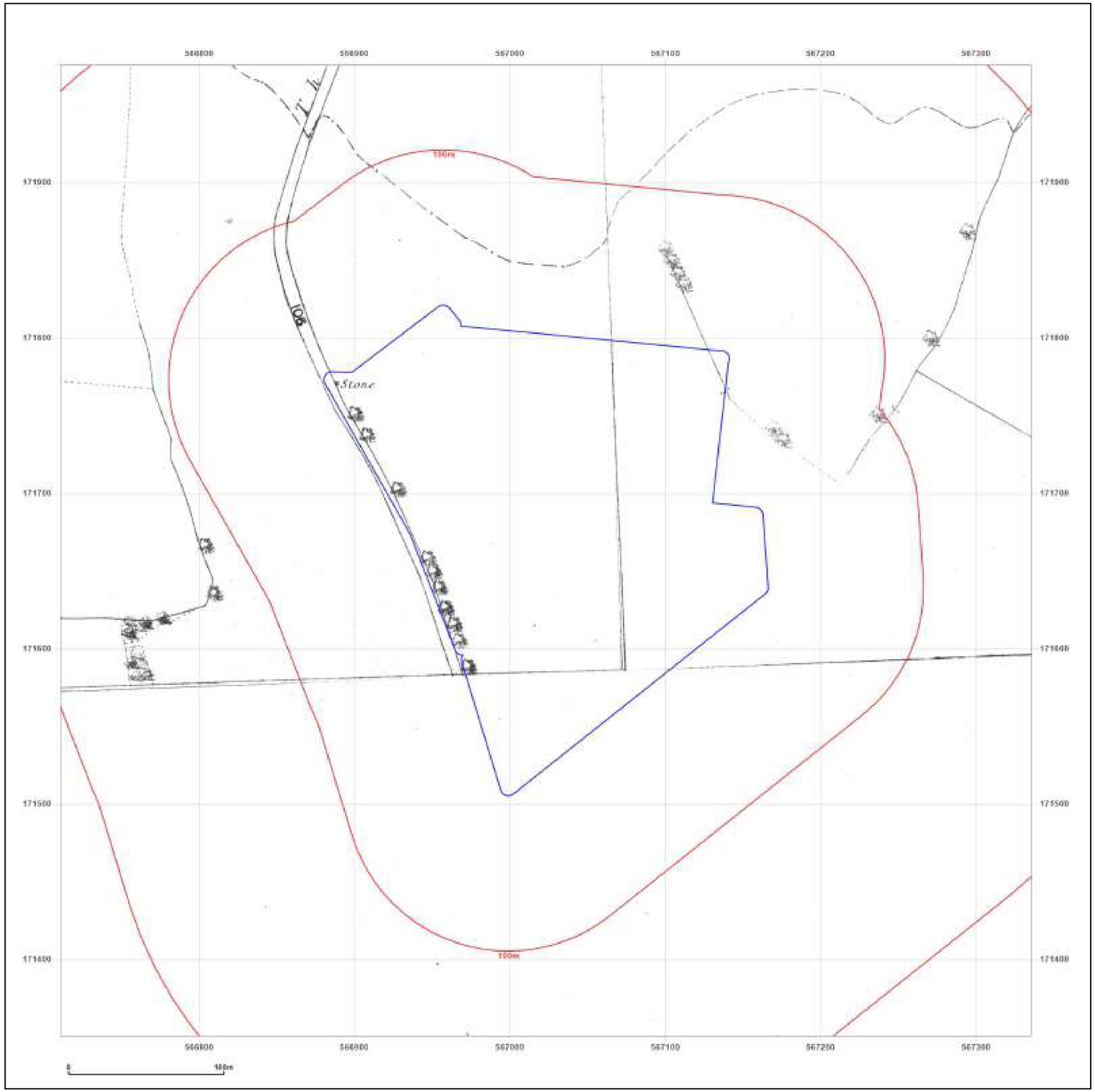
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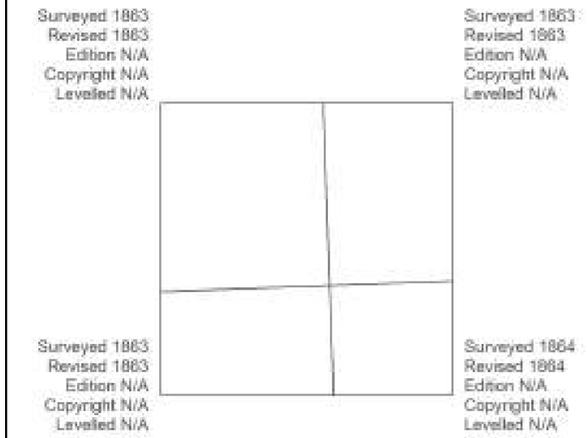
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
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Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1863-1864**
Scale: 1:2,500
Printed at: 1:2,500

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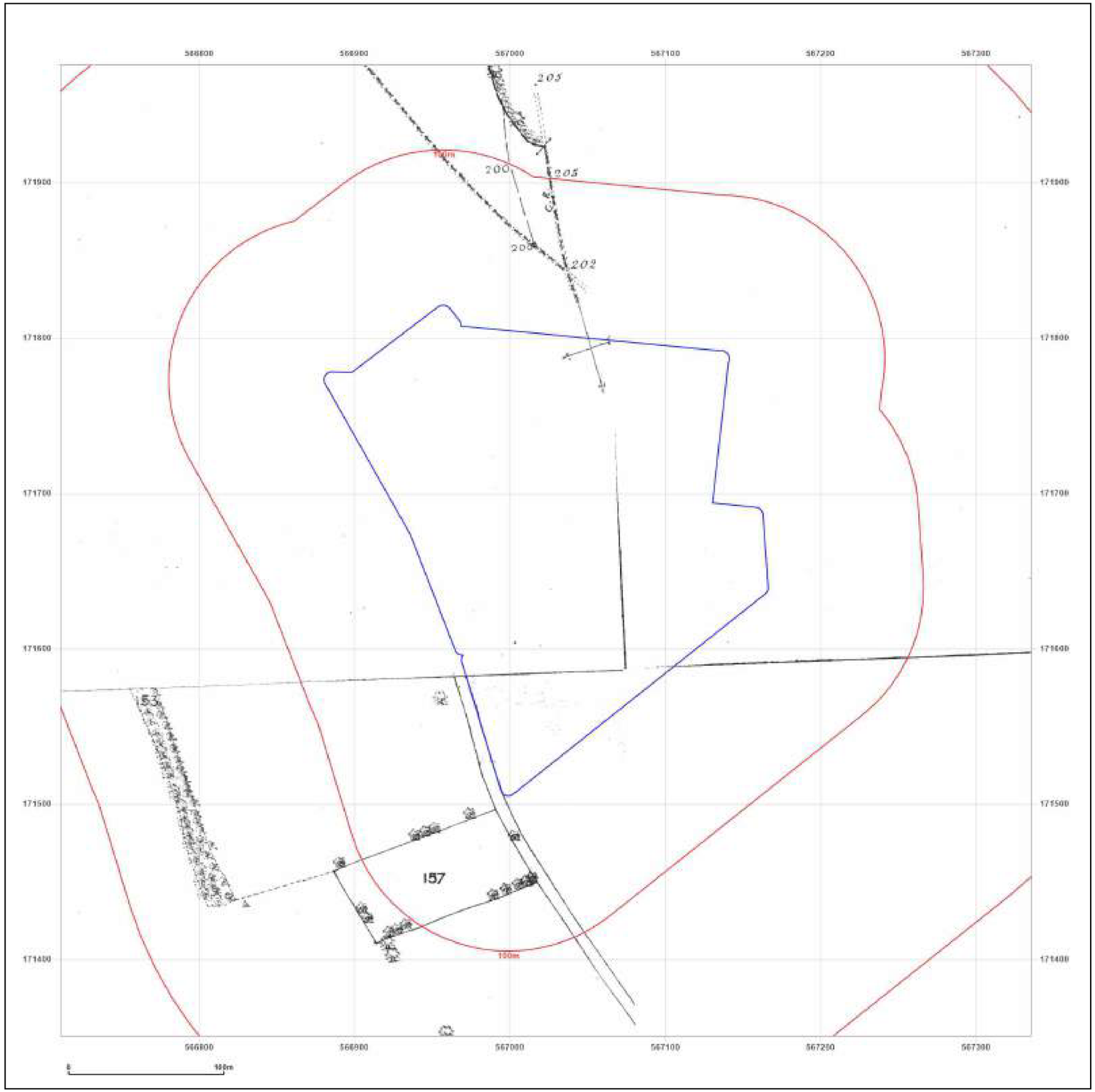
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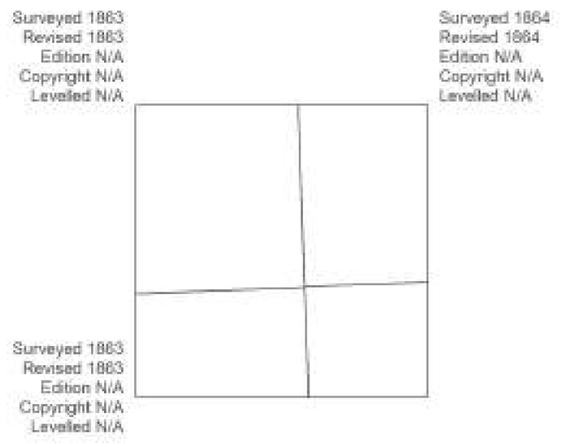
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KENT, DA12 4LG

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Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1863-1864**
Scale: 1:2,500
Printed at: 1:2,500

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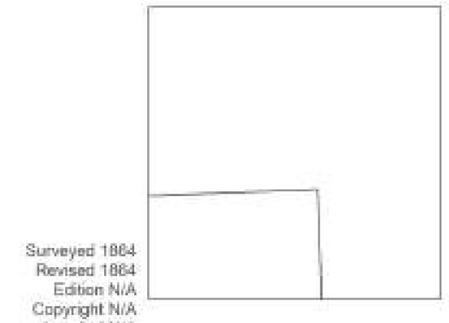
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Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1864**
Scale: 1:2,500
Printed at: 1:2,500

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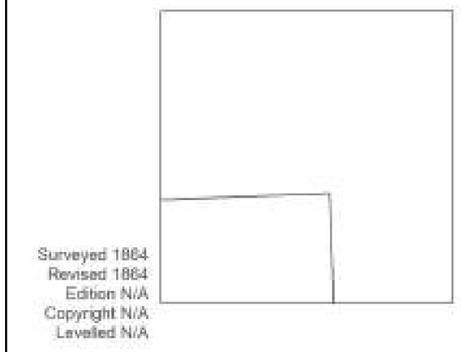
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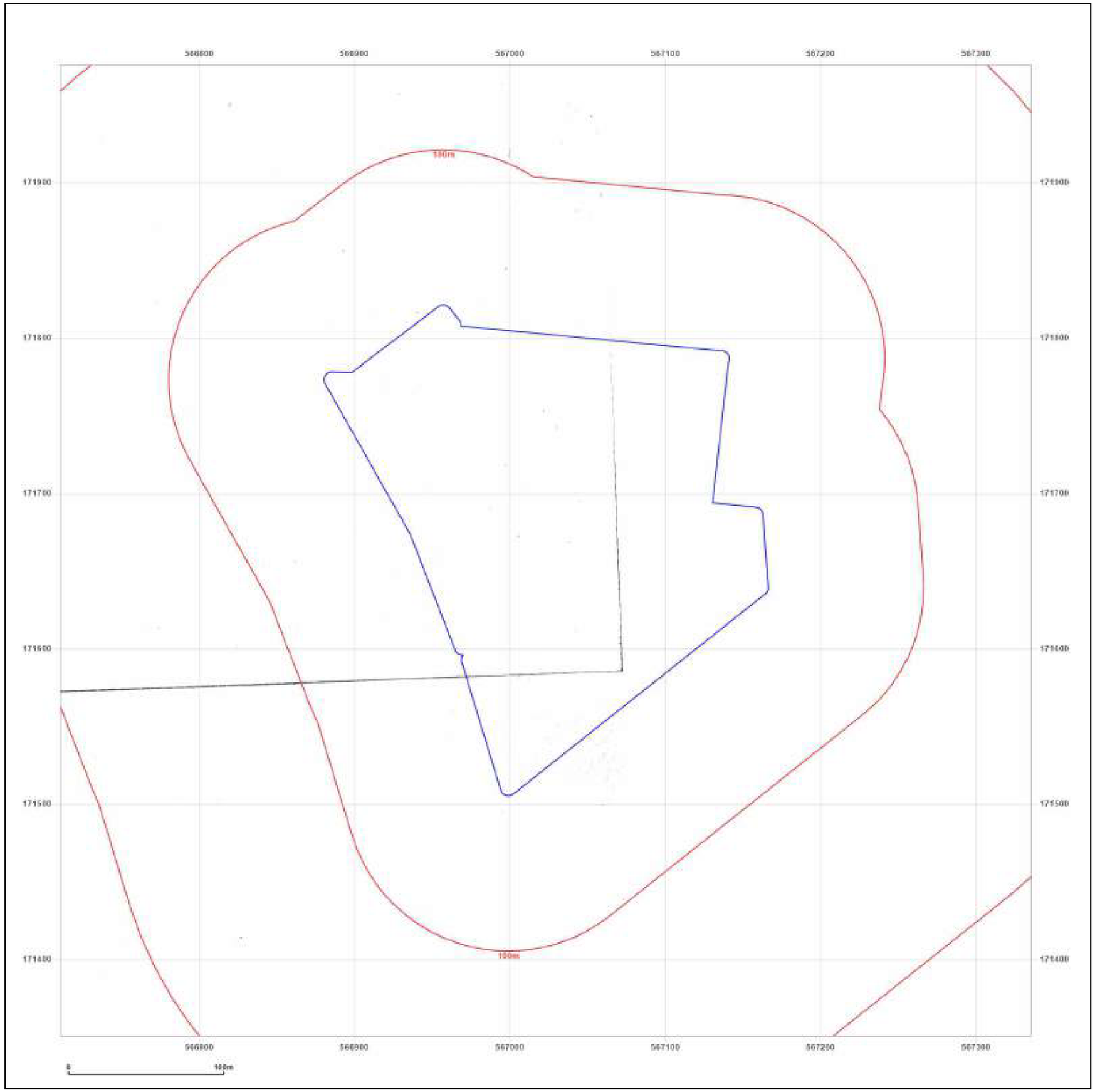
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Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series

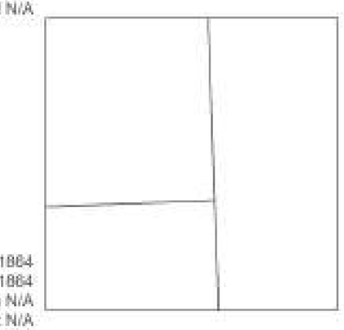
Map date: **1864-1866**

Scale: 1:2,500

Printed at: 1:2,500

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



Surveyed 1864
Revised 1864
Edition N/A
Copyright N/A
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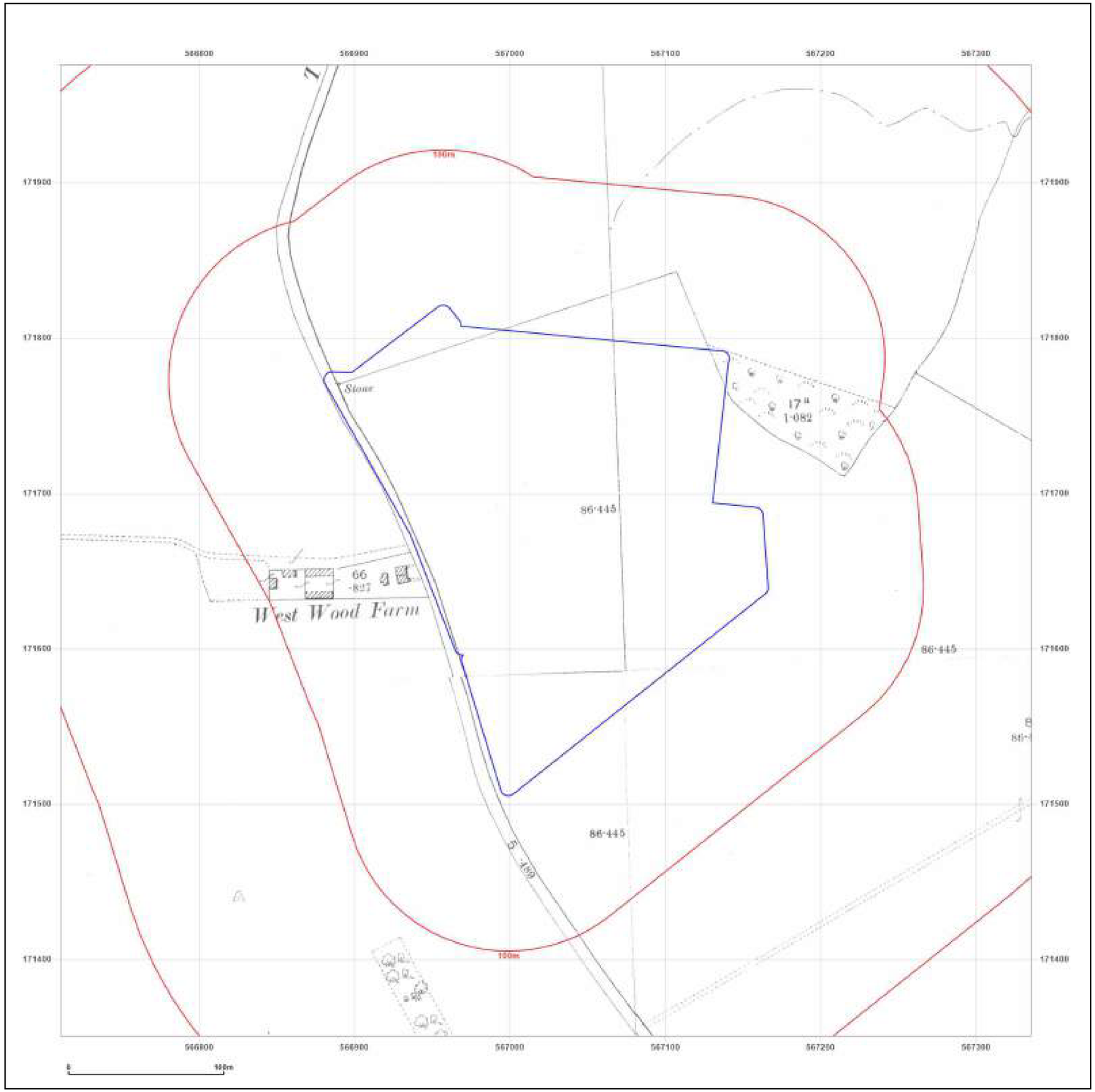
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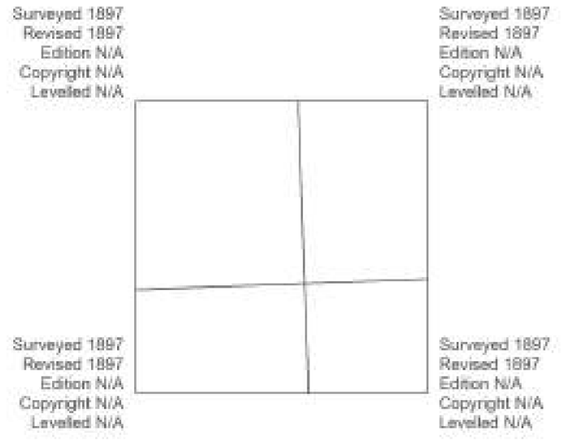
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1897**
Scale: 1:2,500
Printed at: 1:2,500

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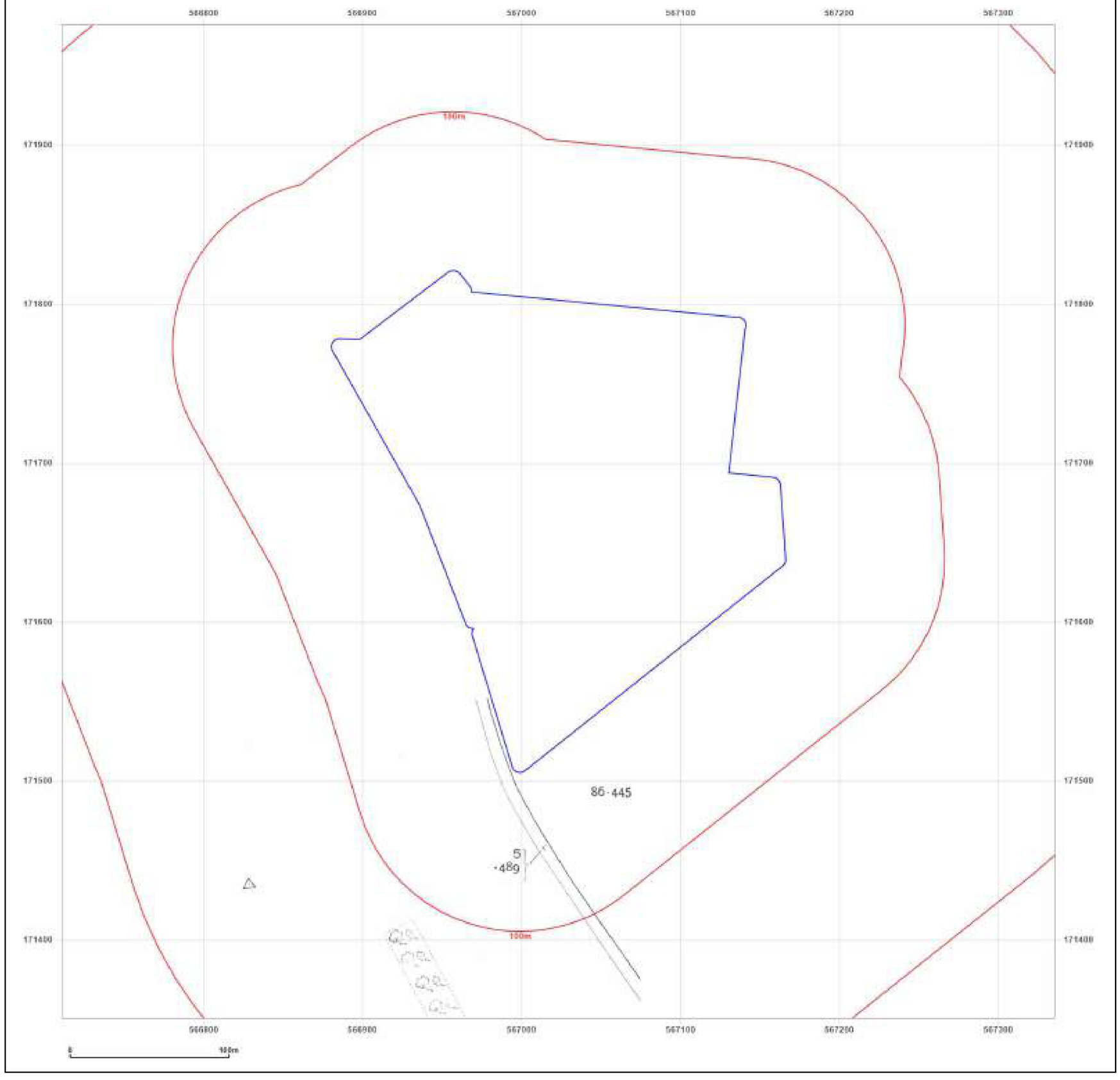
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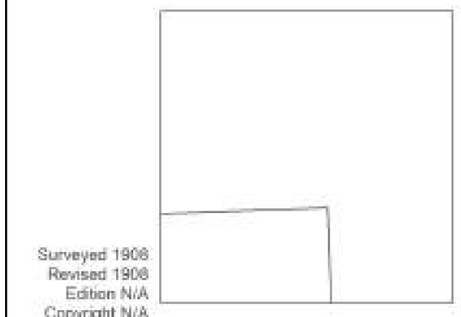
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1908**
Scale: 1:2,500
Printed at: 1:2,500

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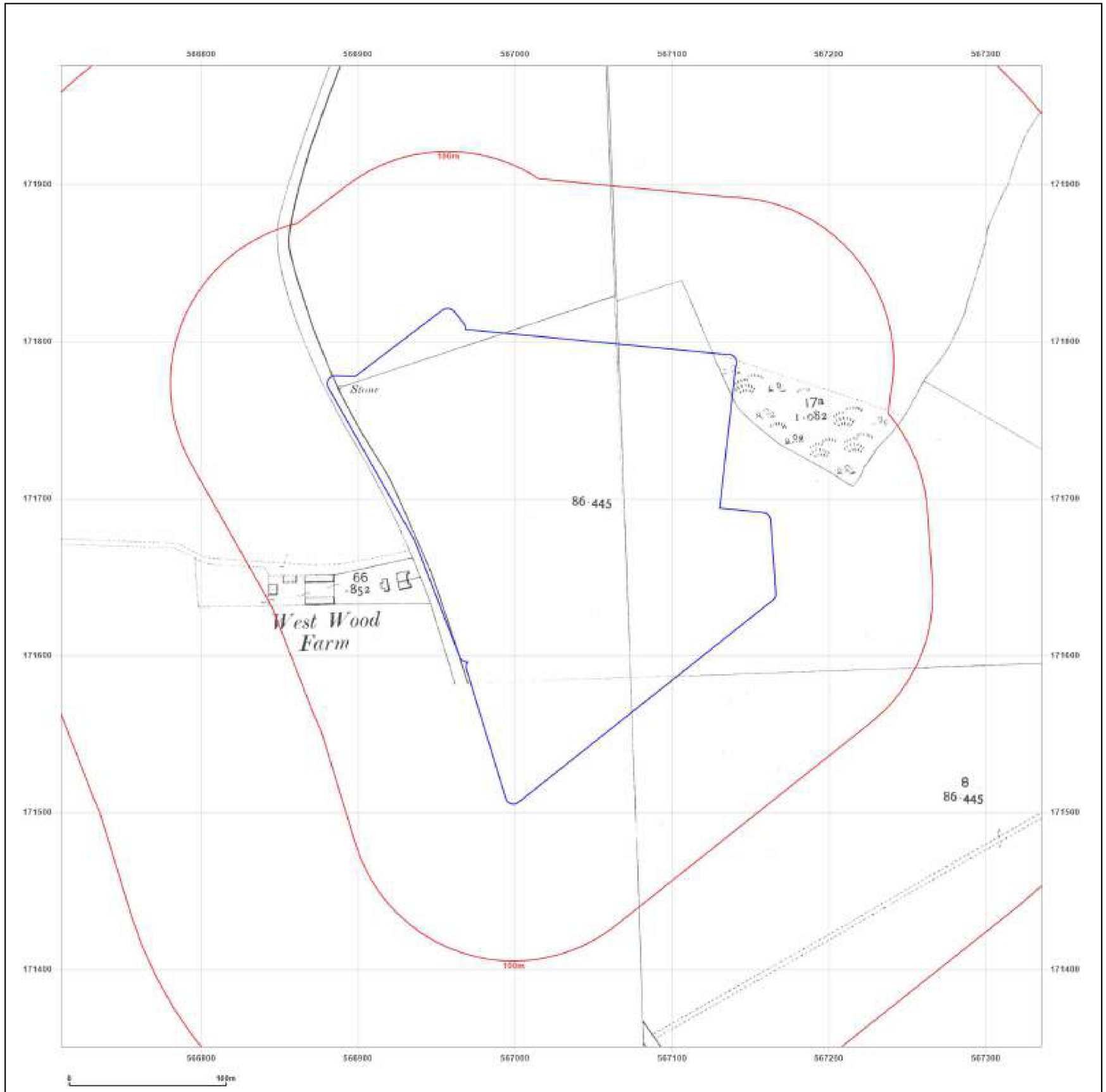
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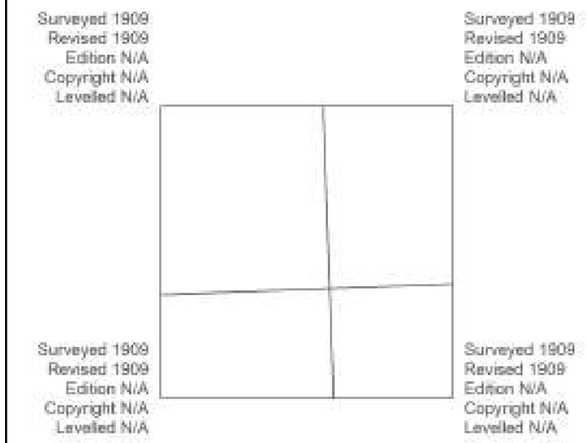
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: 1909
Scale: 1:2,500
Printed at: 1:2,500

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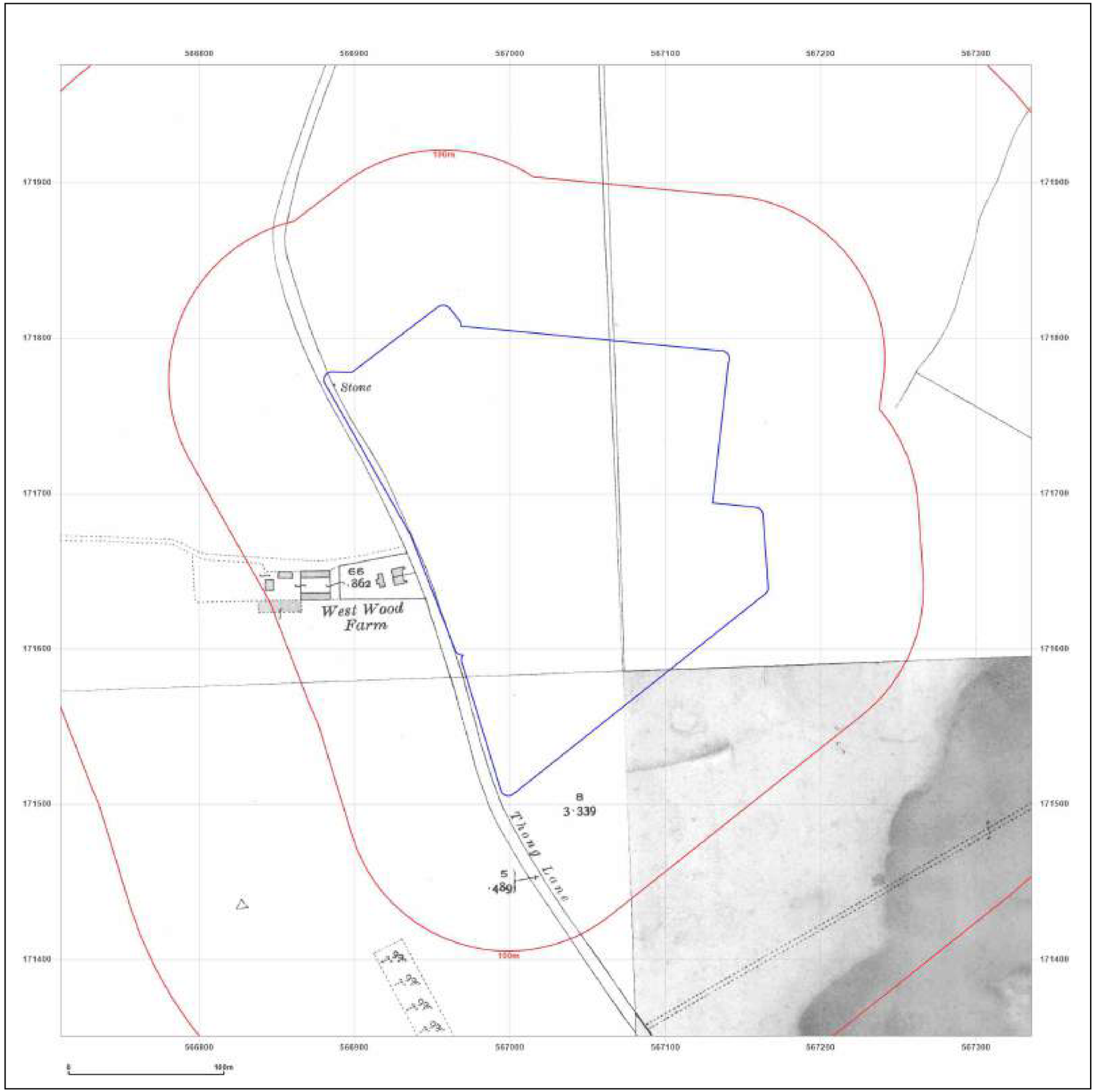
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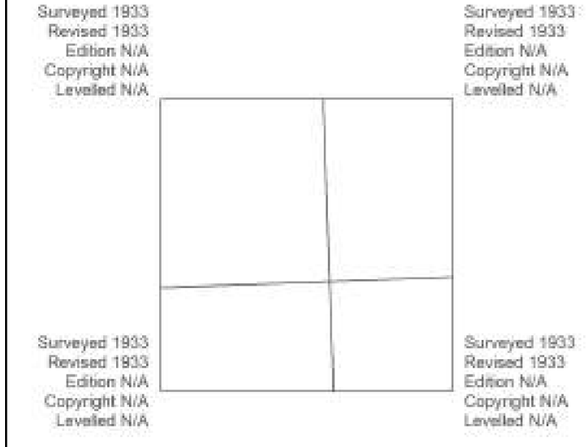
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1933**
Scale: 1:2,500
Printed at: 1:2,500

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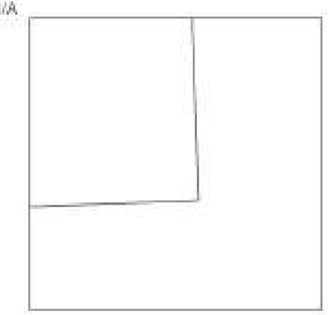
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: County Series
Map date: **1936**
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1936
Revised 1936
Edition N/A
Copyright N/A
Levelled N/A



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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: National Grid

Map date: **1964**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1962
Revised 1962
Edition 1964
Copyright 1964
Levelled 1952

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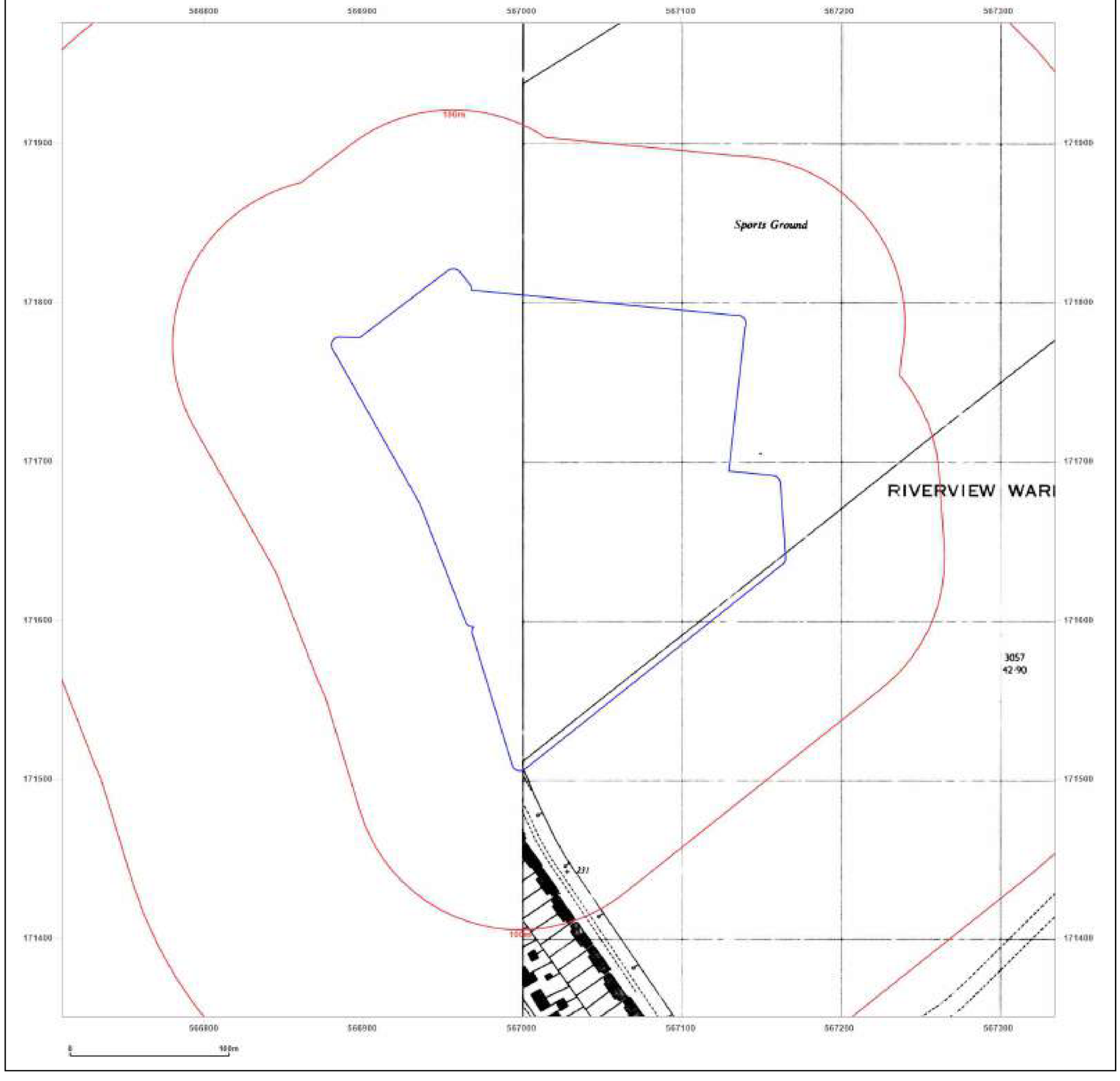
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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: National Grid
Map date: **1970**
Scale: 1:2,500
Printed at: 1:2,500

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

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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: National Grid

Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1969
Revised 1969
Edition N/A
Copyright 1970
Levelled 1852

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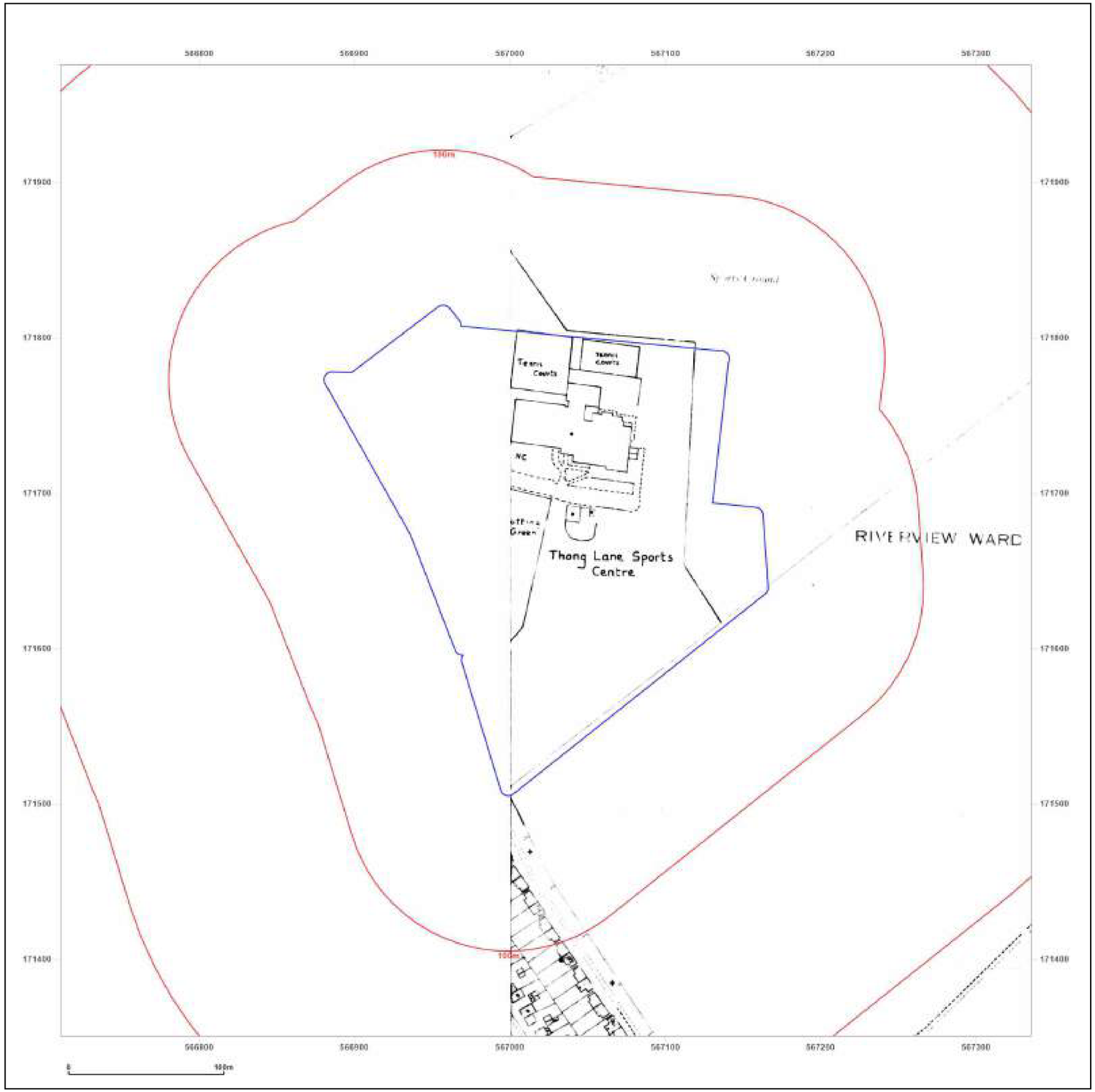
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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: National Grid
Map date: 1981
Scale: 1:2,500
Printed at: 1:2,500

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Revised N/A
Edition N/A
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Levelled N/A

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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF_2500
Grid Ref: 567023, 171663

Map Name: National Grid
Map date: **1990**
Scale: 1:2,500
Printed at: 1:2,500

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Revised 1990
Edition N/A
Copyright 1990
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
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Grid Ref: 567023, 171663

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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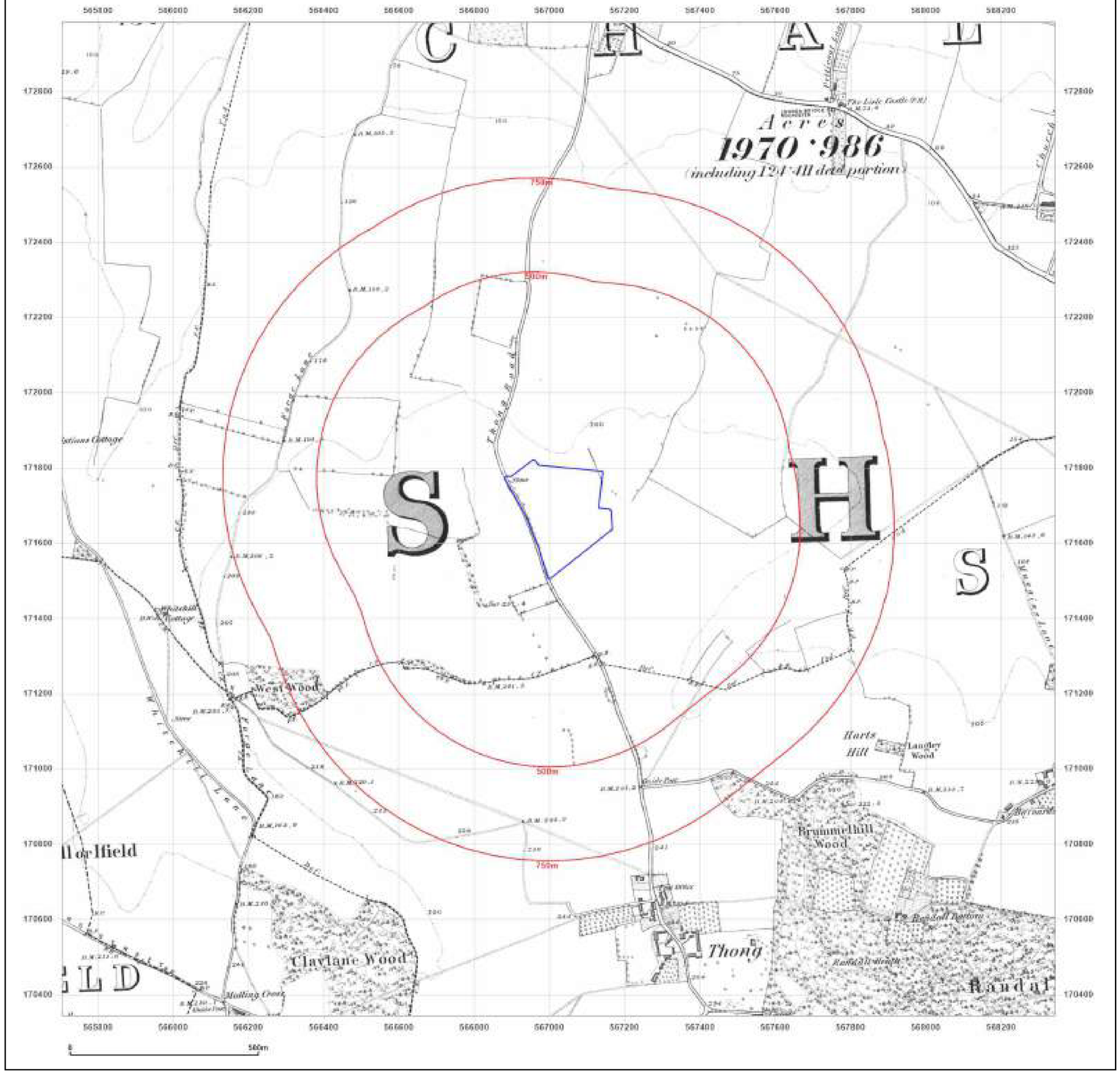
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1865**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1865
Revised 1865
Edition N/A
Copyright N/A
Levelled N/A

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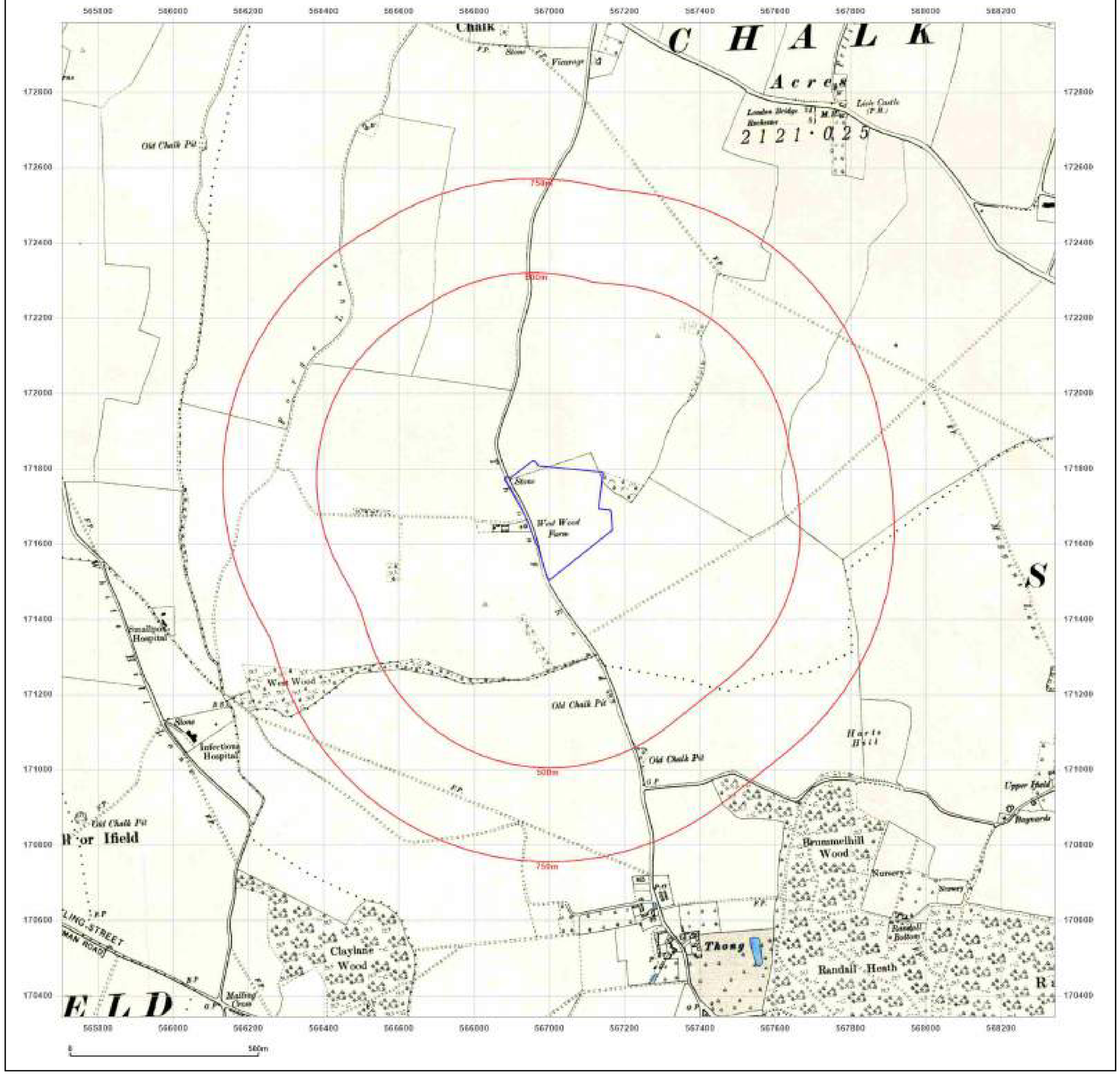
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
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Map Name: County Series

Map date: **1888**

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Printed at: 1:10,560

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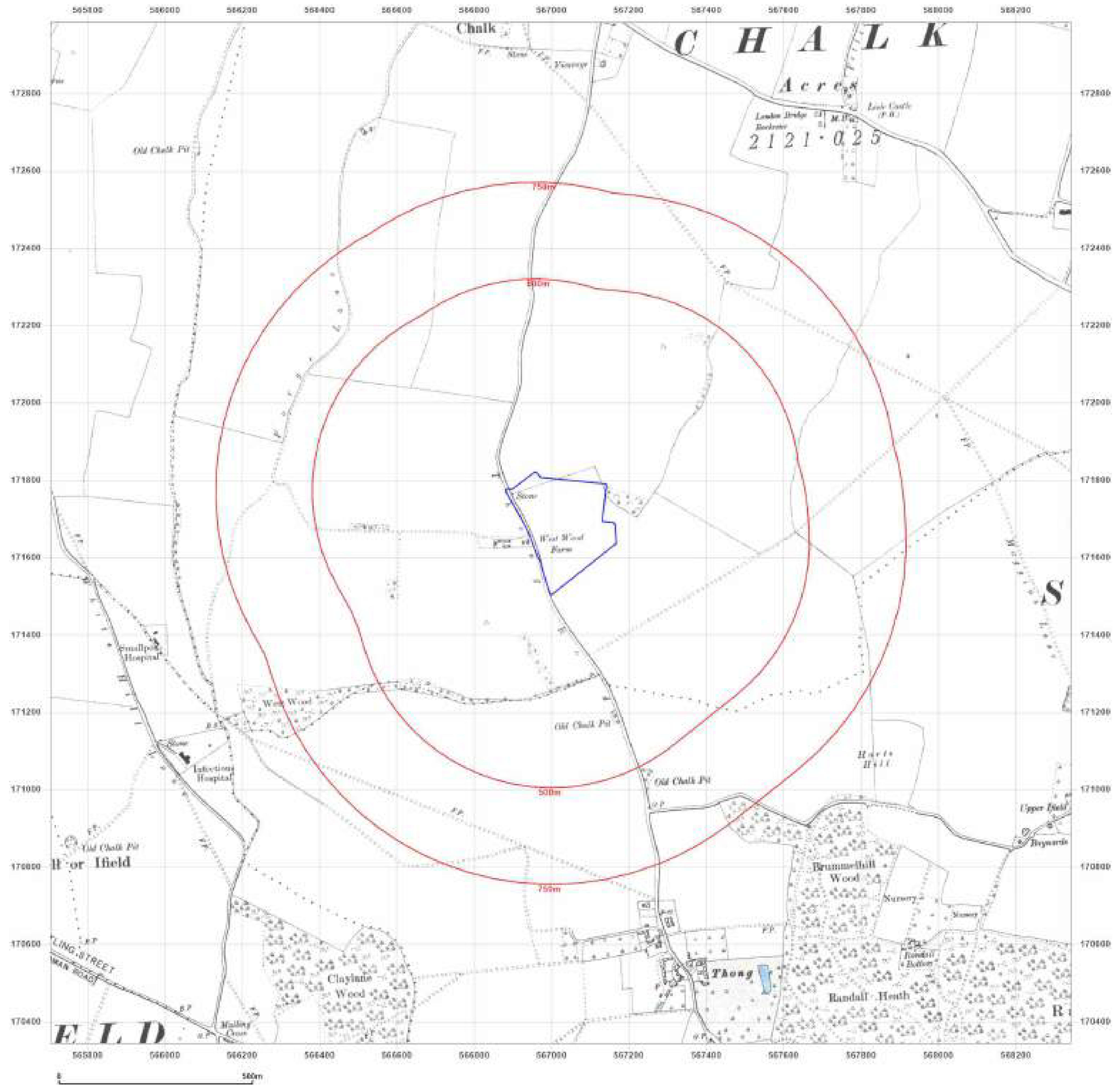
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Revised N/A
Edition N/A
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CASCADES LEISURE CENTRE,
THONG LANE, GRAVESEND,
KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1895**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1862
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

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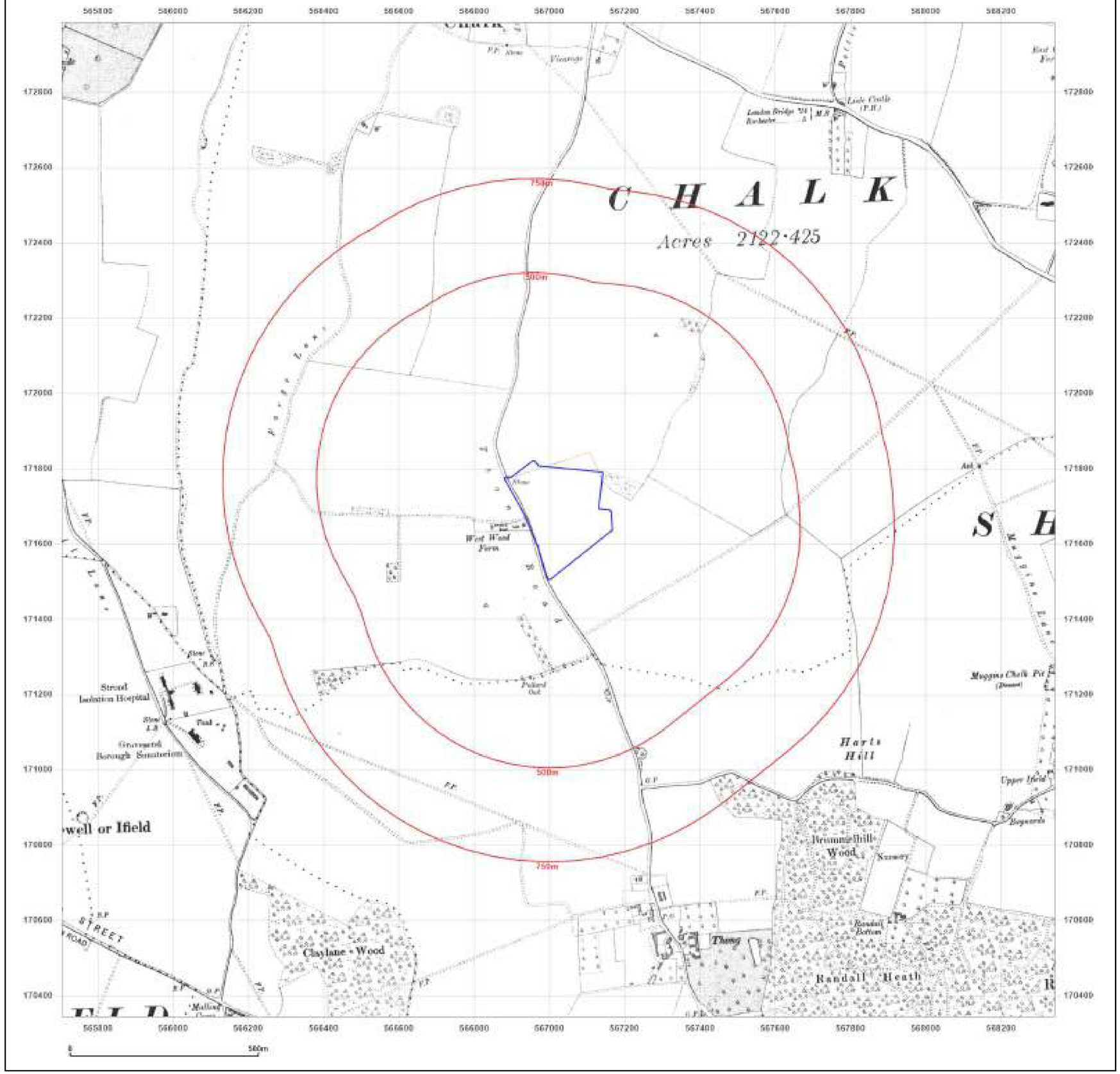
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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

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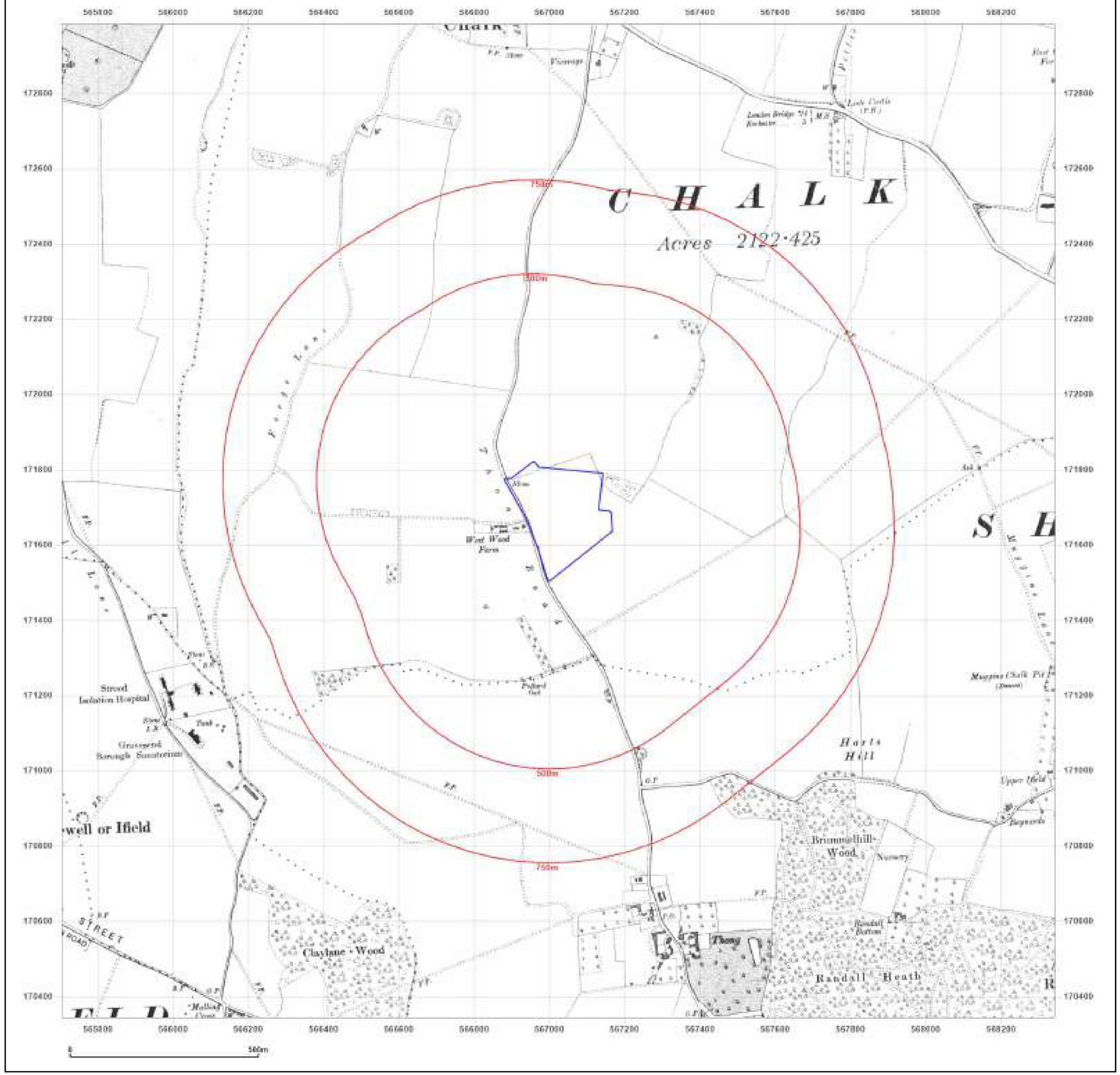
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Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1862
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

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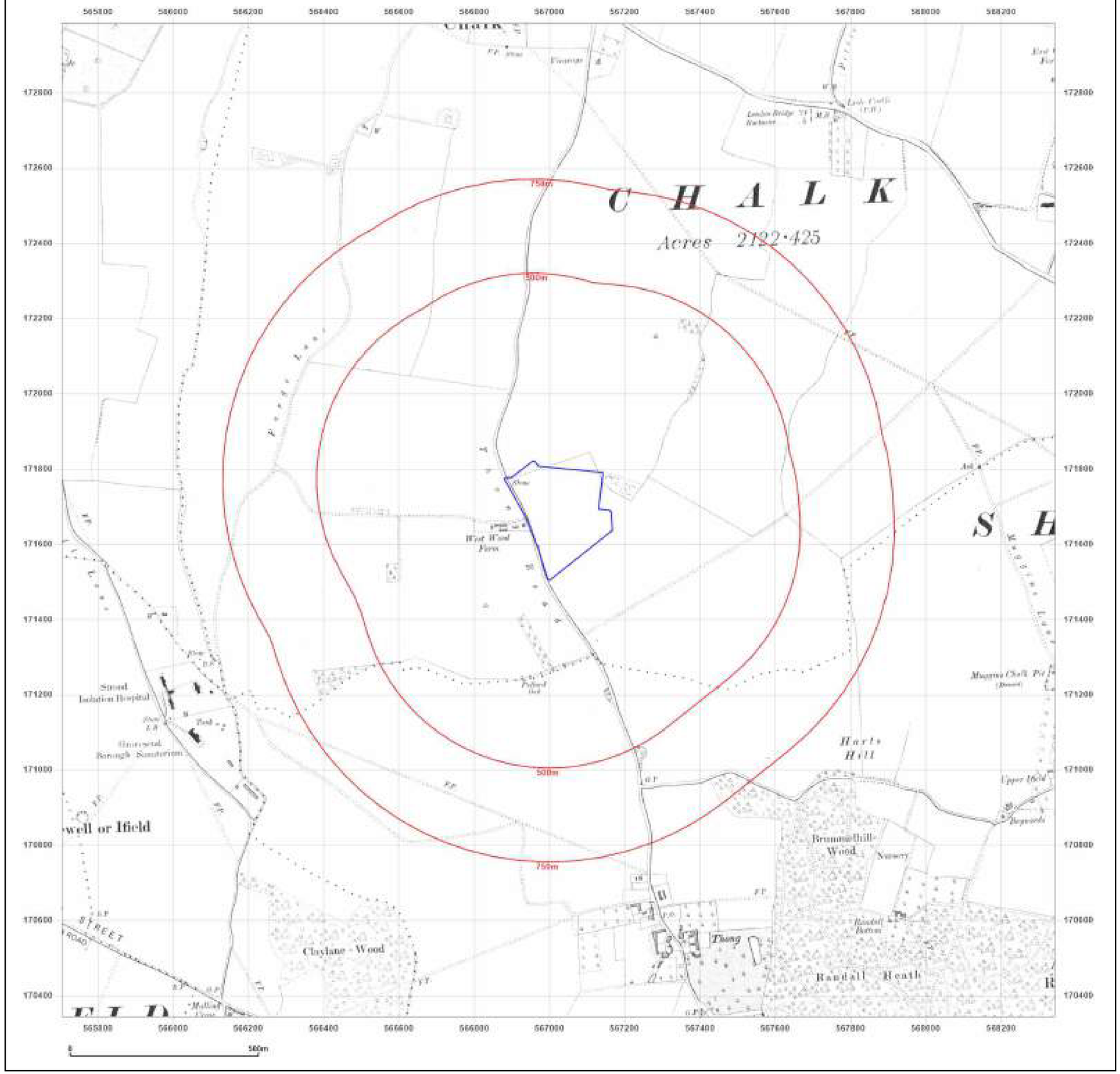
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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1862
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

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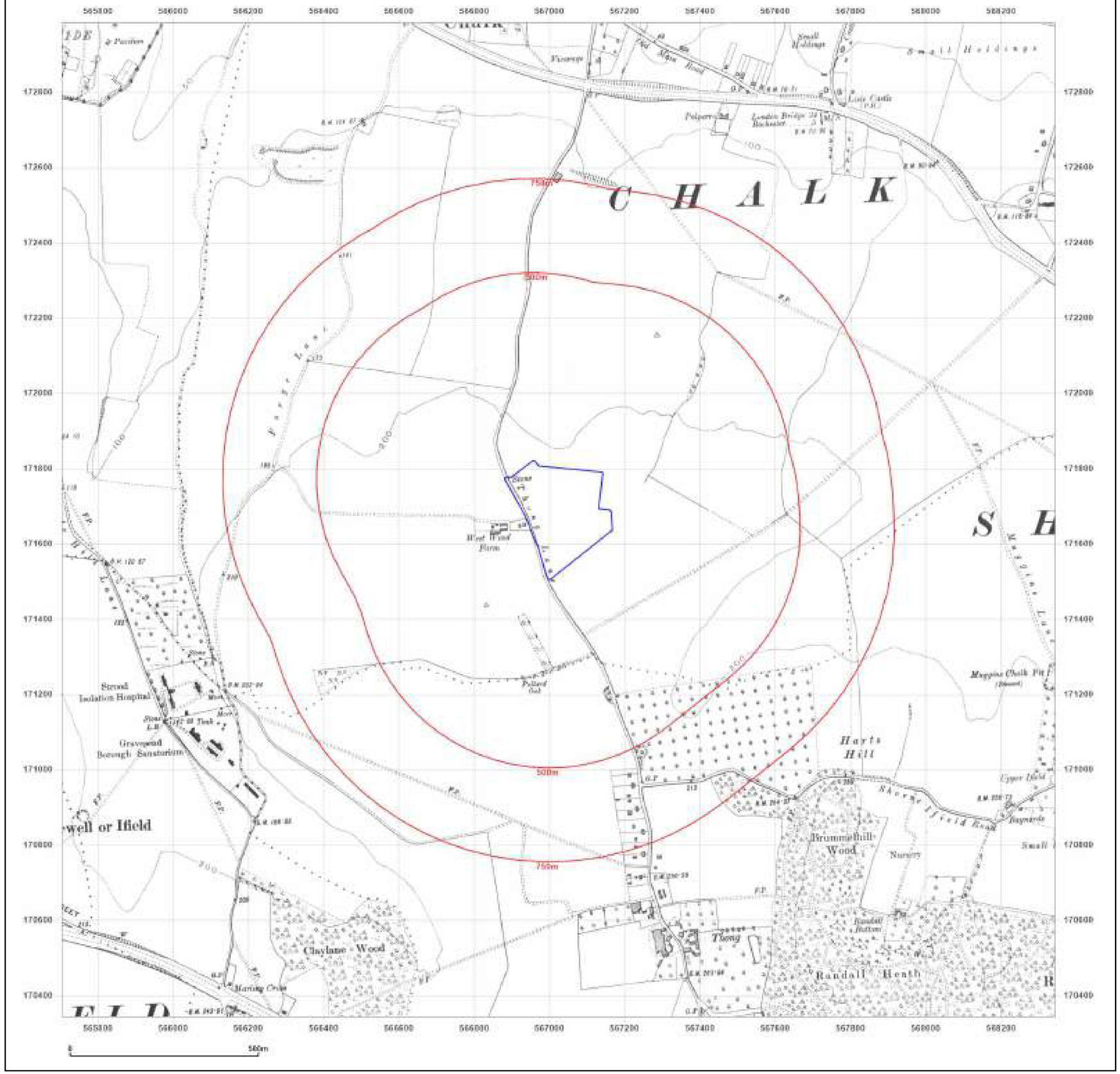
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1932**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1862
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

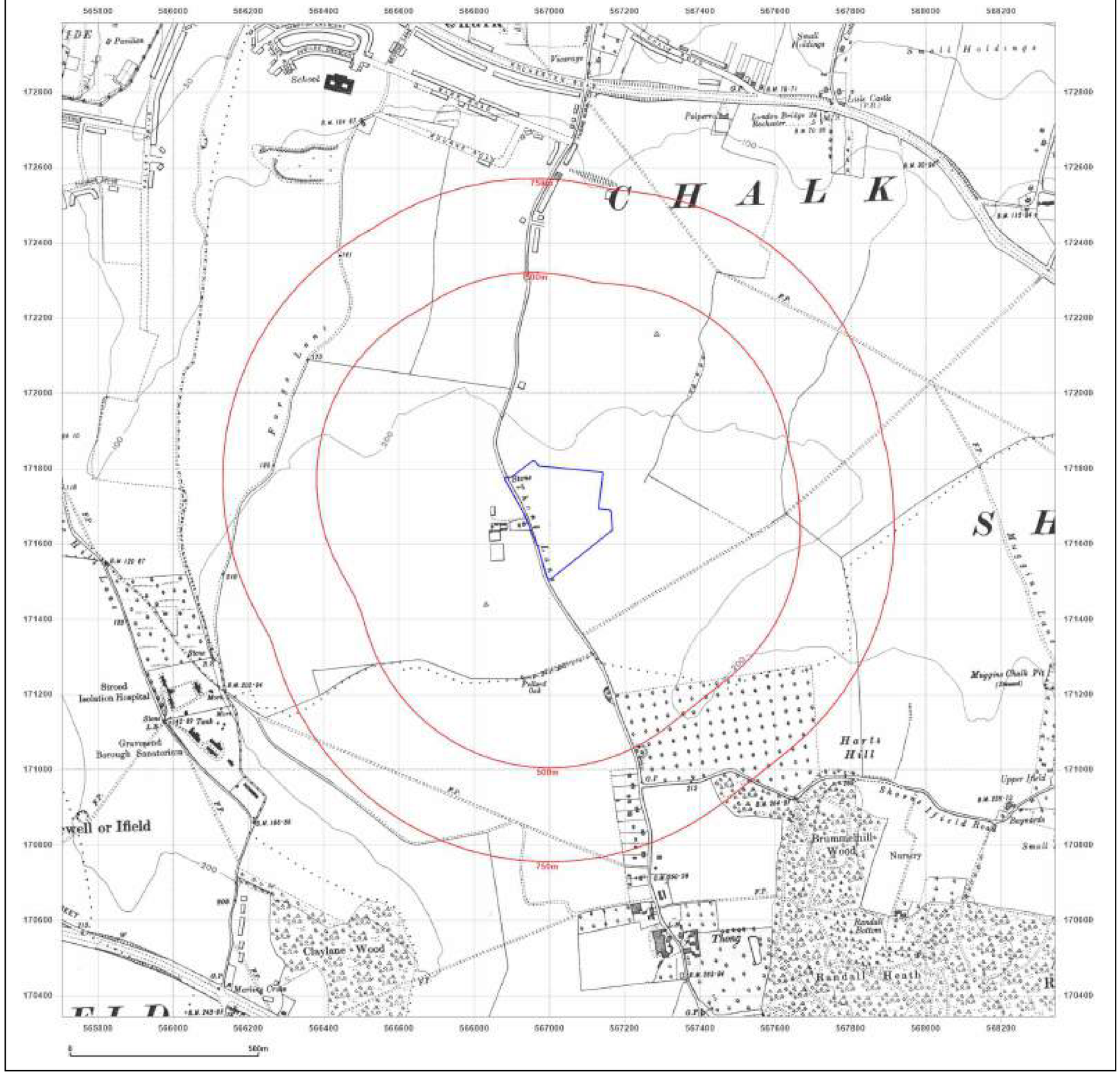
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1862
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

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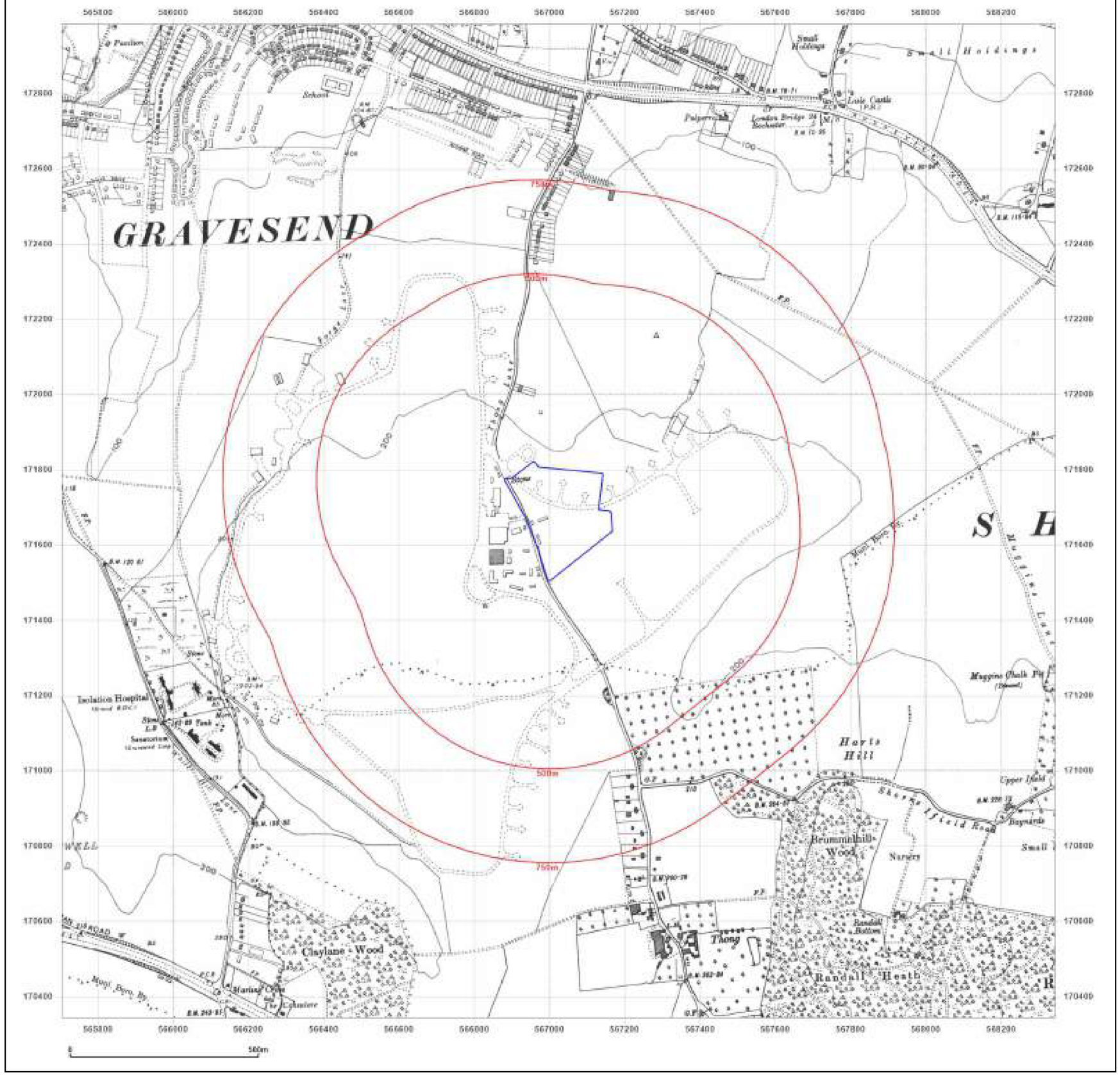
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: County Series

Map date: **1946**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1862
Revised 1946
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

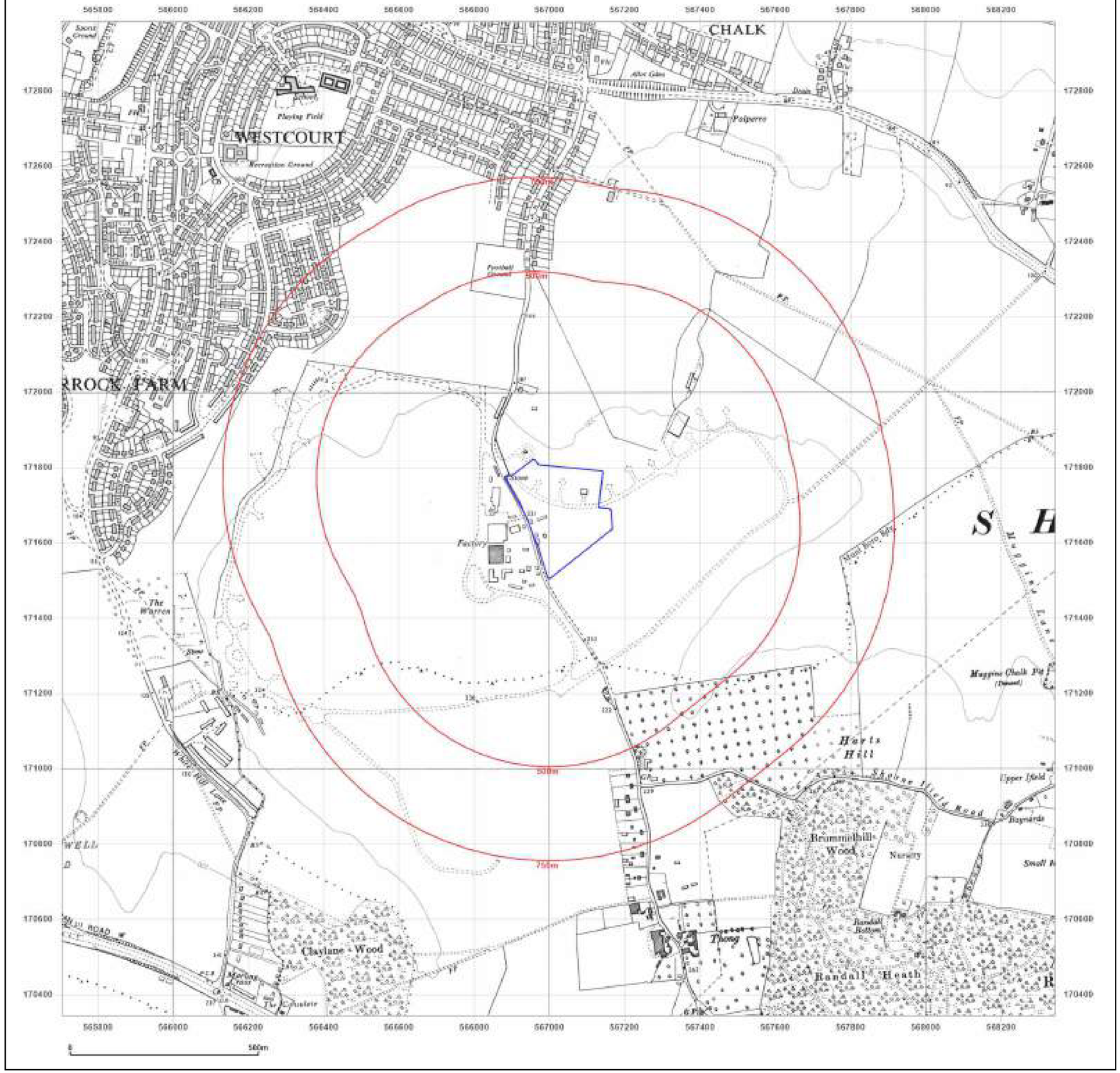
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: Provisional

Map date: **1955**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1863
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

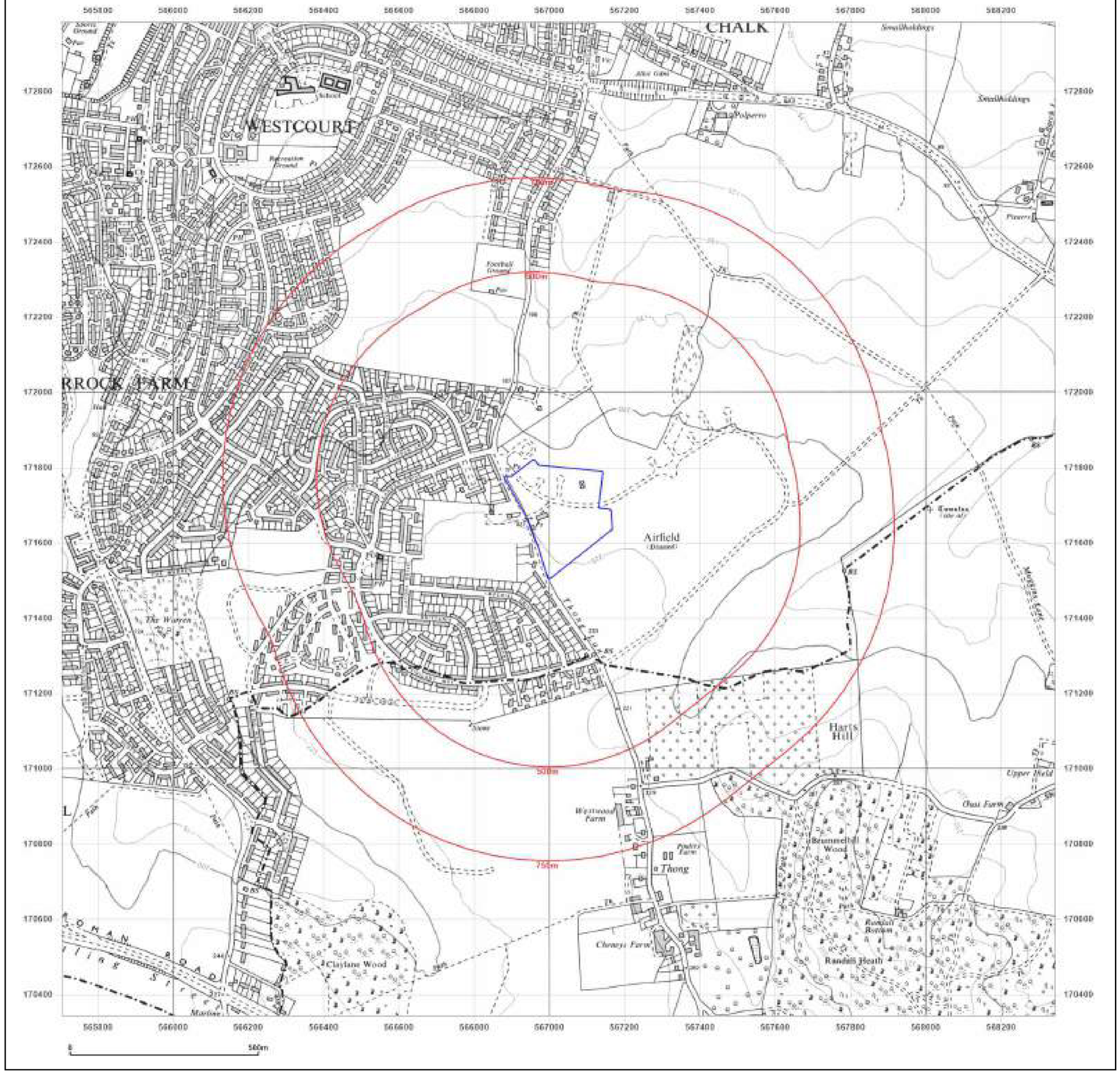
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

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

N
W E
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Surveyed 1866
Revised 1866
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

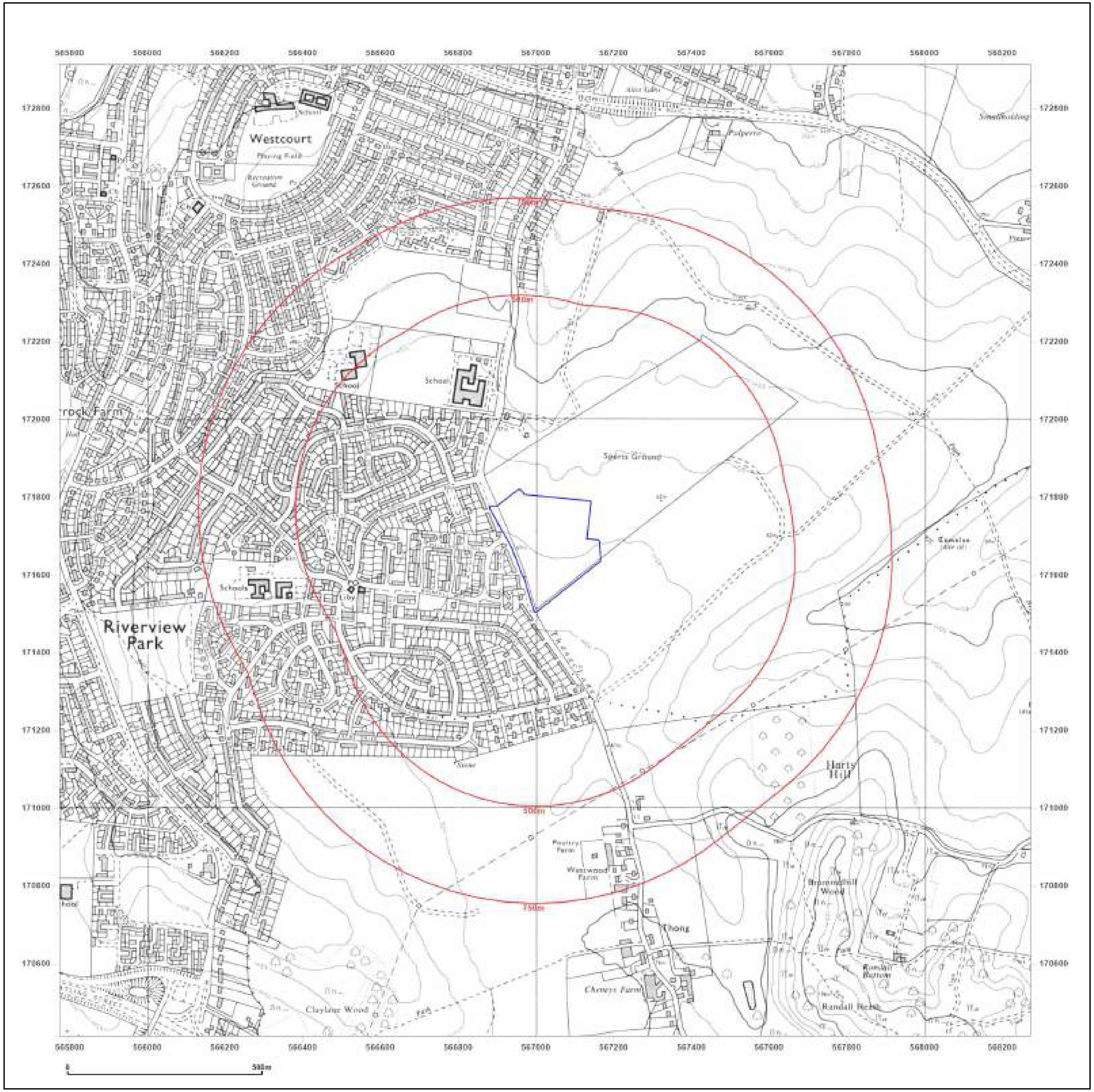
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

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

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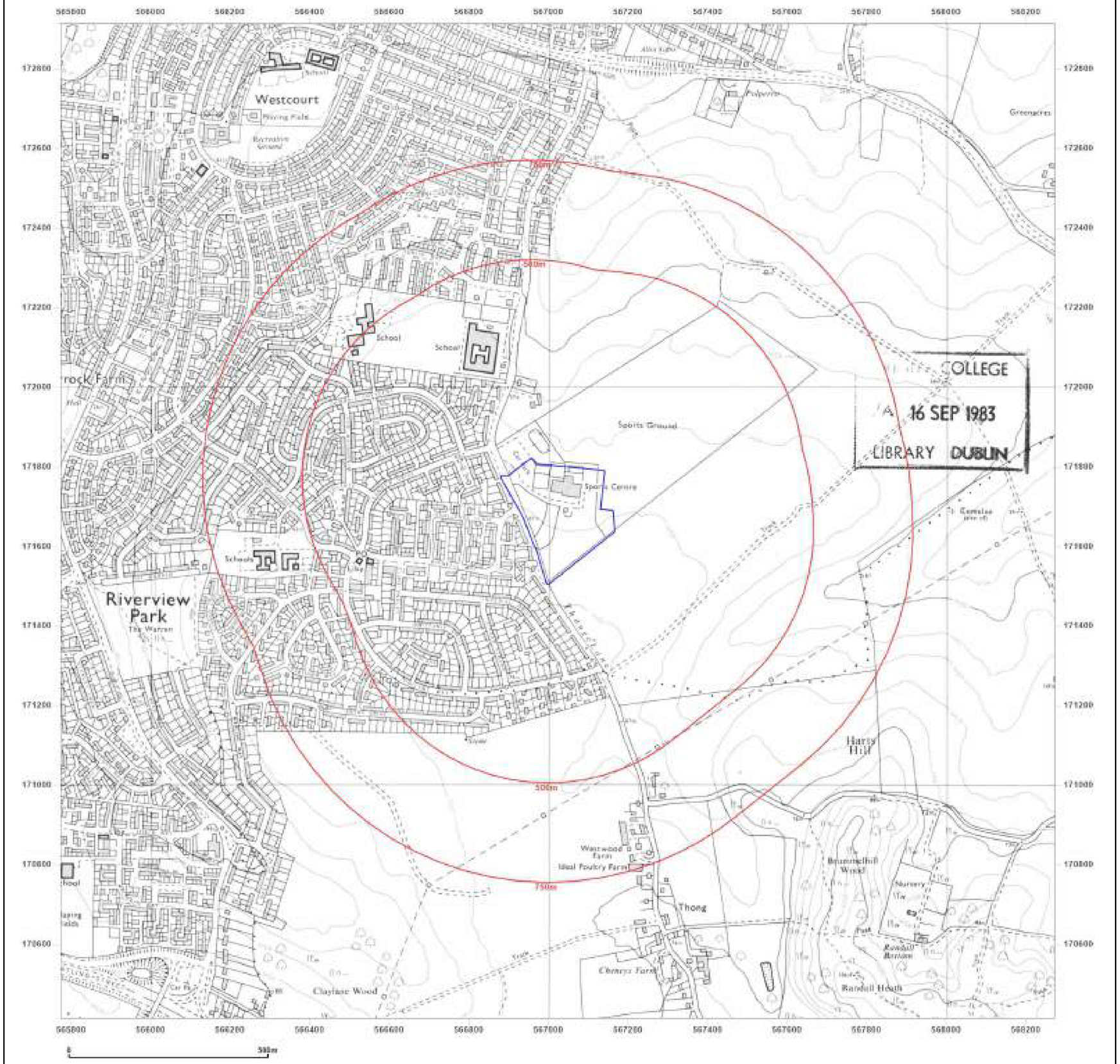
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: National Grid

Map date: **1981**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1980
Revised 1961
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

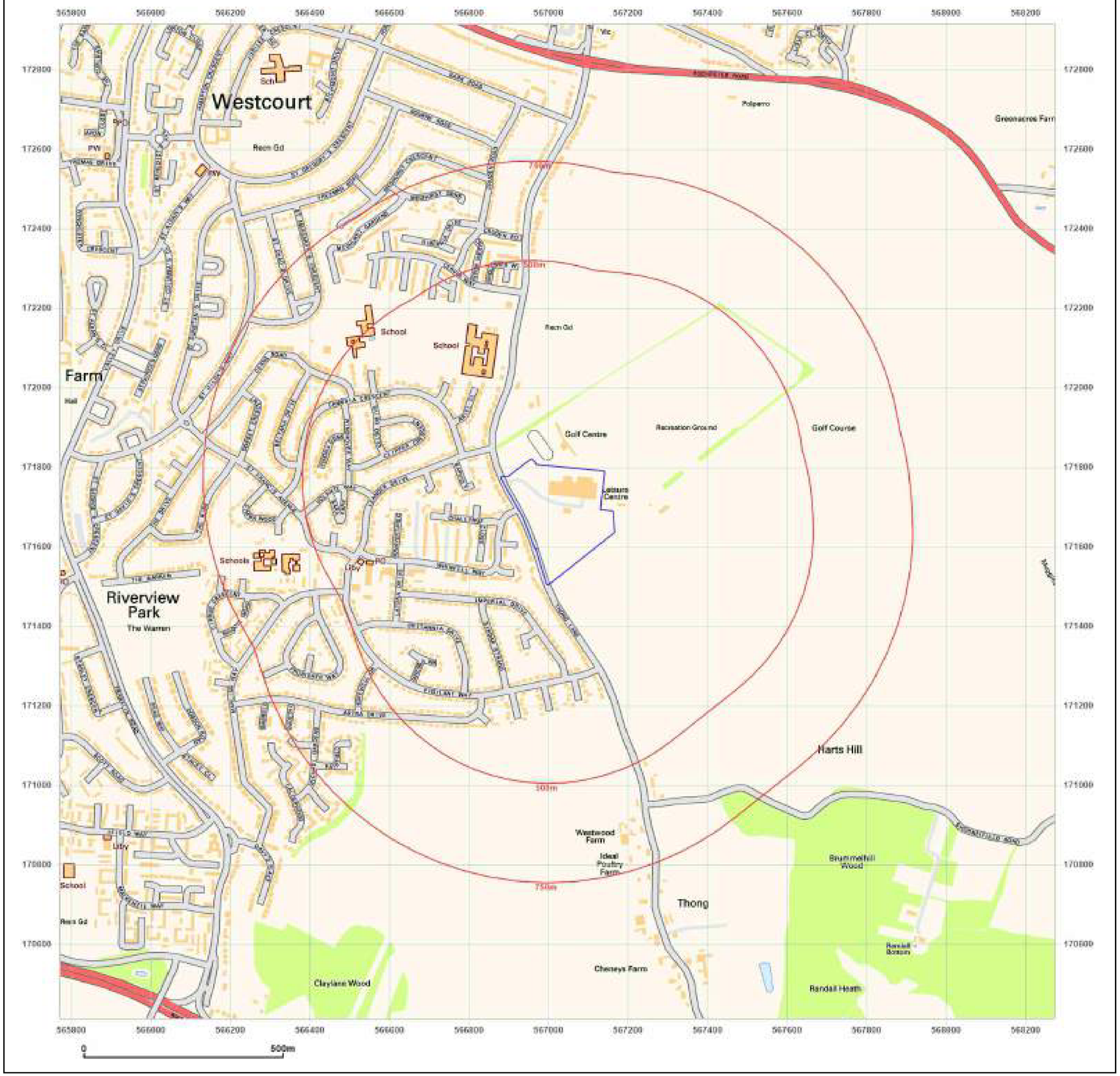
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Site Details:

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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

N
W E
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2001

Groundsure INSIGHTS

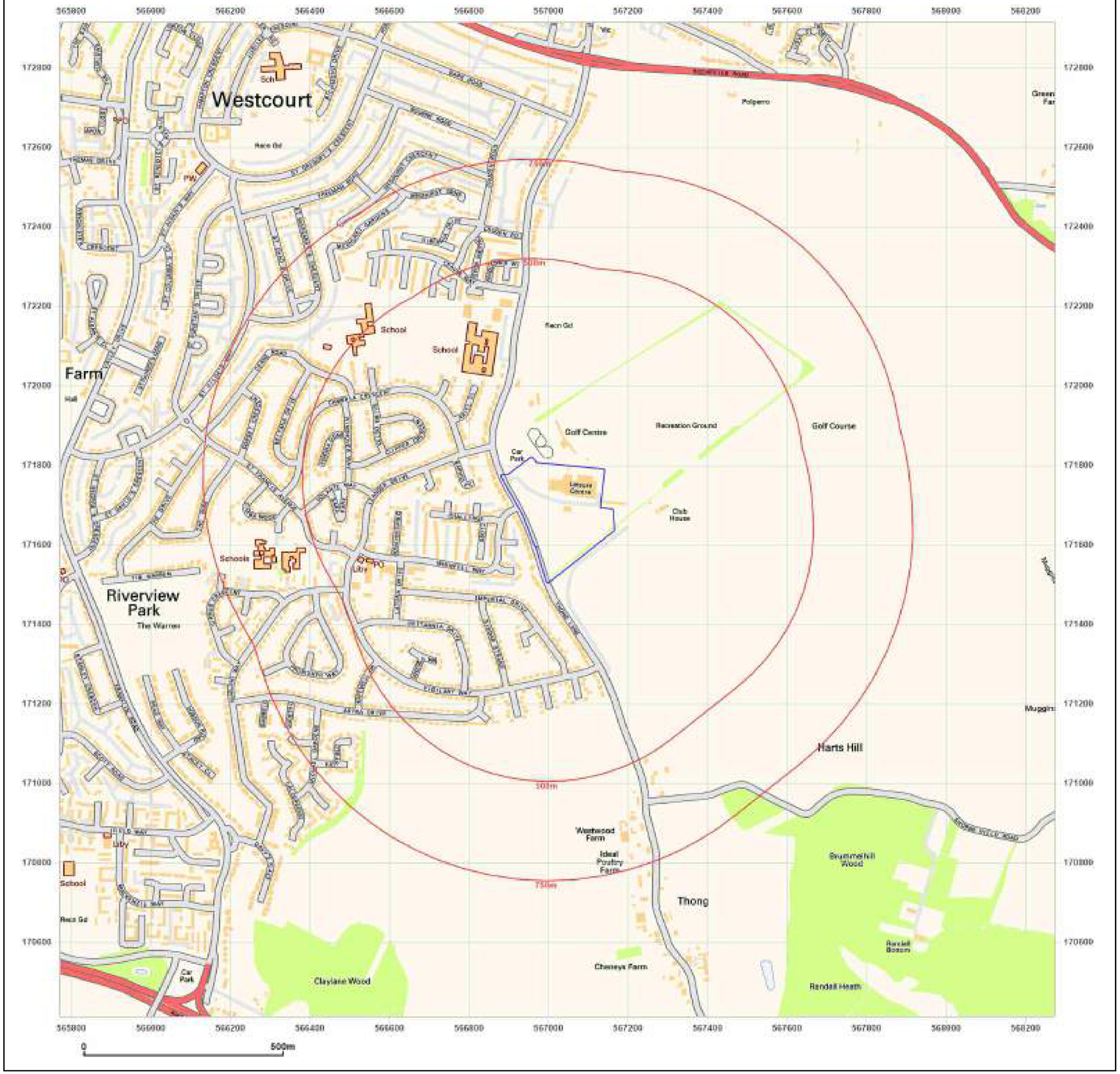
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Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

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

N
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2010

Groundsure Insights

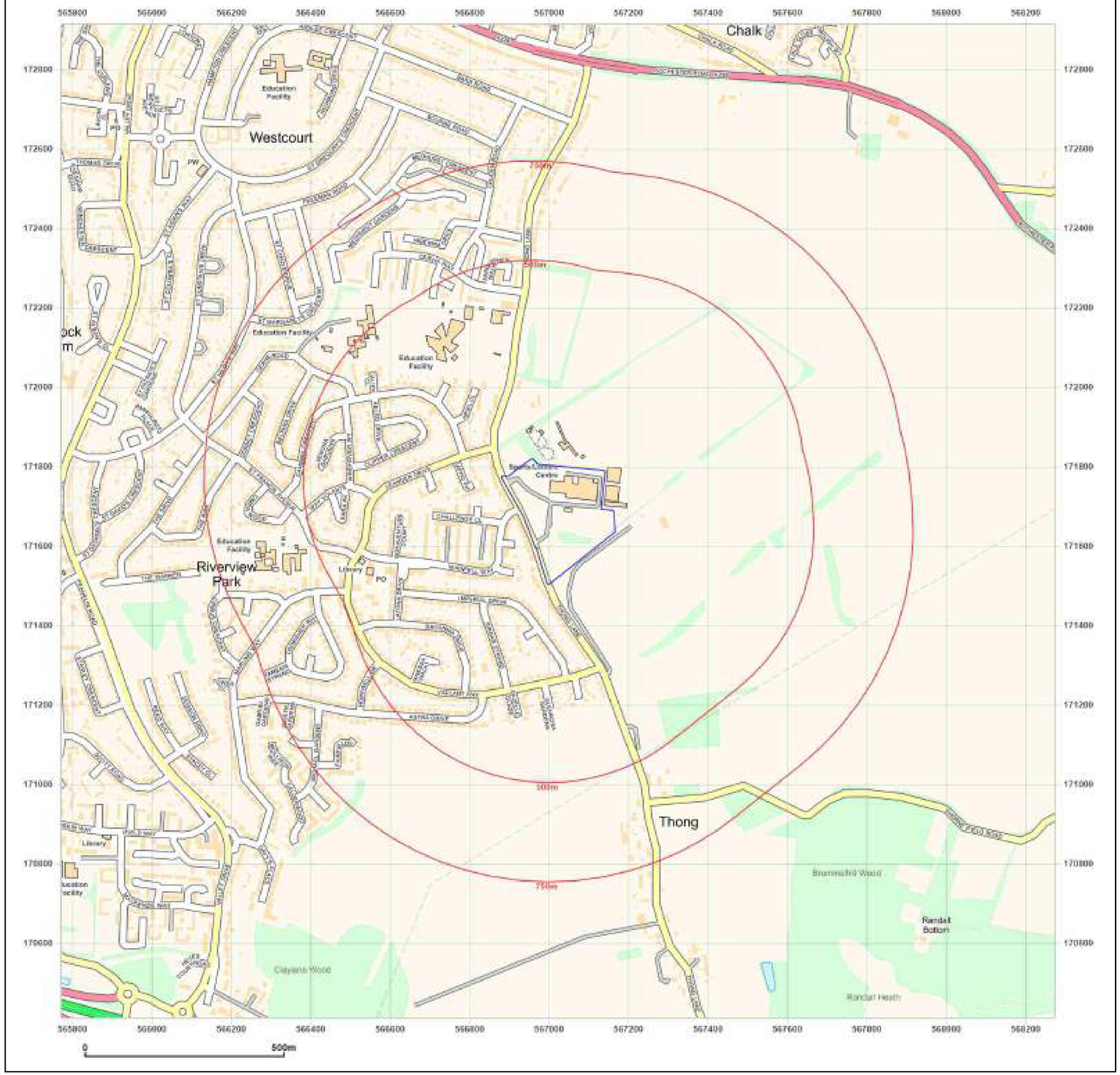
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KENT, DA12 4LG

Client Ref: 25 13244 KJC 15788
Report Ref: ALB-NYA-6UT-SP3-CWF
Grid Ref: 567023, 171663

Map Name: National Grid
Map date: **2025**
Scale: 1:10,000
Printed at: 1:10,000

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2025

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

CASCADES LEISURE CENTRE, THONG LANE, GRAVESEND, KENT, DA12 4LG

Order Details

Date: 16/10/2025

Your ref: 25 13244 KJC 15788

Our Ref: ALB-U3W-K25-NJR-1C7

Site Details

Location: 567030 171685

Area: 5.24 ha

Authority: Gravesham Borough Council ↗



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Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

Insight User Guide ↗

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

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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 >	1	2	0	9	-
16 >	1.2 >	Historical tanks >	0	0	0	1	-
16 >	1.3 >	Historical energy features >	1	1	3	3	-
17	1.4	Historical petrol stations	0	0	0	0	-
17 >	1.5 >	Historical garages >	0	0	0	3	-
18	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
19 >	2.1 >	Historical industrial land uses >	1	2	0	17	-
20 >	2.2 >	Historical tanks >	0	0	0	1	-
21 >	2.3 >	Historical energy features >	1	1	4	3	-
21	2.4	Historical petrol stations	0	0	0	0	-
21 >	2.5 >	Historical garages >	0	0	0	3	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	5	0	4	3	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	1	1	7	-	-
27	4.2	National Geographic Database (NGD) - Current or recent tanks	0	0	0	-	-
27 >	4.3 >	Current or recent petrol stations >	0	0	0	1	-
28	4.4	Electricity cables	0	0	0	0	-
28 >	4.5 >	Gas pipelines >	0	0	0	1	-

28	4.6	Sites determined as Contaminated Land	0	0	0	0	-
28	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.8	Regulated explosive sites	0	0	0	0	-
29	4.9	Hazardous substance storage/usage	0	0	0	0	-
29	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
29 >	4.12 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	1	-
30	4.13	Radioactive Substance Authorisations	0	0	0	0	-
30 >	4.14 >	Licensed Discharges to controlled waters >	0	0	2	1	-
31	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.16	Pollutant release to public sewer	0	0	0	0	-
31	4.17	List 1 Dangerous Substances	0	0	0	0	-
31	4.18	List 2 Dangerous Substances	0	0	0	0	-
31 >	4.19 >	Pollution Incidents (EA/NRW) >	0	0	0	3	-
32	4.20	Pollution inventory substances	0	0	0	0	-
32	4.21	Pollution inventory waste transfers	0	0	0	0	-
32	4.22	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
36 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
38 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
39 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
40	5.5	Groundwater vulnerability- local information	None (within 0m)				
41 >	5.6 >	Groundwater abstractions >	0	0	0	0	1
42 >	5.7 >	Surface water abstractions >	0	0	0	0	2
43	5.8	Potable abstractions	0	0	0	0	0
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m

44	6.1	Water Network (OS MasterMap)	0	0	0	-	-
44	6.2	Surface water features	0	0	0	-	-
45 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
45	6.4	WFD Surface water bodies	0	0	0	-	-
45 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
47	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49	7.6	Flood Zone 2	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
50 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
52 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	3
54 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	1
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
55	10.4	Special Protection Areas (SPA)	0	0	0	0	0
55	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
55 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	6
56	10.8	Biosphere Reserves	0	0	0	0	0
56	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56 >	10.11 >	Green Belt >	1	0	0	0	0

57	10.12	Proposed Ramsar sites	0	0	0	0	0
57	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
57	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
58 >	10.16 >	Nitrate Vulnerable Zones >	2	0	0	0	0
59	10.17	SSSI Impact Risk Zones	0	-	-	-	-
60 >	10.18 >	SSSI Units >	0	0	0	0	4
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
63	11.1	World Heritage Sites	0	0	0	-	-
63	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
63	11.3	National Parks	0	0	0	-	-
63	11.4	Listed Buildings	0	0	0	-	-
64	11.5	Conservation Areas	0	0	0	-	-
64	11.6	Scheduled Ancient Monuments	0	0	0	-	-
64	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
65 >	12.1 >	Agricultural Land Classification >	Grade 2 (within 250m)				
66	12.2	Open Access Land	0	0	0	-	-
66	12.3	Tree Felling Licences	0	0	0	-	-
66	12.4	Environmental Stewardship Schemes	0	0	0	-	-
67	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
68	13.1	Priority Habitat Inventory	0	0	0	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	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
69 >	14.1 >	10k Availability >	Identified (within 500m)				
70 >	14.2 >	Artificial and made ground (10k) >	5	1	3	11	-

72 >	14.3 >	Superficial geology (10k) >	0	0	1	2	-
73	14.4	Landslip (10k)	0	0	0	0	-
74 >	14.5 >	Bedrock geology (10k) >	2	0	0	0	-
75	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
76 >	15.1 >	50k Availability >	Identified (within 500m)				
77 >	15.2 >	Artificial and made ground (50k) >	2	1	2	6	-
78 >	15.3 >	Artificial ground permeability (50k) >	1	0	-	-	-
79 >	15.4 >	Superficial geology (50k) >	0	0	1	2	-
80	15.5	Superficial permeability (50k)	None (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81 >	15.8 >	Bedrock geology (50k) >	2	0	0	0	-
82 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
82	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
83 >	16.1 >	BGS Boreholes >	0	0	4	-	-
Page	Section	Natural ground subsidence >					
85 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
86 >	17.2 >	Running sands >	Low (within 50m)				
88 >	17.3 >	Compressible deposits >	Very low (within 50m)				
90 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
91 >	17.5 >	Landslides >	Very low (within 50m)				
93 >	17.6 >	Ground dissolution of soluble rocks >	Moderate (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
95 >	18.1 >	BritPits >	0	0	0	1	-
96	18.2	Surface ground workings	0	0	0	-	-
96	18.3	Underground workings	0	0	0	0	0
96	18.4	Underground mining extents	0	0	0	0	-

97	18.5	Historical Mineral Planning Areas	0	0	0	0	-
97 >	18.6 >	Non-coal mining >	2	0	0	0	2
98	18.7	JPB mining areas	None (within 0m)				
98	18.8	The Coal Authority non-coal mining	0	0	0	0	-
98 >	18.9 >	Researched mining >	0	0	1	1	-
98	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)				
99	18.13	Brine areas	None (within 0m)				
99	18.14	Gypsum areas	None (within 0m)				
99	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	-
102 >	19.2 >	Mining cavities >	0	0	0	1	1
102	19.3	Reported recent incidents	0	0	0	0	-
102	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
103 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	21.1 >	BGS Estimated Background Soil Chemistry >	4	3	-	-	-
105	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
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	1	0	-	-
108	22.5	Royal Mail tunnels	0	0	0	-	-

108	22.6	Historical railways	0	0	0	-	-
109 >	**22.7 >**	**Railways >**	0	2	0	-	-
109	22.8	Crossrail 2	0	0	0	0	-
109	22.9	HS2	0	0	0	0	-

Recent aerial photograph

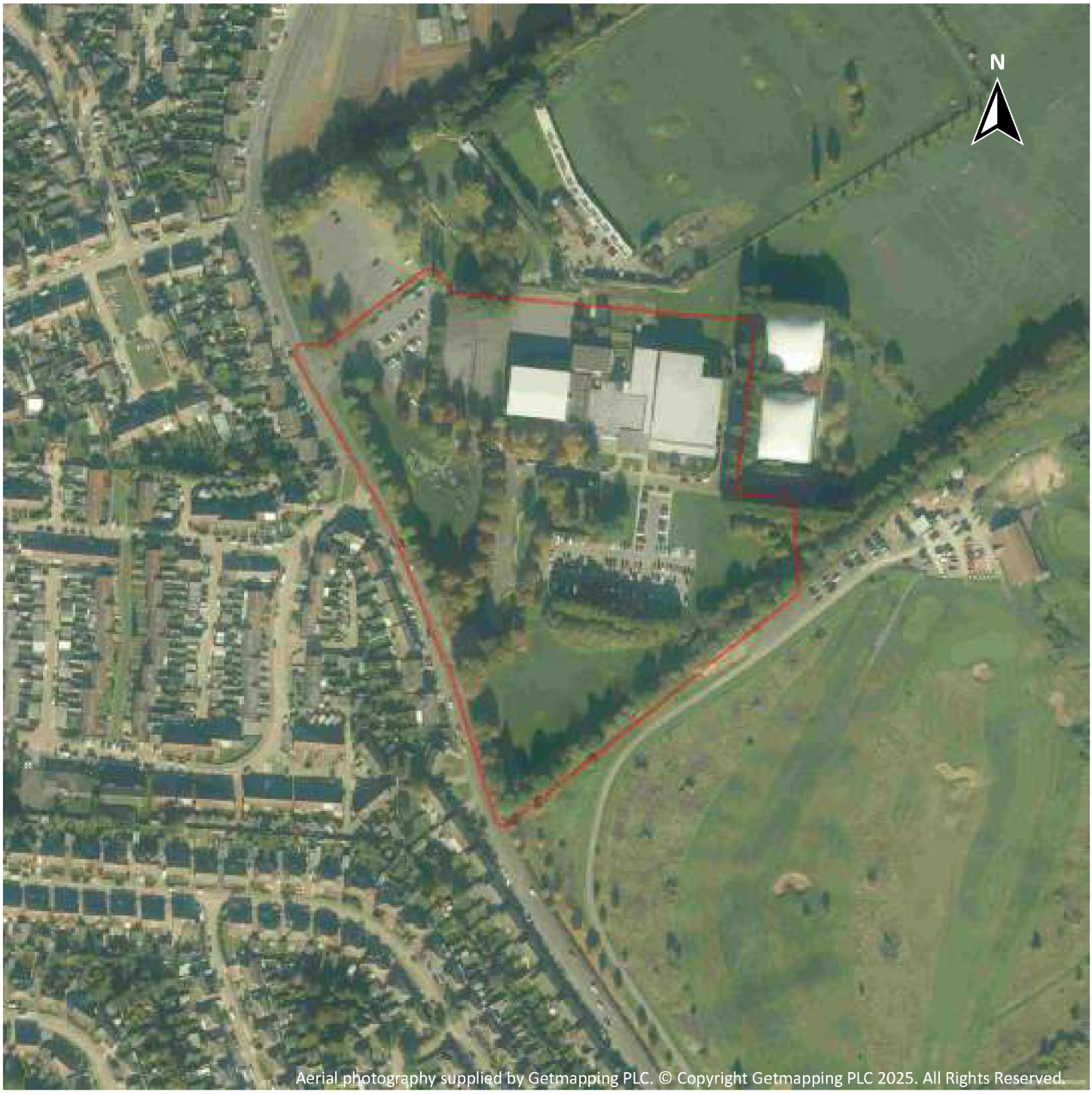


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Capture Date: 31/05/2021

Site Area: 5.24ha

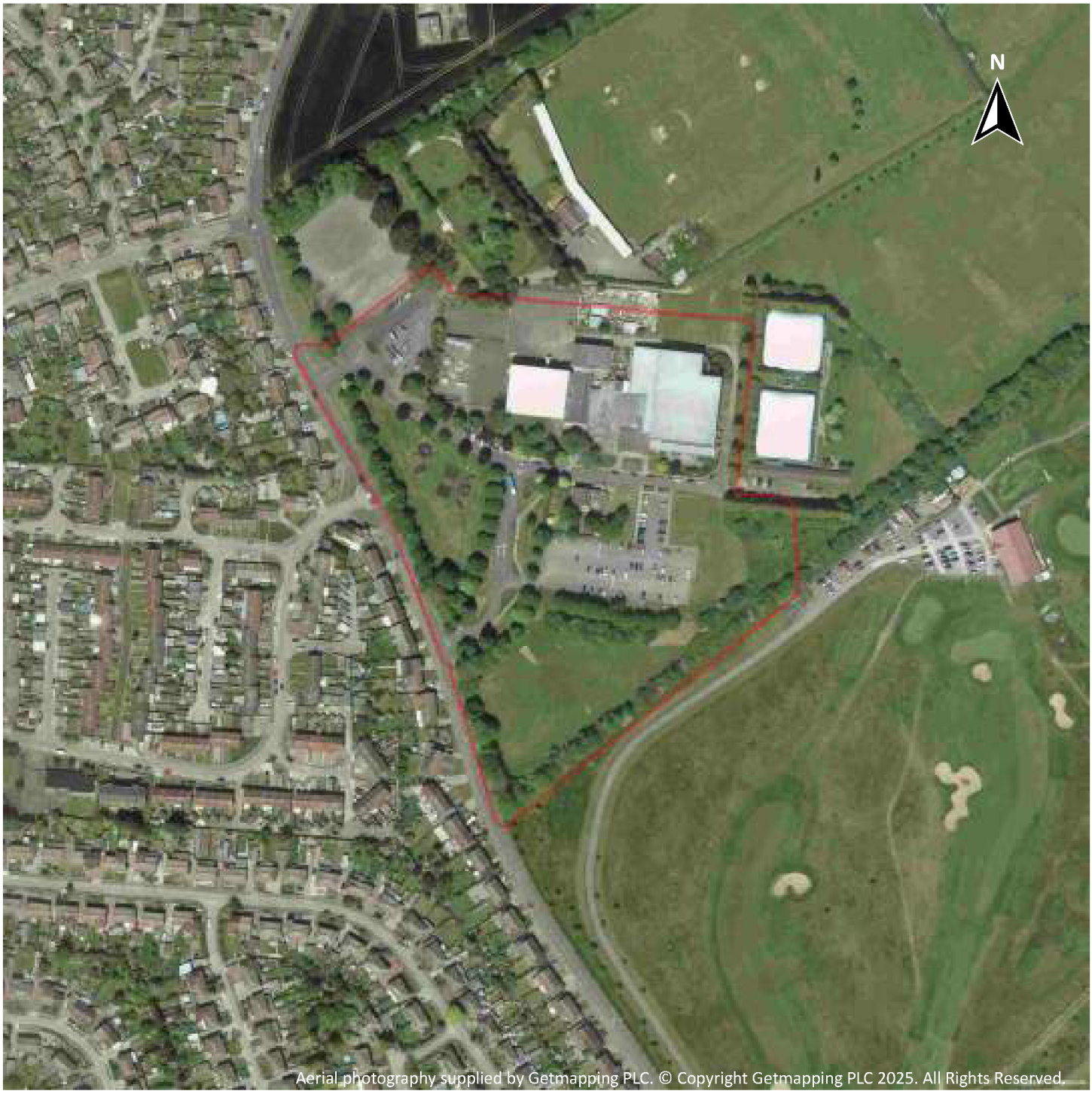
Recent site history - 2018 aerial photograph



Capture Date: 21/10/2018

Site Area: 5.24ha

Recent site history - 2012 aerial photograph

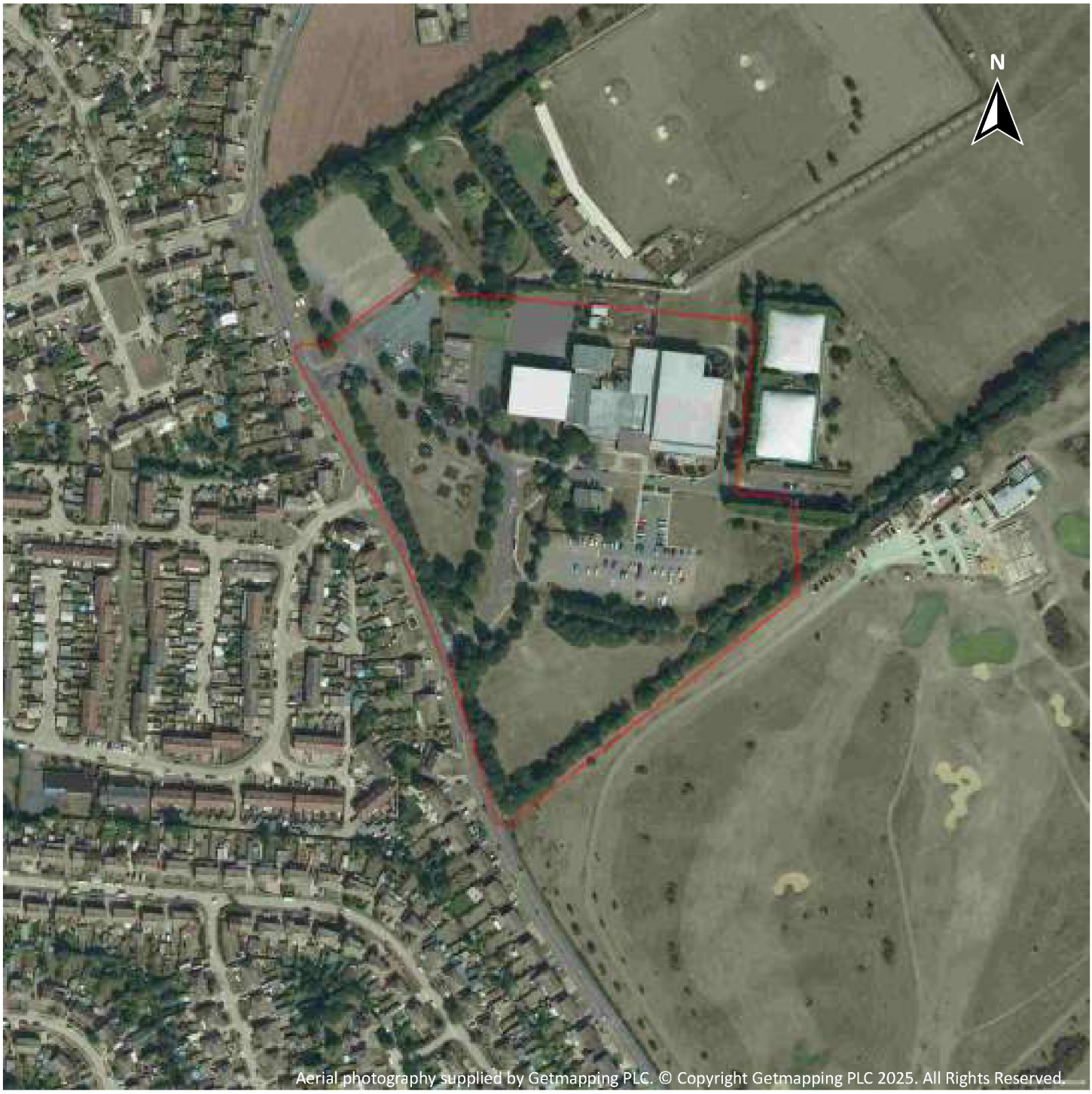


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Capture Date: 25/05/2012

Site Area: 5.24ha

Recent site history - 2009 aerial photograph



Capture Date: 23/08/2009

Site Area: 5.24ha

Recent site history - 1999 aerial photograph

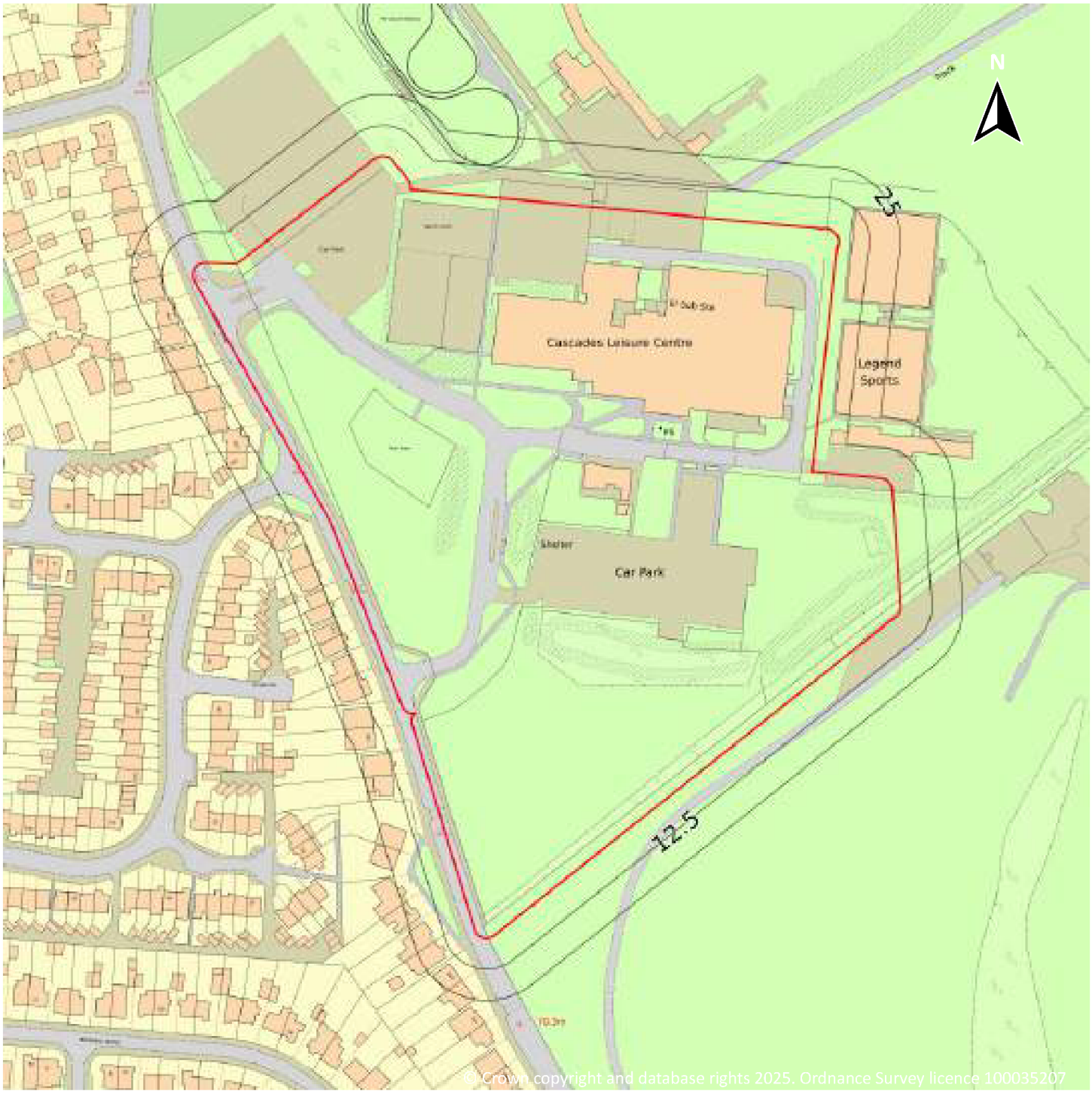


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Capture Date: 03/09/1999

Site Area: 5.24ha

OS MasterMap site plan



Site Area: 5.24ha

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	12

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
1	**On site**	**Disused Airfield**	**1966**	**2173426**

ID	Location	Land use	Dates present	Group ID
3	7m W	Unspecified Factory	1955	2200083
4	13m NE	Railway Sidings	1981	2200437
A	325m SE	Unspecified Pit	1907 - 1938	2215413
A	327m SE	Unspecified Ground Workings	1907	2217469
A	327m SE	Unspecified Pit	1955	2315696
A	333m SE	Old Chalk Pit	1888 - 1895	2218941
C	479m SE	Unspecified Pit	1907 - 1932	2228335
C	479m SE	Unspecified Pit	1946	2306486
C	498m SE	Unspecified Pit	1955	2257860
C	498m SE	Unspecified Pit	1938	2322869
C	498m SE	Unspecified Ground Workings	1907	2269635

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	1

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
10	347m N	Tanks	1978	378482

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	8

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
2	**On site**	**Electricity Substation**	**1990**	**272226**
5	47m W	Electricity Substation	1982	273310
6	182m NW	Electricity Substation	1982	273312
7	190m N	Electricity Substation	1953 - 1955	311890
8	194m S	Electricity Substation	1990	272227
9	283m NW	Electricity Substation	1978	270666
11	365m NW	Electricity Substation	1982	273309
B	365m SW	Electricity Substation	1982	273311

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	3

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
B	330m SW	Garage	1970	82498
B	330m SW	Garage	1968	91054
B	331m SW	Garage	1982	90370

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	20

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 19 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Disused Airfield**	**1966**	**2173426**
3	7m W	Unspecified Factory	1955	2200083
4	13m NE	Railway Sidings	1981	2200437

ID	Location	Land Use	Date	Group ID
B	325m SE	Unspecified Pit	1938	2215413
B	325m SE	Unspecified Pit	1938	2215413
B	326m SE	Unspecified Pit	1932	2215413
B	326m SE	Unspecified Pit	1907	2215413
B	327m SE	Unspecified Ground Workings	1907	2217469
B	327m SE	Unspecified Ground Workings	1907	2217469
B	327m SE	Unspecified Pit	1955	2315696
B	333m SE	Old Chalk Pit	1888	2218941
B	334m SE	Old Chalk Pit	1895	2218941
D	479m SE	Unspecified Pit	1946	2306486
D	479m SE	Unspecified Pit	1932	2228335
D	479m SE	Unspecified Pit	1907	2228335
D	498m SE	Unspecified Pit	1955	2257860
D	498m SE	Unspecified Pit	1938	2322869
D	498m SE	Unspecified Pit	1938	2322869
D	498m SE	Unspecified Ground Workings	1907	2269635
D	498m SE	Unspecified Ground Workings	1907	2269635

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m **1**

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 19 >**

ID	Location	Land Use	Date	Group ID
9	347m N	Tanks	1978	378482

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	9

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 19 >**

ID	Location	Land Use	Date	Group ID
2	**On site**	**Electricity Substation**	**1990**	**272226**
5	47m W	Electricity Substation	1982	273310
6	182m NW	Electricity Substation	1982	273312
A	190m N	Electricity Substation	1953	311890
A	191m N	Electricity Substation	1955	311890
7	194m S	Electricity Substation	1990	272227
8	283m NW	Electricity Substation	1978	270666
10	365m NW	Electricity Substation	1982	273309
C	365m SW	Electricity Substation	1982	273311

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	3

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 19 >**

ID	Location	Land Use	Date	Group ID
C	330m SW	Garage	1970	82498
C	330m SW	Garage	1968	91054
C	331m SW	Garage	1982	90370

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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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	12

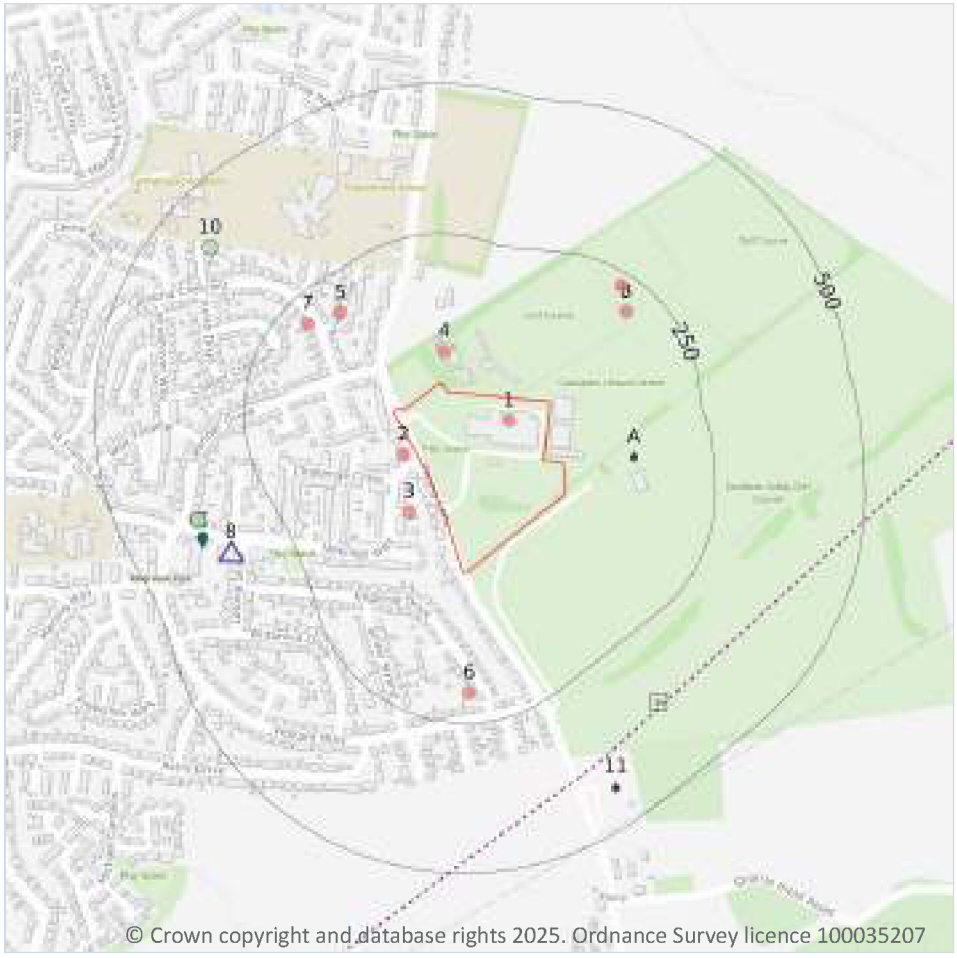
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 23 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	**On site**	**Southern Valley Golf Club Thong Lane Gravesend Kent Da12 4lt**	**EPR/JE5255YZ/A001**	**Using waste exemption**	**Non-agricultural waste only**	**Use of waste in construction**
A	**On site**	**Cascades Leisure Centre Thong Lane Gravesend Kent Da12 4lg**	**EPR/MF0335RX/A001**	**Using waste exemption**	**Non-agricultural waste only**	**Use of waste for a specified purpose**
A	**On site**	**Cascades Leisure Centre Thong Lane Gravesend Kent Da12 4lg**	**EPR/MF0335RX/A001**	**Storing waste exemption**	**Non-agricultural waste only**	**Storage of waste in a secure place**
A	**On site**	**Cascades Leisure Centre Thong Lane Gravesend Kent Da12 4lg**	**EPR/MF0335RX/A001**	**Using waste exemption**	**Non-agricultural waste only**	**Use of waste in construction**
A	**On site**	**Cascades Leisure Centre Thong Lane Gravesend Kent Da12 4lg**	**EPR/MF0335RX/A001**	**Using waste exemption**	**Non-agricultural waste only**	**Use of waste to manufacture finished goods**
1	122m E	Thong Lane Gravesend Da12 4lt	WEX010088	Using waste exemption	Not on a farm	Use of waste in construction
2	162m N	Chalk Farm Rochester Road Kent	EPR/TE5281MX/A001	Storing waste exemption	Non-agricultural waste only	Storage of sludge
B	176m NW	The Roots Timber Re-Use Project Thong Lane Gravesend Kent Da12 4lf	EPR/QF0708XL/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	176m NW	The Roots Timber Re-Use Project Thong Lane Gravesend Kent Da12 4lf	EPR/QF0708XL/A001	Using waste exemption	Non-agricultural waste only	Burning of waste as a fuel in a small appliance
C	323m SW	-	WEX411878	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	323m SW	-	WEX282209	Disposing of waste exemption	Not on a farm	Burning waste in the open
3	393m SW	Riverview Pharmacy, 10 The Alma, Gravesend, Da12 4ng	WEX395859	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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

Current or recent petrol stations

Gas pipelines

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

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	9

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Electricity Sub Station**	**Kent, DA12**	**Electrical Features**	**Infrastructure and Facilities**
2	20m SW	Club Air Taxis	Thong Lane, Gravesend, Kent, DA12 4LG	Airlines and Airline Services	Transport, Storage and Delivery
3	52m W	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	55m N	Miniature Railway	Kent, DA12	Railways (Heritage, Steam and Miniature)	Tourism
5	187m NW	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
B	198m NE	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
6	200m S	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
7	206m NW	Karen Perry Interiors	19, Cambria Crescent, Gravesend, Kent, DA12 4NJ	Curtains and Blinds	Consumer Products
B	228m NE	Mast (Telecommunication)	Kent, DA12	Telecommunications Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m	0

Current or recent tanks identified from the Ordnance Survey NGD.

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	LPG	Status
8	351m SW	OBSOLETE	Whinfell Way, Gravesend, Kent, DA12 4SF	Not Applicable	Obsolete

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Pipe Name	Details	
9	368m SE	GRAVESEND THAMES SOUTH TO TATSFIELD	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

This data is sourced from National Grid.

4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 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.

4.11 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.

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

Records within 500m	1

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 26 >**

ID	Location	Address	Details	
C	382m SW	Kent Dry Cleaners, 1 The Alma, Leander Drive, Gravesend, DA12 4NG	Process: Dry Cleaning Status: Revoked 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.

4.13 Radioactive Substance Authorisations

Records within 500m	**0**

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

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

4.14 Licensed Discharges to controlled waters

Records within 500m	**3**

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

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Address	Details	
A	118m E	SOUTHERN VALLEY GOLF COURSE, SOUTHERN VALLEY GOLF COURSE, THONG LANE, GRAVESEND, KENT, DA12 4LT	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: P07512 Permit Version: 1 Receiving Water: INTO LAND	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 25/03/1999 Effective Date: 25/03/1999 Revocation Date: 20/12/2012
A	118m E	SOUTHERN VALLEY GOLF COURSE, SOUTHERN VALLEY GOLF COURSE, THONG LANE, GRAVESEND, KENT, DA12 4LT	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: P07512 Permit Version: 2 Receiving Water: INTO LAND	Status: VARIED UNDER EPR 2010 Issue date: 21/12/2012 Effective Date: 21/12/2012 Revocation Date: -
11	434m SE	HARTS HILL NURSERY, HARTS HILL NURSERY, CORNER OF SHORNE IFIELD LANE, & THONG LANE, GRAVESEND, KENT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P04328 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 11/11/1992 Effective Date: 11/11/1992 Revocation Date: -

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

4.15 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.

4.16 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.

4.17 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.

4.18 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.

4.19 Pollution Incidents (EA/NRW)

Records within 500m	3

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

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Details	
C	372m SW	Incident Date: 03/01/2002 Incident Identification: 50339 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	372m SW	Incident Date: 03/01/2002 Incident Identification: 50339 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	412m NW	Incident Date: 24/07/2003 Incident Identification: 176382 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

4.20 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.

4.21 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.

4.22 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	3

Aquifer status of groundwater held within superficial geology.

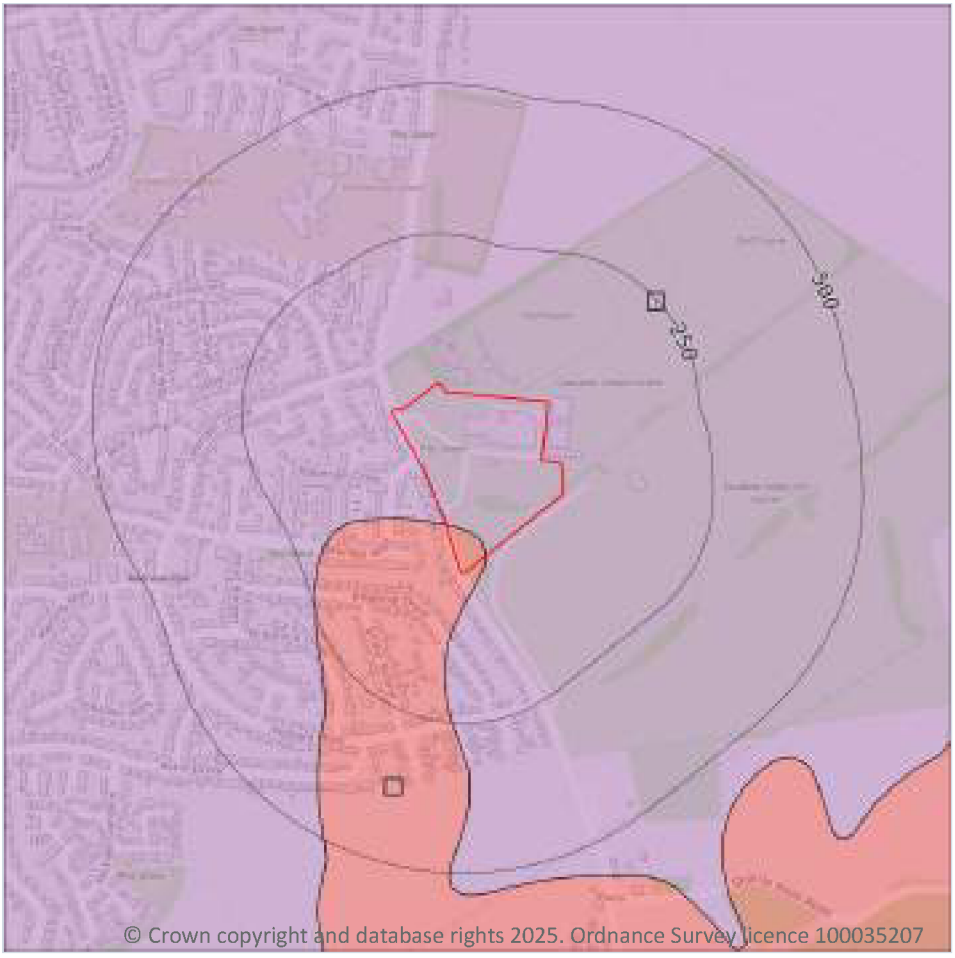
Features are displayed on the Hydrogeology map on **page 34 >**

ID	Location	Designation	Description
1	79m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	329m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	373m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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	2

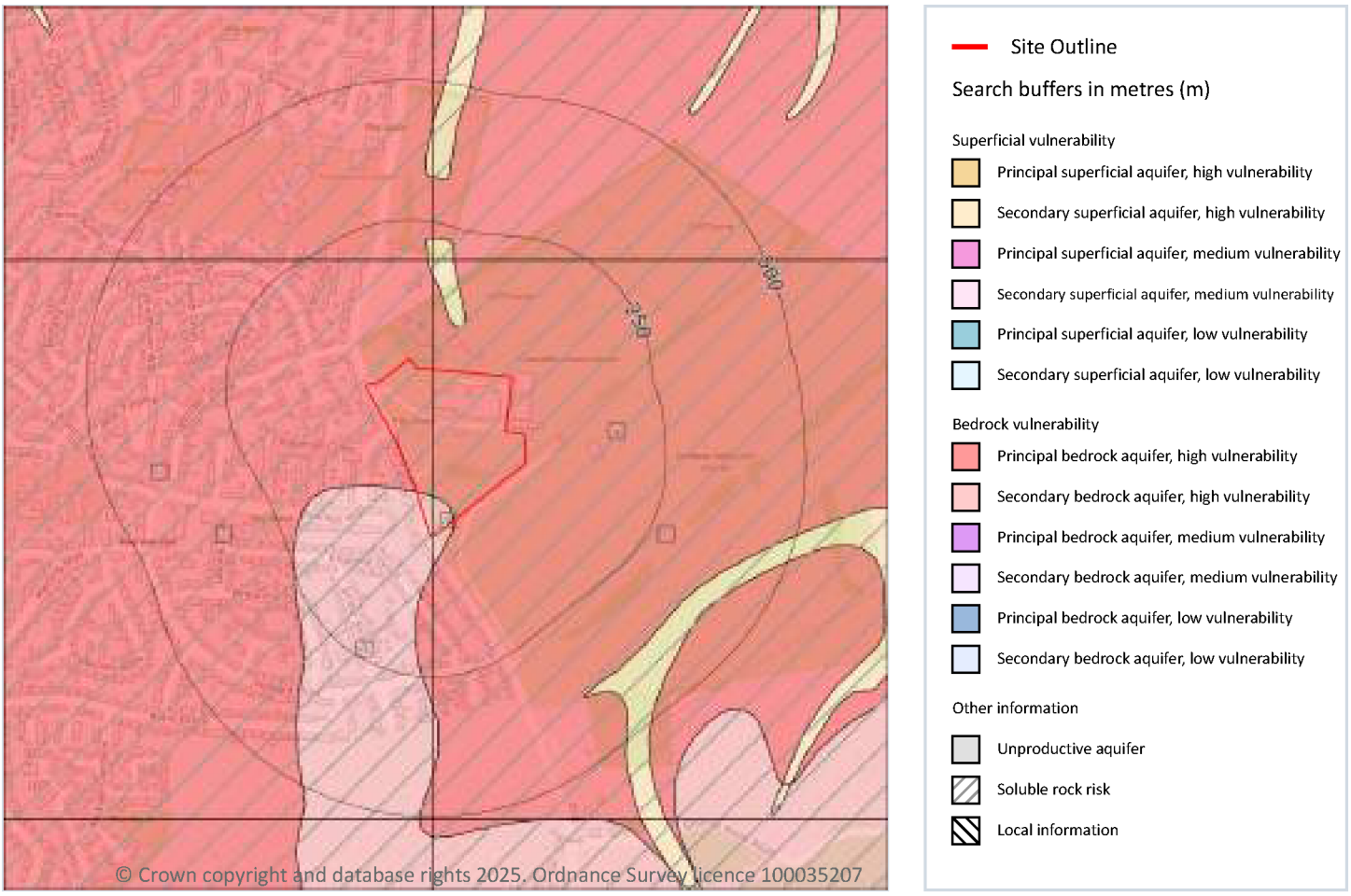
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 36 >**

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
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m	4

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 38 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

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	2

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
5	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	6.0%
6	Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.	2.0%

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

5.5 Groundwater vulnerability- local information

Records on site	0

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 ↗.

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	1

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 41 >**

ID	Location	Details	
-	1705m S	Status: Historical Licence No: 01/143 Details: Dust suppression Direct Source: Southern Region Groundwater Point: BOREHOLE AT POINT A AT SCALERS HILL COBHAM NEAR GRAVESEND Data Type: Point Name: AMEC Plc Easting: 566740 Northing: 169820	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 07/09/1999 Expiry Date: 31/10/2002 Issue No: 1 Version Start Date: 07/09/1999 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m **2**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 41 >**

ID	Location	Details	
-	1874m NE	Status: Active Licence No: 01/150/R02 Details: Make-Up Or Top Up Water Direct Source: Southern Region Surface Waters Point: HIGHAM MARSHES ABSTRACTION AREA Data Type: Poly4 Name: The Royal Society for the Protection of Birds Easting: 569828 Northing: 171019	Annual Volume (m^3): 244799 Max Daily Volume (m^3): 4320 Original Application No: NP/WR/039718 Original Start Date: 13/06/2024 Expiry Date: 31/03/2036 Issue No: 1 Version Start Date: 13/06/2024 Version End Date: -
-	1874m NE	Status: Historical Licence No: 01/150/R02 Details: Make-Up Or Top Up Water Direct Source: Southern Region Surface Waters Point: HIGHAM MARSHES ABSTRACTION AREA Data Type: Poly4 Name: The Royal Society for the Protection of Birds Easting: 569828 Northing: 171019	Annual Volume (m^3): 244799 Max Daily Volume (m^3): 2160 Original Application No: NP/WR/039718 Original Start Date: 13/06/2024 Expiry Date: 31/03/2036 Issue No: 1 Version Start Date: 13/06/2024 Version End Date: -

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 44 >**

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**	**130**	**Lower Medway**	**Medway**

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 44 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**North Kent Medway Chalk**	**GB40601G500300** ↗	**Poor**	**Poor**	**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.

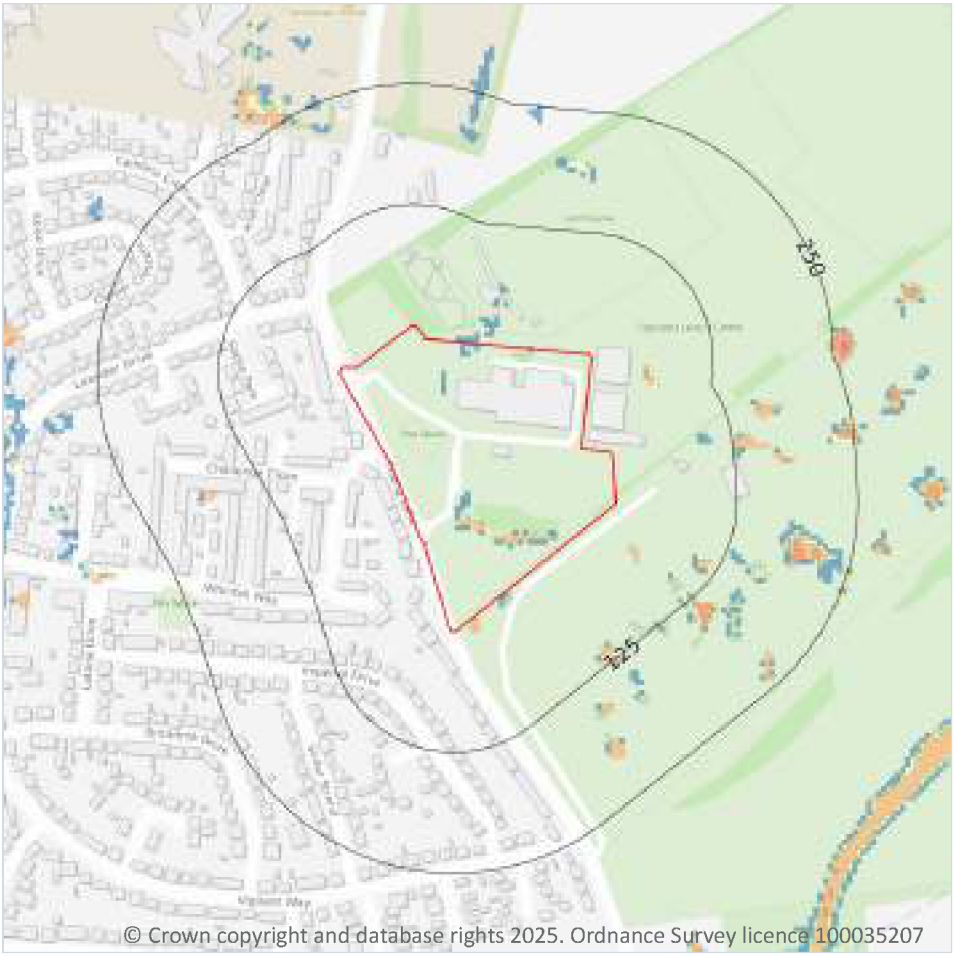
7.7 Flood Zone 3

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



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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.

Features are displayed on the Surface water flooding map on **page 50 >**

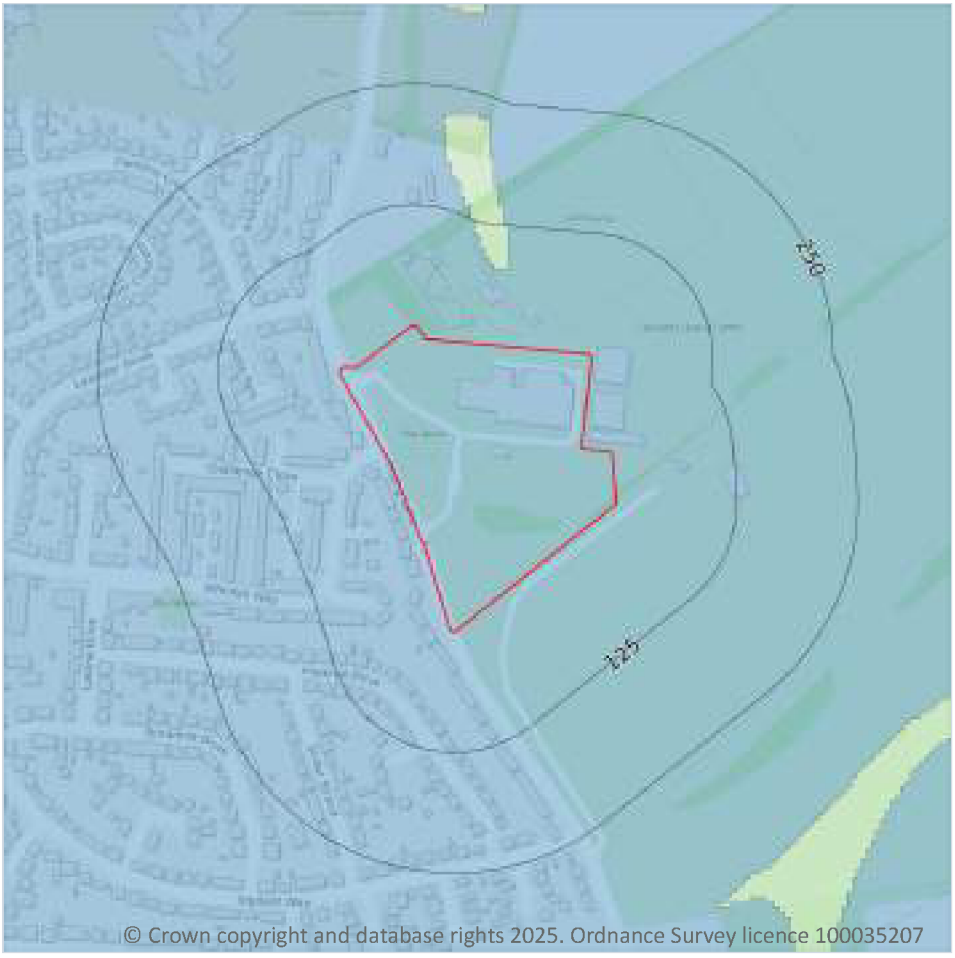
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

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

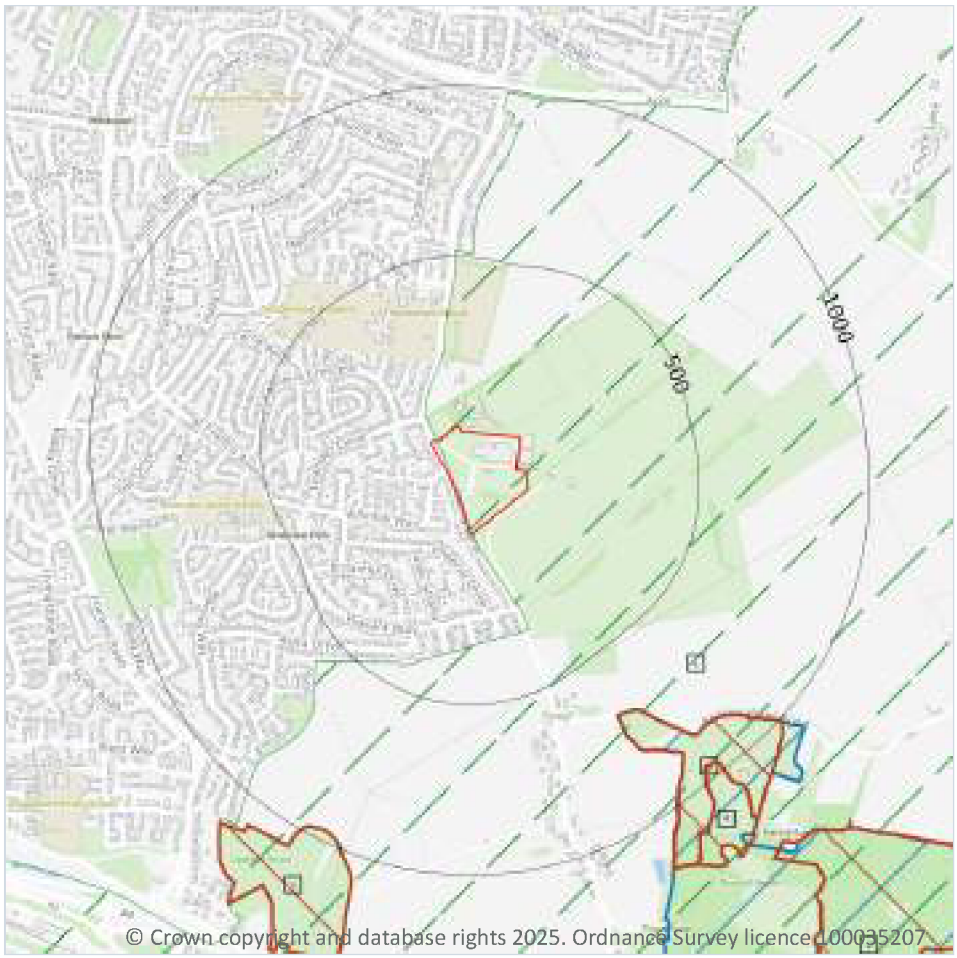
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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 52 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Conserved wetland sites (Ramsar sites)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	3

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 53 >**

ID	Location	Name	Data source
2	683m SE	Shorne and Ashenbank Woods SSSI	Natural England

ID	Location	Name	Data source
-	1541m N	South Thames Estuary and Marshes SSSI	Natural England
-	1673m S	Shorne and Ashenbank Woods SSSI	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	1

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.

Features are displayed on the Environmental designations map on **page 53 >**

ID	Location	Site	Details
-	1541m N	Name: Thames Estuary & Marshes Site status: Listed Data source: Natural England	Overview: A complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates. Ramsar criteria: Ramsar criterion 2 The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates.

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	0

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.

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

10.7 Designated Ancient Woodland

Records within 2000m	6

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.

Features are displayed on the Environmental designations map on **page 53 >**

ID	Location	Name	Woodland Type
3	683m SE	Unknown	Ancient & Semi-Natural Woodland
4	961m SE	Unknown	Ancient & Semi-Natural Woodland
5	968m SW	Claylane Wood	Ancient & Semi-Natural Woodland
6	1273m SE	Shorne/brewerswoods	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
-	1512m SE	Unknown	Ancient & Semi-Natural Woodland
-	1617m S	Unknown	Ancient & Semi-Natural Woodland

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	1

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

Features are displayed on the Environmental designations map on **page 53 >**

ID	Location	Name	Local Authority name
1	**On site**	**London Green Belt**	**Gravesham**

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

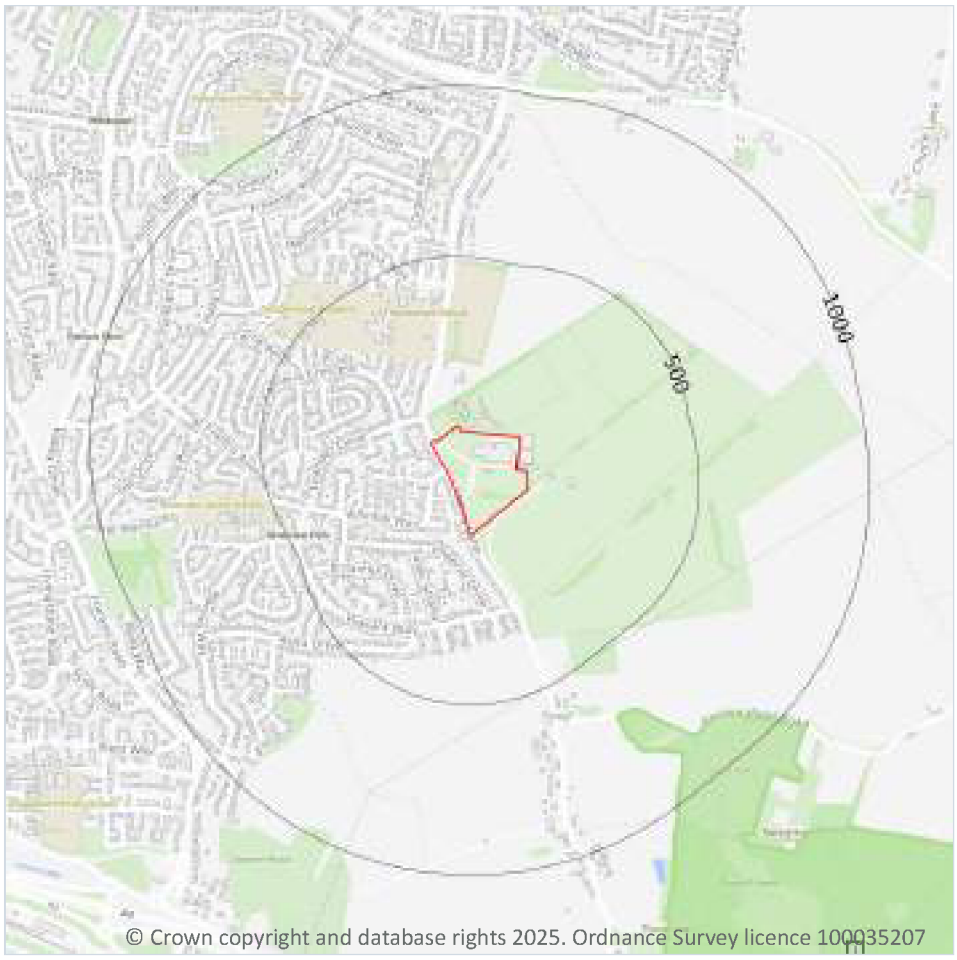
Records within 2000m	2

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.

Location	Name	Type	NVZ ID	Status
On site	**COASTAL STREAMS TO LOWER THAMES NVZ**	**Surface Water**	**665**	**Existing**
On site	**North Kent**	**Groundwater**	**65**	**Existing**

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	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	4

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 59 >**

ID: 1
Location: 683m SE
SSSI name: Shorne and Ashenbank Woods
Unit name: Randall Wood
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Invert. assemblage W211 open water on disturbed sediments	Favourable	15/10/2010
Lowland mixed deciduous woodland	Favourable	15/10/2010

ID: -
Location: 1541m N
SSSI name: South Thames Estuary and Marshes
Unit name: Westcourt And Great Clane Marshes
Broad habitat: Neutral Grassland - Lowland
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Bearded tit, Panurus biarmicus	Not Recorded	01/01/1900
Aggregations of breeding birds - Garganey, Anas querquedula	Not Recorded	01/01/1900
Aggregations of breeding birds - Pintail, Anas acuta	Unfavourable - Declining	03/03/2021
Aggregations of breeding birds - Shoveler, Anas clypeata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Avocet, Recurvirostra avosetta	Favourable	02/03/2021
Aggregations of non-breeding birds - Black-tailed godwit, Limosa limosa islandica	Favourable	03/03/2021
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Gadwall, Mareca strepera	Favourable	03/03/2021
Aggregations of non-breeding birds - Greenshank, Tringa nebularia	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Grey plover, Pluvialis squatarola	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Hen harrier, Circus cyaneus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Knot, Calidris canutus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, Anas acuta	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, Tringa totanus	Unfavourable - Declining	03/03/2021
Aggregations of non-breeding birds - Ringed plover, Charadrius hiaticula	Favourable	03/03/2021
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shoveler, Anas clypeata	Favourable	03/03/2021
Aggregations of non-breeding birds - Teal, Anas crecca	Favourable	03/03/2021
Aggregations of non-breeding birds - White-fronted goose, Anser albifrons albifrons	Unfavourable - Declining	03/03/2021
Assemblages of breeding birds - Lowland damp grasslands	Not Recorded	01/01/1900
Ditches	Not Recorded	01/01/1900
Vascular plant assemblage	Not Recorded	01/01/1900

ID: -
Location: 1610m NE
SSSI name: South Thames Estuary and Marshes
Unit name: Filborough Marsh W
Broad habitat: Neutral Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Bearded tit, Panurus biarmicus	Not Recorded	01/01/1900
Aggregations of breeding birds - Garganey, Anas querquedula	Not Recorded	01/01/1900
Aggregations of breeding birds - Pintail, Anas acuta	Unfavourable - Declining	03/03/2021
Aggregations of breeding birds - Shoveler, Anas clypeata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Avocet, Recurvirostra avosetta	Favourable	02/03/2021

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Black-tailed godwit, Limosa limosa islandica	Favourable	03/03/2021
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Gadwall, Mareca strepera	Favourable	03/03/2021
Aggregations of non-breeding birds - Greenshank, Tringa nebularia	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Grey plover, Pluvialis squatarola	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Hen harrier, Circus cyaneus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Knot, Calidris canutus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, Anas acuta	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, Tringa totanus	Unfavourable - Declining	03/03/2021
Aggregations of non-breeding birds - Ringed plover, Charadrius hiaticula	Favourable	03/03/2021
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shoveler, Anas clypeata	Favourable	03/03/2021
Aggregations of non-breeding birds - Teal, Anas crecca	Favourable	03/03/2021
Aggregations of non-breeding birds - White-fronted goose, Anser albifrons albifrons	Unfavourable - Declining	03/03/2021
Assemblages of breeding birds - Lowland damp grasslands	Not Recorded	01/01/1900
Ditches	Not Recorded	01/01/1900
Vascular plant assemblage	Not Recorded	01/01/1900

ID: -
Location: 1673m S
SSSI name: Shorne and Ashenbank Woods
Unit name: Ashenbank Wood - Woodland Trust
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Unfavourable - No change	24/10/2024

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

11 Visual and cultural designations

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	0

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.

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.

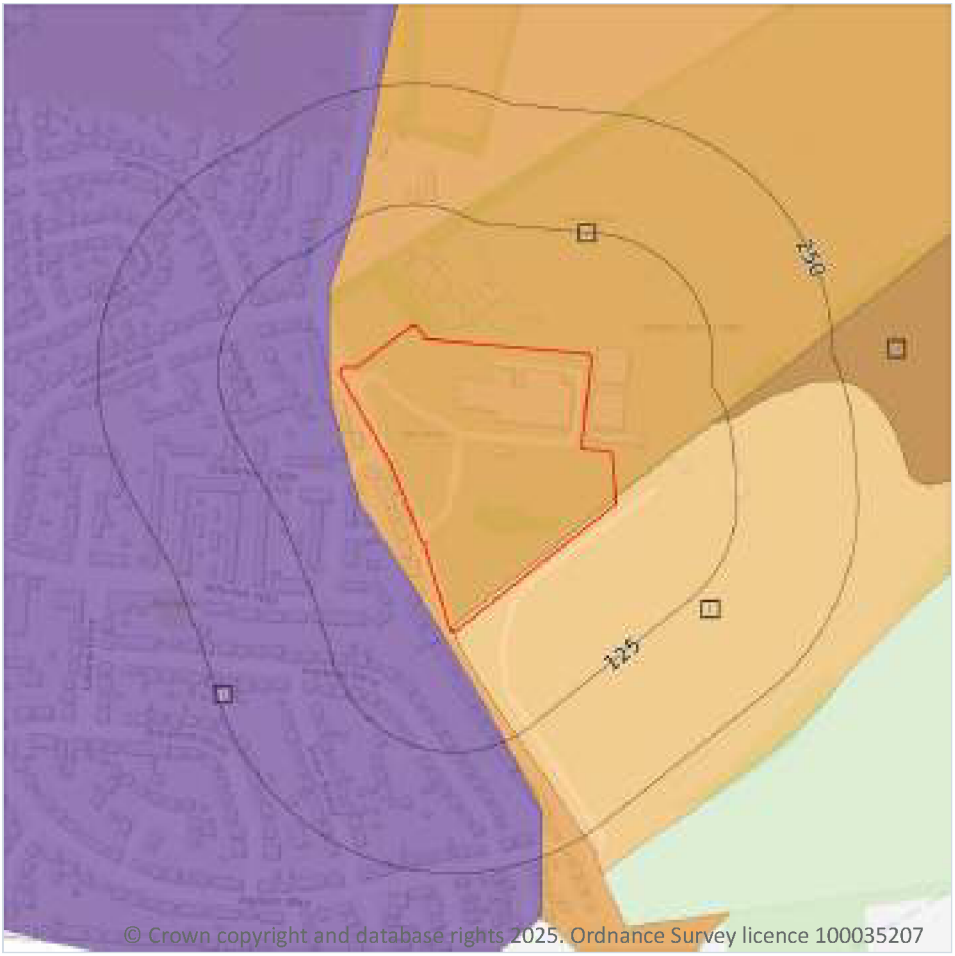
11.7 Registered Parks and Gardens

Records within 250m	0

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.

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	4

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 65 >**

ID	Location	Classification	Description
1	On site	Grade 3a	**Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.**

ID	Location	Classification	Description
2	**On site**	**Grade 3**	**Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.**
3	10m SW	Urban	Non-agricultural/no quality assigned
4	109m E	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

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

13.1 Priority Habitat Inventory

Records within 250m	0

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

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.

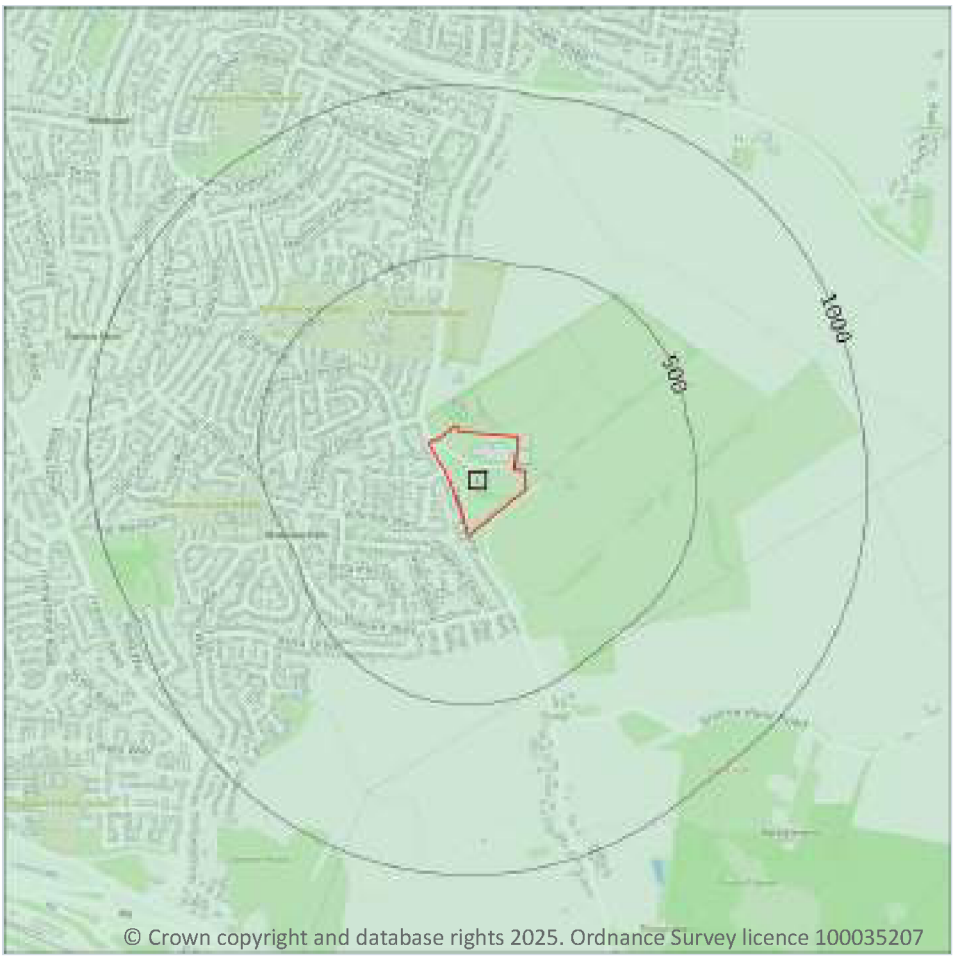
13.4 Limestone Pavement Orders

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 69 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**TQ67SE**

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	20

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 70 >**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	On site	WGR-VOID	Worked Ground (Undivided)	Void
B	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
B	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
2	24m N	WGR-VOID	Worked Ground (Undivided)	Void
3	196m N	WGR-VOID	Worked Ground (Undivided)	Void
4	205m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	221m N	WGR-VOID	Worked Ground (Undivided)	Void
C	261m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	280m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	290m NW	WGR-VOID	Worked Ground (Undivided)	Void
6	308m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	322m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
8	331m NE	WGR-VOID	Worked Ground (Undivided)	Void
9	362m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	462m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
11	468m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	470m NW	WGR-VOID	Worked Ground (Undivided)	Void
12	474m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

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 **3**

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 72 >**

ID	Location	LEX Code	Description	Rock description
1	58m N	HEAD-DMTN	Head - Diamicton	Diamicton
2	308m N	HEAD-DMTN	Head - Diamicton	Diamicton

ID	Location	LEX Code	Description	Rock description
3	387m SE	HEAD-DMTN	Head - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

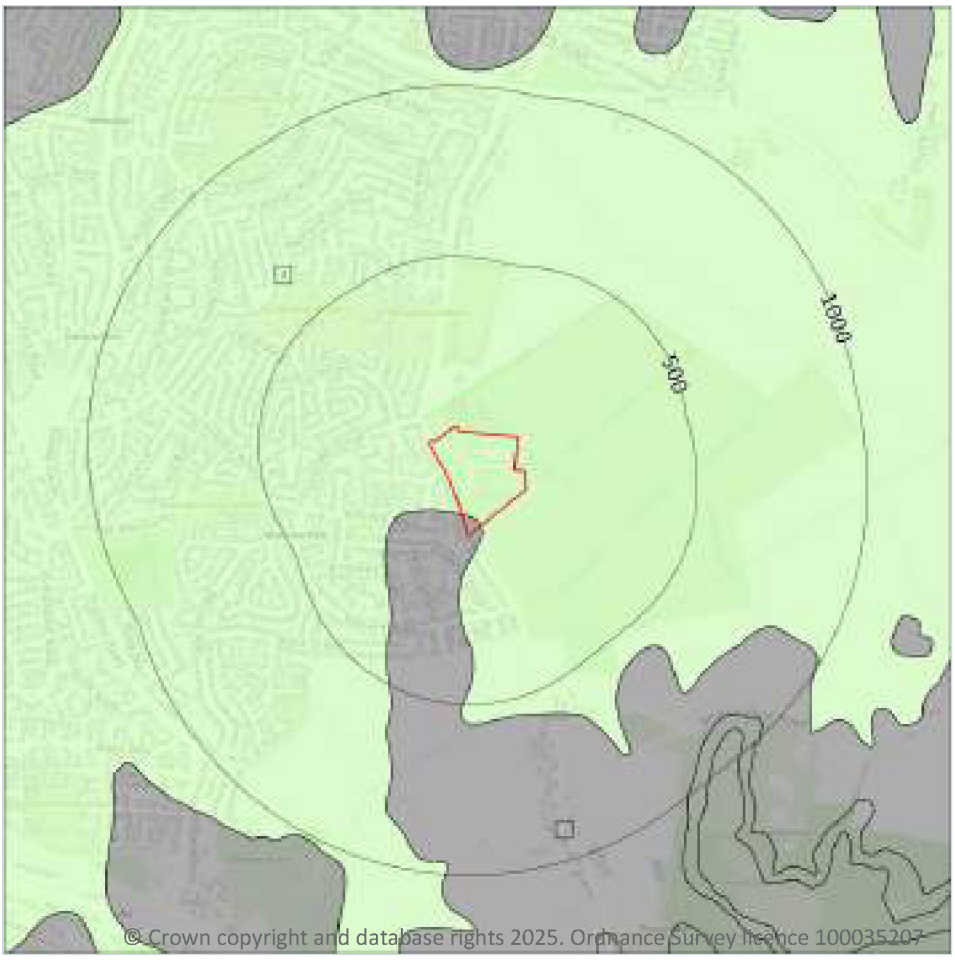
14.4 Landslip (10k)

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 **2**

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 74 >**

ID	Location	LEX Code	Description	Rock age
1	On site	TAB-SANDU	Thanet Sand Formation - Sand	Thanetian Age
2	On site	SECK-CHLK	Seaford Chalk Formation - Chalk	Santonian Age - Coniacian Age

This data is sourced from the British Geological Survey.

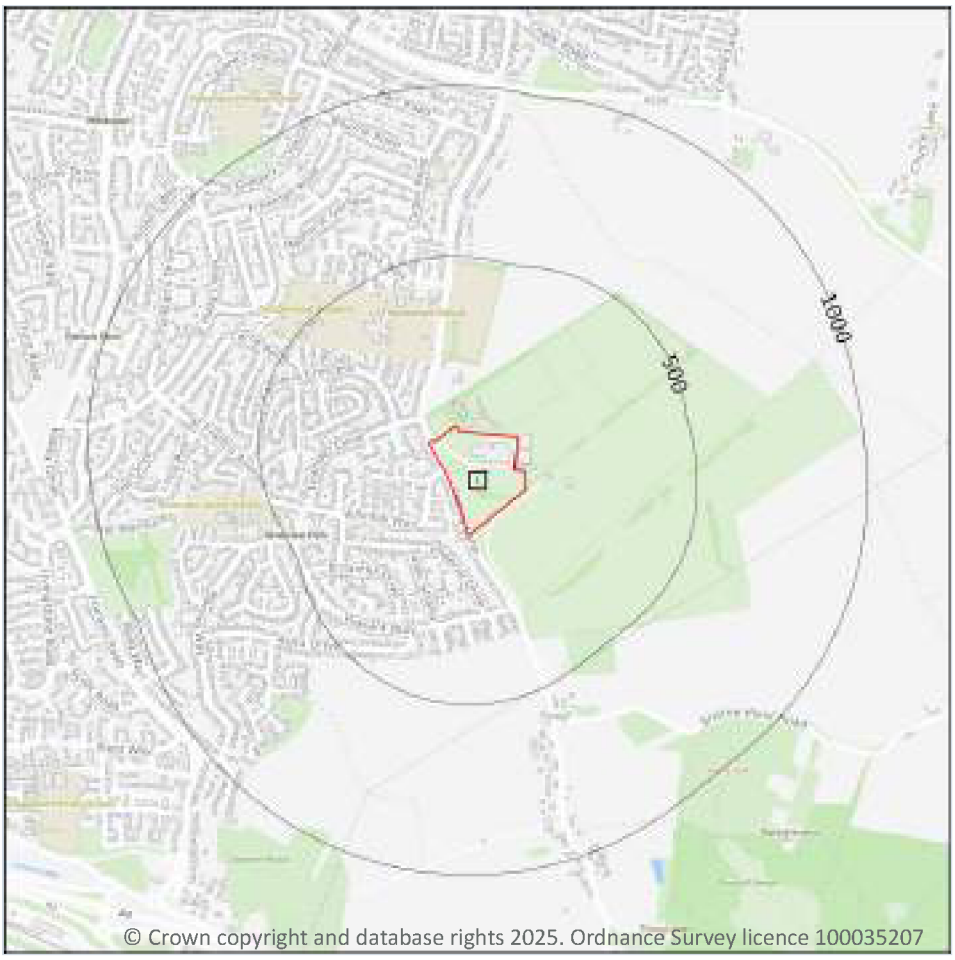
14.6 Bedrock faults and other linear features (10k)

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 76 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW271_dartford_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	11

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 77 >**

ID	Location	LEX Code	Description	Rock description
A	**On site**	**WGR-VOID**	**WORKED GROUND (UNDIVIDED)**	**VOID**
A	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
1	45m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	226m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

ID	Location	LEX Code	Description	Rock description
3	240m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
4	309m NW	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
5	349m NE	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
6	381m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
7	444m SE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
B	485m NW	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
8	486m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground 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 artificial deposits (the zone between the land surface and the water table).

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

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 **3**

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 79 >**

ID	Location	LEX Code	Description	Rock description
1	79m N	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	329m N	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
3	373m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

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.

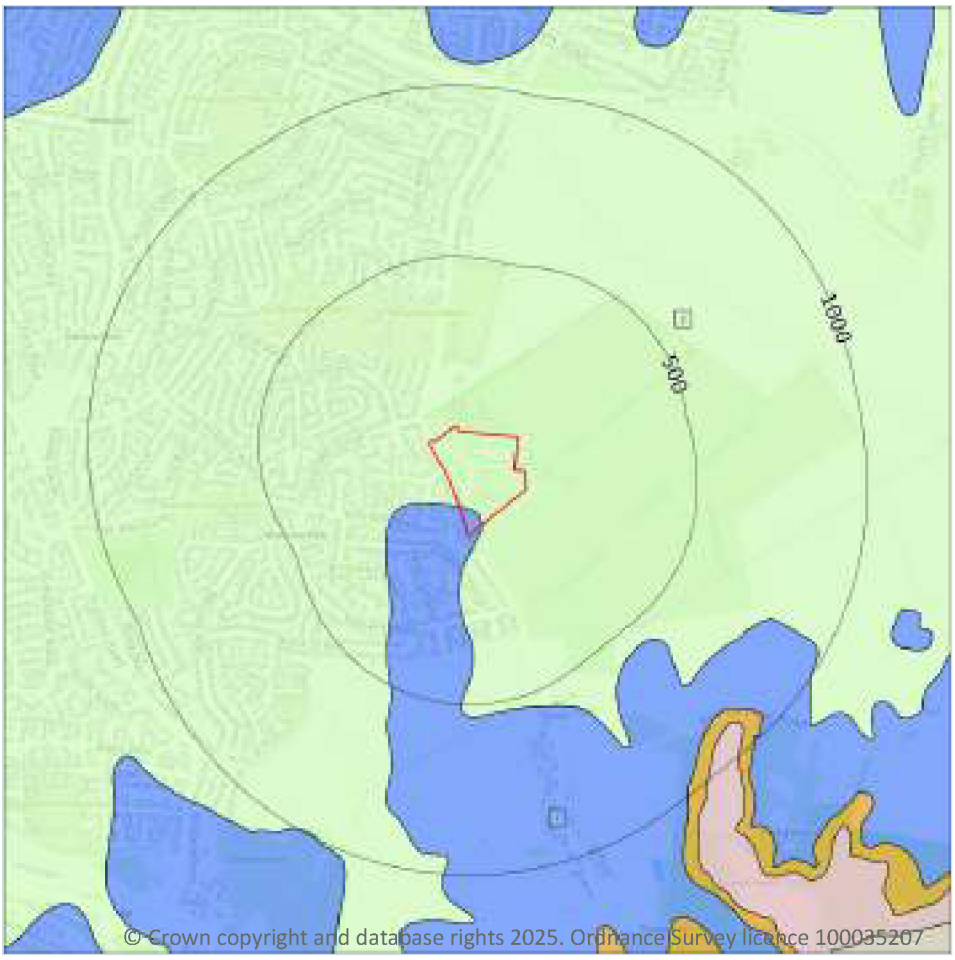
15.7 Landslip permeability (50k)

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 **2**

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 81 >**

ID	Location	LEX Code	Description	Rock age
1	On site	TAB-S	THANET FORMATION - SAND	THANETIAN
2	On site	LSNCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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	**Fracture**	**Very High**	**Very High**
On site	**Intergranular**	**High**	**High**

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



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Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	4

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.

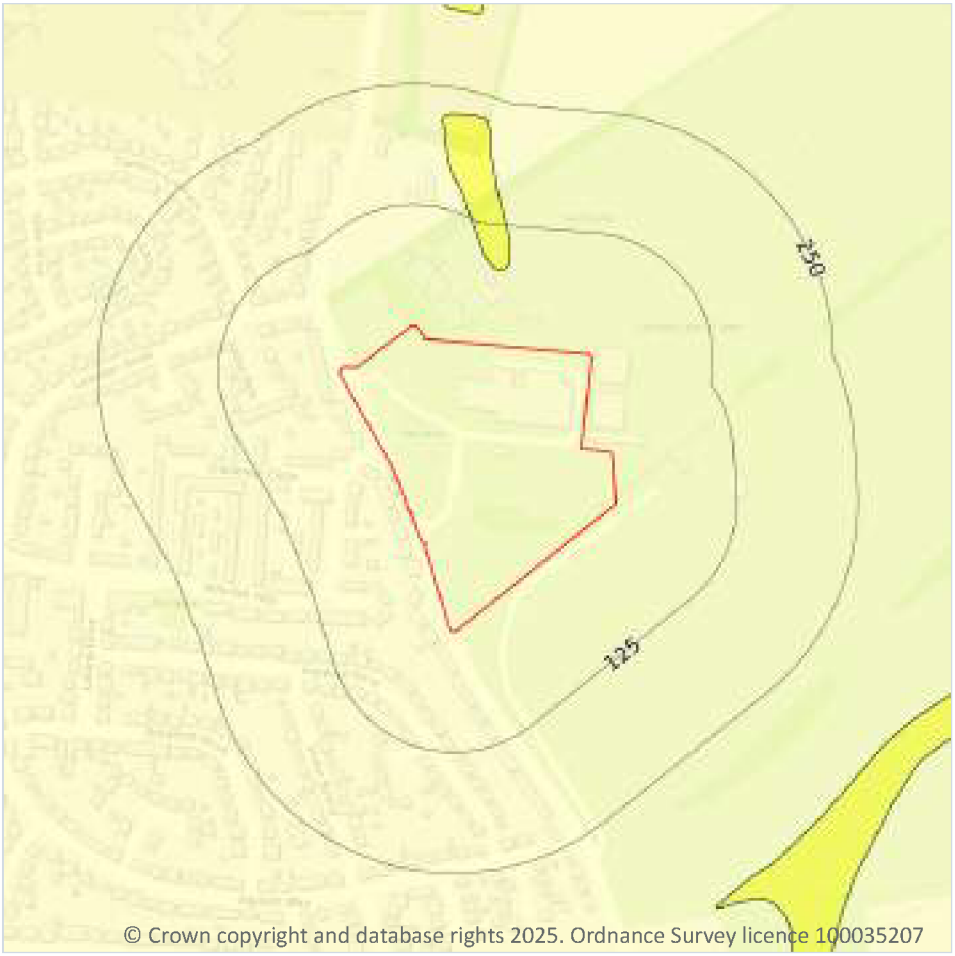
Features are displayed on the Boreholes map on **page 83 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	60m SE	567063 171479	LOWER THAMES CROSSING - PHASE 2A - PACKAGE A TP02004	4.5	N	20918635 ↗
2	123m SE	567206 171512	LOWER THAMES CROSSING - PHASE 2A - PACKAGE A WS02003	5.0	N	20918636 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	189m SE	567123 171361	LOWER THAMES CROSSING - PHASE 2A - PACKAGE A WS02002	5.0	N	20918634 ↗
4	222m E	567388 171645	LOWER THAMES CROSSING - PHASE 2A - PACKAGE A WS02005	3.0	N	20918639 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

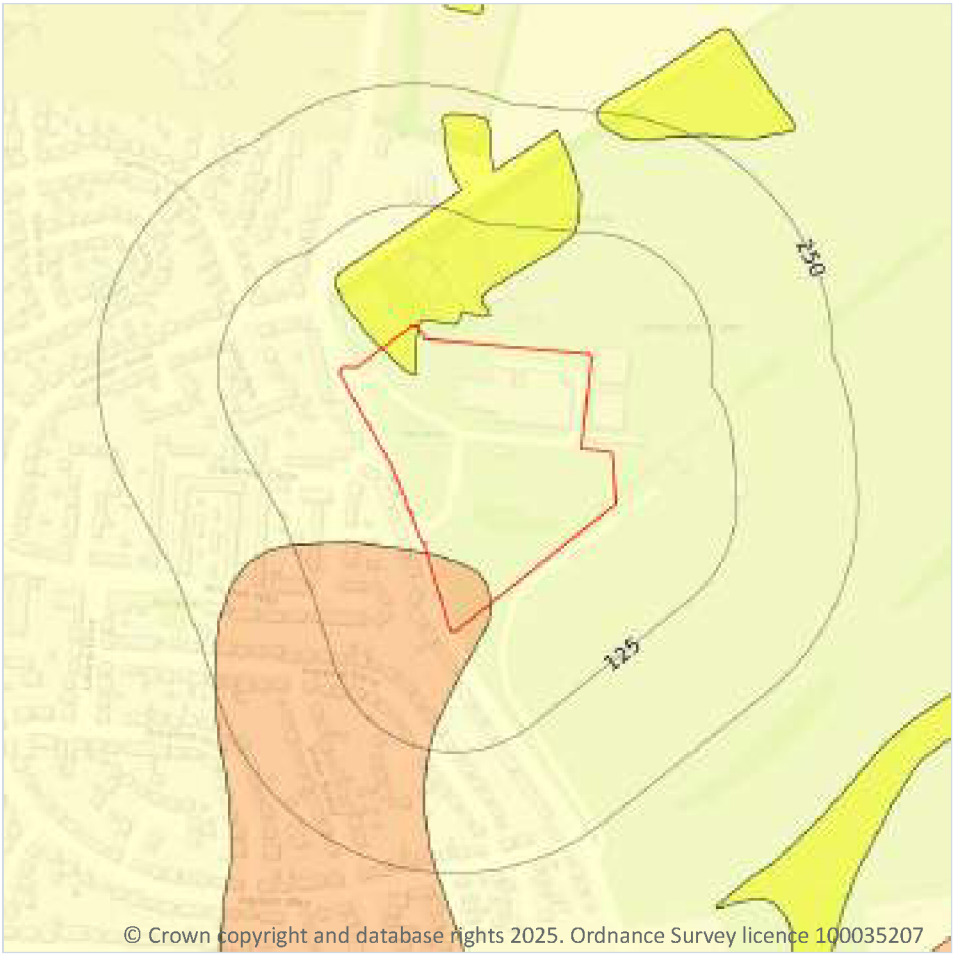
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 85 >**

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	3

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.

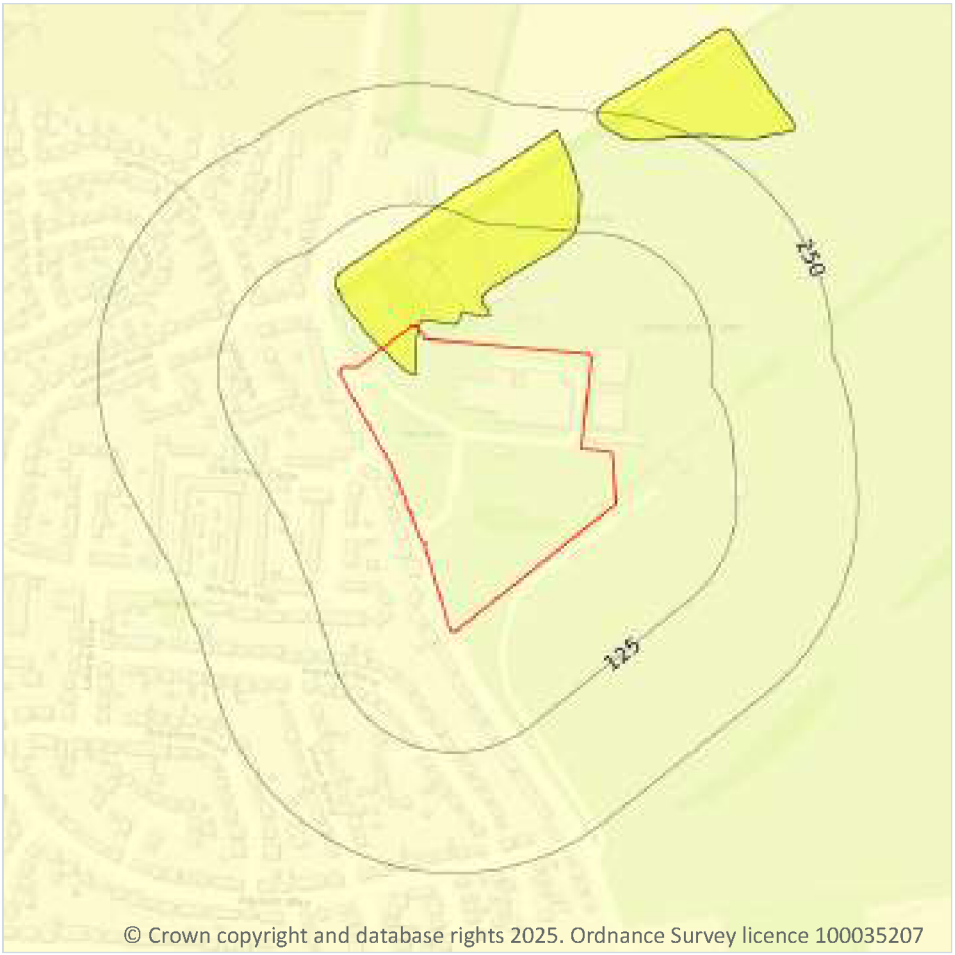
Features are displayed on the Natural ground subsidence - Running sands map on **page 86 >**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

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.**
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

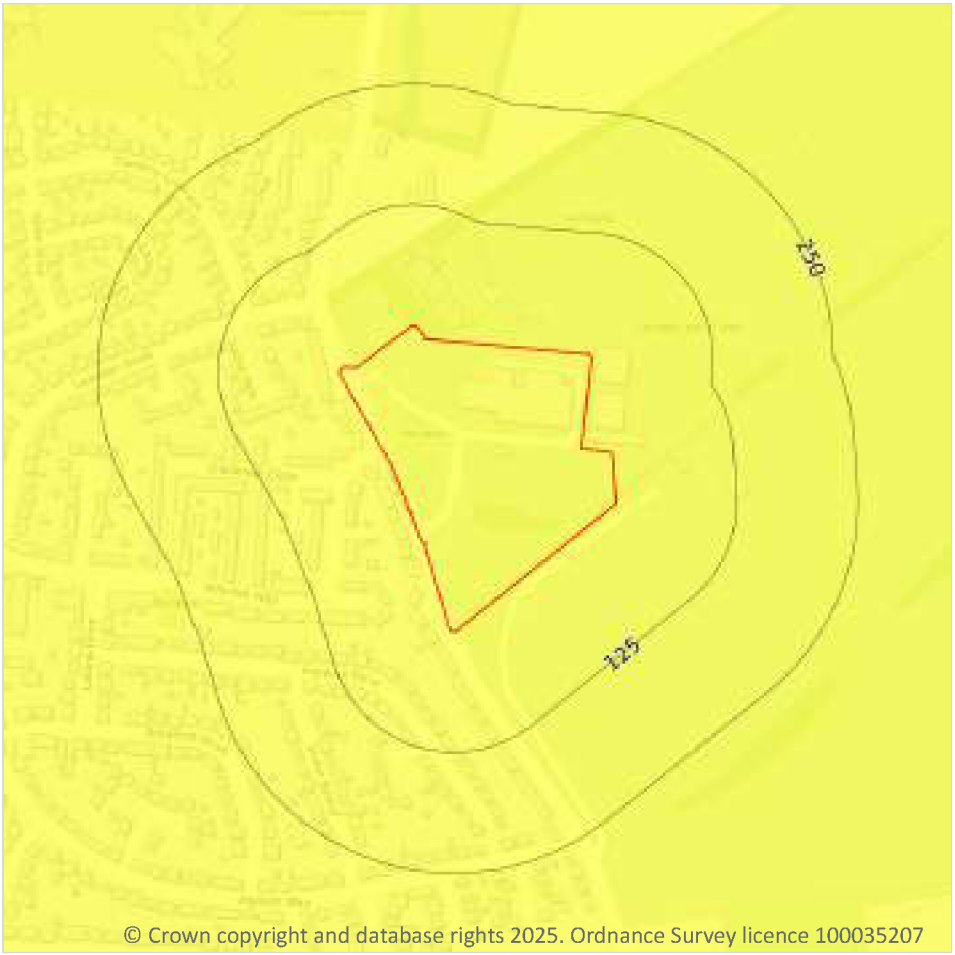
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 88 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Very low**	**Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

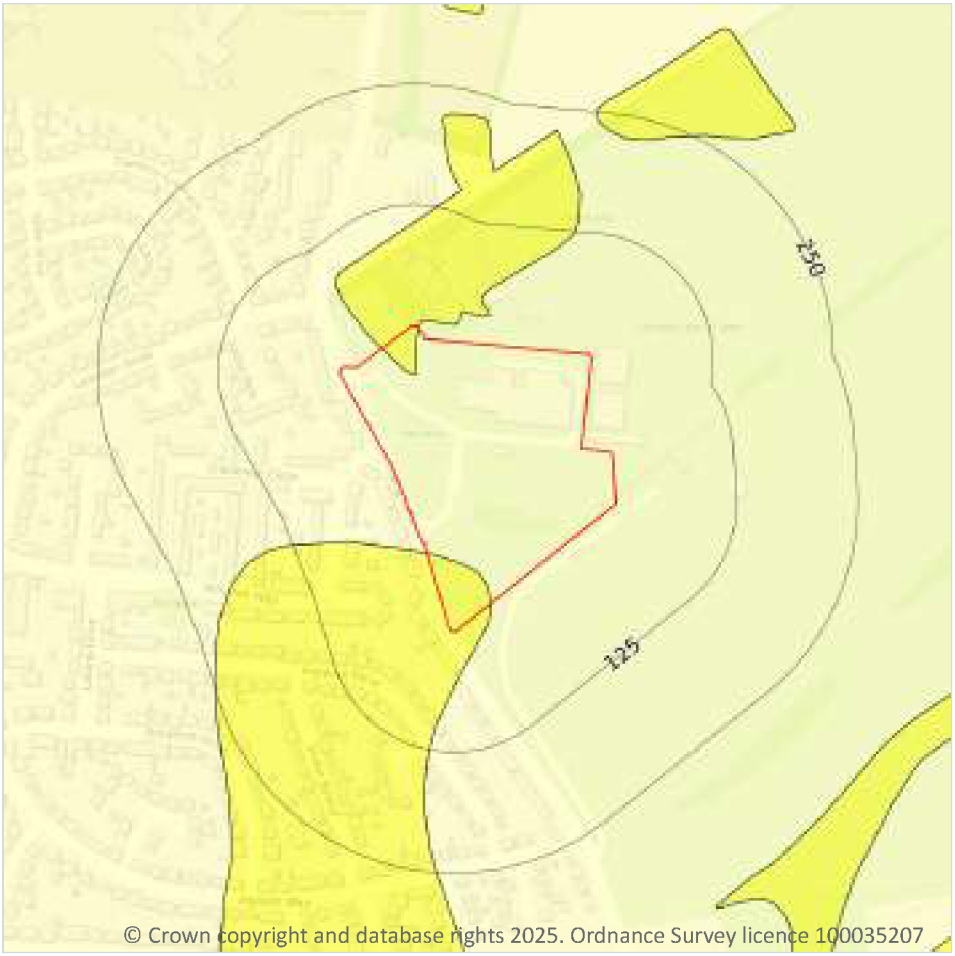
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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	2

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.

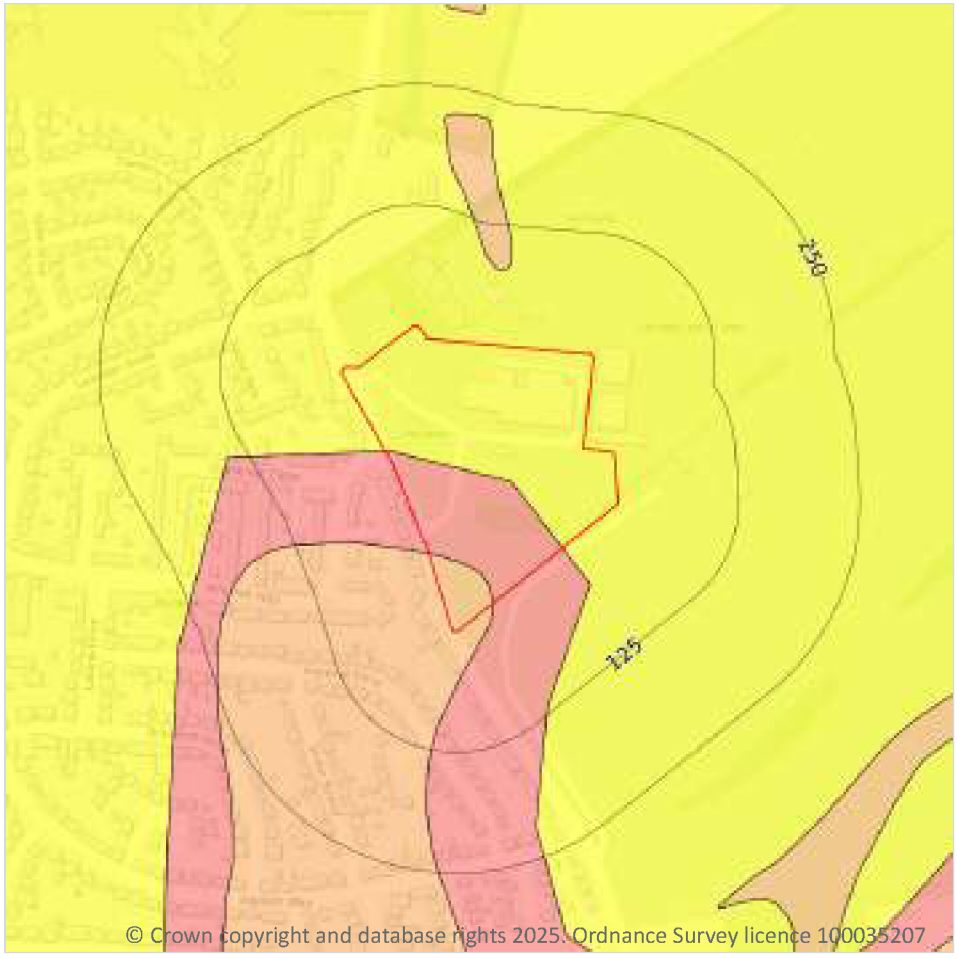
Features are displayed on the Natural ground subsidence - Landslides map on **page 91 >**

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

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



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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	3

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 93 >**

Location	Hazard rating	Details
On site	**Very low**	**Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.**

Location	Hazard rating	Details
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**
On site	**Moderate**	**Soluble rocks are present within the ground. Many dissolution features may be present. Potential for difficult ground conditions are at a level where they should be considered. Potential for subsidence is at a level where it may need to be considered.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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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 95 >**

ID	Location	Details	Description
A	340m SE	Name: Harts Hill Chalk Pit Address: Singlewell, GRAVESEND, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	0

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.

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

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

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	4

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).

Features are displayed on the Mining and ground workings map on **page 95 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Chalk**	**A**	**Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
2	**On site**	**Not available**	**Chalk**	**C**	**Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.**
3	868m SE	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
4	909m SE	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

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	2

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
149m S	Stone
334m SE	Unspecified

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



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

Mining cavities

Reported recent incidents

Historical incidents

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	2

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.

Features are displayed on the Ground cavities and sinkholes map on **page 101 >**

ID	Location	Mine Address	Mineral
1	305m S	Thong, Kent	Chalk
-	767m SE	Thong, Kent	Chalk

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

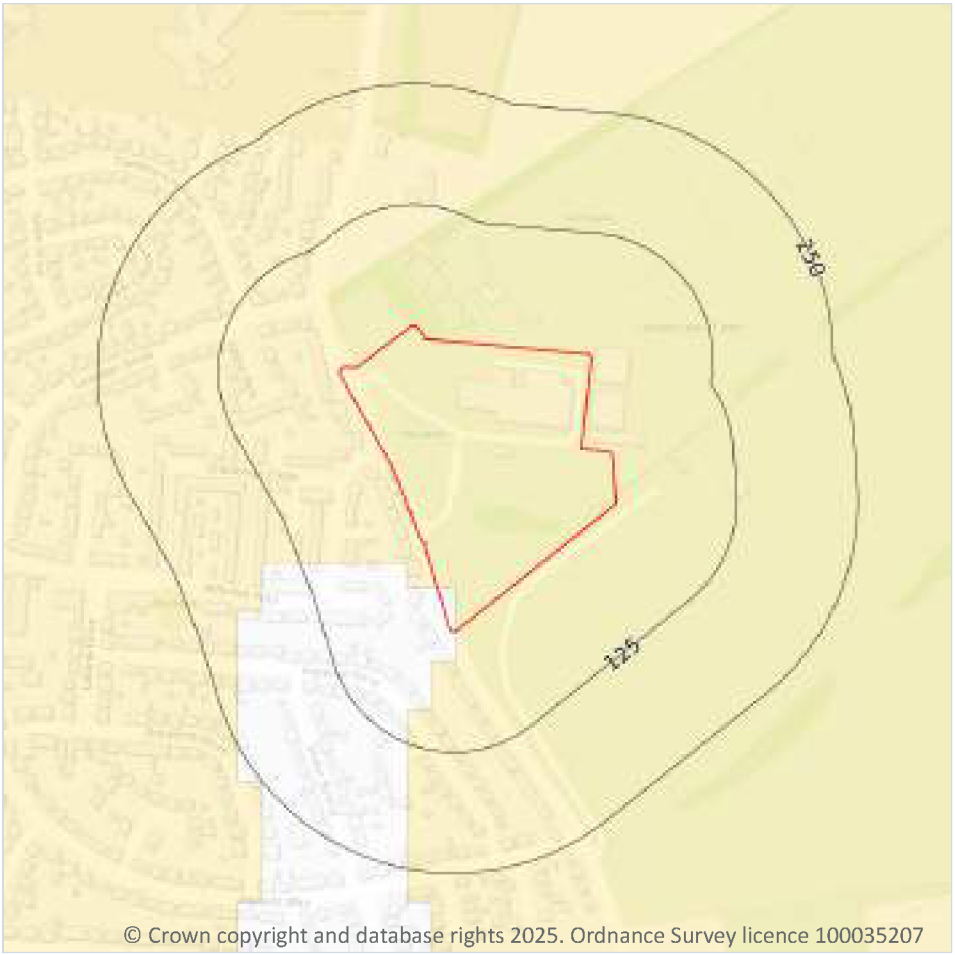
Records within 500m	0

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.

20 Radon



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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	2

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	**Between 1% and 3%**	**None**

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 **7**

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	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**30 - 45 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
5m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
6m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
21m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m **0**

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).

This data is sourced from the British Geological Survey.

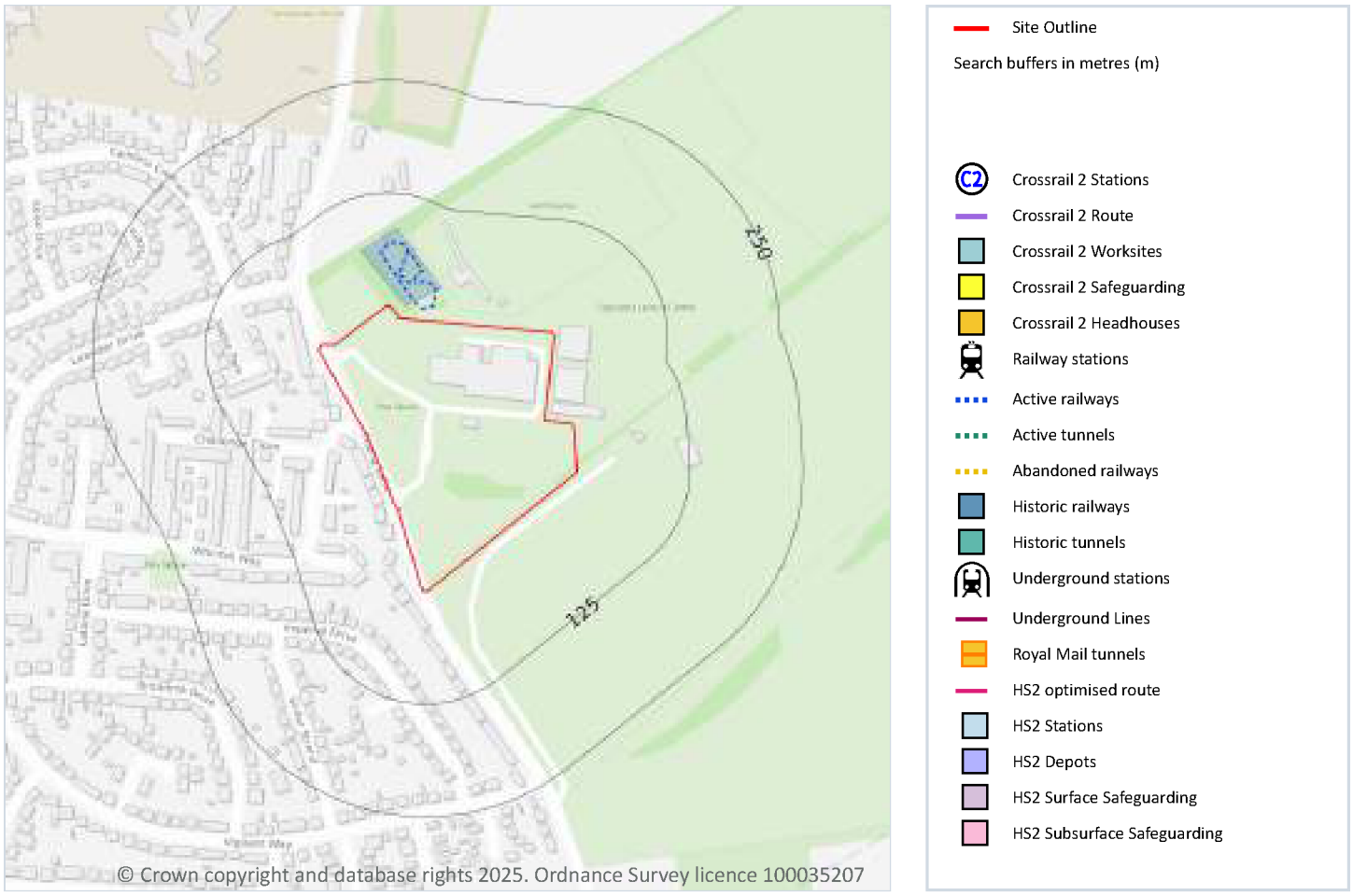
21.3 BGS Measured Urban Soil Chemistry

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



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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	1

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
13m NE	Railway Sidings	1981	10000

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	2

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
13m N	Not given	Narrow Gauge
14m N	Not given	Narrow Gauge

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 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/ ↗.

APPENDIX 2

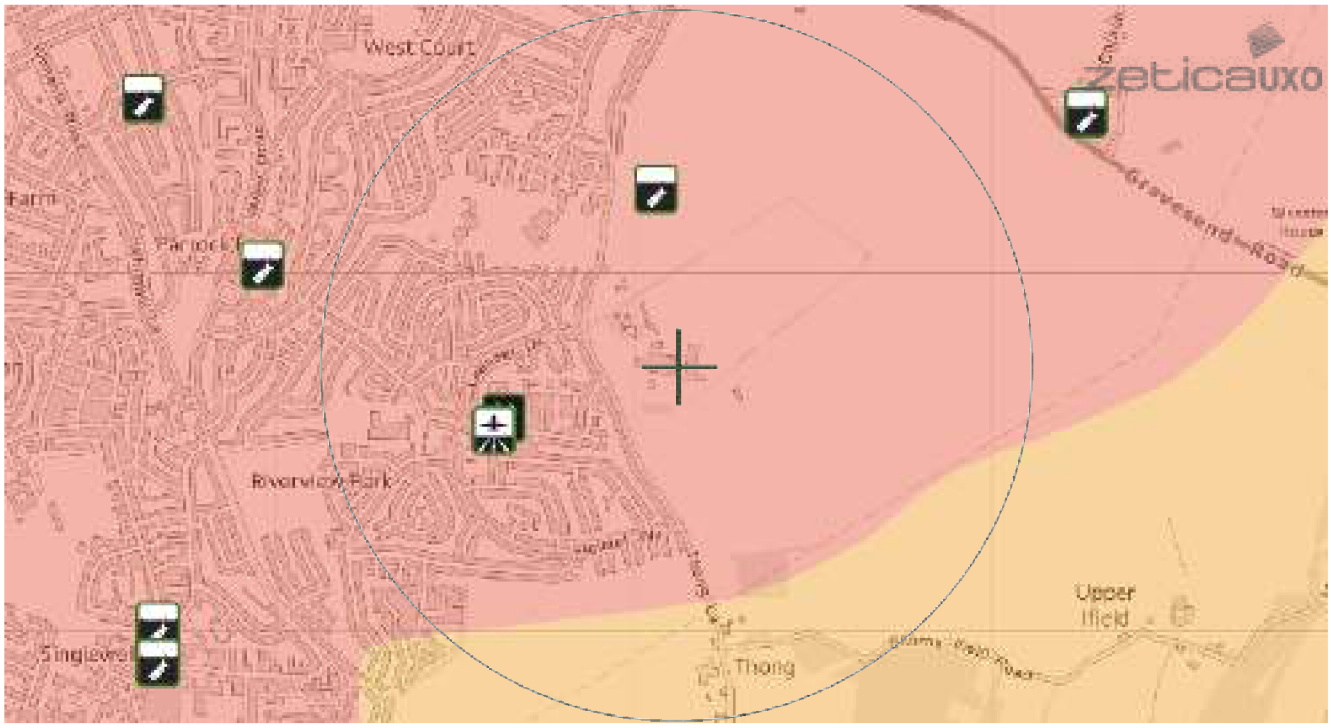
UXO MAP

UNEXPLODED BOMB RISK MAP

zeticauxo

SITE LOCATION

Map Centre: 567091,171744



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Miltary | **Industry** | **UXO find** | **Other**

Transport | **Docks** | **Luftwaffe targets**

Utilities | **Bombing decoy** | **Airfields**

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density.
Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then additional detailed research is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our pre-desk study assessments (PDSA) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 **email:** uxo@zetica.com **web:** www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the accompanying notes on our website.

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

APPENDIX 3

EXPLORATORY RECORDS

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	1
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
			0.10		MADE GROUND (macadam) MADE GROUND (brown silty SAND and flint GRAVEL)
D	0.25		0.40		
D	0.50				MADE GROUND (dark brown clayey SAND with brick fragments and flint gravel)
			0.80		
D	1.00				Brown very sandy CLAY with chalk fragments and flint gravel
			1.20		
D	1.50				Cream-white CHALK with flints
			1.60		
					END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	2
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-0.75
Water level observed upon completion (m): dry		Technician: DH, KM, HF	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.20		0.15		MADE GROUND (macadam)
					MADE GROUND (brown gravelly SAND. Gravel is of flint)
D	0.50				
			0.60		
D	0.70				MADE GROUND (brown clayey SAND with flint gravel and brick fragments)
			0.75		
					OBSTRUCTION - END OF BOREHOLE (services present)

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**3**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with flint gravel and roots)
D	0.30		0.40		
D	0.50				Dark brown silty CLAY with roots
			0.80		White CHALK with pockets of brown silty CLAY and roots
D	1.00				
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**4**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
			0.15		MADE GROUND (macadam)
D	0.30		0.40		MADE GROUND (brown gravelly SAND. Gravel is of brick and flint)
D	0.50				MADE GROUND (brown/grey very sandy CLAY with chalk fragments, flint gravel and brick particles)
D	1.00		1.00		Cream-white CHALK with brown staining
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**5**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
			0.20		MADE GROUND (macadam)
D	0.25		0.40		MADE GROUND (brown gravelly SAND. Gravel is of flint and brick)
D	0.50				MADE GROUND (dark grey/brown very sandy CLAY with chalk fragments)
D	1.00		1.00		Cream-white CHALK with brown staining
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	6
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
			0.15		MADE GROUND (macadam)
D	0.25		0.40		MADE GROUND (brown gravelly SAND. Gravel is of brick)
D	0.50				MADE GROUND (brown/grey very sandy CLAY with flint gravel and chalk fragments)
			0.80		Cream-white CHALK with brown staining in the upper levels
D	1.00				
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	7
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.20		0.15		MADE GROUND (macadam)
					MADE GROUND (dark grey-brown very sandy CLAY with flint gravel and brick fragments)
D	0.50		0.60		MADE GROUND (dark grey/brown very sandy CLAY with rare flint gravel and brick particles)
D	1.00		1.00		Brown very sandy CLAY with flint gravel
			1.20		Light brown very sandy CLAY with chalk fragments
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	8
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with chalk fragments, flint gravel and roots)
D	0.30				
D	0.50		0.60		Cream-white CHALK with rare flints
D	1.00				
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**9**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** DH, KM, HF

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with flint gravel and chalk fragments and roots)
D	0.30		0.40		
D	0.50				Brown very sandy CLAY and CHALK fragments with rare flint gravel
D	1.00		1.20		Cream-white CHALK with rare flints
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	10
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10		0.20		MADE GROUND (grass over brown silty SAND with flint gravel, roots and chalk fragments)
D	0.30				Brown very sandy CLAY with flint gravel and roots
D	0.50				
D	1.00				
			1.30		Cream-white CHALK with pockets of brown silt
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**11**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10		0.20		MADE GROUND (grass over brown silty SAND with flint gravel and roots)
D	0.30		0.30		MADE GROUND (brown very sandy CLAY with chalk fragments and roots)
D	0.50				MADE GROUND (brown/grey very sandy CLAY with flint gravel)
D	1.00		1.20		Cream-white CHALK
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	12
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty CLAY with roots and rare flint gravel)
D	0.30				
D	0.50		0.50		MADE GROUND (brown/grey very sandy CLAY with root Hairs)
			0.80		Cream-white CHALK with rare flints
D	1.00				
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	13
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-0.40
Water level observed upon completion (m): dry		Technician: HF, EK, DH	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots and rare flint gravel)
D	0.30		0.40		END OF BOREHOLE - obstruction on 2 no attempts

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**14**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry		**Technician:** HF, EK	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown clayey SAND with roots and rare flint gravel)
D	0.30				
D	0.50		0.50		MADE GROUND (brown/pale grey very sandy CLAY with roots)
D	1.00				
			1.30		Grey-brown clayey SAND with rare roots
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	15
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	15/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-3.10
Water level observed upon completion (m): dry			Technician: DH, KM, HF

Remarks

No olfactory or visual evidence of contamination. Standpipe installed to 3m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with chalk fragments and roots)
D	0.30				
D	0.50		0.50		Brown very sandy CLAY with roots
D	1.00				
D	1.50		1.60		Grey-brown silty SAND
D	2.00				
D	2.50		2.40		Cream-white CHALK
D	3.00				
			3.10		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	16
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots and flint gravel)
D	0.30		0.40		
D	0.50				MADE GROUND (brown/grey very silty CLAY with rare flint gravel)
			0.80		
D	1.00				Brown clayey SILT with rare flint gravel and chalk fragments
			1.20		Cream-white CHALK with rare flints and brown staining
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	17
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult: GL-2.70
2.	60mm to 50mm diameter	Moderate:	Very hard:
Water level observed upon completion (m): dry		Technician: HF, EK, DH	

Remarks

No olfactory or visual evidence of contamination. Standpipe installed to 2.70m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots, chalk fragments and flint gravel)
D	0.30		0.40		
D	0.50				MADE GROUND (brown silty SAND with chalk fragments)
			0.70		Pale brown silty SAND with chalk fragments and flint gravel
D	1.00				
			1.20		Cream-white CHALK with rare flints and brown staining
D	1.50				
D	2.00				
D	2.50				
			2.70		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**18**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult: GL-0.60
2.	60mm to 50mm diameter	Moderate: 0.60-2.60	Very hard:
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination. Standpipe installed to 2.60m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots, chalk fragments and flint gravel)
D	0.30				
			0.40		
D	0.50				MADE GROUND (brown silty SAND with plastic fragments, chalk and flint gravel)
			0.60		White CHALK with brown staining and rare flints
D	1.00				
D	1.50				
D	2.00				
D	2.50				
			2.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	19
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry		Technician: HF, EK, DH	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (leaf litter over brown silty SAND with flint gravel and roots)
D	0.30		0.40		
D	0.50				Brown very sandy CLAY with rare flint gravel
D	1.00		1.20		Off-white CHALK with rare pockets of brown silt
D	1.50		1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	20
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.30

Water level observed upon completion (m): dry **Technician:** HF, EK, DH

Remarks

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.20				MADE GROUND (macadam over pale grey concrete - slight odour of hydrocarbons)
D	0.40		0.40		MADE GROUND (brown/grey very sandy CLAY with chalk fragments - slight odour of hydrocarbons)
D	0.70		0.70		Brown very sandy CLAY
D	1.00		0.90		Cream-white CHALK
			1.30		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	21
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.40
Water level observed upon completion (m): dry		**Technician:** HF, EK, DH	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with gravel and occasional roots)
D	0.30				
D	0.50		0.50		Brown very sandy CLAY with rare flint gravel and roots
D	1.00				
D	1.40		1.40		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	22
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots, flint gravel and chalk fragments)
D	0.30		0.40		
D	0.50				MADE GROUND (brown/grey very sandy CLAY with chalk fragments and roots)
			0.80		
D	1.00				Brown very silty CLAY and CHALK with flint gravel
			1.40		
D	1.50				White CHALK
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	23
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK, DH

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
					MADE GROUND (macadam over concrete)
D	0.40		0.40		Brown very sandy CLAY with flint gravel
			0.70		
D	0.75				Light brown silty SAND with chalk fragments
D	1.00				
			1.30		Cream-white CHALK with brown staining
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	24
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry		Technician: HF, EK, DH	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots, chalk, flint gravel and concrete fragments)
D	0.30		0.40		
D	0.50				Brown/pale brown silty SAND with chalk fragments and flint gravel
D	1.00		1.00		Cream-white CHALK with pockets of brown silt/sand and flint gravel
D	1.30		1.40		
D	1.50		1.60		Cream-white CHALK with rare flints
					END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	25
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-3.10
Water level observed upon completion (m): dry		Technician: DH	

Remarks

No olfactory or visual evidence of contamination. Standpipe installed to 3.00m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots and flint gravel)
D	0.30		0.40		
D	0.50				Brown clayey SAND with flint gravel and rare roots; grey-brown @1.00m
D	1.00		1.20		Orange-brown/grey clayey SAND with root hairs
D	1.50				
D	2.00		2.00		Brown silty SAND with rare flint gravel
D	2.50		2.80		Cream-white CHALK
D	3.00		3.10		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**26**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	14/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)		
1. none	Drive-in Window Sampler	Very easy:	Difficult:	1.80-3.10
2.	60mm to 50mm diameter	Moderate:	Very hard:	GL-1.80
Water level observed upon completion (m): dry			**Technician:**	HF, EK, DH

Remarks

No olfactory or visual evidence of contamination. Standpipe installed to 2.50m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10		0.20		MADE GROUND (grass over brown silty SAND with flint gravel, roots and chalk fragments)
D	0.30		0.40		MADE GROUND (pale brown silty SAND with concrete fragments)
D	0.50				Brown very sandy CLAY with flint gravel and roots
D	1.00				
D	1.50		1.60		
D	2.00				Cream-white CHALK
D	2.50				
D	3.00		3.10		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	27
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)		
1. none	Drive-in Window Sampler	Very easy:	Difficult:	1.70-2.70
2.	60mm to 50mm diameter	Moderate:	Very hard:	GL-1.70
Water level observed upon completion (m): dry		Technician: DH		

Remarks

No olfactory or visual evidence of contmaination. Standpipe installed to 2.70m.

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty SAND with roots, chalk/brick fragments and flint gravel)
D	0.30				
			0.40		
D	0.50				PROBABLE MADE GROUND (brown very sandy CLAY with roots hairs)
			0.80		
					PROBABLE MADE GROUND (off-white CHALK)
D	1.00				
			1.20		
					Brown silty/clayey sand with chalk fragments and flint gravel
D	1.50				
D	2.00		2.00		Cream-white CHALK
D	2.50				
			2.70		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**28**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.30
Water level observed upon completion (m): dry		**Technician:** HF, EK	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over grey silty SAND with roots, flint gravel and rare chalk fragments)
D	0.30		0.30		Brown very sandy CLAY with rare flint gravel and roots
D	0.50				
D	1.00		1.00		Brown/grey very sandy CLAY
D	1.20				
			1.30		OBSTRUCTION - flint? END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	29
CONTRACT	Thong Lane, Gravesend	Report Ref	25/13244/KJC
Client	Willmott Dixon Construction Ltd	Date	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	Ground Level	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)			
1. none	Drive-in Window Sampler	Very easy:		Difficult:	GL-0.70
2.	60mm to 50mm diameter	Moderate:		Very hard:	0.70-1.20
Water level observed upon completion (m): dry				Technician:	HF, EK

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown clayey SAND with roots and rare flint gravel)
D	0.30				
			0.40		
D	0.50				Brown very sandy CLAY with rare flint gravel and chalk fragments
			0.70		
D	0.75				Cream-white CHALK
D	1.00				
			1.20		
					END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		BOREHOLE	30
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry		**Technician:** HF, EK	

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10				MADE GROUND (grass over brown silty/clayey SAND with roots, rare flint gravel and brick fragments)
D	0.30		0.30		MADE GROUND (brown clayey SAND with brick fragments, flint gravel and roots)
D	0.50		0.50		POSSIBLE MADE GROUND (brown/grey very sandy CLAY with flint gravel and root hairs)
			0.80		Cream-white CHALK
D	1.00				
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH www.alburysi.co.uk		**BOREHOLE**	**31**
CONTRACT	Thong Lane, Gravesend	**Report Ref**	25/13244/KJC
Client	Willmott Dixon Construction Ltd	**Date**	13/10/2025
Site Address	Cascades Leisure Centre, Thong Lane, Gravesend, Kent DA12 4LG	**Ground Level**	

Water Strikes (m)	Type & Dimensions	Ease of excavation (m)	
1. none	Drive-in Window Sampler	Very easy:	Difficult:
2.	60mm to 50mm diameter	Moderate:	Very hard: GL-1.60
Water level observed upon completion (m): dry			**Technician:** HF, EK

Remarks

No olfactory or visual evidence of contamination

Samples or tests		Shear Strength (kPa)	Depth	Legend	Strata Description
Type	Depth (m)				
D	0.10		0.20		MADE GROUND (grass over brown/grey very sandy CLAY with rare flint gravel and roots)
D	0.30				Brown very sandy CLAY with rare flint gravel and roots
D	0.50				
			0.90		
D	1.00				Cream-white CHALK
D	1.50				
			1.60		END OF BOREHOLE

Symbol Code: **B** - Large Disturbed **D** - Small Disturbed **W** - Water Sample **R** - Root Sample **HSV** - Hand Shear Vane **PID** - Photo Ionisation Detector

APPENDIX 4

LABORATORY TEST RESULTS

Albury SI Ltd
Miltons Yard
Petworth Road
Witley
Surrey
GU8 5LH

t:

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i2 Analytical Ltd.
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Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
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e: info-i2analytical@normecgroup.com

Analytical Report Number : 25-055731

Project / Site name:	Thong Lane Gravesend	**Samples received on:**	15/10/2025
Your job number:	25 13244 KJC	**Samples instructed on/ Analysis started on:**	15/10/2025
Your order number:	15786	**Analysis completed by:**	03/11/2025
Report Issue Number:	1	**Report issued on:**	03/11/2025
Samples Analysed:	21 soil samples		

Signed:

Rachel Chappell
Key Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716528	716529	716530	716531	716532
Sample Reference				BH10	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10-0.30	0.10-0.30	0.10
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	14.9	< 0.1	5.6	16.8	5
Moisture Content	%	0.01	NONE	5.7	7.8	8.6	6.6	12
Total mass of sample received	kg	0.1	NONE	0.6	0.8	0.6	0.8	1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	SPU
Analysis completed	N/A	N/A	N/A	25/10/2025	25/10/2025	25/10/2025	25/10/2025	25/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	0.194	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Asbestos Cement	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.8	7.2	7.3	8.4	6.5
Total Sulphate as SO_4	mg/kg	50	MCERTS	800	1100	960	1300	380
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	40	58	18	150	15
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	19.9	28.8	9.15	77.4	7.33
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.9	2.6	1.5	2.6	1
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	0.13	< 0.05	0.07	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	0.21	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.09	0.1	< 0.05	0.16	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.4	1.8	0.27	3	0.13
Anthracene	mg/kg	0.05	MCERTS	0.27	0.45	< 0.05	0.5	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	2.9	3.4	0.66	6.2	0.24
Pyrene	mg/kg	0.05	MCERTS	2.5	2.9	0.61	5.4	0.22
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.4	1.8	0.37	3	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.3	1.7	0.42	3.1	0.17
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.9	2.1	0.49	4.1	0.12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.6	0.81	0.28	1.6	0.11
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.4	1.5	0.36	3	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.6	0.7	0.22	1.5	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.1	0.15	< 0.05	0.31	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.69	0.83	0.19	1.6	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	15.1	18.4	3.87	33.8	1.11

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716528	716529	716530	716531	716532
Sample Reference				BH10	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10-0.30	0.10-0.30	0.10
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	12	13	13	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	0.94	1.4	1.4	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	0.7	1.1	4.1	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.4	0.4	1	< 0.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	35	35	63	54	53
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	35	63	54	53
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	20	33	75	27
Lead (aqua regia extractable)	mg/kg	1	MCERTS	39	41	36	64	24
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.8	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	27	42	32	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	44	42	63	55	56
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	85	82	100	170	94
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	5.7	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	17	19	14	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	21	19	15	< 10	< 10
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	17	25	14	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	17	25	14	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	3.6	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	11	11	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	22	25	< 10	15	< 10
TPHCWG - Aromatic >EC21 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	22	25	< 10	17	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	33	40	< 10	15	< 10
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	33	40	< 10	15	< 10
TPH Total >EC6 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	55	68	22	35	< 10
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	55	68	22	35	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716528	716529	716530	716531	716532
Sample Reference				BH10	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10-0.30	0.10-0.30	0.10
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Chloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	-	< 5.0 ##	-	< 5.0 ##	< 5.0 ##
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	-	< 7.0	-	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	-	< 6.0	-	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	-	< 10	-	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	< 10	-	< 10	< 10
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	< 6.0	-	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716528	716529	716530	716531	716532
Sample Reference				BH10	BH11	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10-0.30	0.10-0.30	0.10
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	< 8.0	-	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	0.6	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716533	716534	716535	716536	716537
Sample Reference				BH16	BH17	BH18	BH19	BH20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10-0.30	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	14/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	78
Moisture Content	%	0.01	NONE	8.1	8.3	8.9	9.7	5.7
Total mass of sample received	kg	0.1	NONE	0.7	0.6	0.7	0.5	0.7
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	JSW	JSW	JSW
Analysis completed	N/A	N/A	N/A	25/10/2025	25/10/2025	25/10/2025	25/10/2025	25/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.6	8	7.7	7.4	10.8
Total Sulphate as SO_4	mg/kg	50	MCERTS	550	950	710	660	3100
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	9.5	28	11	16	2700
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	4.77	14	5.29	7.77	1340
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.8	2.8	1.9	2.2	0.6
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.38	< 0.05	0.1	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.28	< 0.05	0.06	0.18
Phenanthrene	mg/kg	0.05	MCERTS	0.23	6.1	0.32	1.2	0.42
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.3	0.07	0.21	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.61	8	0.66	2.9	0.14
Pyrene	mg/kg	0.05	MCERTS	0.58	6.9	0.58	2.6	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.34	3.5	0.33	1.4	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.41	3.8	0.45	1.6	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.51	4	0.58	1.7	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.29	2.2	0.2	1.1	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.39	3.8	0.42	1.6	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.24	1.7	0.24	0.75	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.3	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.25	2.2	0.29	0.82	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.83	44.4	4.14	16.2	0.94

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716533	716534	716535	716536	716537
Sample Reference				BH16	BH17	BH18	BH19	BH20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10-0.30	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	14/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	13	12	13	2.6
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.73	1	1.1	1.1	2.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	1.8	0.6	2.3	3.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.6	1.1	0.8	0.3
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	170	40	36	40	27
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	170	40	36	40	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	48	54	36	32	6.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	99	71	42	45	< 1.0
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.2	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	28	27	29	1.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.2	< 1.0	1.7	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	47	46	49	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	80	150	100	97	23
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	0.06
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	13
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	31
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	28	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	33	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	28	< 10	< 10	< 10	43
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	28	< 10	< 10	< 10	43
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.1
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	2.7	< 2.0	< 2.0	11
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	20	< 10	< 10	22
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	28	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	30	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	51	< 10	< 10	34
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	51	< 10	< 10	34
TPH Total >EC6 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	48	53	< 10	14	83
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	48	53 #	< 10	14 #	83
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716533	716534	716535	716536	716537
Sample Reference				BH16	BH17	BH18	BH19	BH20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10-0.30	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	14/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716533	716534	716535	716536	716537
Sample Reference				BH16	BH17	BH18	BH19	BH20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10-0.30	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	14/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716538	716539	716540	716541	716542
Sample Reference				BH21	BH22	BH23	BH24	BH25
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10-0.30	0.10	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	11.8	20.9	94.6	15.4	4.4
Moisture Content	%	0.01	NONE	7.1	4.8	12	8.6	8.2
Total mass of sample received	kg	0.1	NONE	0.6	0.7	0.5	0.7	0.7
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	JSW	JSW	JSW
Analysis completed	N/A	N/A	N/A	25/10/2025	25/10/2025	25/10/2025	25/10/2025	25/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.9	7.9	8.6	7.8	6.8
Total Sulphate as SO_4	mg/kg	50	MCERTS	830	550	720	700	870
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	64	32	200	30	30
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	31.9	15.9	102	14.9	14.9
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2	1.4	0.5	2.4	2.6
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.65	0.07	< 0.05	0.14	0.31
Anthracene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.3	0.14	< 0.05	0.3	0.77
Pyrene	mg/kg	0.05	MCERTS	1.1	0.14	< 0.05	0.26	0.73
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.62	0.11	< 0.05	0.18	0.45
Chrysene	mg/kg	0.05	MCERTS	0.64	0.11	< 0.05	0.21	0.48
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.81	0.14	< 0.05	0.28	0.73
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.37	0.06	< 0.05	0.11	0.28
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.61	0.11	< 0.05	0.23	0.52
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.32	< 0.05	< 0.05	0.13	0.28
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.07
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.4	0.08	< 0.05	0.15	0.37
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	6.91	0.97	< 0.80	2	5

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716538	716539	716540	716541	716542
Sample Reference				BH21	BH22	BH23	BH24	BH25
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10-0.30	0.10	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	12	9.1	8.7	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	0.98	1.1	0.85	0.99
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1.2	0.3	1	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	6.4	0.4	0.4	1.1	1.4
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	44	32	36	29	46
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	44	32	36	29	46
Copper (aqua regia extractable)	mg/kg	1	MCERTS	43	25	22	31	40
Lead (aqua regia extractable)	mg/kg	1	MCERTS	46	34	11	29	50
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	28	29	22	44
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	2.2	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	45	44	47	38	44
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	78	75	94	1400
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10 ##	< 10	< 10
TPHCWG - Aromatic >EC21 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Total >EC6 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10 ##	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716538	716539	716540	716541	716542
Sample Reference				BH21	BH22	BH23	BH24	BH25
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10-0.30	0.10	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716538	716539	716540	716541	716542
Sample Reference				BH21	BH22	BH23	BH24	BH25
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10-0.30	0.10	0.10	0.10	0.10
Date Sampled				14/10/2025	14/10/2025	14/10/2025	14/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716543	716544	716545	716546	716547
Sample Reference				BH26	BH27	BH28	BH29	BH30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10	0.10-0.30	0.10-0.30
Date Sampled				14/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	46.7	35.6	4.7	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	4.6	5.4	8.2	8.7	8.5
Total mass of sample received	kg	0.1	NONE	0.6	0.8	0.9	0.6	0.7
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN	MJN
Analysis completed	N/A	N/A	N/A	25/10/2025	25/10/2025	25/10/2025	25/10/2025	25/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8	7.7	7.6	7	5.7
Total Sulphate as SO_4	mg/kg	50	MCERTS	1100	900	670	820	720
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	140	48	20	21	35
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	68.7	23.8	9.91	10.6	17.3
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.9	2.3	2.2	1.9	2.1
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1	0.46	0.21	< 0.05	0.16
Anthracene	mg/kg	0.05	MCERTS	0.2	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.2	1.2	0.53	0.19	0.37
Pyrene	mg/kg	0.05	MCERTS	1.1	1.1	0.46	0.19	0.32
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.58	0.66	0.27	0.11	0.2
Chrysene	mg/kg	0.05	MCERTS	0.53	0.71	0.31	0.14	0.22
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.6	0.95	0.41	0.18	0.33
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.26	0.44	0.15	0.07	0.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.49	0.78	0.34	0.13	0.22
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.25	0.43	0.17	0.08	0.13
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.06	0.09	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.3	0.51	0.22	0.09	0.16
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	6.83	7.33	3.08	1.18	2.21

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716543	716544	716545	716546	716547
Sample Reference				BH26	BH27	BH28	BH29	BH30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10	0.10-0.30	0.10-0.30
Date Sampled				14/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.9	12	11	11	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.91	0.92	1.1	0.97	1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	1.3	1.1	0.8	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	6.7	0.4	0.3	0.4
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	33	38	39	38	37
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	38	39	38	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	69	32	31	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	46	34	35	38
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	29	23	28	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1	< 1.0	1.1	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	42	47	43	45
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	130	110	86	89
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	1.7	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	4.9	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	12	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	12	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	29	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	29	< 10	< 10	< 10	< 10
TPH Total >EC6 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	29	< 10	< 10	< 10	< 10
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	29	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716543	716544	716545	716546	716547
Sample Reference				BH26	BH27	BH28	BH29	BH30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10	0.10-0.30	0.10-0.30
Date Sampled				14/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	-
Bromoform	µg/kg	5	MCERTS	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716543	716544	716545	716546	716547
Sample Reference				BH26	BH27	BH28	BH29	BH30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.10	0.10-0.30	0.10-0.30
Date Sampled				14/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716548
Sample Reference				BH31
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.10
Date Sampled				13/10/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	9.7
Total mass of sample received	kg	0.1	NONE	0.6

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN
Analysis completed	N/A	N/A	N/A	25/10/2025
Actinolite detected	Type	N/A	ISO 17025	-
Amosite detected	Type	N/A	ISO 17025	-
Anthophyllite detected	Type	N/A	ISO 17025	-
Chrysotile detected	Type	N/A	ISO 17025	-
Crocidolite detected	Type	N/A	ISO 17025	-
Tremolite detected	Type	N/A	ISO 17025	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.4
Total Sulphate as SO_4	mg/kg	50	MCERTS	800
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	82
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	41.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.06
Acenaphthylene	mg/kg	0.05	MCERTS	0.23
Acenaphthene	mg/kg	0.05	MCERTS	0.07
Fluorene	mg/kg	0.05	MCERTS	0.09
Phenanthrene	mg/kg	0.05	MCERTS	2
Anthracene	mg/kg	0.05	MCERTS	0.4
Fluoranthene	mg/kg	0.05	MCERTS	5.6
Pyrene	mg/kg	0.05	MCERTS	4.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8
Chrysene	mg/kg	0.05	MCERTS	2.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	4
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.25
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	30.5

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716548
Sample Reference				BH31
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.10
Date Sampled				13/10/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2
Chromium (III)	mg/kg	1	NONE	37
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	51
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	44
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	13
TPHCWG - Aliphatic >EC21 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	15
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	13
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	13
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	3.9
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	22
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	44
TPHCWG - Aromatic >EC21 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	47
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	71
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	71
TPH Total >EC6 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	90
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	90
VOCs				
Chloromethane	µg/kg	5	MCERTS	-

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Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716548
Sample Reference				BH31
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.10
Date Sampled				13/10/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	
Chloroethane	µg/kg	5	MCERTS	-
Bromomethane	µg/kg	5	MCERTS	-
Vinyl Chloride	µg/kg	5	NONE	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-
2,2-Dichloropropane	µg/kg	5	NONE	-
Chloroform	µg/kg	5	MCERTS	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-
1,1-Dichloropropene	µg/kg	5	MCERTS	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-
Trichloroethene	µg/kg	10	MCERTS	-
Dibromomethane	µg/kg	5	MCERTS	-
Bromodichloromethane	µg/kg	5	MCERTS	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-
Dibromochloromethane	µg/kg	5	MCERTS	-
Tetrachloroethene	µg/kg	5	MCERTS	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-
Chlorobenzene	µg/kg	5	MCERTS	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
Styrene	µg/kg	5	MCERTS	-
Bromoform	µg/kg	5	MCERTS	-
o-Xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-
Bromobenzene	µg/kg	5	MCERTS	-
n-Propylbenzene	µg/kg	5	MCERTS	-
2-Chlorotoluene	µg/kg	5	MCERTS	-
4-Chlorotoluene	µg/kg	5	MCERTS	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-
tert-Butylbenzene	µg/kg	5	MCERTS	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-
sec-Butylbenzene	µg/kg	5	MCERTS	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-055731
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				716548
Sample Reference				BH31
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.10
Date Sampled				13/10/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-
Butylbenzene	µg/kg	5	MCERTS	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-

SVOCs

Aniline	mg/kg	0.1	NONE	-
Phenol	mg/kg	0.2	ISO 17025	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-
2-Methylphenol	mg/kg	0.3	MCERTS	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-
Nitrobenzene	mg/kg	0.3	MCERTS	-
4-Methylphenol	mg/kg	0.2	NONE	-
Isophorone	mg/kg	0.2	MCERTS	-
2-Nitrophenol	mg/kg	0.3	NONE	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-
4-Chloroaniline	mg/kg	0.1	NONE	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-
Dibenzofuran	mg/kg	0.2	MCERTS	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-
4-Nitroaniline	mg/kg	0.2	NONE	-
Azobenzene	mg/kg	0.3	NONE	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-
Carbazole	mg/kg	0.3	MCERTS	-
Dibutyl phthalate	mg/kg	0.2	NONE	-
Anthraquinone	mg/kg	0.3	NONE	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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UKAS TESTING
4041

Normec i2 Analytical

Analytical Report Number: **25-055731**
Project / Site name: **Thong Lane Gravesend**
Your Order No: **15786**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample	Analysis completed	Analyst ID
716529	BH11	0.10-	132	Asbestos Cement	**Chrysotile**	0.194	**0.194**	25/10/2025	SPU

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Analytical Report Number : 25-055731
Project / Site name: Thong Lane Gravesend

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
716528	BH10	None Supplied	0.1	Light brown loam and sand with gravel and stones
716529	BH11	None Supplied	0.1	Brown loam and sand with gravel and vegetation
716530	BH12	None Supplied	0.10-0.30	Brown loam and clay with vegetation and stones
716531	BH13	None Supplied	0.10-0.30	Brown loam and sand with gravel and stones
716532	BH14	None Supplied	0.1	Brown clay and loam with vegetation and stones
716533	BH16	None Supplied	0.1	Brown loam and sand with gravel and vegetation
716534	BH17	None Supplied	0.10-0.30	Brown loam and sand with gravel and vegetation
716535	BH18	None Supplied	0.1	Brown loam and sand with gravel and vegetation
716536	BH19	None Supplied	0.1	Brown loam and sand with gravel and vegetation
716537	BH20	None Supplied	0.1	Grey sand with stones
716538	BH21	None Supplied	0.10-0.30	Brown sand with vegetation and stones
716539	BH22	None Supplied	0.1	Brown sand with stones and vegetation
716540	BH23	None Supplied	0.1	Brown clay with stones
716541	BH24	None Supplied	0.1	Brown sand with vegetation and stones
716542	BH25	None Supplied	0.1	Brown sand with vegetation and stones
716543	BH26	None Supplied	0.1	Brown sand with stones and vegetation
716544	BH27	None Supplied	0.1	Brown sand with stones and vegetation
716545	BH28	None Supplied	0.1	Light brown loam and sand with gravel and vegetation
716546	BH29	None Supplied	0.10-0.30	Brown loam and sand with gravel and vegetation
716547	BH30	None Supplied	0.10-0.30	Brown loam and sand with gravel and vegetation
716548	BH31	None Supplied	0.1	Brown loam and sand with gravel and vegetation

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Analytical Report Number : 25-055731
Project / Site name: Thong Lane Gravesend

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
TPH Chromatogram in soil	TPH Chromatogram in soil	In-house method	L064B	D	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Total petroleum hydrocarbons by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE

Analytical Report Number : 25-055731
Project / Site name: Thong Lane Gravesend

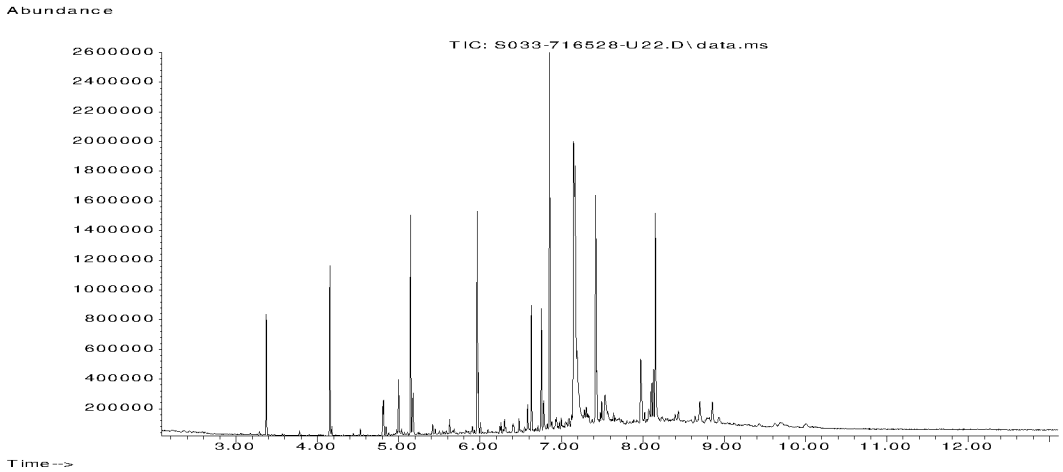
Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

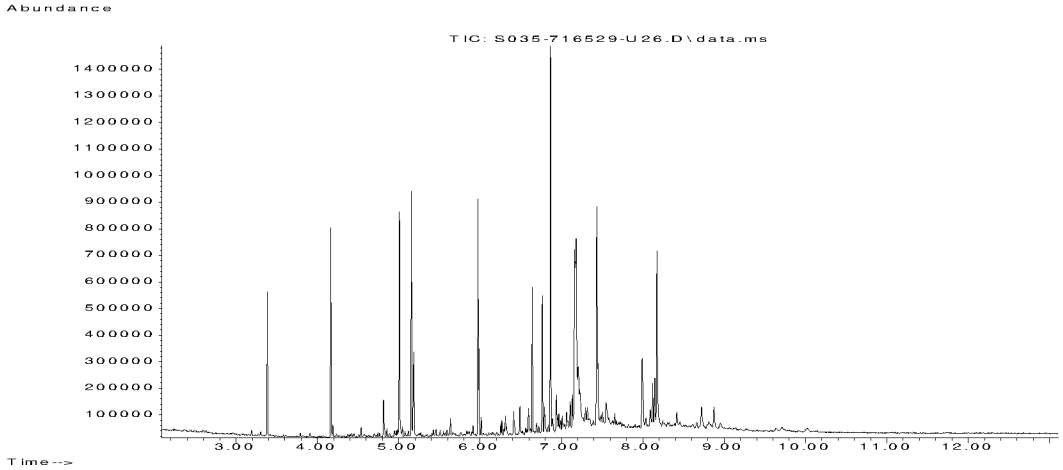
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	NONE
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
Total petroleum hydrocarbons by HS-GC-MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC-MS	In-house method	L129-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

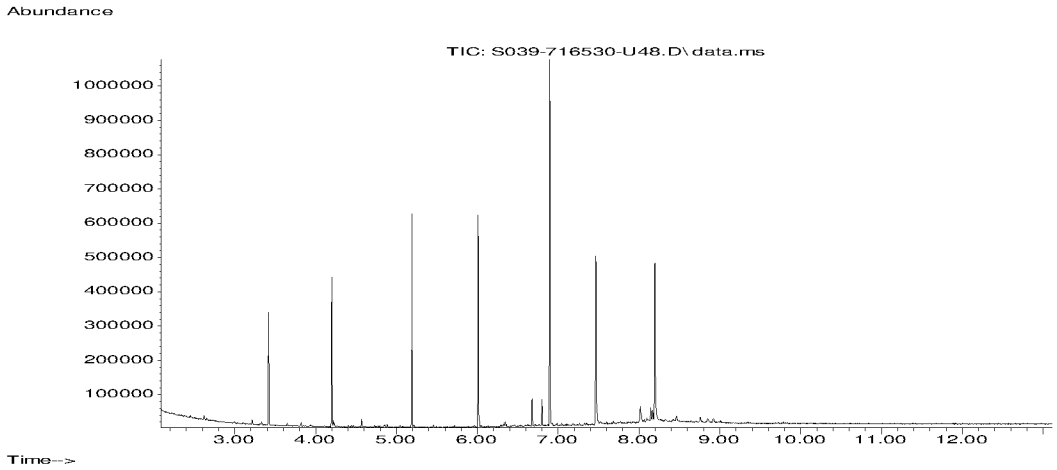
For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

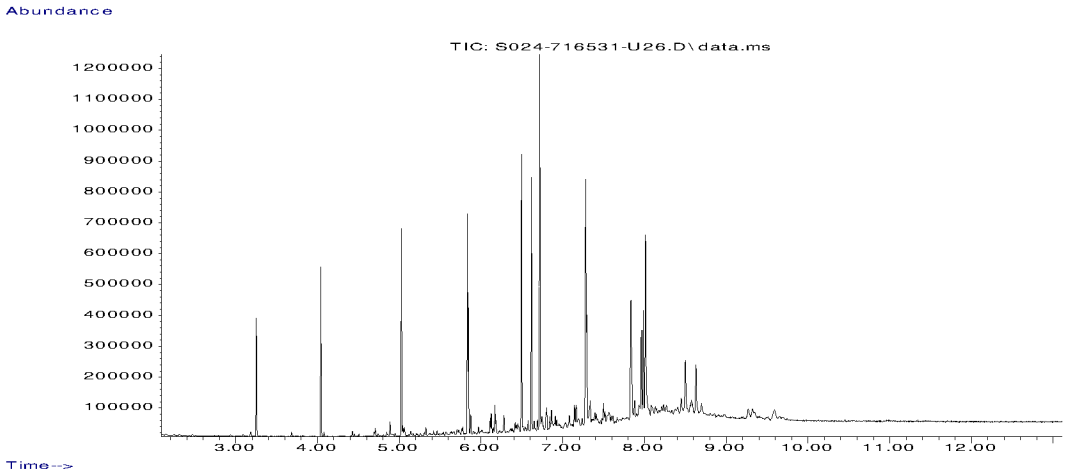
Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

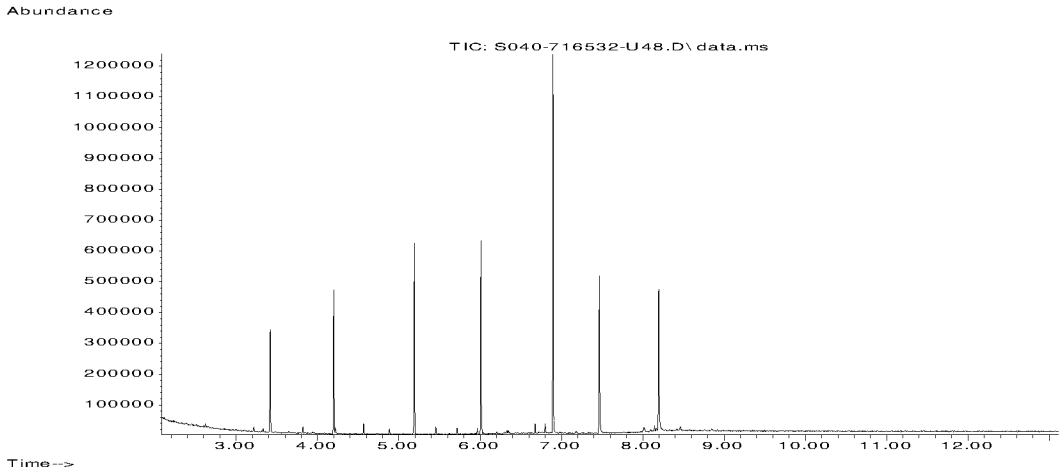
##- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
#- Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as deviating and should be interpreted with caution. The result is not accredited.

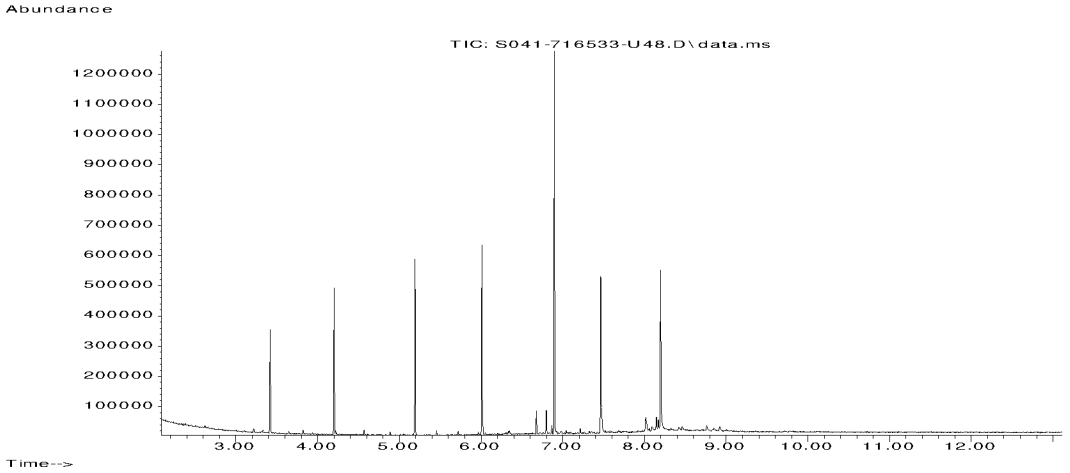

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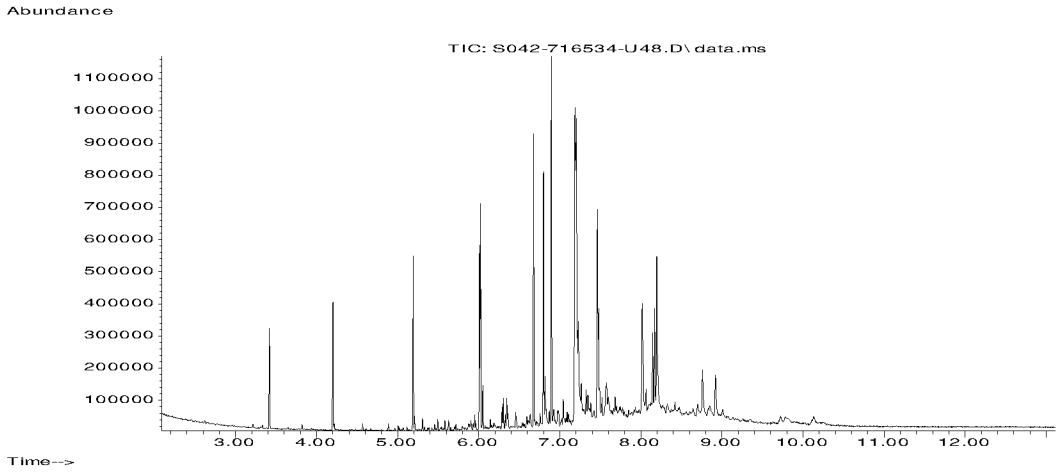

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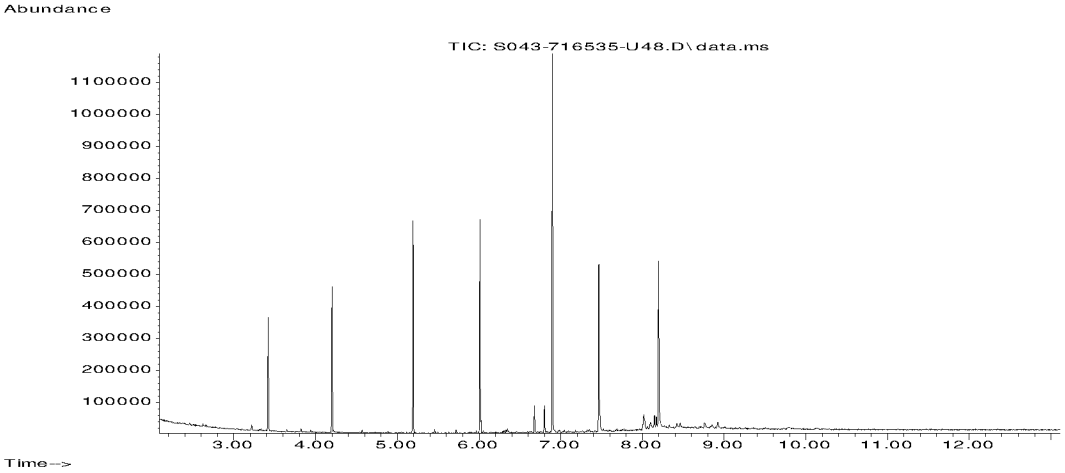

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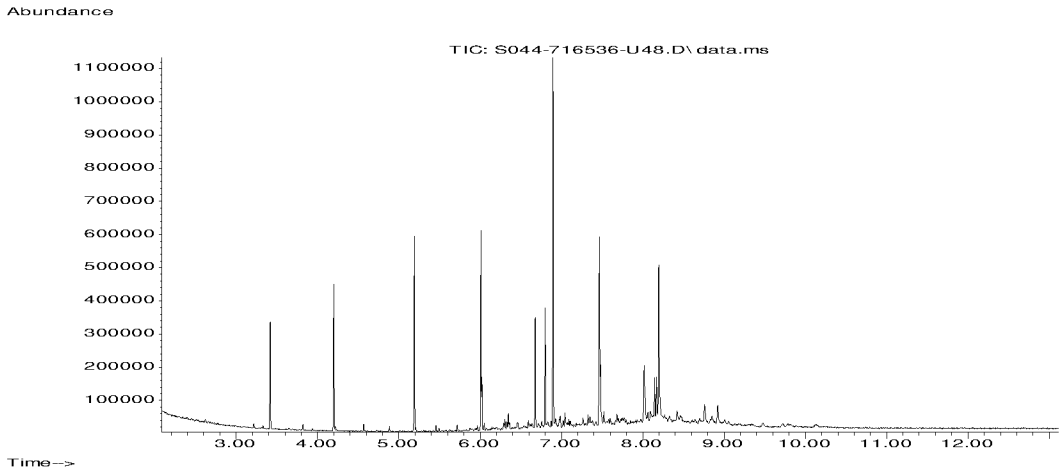

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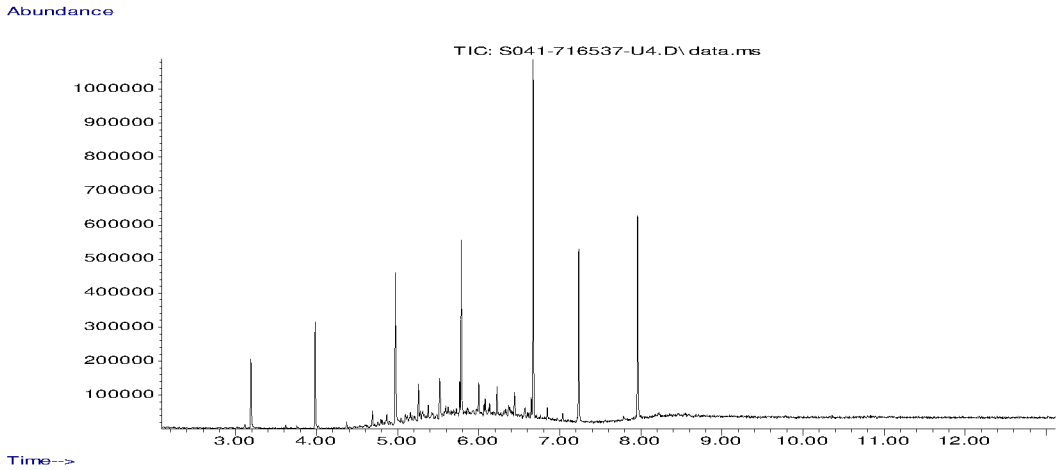

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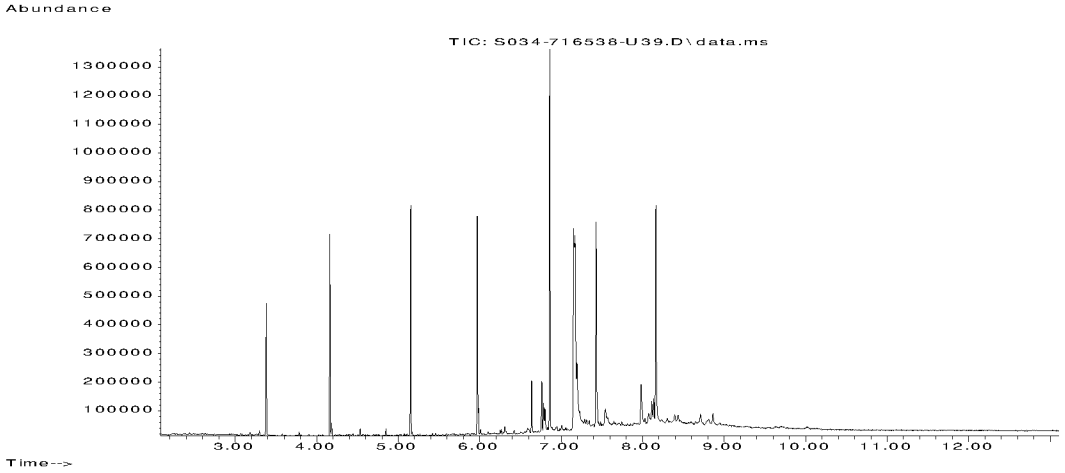

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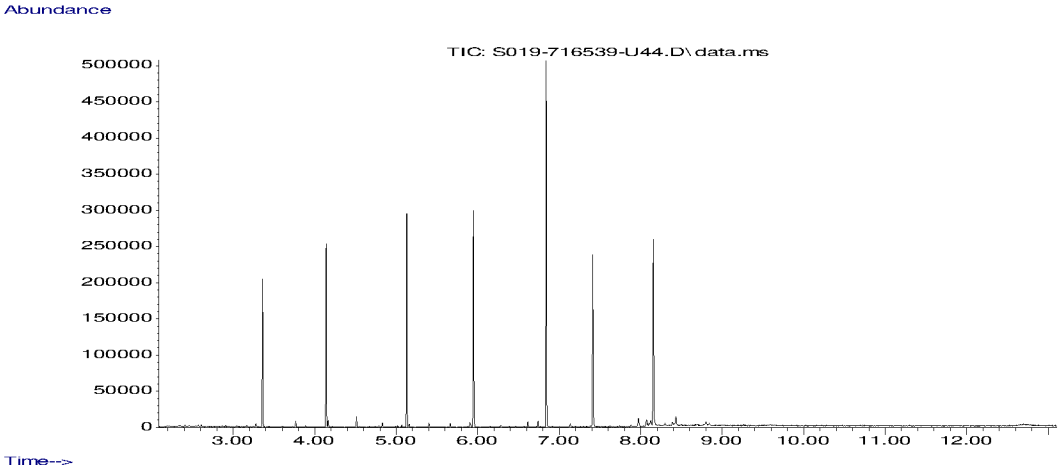

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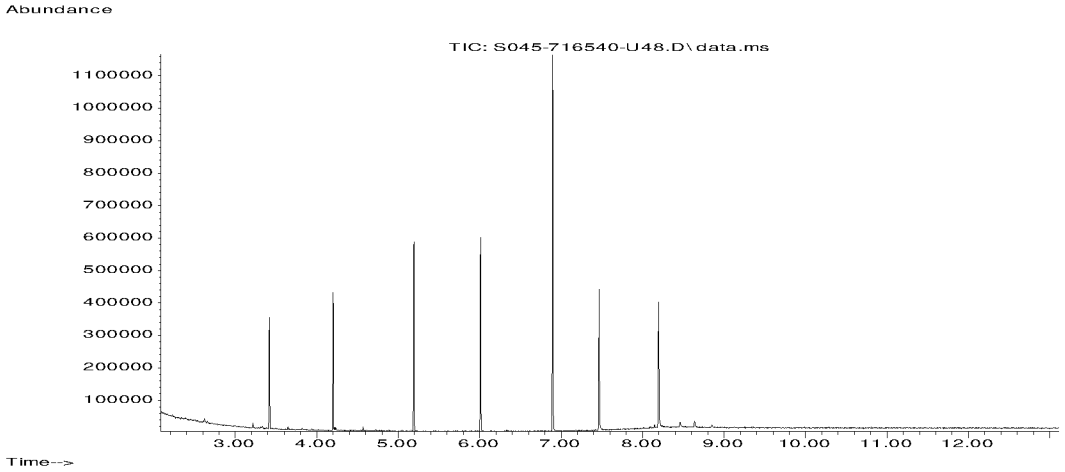

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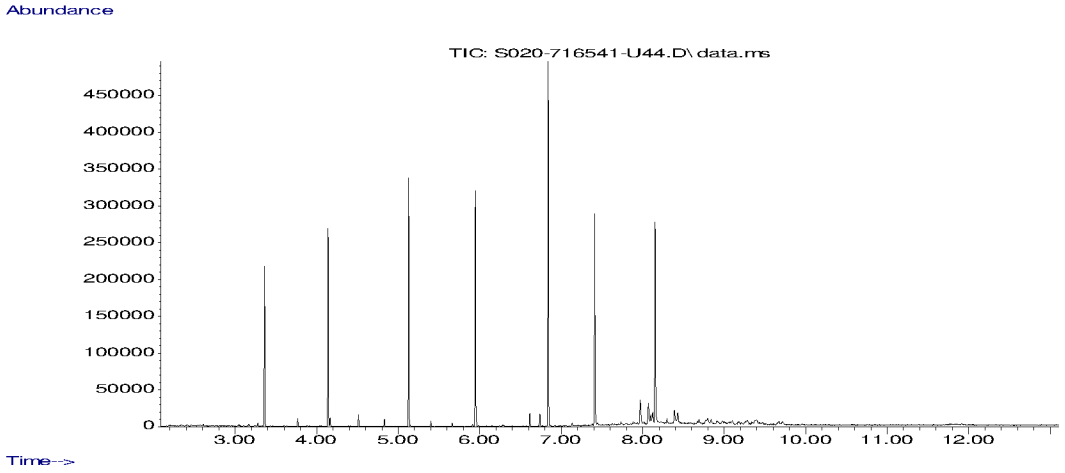

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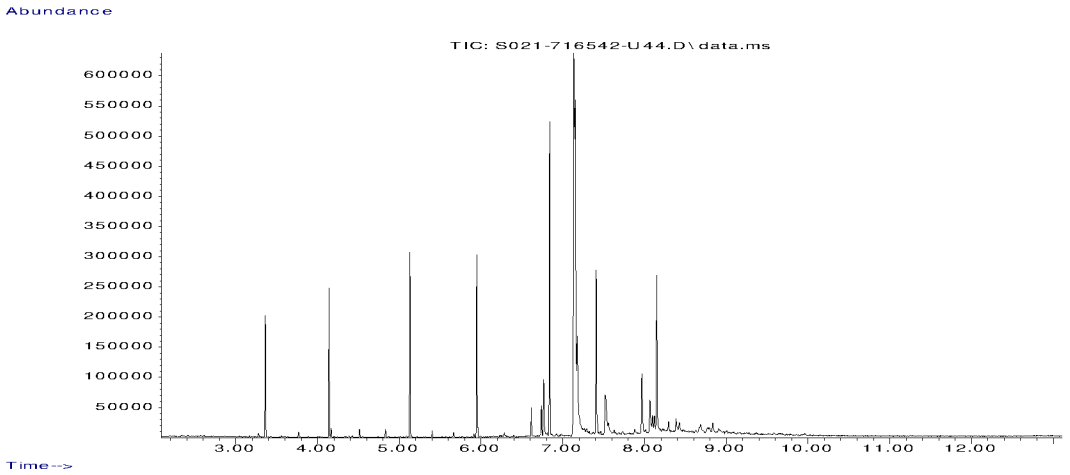

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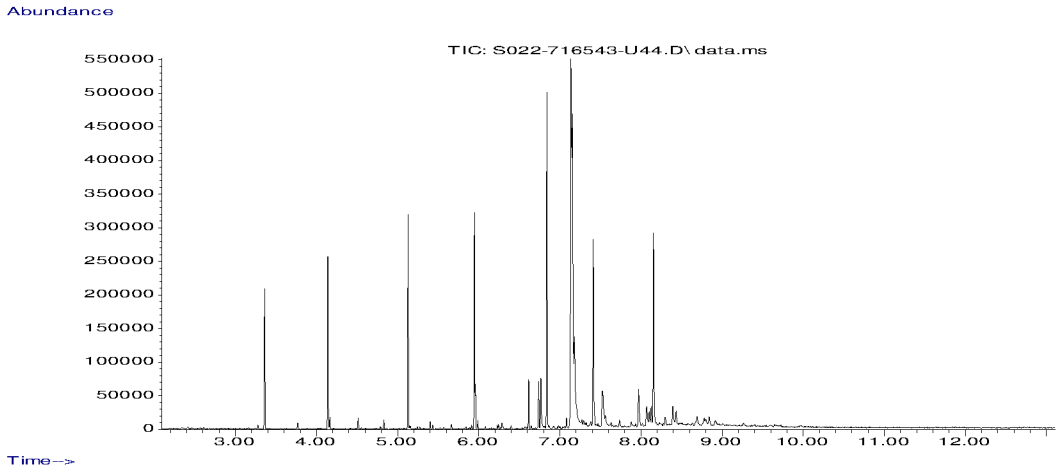

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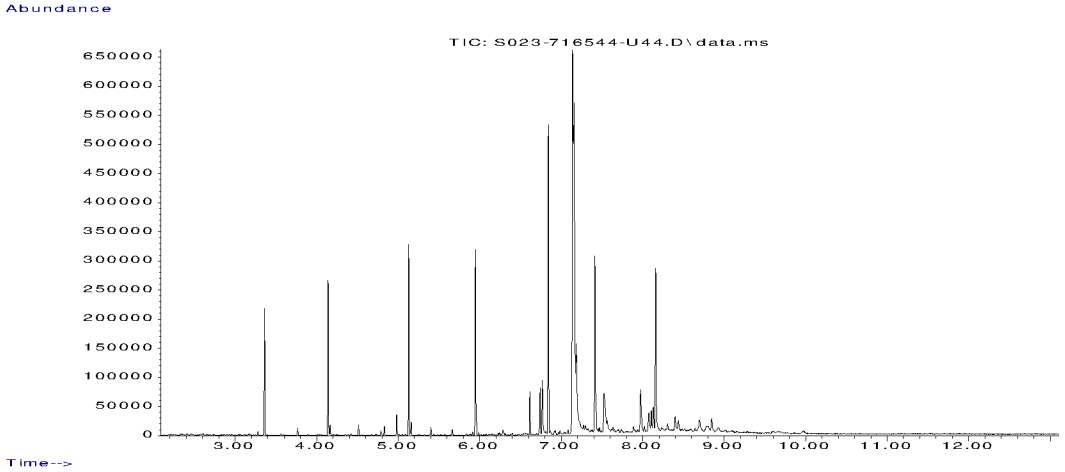

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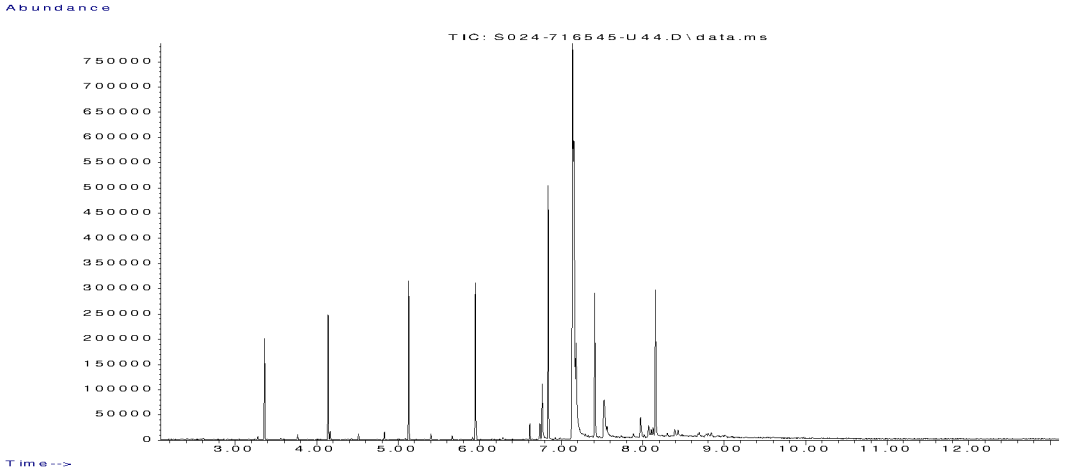

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Time-->

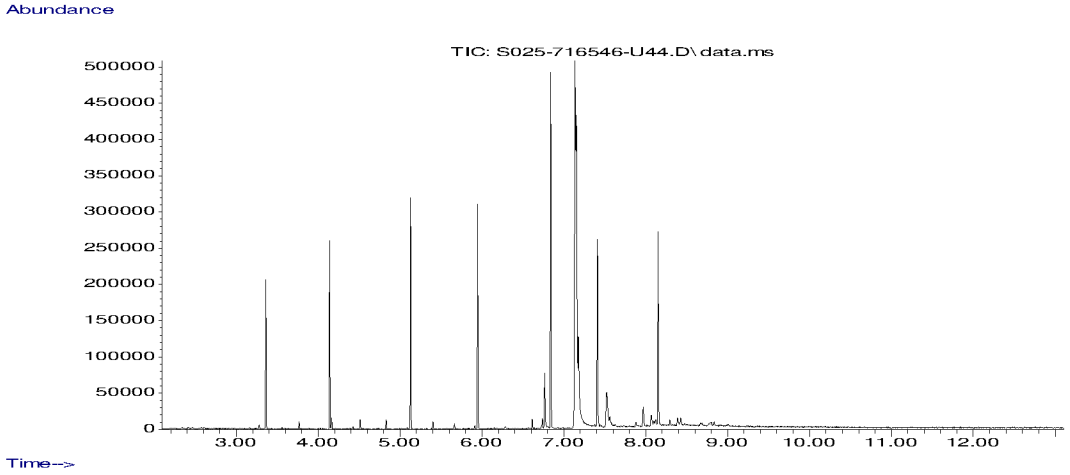

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Time-->

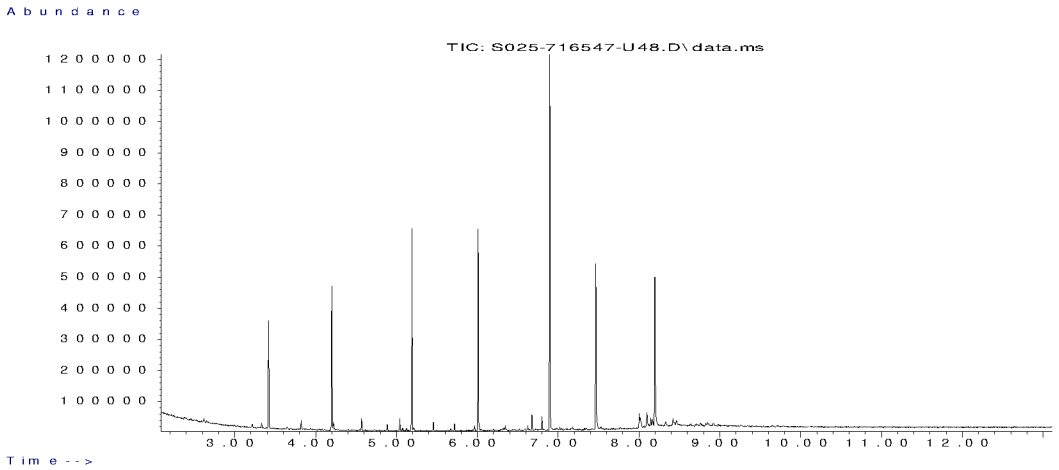

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Time-->

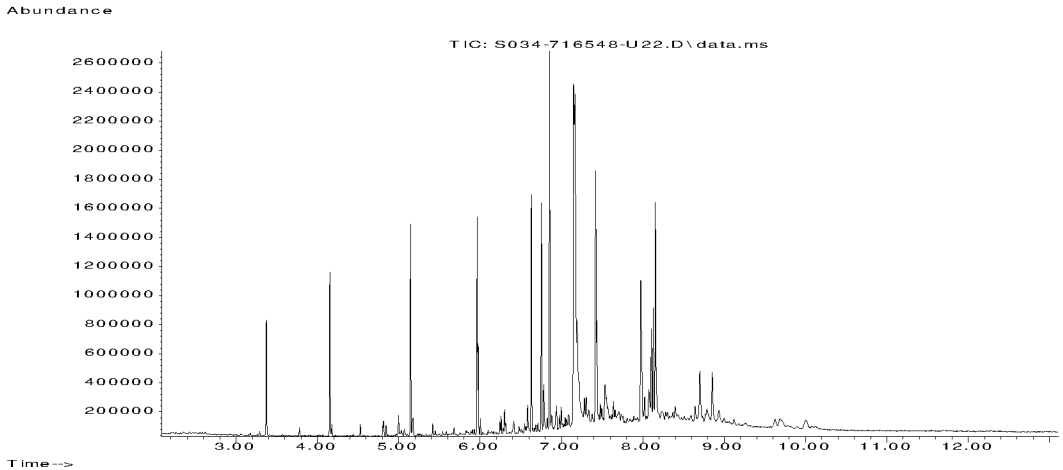

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Time-->


Abundance
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Time-->


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Time-->


Abundance
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Time-->


Abundance
TIC: S025-716547-U48.D\data.ms
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12.00
Time -->


Abundance
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11.00
12.00
Time-->

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Analytical Report Number : 25-056378

Project / Site name:	Thong Lane Gravesend	**Samples received on:**	17/10/2025
Your job number:	25 13244 KJC	**Samples instructed on/ Analysis started on:**	17/10/2025
Your order number:	15786	**Analysis completed by:**	05/11/2025
Report Issue Number:	1	**Report issued on:**	06/11/2025
Samples Analysed:	10 soil samples		



Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719710	719711	719712	719713	719714
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10	0.30	0.25
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	58.9	43.8	7.6	44.9	< 0.1
Moisture Content	%	0.01	NONE	5	5.8	8.9	8	7.8
Total mass of sample received	kg	0.1	NONE	0.9	0.9	0.5	0.8	0.8
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB	KWB	KWB	KWB	KWB
Analysis completed	N/A	N/A	N/A	28/10/2025	28/10/2025	28/10/2025	28/10/2025	28/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Detected	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	0.002	< 0.001
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibres	Loose Fibres
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.4	8.4	7.7	8.1	8.3
Total Sulphate as SO_4	mg/kg	50	MCERTS	500	420	1400	750	910
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	85	20	39	35	35
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	42.6	9.94	19.2	17.7	17.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	0.6	3.5	1.2	1.7
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	0.41	1.2
Acenaphthylene	mg/kg	0.05	MCERTS	0.43	< 0.05	0.11	0.75	1.7
Acenaphthene	mg/kg	0.05	MCERTS	1.4	< 0.05	0.2	4	6.3
Fluorene	mg/kg	0.05	MCERTS	2.7	< 0.05	0.15	3.2	5.5
Phenanthrene	mg/kg	0.05	MCERTS	14	0.25	3	61	95
Anthracene	mg/kg	0.05	MCERTS	3.4	0.07	0.65	14	22
Fluoranthene	mg/kg	0.05	MCERTS	20	0.53	7.5	83	140
Pyrene	mg/kg	0.05	MCERTS	17	0.53	6.7	70	120
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.1	0.31	3.3	34	64
Chrysene	mg/kg	0.05	MCERTS	8	0.3	3.7	34	57
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	9.4	0.46	4.6	38	65
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.7	0.16	2	16	35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	8.1	0.39	3.8	32	60
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.8	0.23	1.8	15	27
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.65	< 0.05	0.34	2.5	4.7
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.1	0.31	2	16	28
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	106	3.54	39.9	425	739

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Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719710	719711	719712	719713	719714
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10	0.30	0.25
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.2	11	12	14	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.47	0.5	1.1	1.2	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	< 0.2	3.3	0.4	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2	1	1.8	4
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	14	14	38	41	36
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	14	38	41	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.9	11	41	75	420
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20	7.5	65	130	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	16	34	36	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	21	48	54	45
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36	32	140	140	1000
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	3.6	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	12	< 2.0	< 2.0	3	3.6
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	35	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	14	< 8.0	< 8.0	18	28
TPHCWG - Aliphatic >EC21 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	23	< 10	< 10	24	39
TPHCWG - Aliphatic >EC35 - EC44 $_{EH\_CU\_1D\_AL}$	mg/kg	8.4	NONE	22	< 8.4	< 8.4	9.6	16
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	60	< 10	< 10	24	32
TPHCWG - Aliphatic >EC5 - EC44 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	82	< 10	< 10	34	48
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.4
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	12	< 2.0	< 2.0	29	31
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	63	< 10	15	190	220
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	110	25	35	250	300
TPHCWG - Aromatic >EC21 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	140	41	41	270	330
TPHCWG - Aromatic >EC35 - EC44 $_{EH\_CU\_1D\_AR}$	mg/kg	8.4	NONE	68	37	17	38	34
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	180	25	50	470	560
TPHCWG - Aromatic >EC5 - EC44 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	250	62	67	510	590
TPH Total >EC6 - EC40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	NONE	290	46	57	530	630
Petroleum Range Organics (EC6 - EC10) $_{HS\_1D\_TOTAL}$	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	290	46	57	530	630

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Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719710	719711	719712	719713	719714
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10	0.30	0.25
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719715	719716	719717	719718	719719
Sample Reference				6	7	8	9	15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10-0.30	0.10	0.10
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	61.8	< 0.1	35.2	23.9	15.6
Moisture Content	%	0.01	NONE	5.8	15	6.8	6.9	8.3
Total mass of sample received	kg	0.1	NONE	0.7	1	0.9	0.7	0.7

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA	SCA	SCA
Analysis completed	N/A	N/A	N/A	28/10/2025	28/10/2025	28/10/2025	28/10/2025	28/10/2025
Actinolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	Loose Fibres	-	-	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.9	8	7.8	8	7.7
Total Sulphate as SO_4	mg/kg	50	MCERTS	2000	440	960	1300	810
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	250	72	38	140	37
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	126	36	19	68.3	18.7
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.8	0.9	2.3	2.9	2.9

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	2.2	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	2.9	0.16	< 0.05	0.07	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	18	0.42	< 0.05	0.09	< 0.05
Fluorene	mg/kg	0.05	MCERTS	14	0.69	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	240	7	0.36	0.6	0.21
Anthracene	mg/kg	0.05	MCERTS	59	2.7	0.1	0.22	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	320	15	0.8	1.9	0.64
Pyrene	mg/kg	0.05	MCERTS	270	12	0.8	1.9	0.59
Benzo(a)anthracene	mg/kg	0.05	MCERTS	130	6.4	0.48	1.1	0.35
Chrysene	mg/kg	0.05	MCERTS	120	5.8	0.48	1.1	0.36
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	130	7.1	0.81	2.2	0.58
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	81	2.8	0.28	0.78	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	130	6	0.64	1.7	0.42
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	59	2.7	0.32	1	0.23
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	14	0.59	0.07	0.17	0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	66	2.8	0.35	1.3	0.26

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1660	72.4	5.48	14.2	3.9

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Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719715	719716	719717	719718	719719
Sample Reference				6	7	8	9	15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10-0.30	0.10	0.10
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	12	12	9.8	25
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1	0.97	0.85	1
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.6	0.4	1.2	2.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	7.9	1	1	0.9	3.7
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	27	32	32	26	47
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	32	32	26	47
Copper (aqua regia extractable)	mg/kg	1	MCERTS	49	33	28	34	48
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	53	67	81	42
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	27	29	20	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	< 1.0	1.1	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	40	45	43	36	44
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	77	120	120	140
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	20	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	29	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	44	13	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	44	21	< 10	< 10	< 10
TPHCWG - Aliphatic >EC35 - EC44 $_{EH\_CU\_1D\_AL}$	mg/kg	8.4	NONE	< 8.4	10	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	93	13	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	93	23	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	7.8	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	140	7	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	1100	35	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	1500	58	< 10	23	< 10
TPHCWG - Aromatic >EC21 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	1700	70	< 10	24	< 10
TPHCWG - Aromatic >EC35 - EC44 $_{EH\_CU\_1D\_AR}$	mg/kg	8.4	NONE	200	20	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	2800	100	< 10	23	< 10
TPHCWG - Aromatic >EC5 - EC44 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	3000	120	< 10	23	< 10
TPH Total >EC6 - EC40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	NONE	3000	130	< 10	30	< 10
Petroleum Range Organics (EC6 - EC10) $_{HS\_1D\_TOTAL}$	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	3000	130	< 10	30	< 10

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Analytical Report Number: 25-056378
Project / Site name: Thong Lane Gravesend
Your Order No: 15786

Lab Sample Number				719715	719716	719717	719718	719719
Sample Reference				6	7	8	9	15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.25	0.20	0.10-0.30	0.10	0.10
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number:	**25-056378**
Project / Site name:	**Thong Lane Gravesend**
Your Order No:	**15786**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample	Analysis completed	Analyst ID
719713	4	0.30-	249	Loose Fibres	**Chrysotile**	0.002	**0.002**	28/10/2025	KWB
719714	5	0.25-	225	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**	28/10/2025	KWB
719715	6	0.25-	201	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**	28/10/2025	SCA
719716	7	0.20-	218	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**	28/10/2025	SCA

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Analytical Report Number : 25-056378
Project / Site name: Thong Lane Gravesend

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
719710	1	None Supplied	0.25	Brown sand with stones
719711	2	None Supplied	0.2	Brown sand with gravel and stones
719712	3	None Supplied	0.1	Brown sandy loam with vegetation and stones
719713	4	None Supplied	0.3	Brown clay and sand with stones
719714	5	None Supplied	0.25	Brown sand with gravel and brick
719715	6	None Supplied	0.25	Brown sand with brick and stones
719716	7	None Supplied	0.2	Brown clay and sand with brick
719717	8	None Supplied	0.10-0.30	Brown loam and sand with vegetation and stones
719718	9	None Supplied	0.1	Brown loam and sand with vegetation and stones
719719	15	None Supplied	0.1	Brown loam and sand with vegetation and stones

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Analytical Report Number : 25-056378
Project / Site name: Thong Lane Gravesend

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
TPH Chromatogram in soil	TPH Chromatogram in soil	In-house method	L064B	D	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Total petroleum hydrocarbons by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE

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Analytical Report Number : 25-056378
Project / Site name: Thong Lane Gravesend

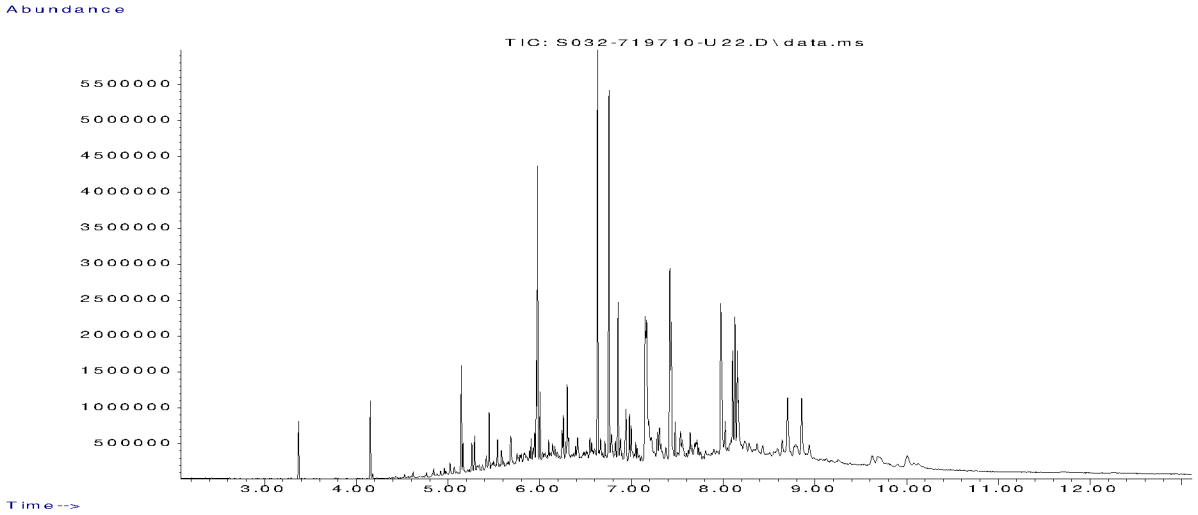
Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

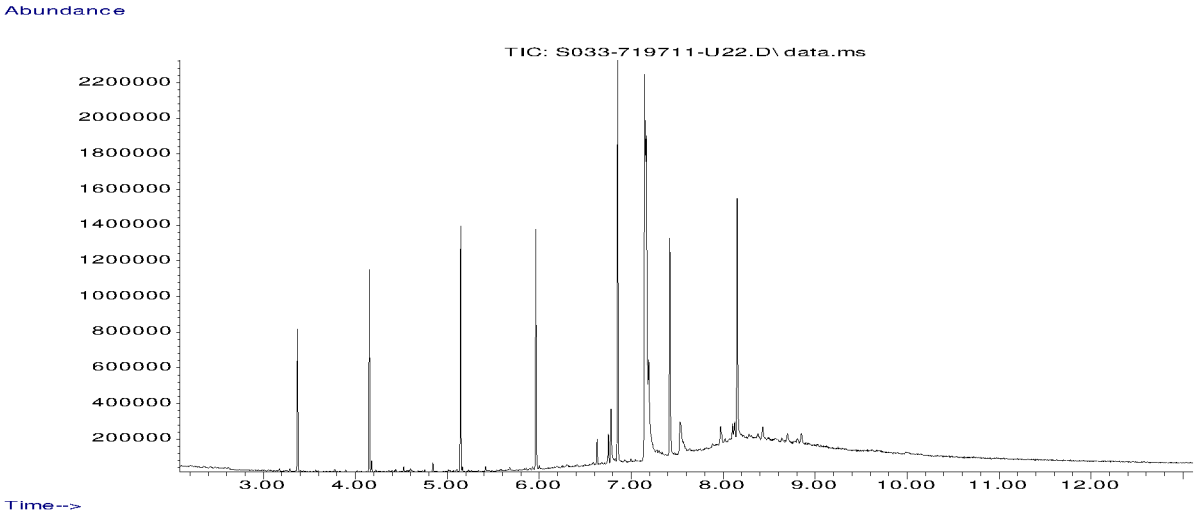
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	NONE
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
Total petroleum hydrocarbons by HS-GC-MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC-MS	In-house method	L129-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

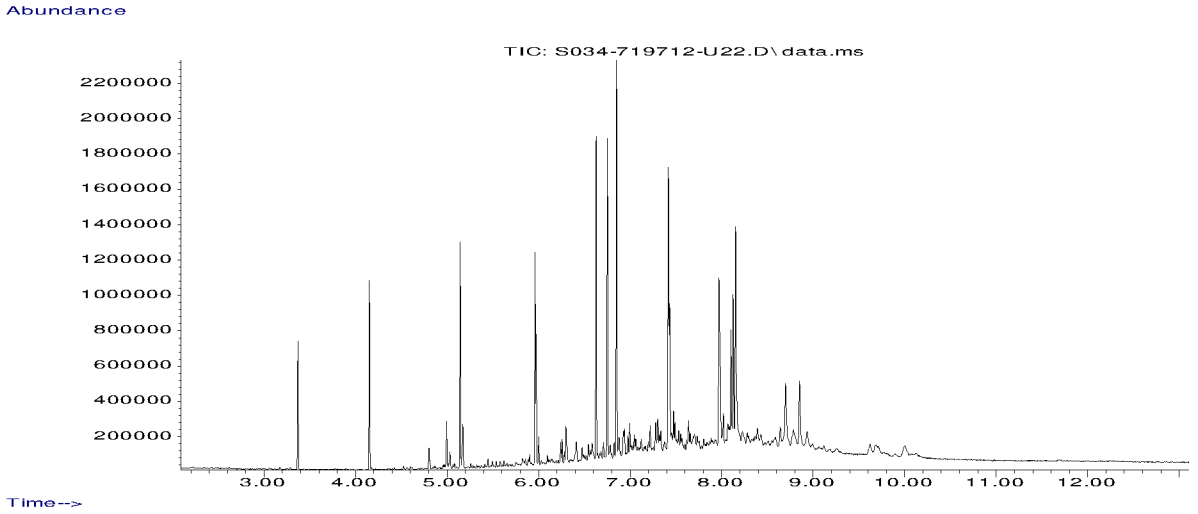
For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

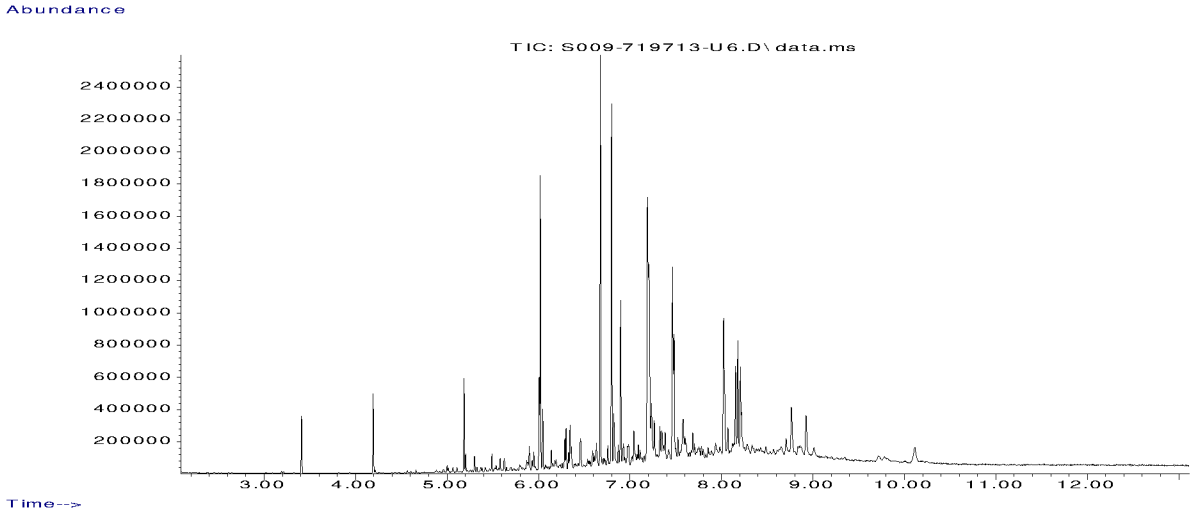
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The result for sum should be interpreted with caution

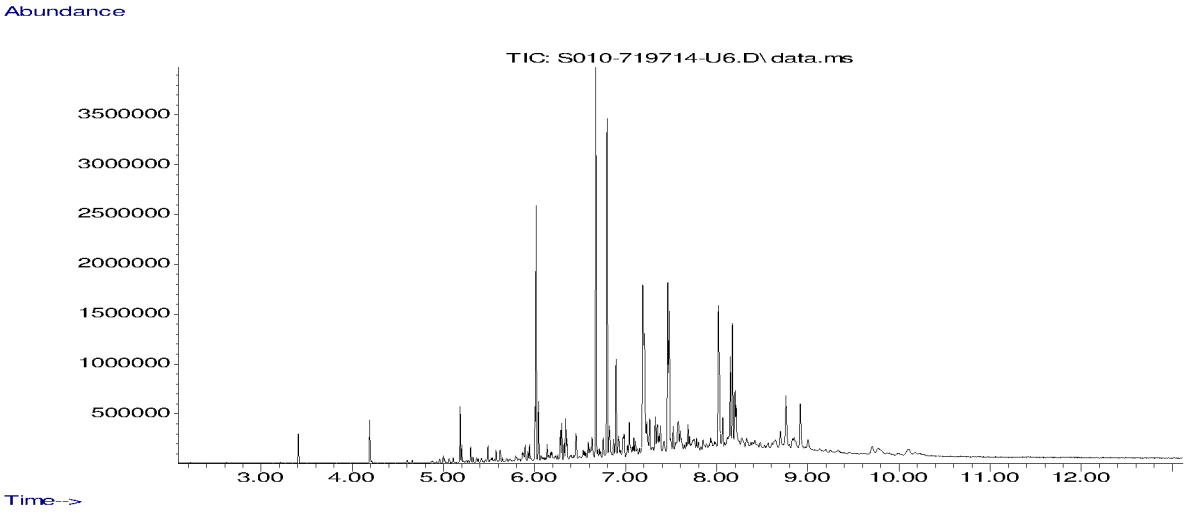
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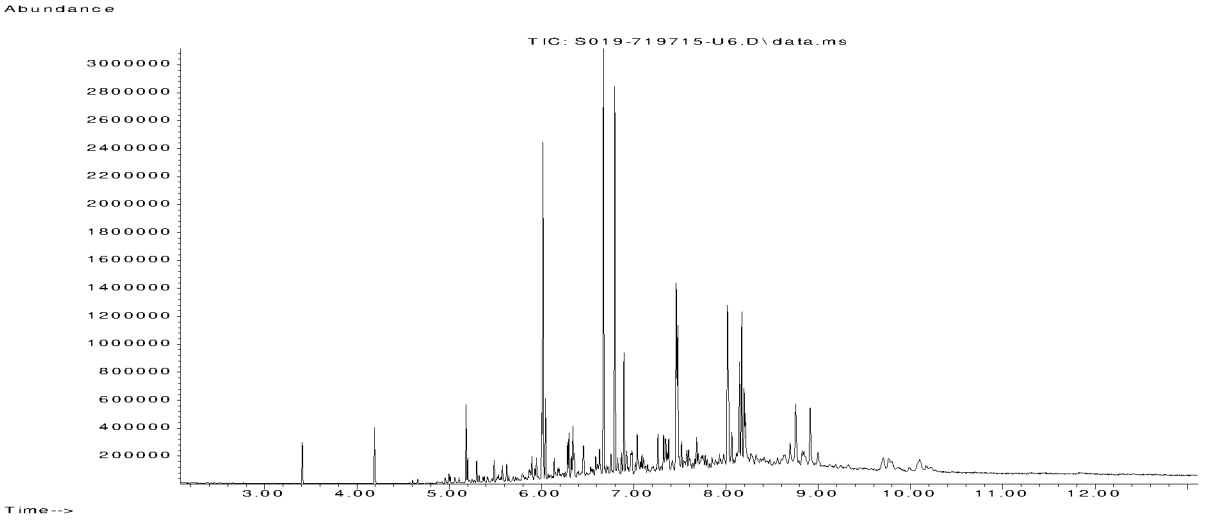

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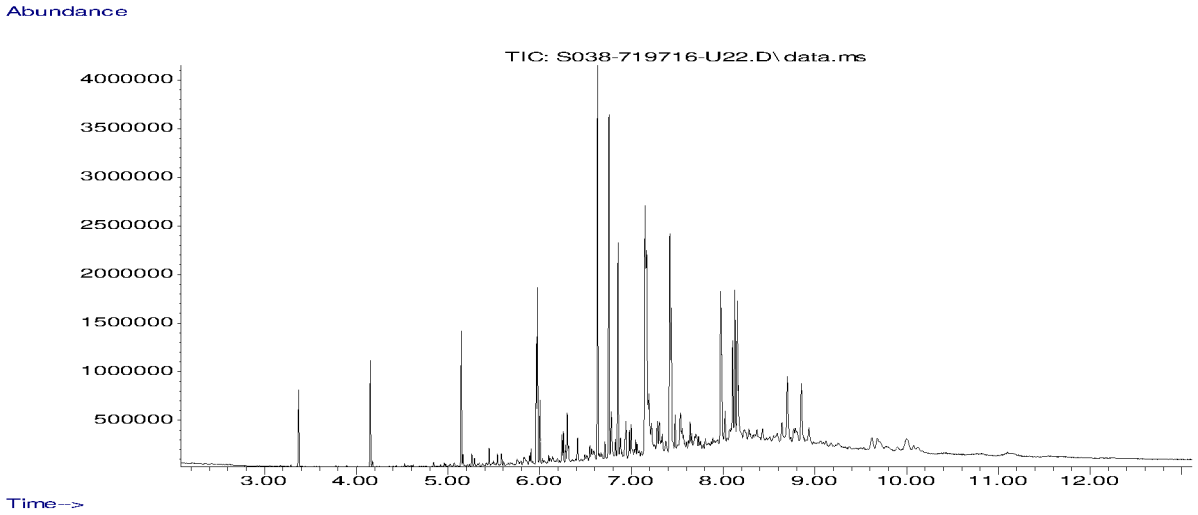

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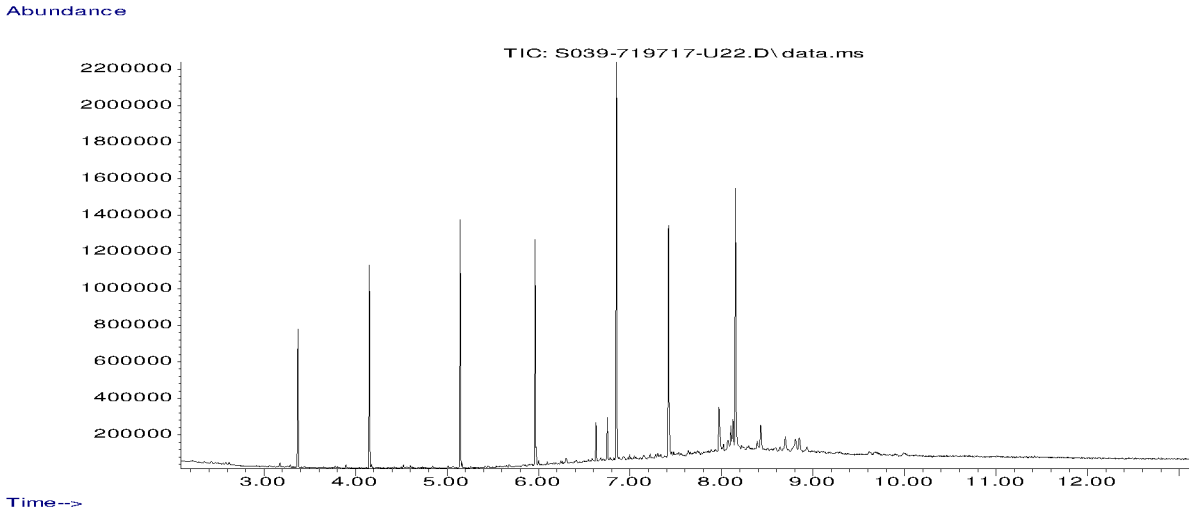

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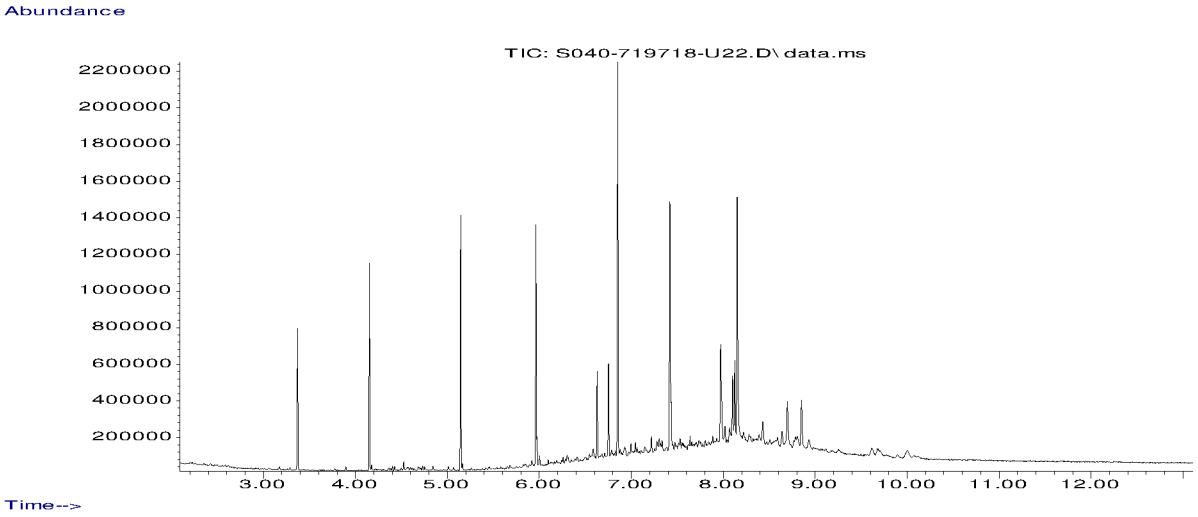

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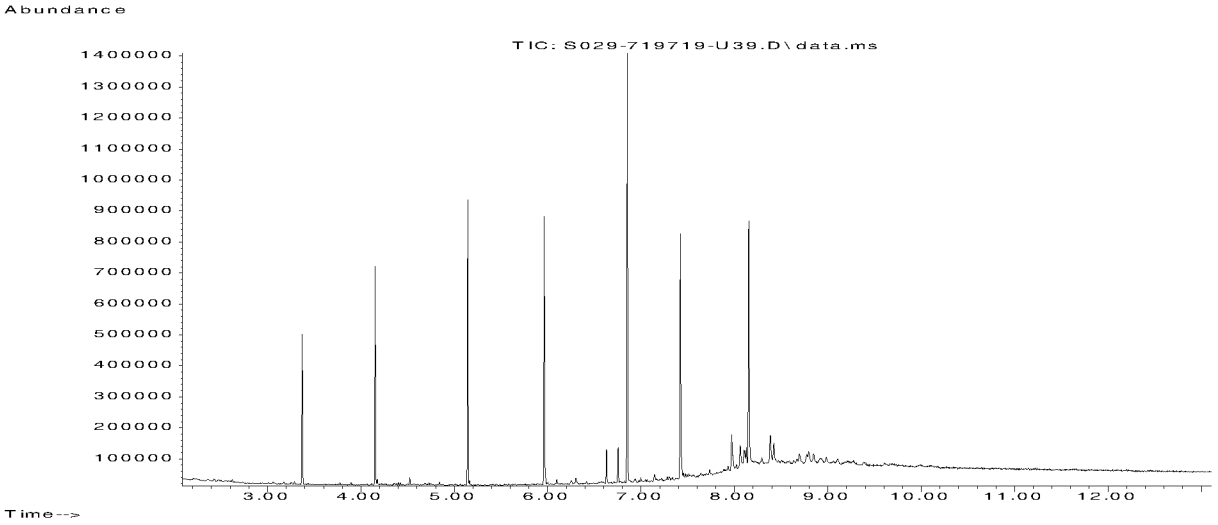

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Abundance
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APPENDIX 5

WASTE

WASTE CLASSIFICATION

The European Waste Framework Directive is implemented in the UK by the 2002 Landfill Regulations, together with a number of other acts and regulations. A key part of this process is to establish the hazardous properties of potential waste. The classification and definition of hazardous waste is interpreted within the Environment Agency guidance WM3 and all wastes require classifying in accordance with the European Waste Catalogue [EWC]. The EWC is a detailed list of typical industry waste types and each has a 6 digit code. Typically the appropriate EWC codes for excavated soil being disposed off site are:

17 05 03* soil and stones containing dangerous substances, or
17 05 04 soil and stones other than those mentioned in 17 05 03

If excavated soils are to be discarded or exported from site then they would be considered controlled waste and require classification. However, if soils can be re-used on site then they are not considered to be controlled waste. A Desk Study, soil descriptions, laboratory chemical analysis and risk assessment can all contribute to basic waste characterisation. Depending upon the chemical composition or levels of contaminants in the waste (e.g. metals, TPH, asbestos), soil and stones can either be hazardous or non-hazardous. Waste Acceptance Criteria [WAC] test results are used to determine the suitability of the waste intended for disposal against the acceptance criteria for a particular class of landfill site. WAC tests are not used for the classification of waste soils and are only required for inert or hazardous excavated material which is destined for landfill.

Wastes containing asbestos with a concentration of >0.10% weight/weight (w/w) are generally considered to be hazardous. While waste with <0.10% w/w of asbestos are considered non-hazardous. Where free fibres or fibrous asbestos is present at concentrations of >0.001% then these are considered to pose a risk to human health and are deemed hazardous waste. These waste materials also require a suitably licensed company to handle them.

Waste Treatment

It is a requirement of the 2002 Landfill Regulations that all wastes must undergo some form of pre-treatment prior to disposal at an appropriately licensed landfill. Treatment is defined using a 'three-point test' and can include physical, chemical, biological or thermal processes, which must change the characteristics of the waste in order to:

- reduce its volume, or
- reduce its hazardous nature, or
- facilitate its handling, or
- enhance its recovery.

The exceptions to this are:

- inert waste for which treatment is not technically feasible.
- it is waste other than inert waste and treatment would not reduce its quantity or its hazards to human health or the environment.

The waste producer should either treat their own waste or ensure that the waste will be treated by a subsequent handler. The waste producer should record the type and amount of pre-treatment undertaken prior to disposal.

Examples of treatment include mechanical segregation or sorting, compositing, soil treatment hubs and incineration. This can include physical sorting of waste soil types into separate stockpiles at the producer site, e.g. topsoil, made ground and natural clay, sand or gravels.

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

HXTQJ-5KR39-3LC5O

Report is invalid if pages are removed.

Job name

25-056378.batch

Description/Comments

construction of new leisure centre

Project

25/13244/KJC

Site

Thong Lane, Gravesend

Classified by

Name:
Keith Clark
Date:
12 Nov 2025 11:01 GMT
Telephone:

Company:
Albury SI Ltd
Miltons Yard, Petworth Rd
Witley
GU8 5LH

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:	-
Course	**Date**
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Cascades Leisure Centre, Thong Lane, Gravesend, Kent **Post Code** DA12 4LG

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

construction of new leisure centre

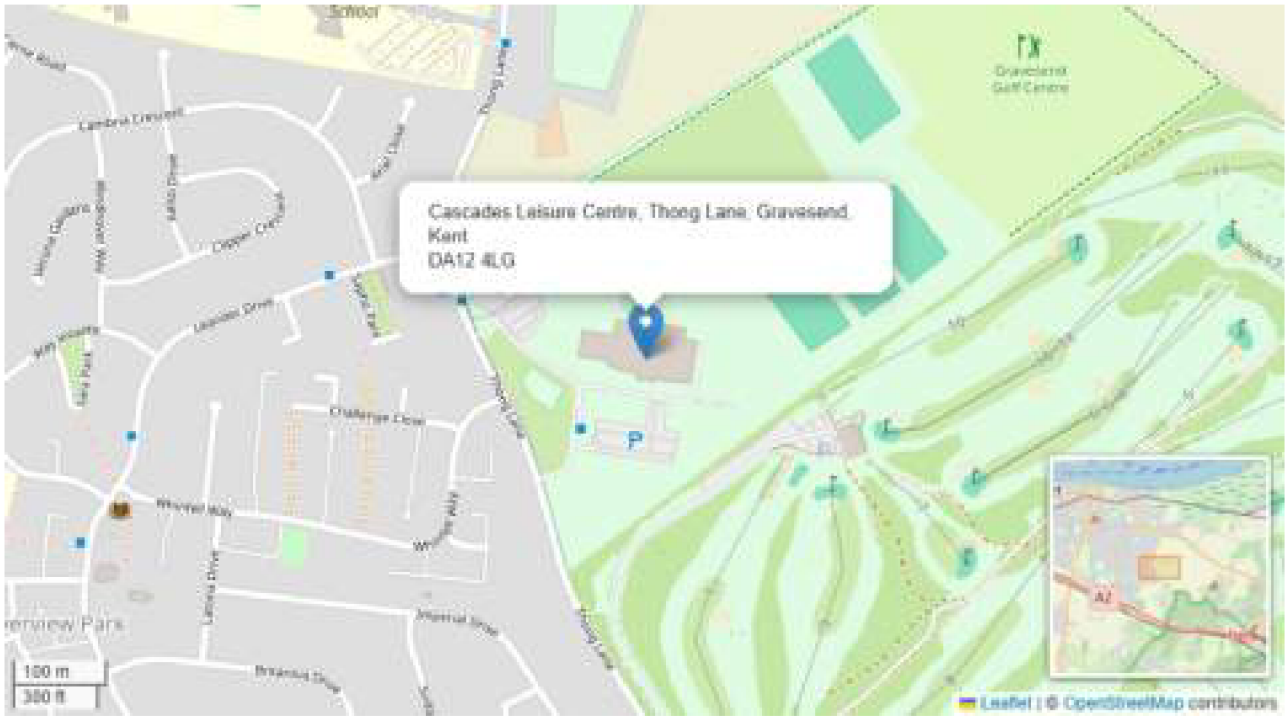
Description of the specific process, sub-process and/or activity that created the waste

foundation excavations and site clearence

Description of the waste

made ground

Waste Location



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH12--13102025-0.10		Non Hazardous		5
2	BH29--13102025-0.10		Non Hazardous		8
3	BH30--13102025-0.10		Non Hazardous		11
4	BH31--13102025-0.10		Non Hazardous		14
5	BH13--13102025-0.10		Non Hazardous		17
6	BH14--13102025-0.10		Non Hazardous		23
7	BH16--14102025-0.10		Non Hazardous		29
8	BH17--14102025-0.10		Non Hazardous		32
9	BH18--14102025-0.10		Non Hazardous		35
10	BH19--14102025-0.10		Non Hazardous		38
11	BH20--14102025-0.10		Non Hazardous		41
12	1--15102025-0.25		Non Hazardous		44
13	2--15102025-0.20		Non Hazardous		47
14	7--15102025-0.20		Non Hazardous		50
15	8--15102025-0.10		Non Hazardous		53
16	9--15102025-0.10		Non Hazardous		56
17	15--15102025-0.10		Non Hazardous		59
18	BH10--13102025-0.10		Non Hazardous		62
19	BH11--13102025-0.10		Hazardous	HP 7	65
20	BH21--14102025-0.10		Non Hazardous		71
21	BH22--14102025-0.10		Non Hazardous		74
22	BH23--14102025-0.10		Non Hazardous		77
23	BH24--14102025-0.10		Non Hazardous		80
24	BH25--13102025-0.10		Non Hazardous		83
25	BH26--14102025-0.10		Non Hazardous		86
26	BH27--13102025-0.10		Non Hazardous		89
27	BH28--13102025-0.10		Non Hazardous		92
28	3--15102025-0.10		Non Hazardous		95
29	4--15102025-0.30		Non Hazardous		98
30	5--15102025-0.25		Non Hazardous		101
31	6--15102025-0.25		Hazardous	HP 7, HP 11	104