Desk Study and Ground Investigation Report with Remediation Proposals

Arborfield Green District Centre
Arborfield Garrison
Wokingham
Berkshire

Client Crest Nicholson Chiltern

J2252

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CONTENTS

EXECUTIVE SUMMARY

1.0 INTRODUCTION 1

1.1 Proposed Development 1
1.2 Purpose of Work 1
1.3 Scope of Work 1
1.4 Limitations 2

2.0 THE SITE 2

2.1 Site Description 2
2.2 Site History 3
2.3 Other Information 3
2.4 Preliminary Risk Assessment 4

3.0 EXPLORATORY WORK AND SAMPLING STRATEGY 4

4.0 GROUND CONDITIONS 5

4.1 Made Ground 5
4.2 London Clay Formation 5
4.3 Soil Contamination 5
4.4 Groundwater 6
4.5 Soil Gas 6

5.0 ADVICE AND RECOMMENDATIONS 7

5.1 Spread Foundations 7
5.2 Piled Foundations 8
5.3 Excavations 8
5.4 Ground Floor Slabs 8
5.5 Pavement Design 8
5.6 Buried Services 9
5.7 Effect of Sulphates 9
5.8 Surface Water Drainage 9
5.9 Contamination Risk Assessment 9
5.10 Waste Disposal and Materials Management 11

6.0 REQUIREMENT FOR REMEDIATION 11

7.0 FURTHER WORK 12

APPENDIX

1.0 INTRODUCTION

The Wilson Bailey Partnership has been commissioned by Crest Nicholson Chiltern to research the environmental setting and history of the site and to carry out a ground investigation of this land parcel that forms the District Centre of the Arborfield Green redevelopment.

1.1 Proposed Development

Consideration is currently being given to the development of the site as part of the wider redevelopment of the former Garrison.

Application is being made for approval of Reserved Matters pursuant to O/2014/2280 for the provision of a new District Centre including 200 dwellings, commercial floorspace (Use Class E), a community centre (including the provision of a nursery, café and associated community facilities), a pre-school, open space, new vehicular, pedestrian and cycle accesses with associated internal roads, parking, landscaping, drainage, substations, plant, bin and cycle storage.

A range of buildings are therefore to be constructed including commercial buildings that are envisaged to comprise a mixture of steel portal frame and traditional masonry, two storey traditional masonry built houses and low rise apartments up to four storeys, together with garages, driveways, areas of hardstanding for car parking, access roads with ancillary areas of planted soft landscaping and areas of private domestic gardens.

1.2 Purpose of Work

The principal technical objectives of the work carried out were as follows.

- to check the history of the site with respect to previous uses of the site and surrounding areas;
- to determine the prevailing near surface ground conditions;
- to investigate and test for the presence of contamination;
- to carry out an appropriate risk assessment with regards to any contamination; and
- to provide advice and recommendations with respect to geotechnical design.

1.3 Scope of Work

In order to meet the above objectives, a desk study was carried out, followed by a ground investigation. The desk study comprised:

- a review of readily available geological maps and publically available information provided by the Environment Agency;
- a review of information provided by the Health Protection Agency with regards to radon;
- a review of Ordnance Survey (OS) maps sourced from the Groundsure database;
- a review of anecdotal information and historical maps held by the barracks; and
- a walkover survey of the site.

The physical ground investigation has been carried out in three phases and comprised, in summary, the following activities:

- a post demolition ground investigation comprising a 48 small diameter boreholes drilled to depths of up to 5.45 m below ground level in accessible locations across the site;
- three additional cable percussion drilled boreholes drilled to depths of up to 20m below ground level in locations selected by the Structural Engineers in the southern part of the site;
- laboratory testing of selected soil samples for geotechnical properties;
- laboratory testing of selected soil samples for the presence of contamination;
- monitoring of the installed standpipes for groundwater levels and the presence of routine soil gasses; and
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the investigation. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled and the number of soil, gas or groundwater samples tested; no liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by the Wilson Bailey Partnership.

2.0 THE SITE

2.1 Site Description

The site considered as part of this report comprises the District Centre Parcel, which forms an irregular shaped area of sensibly level land. The site is predominantly formed of rough soft landscaping with site access tracks within the northern and central parts of the site and a tarmac surfaced road bisecting the southern part of the site and providing vehicular access to the former MOD library that is now disused and is to be converted into a community centre and early years nursery.

The majority of the eastern part of the site is currently being used for stockpiling of clean and earthworks suitable material arising from construction within other parts of the wider Arborfield Green development. These earthworks suitable fill materials are to be used as part of earthworks on this parcel and also within other parts of the Arborfield Green development site.

The site boundaries are relatively complex for this land parcel; the northern boundary is formed by a brook, that has been locally modified as part of the site wide drainage system, beyond which is an area of soft landscaped open space. The western boundary to the site is formed by

Sheerlands Road, with the southwestern boundary formed by Nine Mile Ride Extension. The western part of the southern boundary is formed by an area of recently completed residential apartments and associated car parking, with the remainder of the southern boundary formed by the extent of Bohunt School and the associated areas of school car parking and the Arborfield Leisure Centre.

No indications of potentially contaminative uses were identified as part of the site walkover.

2.2 Site History

The site history has been researched by reference to historical Ordnance Survey (OS) maps sourced from the Groundsure database and supplemented by information provided by the Local Authority environmental enquiry response and historical anecdotal information held by the garrison.

Records indicate that Arborfield Garrison has undergone three main phases of redevelopment during which various buildings have been demolished, cleared and constructed. These records indicate that this part of the Arborfield Garrison site was originally open agricultural land to the south of the main farm buildings and facilities that formed part of the original military base at this site when it was in use as a remount division responsible for providing the army with horses prior to mechanization of the military following World War One.

The second phase of military redevelopment occurred after the Second World War when the site became a training facility for technical apprentices working on military vehicles. As part of this phase of expansion and development this site was developed through the construction of a significant number of primarily accommodation buildings comprising barrack buildings with shared central facilities ('Spider Buildings') with a limited number of office, administration and education buildings in the northern part of this site. Most of the former education buildings and the sports facilities constructed as part of this second phase of redevelopment were located off site to the east of this land parcel.

During the third phase of military redevelopment in the 1970s and 1980s, the former accommodation Spider Buildings and many of the office and administration buildings were demolished and replaced with more modern two and three storey accommodation blocks.

During the early part of the 2000s, following closure of the military establishment at this site, all but one of the former military buildings were demolished and cleared. The former MOD library building was retained and is now located within the central eastern part of the site and is to be refurbished for use as a community centre and early years nursery.

2.3 Other Information

Searches of information provided by the Environment Agency have not indicated the presence of any nearby registered historical or current land fill sites. The nearest area of landfilling identified as a former brickwork is approximately 300m to the northwest of the site to the far side of the brook that form the northern boundary of the proposed development area. This former clay extraction pit was used as a landfill and was licensed to accept household, commercial and industrial wastes and following infilling was capped and engineered with a perimeter drainage trench and landfill gas management system.

The searches have also indicated the site to be located in an area where less than 1% of homes may be affected by radon emissions, which is the lowest risk category such that radon protection measures are not required as part of the redevelopment of this site.

The Geological Survey map of the area indicates the site to be underlain by London Clay from the surface, with various tracts of alluvium present in the vicinity of the site. Information provided by the Environment Agency indicates the site to not be underlain by any class of productive strata and to not be located within any class of Source Protection Zone associated with any licensed groundwater abstraction points.

The buildings at this site are not understood to include any substantial basement areas or plant rooms, although the former historical military buildings may have included such features and potentially may have included below ground level air raid shelters.

2.4 Preliminary Risk Assessment

The historical use of the site as part of a substantial military barracks may present several sources of historical contamination such as coal stores, oil stores and workshops, although the more recent use of the site as a military training facility is not considered to present a potential for ground contamination. The time that has elapsed since the historical potentially contaminative use may be expected to mitigate the potential risk posed by any relic ground contamination.

There is a potential for asbestos lined underground service trenches to have been installed as part of the former barrack use and there is a potential that the former military buildings at this site may have included potential contaminants including asbestos construction materials and lead based paints.

The presence of assumed low to negligible permeability London Clay soils would be expected to mitigate the potential for any off-site sources of ground contamination, groundwater contamination or soil gasses to impact upon this site.

On the basis of the above information there is considered to be a low to medium risk of potentially significant ground contamination at this site.

3.0 SAMPLING STRATEGY

In order to meet the objectives described in Section 1.2 a post demolition ground investigation has been carried out at this comprising a series of 43 exploratory holes to depths of up to 5.00 m below ground level together with three further boreholes extending to 20m below ground level. The locations of the exploratory holes were selected to obtain a general coverage and allow investigation of the prevailing ground conditions within the locally significant restrictions of the ongoing use of the site for materials storage and stockpiling of earthworks suitable site won excavation soils. The locations of the supplementary phase of ground investigation in the southern part of the site were agreed with engineers acting on behalf of the supermarket operator.

Representative samples of the soils encountered were taken to the laboratory for geotechnical testing and contamination analyses. The analytical suite of soil contamination testing was selected to identify concentrations of a wide range of potential contaminants of concern for the purposes of general coverage. For this investigation the analytical suite included a range of metals, speciated total petroleum hydrocarbons (TPHCWG), speciated polycyclic aromatic hydrocarbons (PAH), and monohydric phenols together with routine analyses for pH and organic

content. The contamination analyses were carried out at a MCERTs accredited laboratory and details of the MCERTs accreditation and test methods may be supplied on request.

The borehole records and results of the insitu soil testing and laboratory analyses are appended together with a site plan indicating the exploratory positions.

4.0 GROUND CONDITIONS

The investigation has broadly confirmed the expected ground conditions in that below a variable depth of made ground, firm brown becoming stiff dark bluish grey clay soils of the London Clay that were proved to the full depth of investigation.

4.1 Made Ground

Made ground was encountered in each of the exploratory holes to generally nominal depths of less than about one metre, but locally up to 1.90 m below ground level, which is considered to be consistent with the residual below ground remnants of the former military barracks buildings.

No visual or olfactory indications of ground contamination were noted within the made ground encountered as part of the ground investigation, although localised pockets of ash and tarmac fragments were occasionally noted in several holes.

Representative samples of the made ground and natural soils were recovered from a number of the boreholes from across the land parcels and analysed for a range of contaminants and the results are summarised in Section 4.5. Whilst not every soil sample has been tested it is considered that a suitable coverage of the site has been achieved.

4.2 London Clay Formation

The clay soils of the London Clay Formation were encountered underlying the made ground across the site and proved to the maximum depth of investigation. These clay soils were found to be firm brown generally silty and sandy, locally vey sandy clay soils with occasional partings of fine orange-brown silty sand.

The laboratory geotechnical testing has indicated these clay soils to be of medium volume change potential and medium plasticity.

4.3 Soil Contamination

Part IIA of the Environmental Protection Act 1990, which was inserted into that Act by Section 57 of the Environment Act 1995, provides the main regulatory regime for the identification and remediation of contaminated land. The determination of contaminated sites is based on a "suitable for use" approach which involves managing the risks posed by contaminated land by making risk-based decisions. This risk assessment is carried out on the basis of a source-pathway-receptor approach.

The results of comprehensive laboratory analyses carried out by an MCERTS accredited laboratory on 35 representative soil samples recovered from this site are enclosed.

The assessment of these results is based upon the most sensitive lad use proposed at this site, which is Residential with Plant Uptake.

The significance of the measured concentrations of any chemicals of concern have been assessed in relation to the available Environment Agency provided statutory C4SLs, supplemented with the available S4UL values that have been adopted by the Chartered Institute of Environmental Health (CIEH) for a residential with plant uptake end use and a soil organic matter representative of the results of the testing carried out (1%). These values are widely accepted as providing a suitable initial screening value against which measured concentrations of potential contaminants can be assessed to determine the requirement for site specific quantitative risk assessment.

Determinant	Acceptability Criteria (residential with plant uptake) mg/kg	Number of exceedances	Location of exceedances
Asbestos	No asbestos	7 of 35	BH 4 at 0.50m, BH 19 at 0.50m, BH 21 at 0.25m, BH 28 at 0.50m, BH29 at 1.00m, BH31 at 0.75m, WS01 at 0.50m & WS02 at 0.50m
Arsenic (As)	32	None of 35	--
Cadmium (Cd)	10	None of 35	--
Chromium (hex)	4.3	None of 35	--
Chromium (Cr)	3000	None of 35	--
Copper (Cu)	2330	None of 35	--
Lead (Pb)	200	None of 35	--
Mercury (Hg)	1.0	None of 35	--
Nickel (Ni)	130	None of 35	--
Selenium (Se)	350	None of 35	--
Zinc (Zn)	3750	None of 35	--
Benzo(a)pyrene	5.0	None of 35	
Total Phenols (mono)	420	6 of 35	BH 4 at 0.50m, BH 7 at 0.75m, BH 23 at 0.25m, BH42 at 0.25m, WS01 at 0.50m & WS06 at 0.75m
Speciated Fuel Relation hydrocarbons (TPH)	Various species-specific values	None of 35	--

4.4 Groundwater

Groundwater seepages and inflows were encountered in a number of exploratory boreholes at depths consistent with the bottom of the made ground, such that these inflows are considered to be indicative of isolated pockets of perched water within the made ground and are not a consistent piezometric surface.

4.5 Soil Gas

Soil gas monitoring is currently in hand and the results will be provided as an addendum to this report.

Soil gas monitoring carried out as part of ground investigations in the vicinity of the site have not indicated the presence of potentially problematic concentrations of soil gasses.

5.0 ADVICE AND RECOMMENDATIONS

The medium strength silty sandy clay soils of the London Clay could be suitable for supporting the anticipated lightly loaded spread foundations associated with traditional two storey houses, although the depth and variability of the made ground may result in some localised deepening of traditional foundations. It is anticipated that the potentially more substantial foundation loads associated with the proposed low rise apartment blocks and potentially the proposed retail store may require recourse to piled foundations, subject to detailed structural design.

5.1 Spread Foundations

Moderate width pad or strip foundations are anticipated to be viable for light to moderate foundation loads, where the depth of near surface fill materials has been found to be locally variable but not more than about 1.90 m below ground level. Foundations should bypass the made ground and reworked natural soils and may be designed to found within the medium strength brown variably sandy clay soils of the London Clay at a minimum depth of 1.00 m below ground level and apply a net allowable bearing pressure of 100 kN/m2, with a minimum width of 0.60m.

This above assumed net allowable bearing capacity value includes an adequate factor of safety against bearing capacity failure and should ensure that settlement remains within normal tolerable limits. In the unlikely event that heavily or eccentrically loaded foundations are required for proposed traditional two storey housing, a check should be made on the magnitude of settlement once the base sizes are known, as the design bearing pressure is settlement dependent.

Should traditional strip foundations or pad foundation be considered for the proposed low rise apartments and the proposed retail store, detailed settlement calculations and bearing capacity checks should be carried out as part of the structural design to check the viability of potentially wider and closely spaced pad and strip foundations that may be necessary to support the anticipated higher structural loads likely to be associated with these structures.

Foundations will need to be deepened in the vicinity of existing, retained and proposed trees and in accordance with the guidance provided by the National House Building Council (NHBC). Localised additional deepening may also be required in any potential areas of locally deepened made ground that could be present as a result of historical developments on this site.

Where trees are to be removed the required founding depth should be determined on the basis of the existing tree height if it is less than 50% of the mature height and on the basis of full mature height if the current height is more than 50% of the mature height. Where a tree is to be retained the final mature height should be adopted and due allowance should be made for future growth of trees, with particular reference to the relatively dense additional planting that is proposed as part of the ecological mitigation measures. As part of the foundation assessment an allowance for the group effects of trees and dense vegetation should be considered, with further ground investigation and assessment carried out as deemed necessary by the structural engineers.

Notwithstanding NHBC guidelines, all foundations should extend beyond the zone of desiccation; in this respect it would be prudent to have foundation excavations inspected by a suitably experienced engineer. The requirement for compressible material alongside foundations should be determined by reference to the NHBC guidelines.

The results of laboratory geotechnical testing indicate the clay soils to be medium plasticity with a medium volume change potential.

5.2 Piled Foundations

If required, piled foundations will need to extend into the London Clay at depth on this site the records of the three deeper cable percussion drilled boreholes may be used by piling contractors at this site to inform the design of piles and the selection of appropriate piling techniques.

It is envisaged that piles installed by means of a continuous flight auger (CFA) may be most suitable at this site. Whilst driven piles could be technically viable, the proximity of the site to existing occupied apartments and a school may present potential restrictions to the use of driven piling techniques due to noise and vibration restrictions.

5.3 Excavations

It is likely that across the majority of the site shallow excavations for services and foundations within the near surface soils are likely to remain within the placed earthworks fill materials and as such may be expected to be dry and broadly stable in the short term. Groundwater seepages of perched water may be encountered within the made ground although these should be of limited volume and should be readily controlled by sump pumping.

Where personnel are required to enter excavations, a risk assessment should be carried out and temporary lateral support or battering of the excavation sides considered in order to comply with normal safety requirements.

5.4 Ground Floor Slabs

In view of the presence of made ground and medium plasticity clay soils it is anticipated that there will be a requirement for suspended ground floor slabs over a void in accordance with NHBC guidelines at this site.

Consideration could be given to a ground bearing slab for the proposed retail unit following ground preparation comprising removal of the near surface made ground and the replacement with a suitable thickness of suitable crushed aggregate that would require placement and compaction to an earthworks specification that will need to be formulated by the designers in due course.

5.5 Pavement Design

The formation level for hard standings and access roads across the majority of the site is likely to be within the near surface clay soils such that pavements may be designed on the basis of an assumed California Bearing Ratio (CBR) of 2%. Where new pavements are required to be constructed within areas of reworked natural ground and historical fill materials, preliminary design may be based upon an assumed CBR of “less than 2%”.

Preliminary CBR testing carried out using a MEXE cone penetrometer carried out as part of the ground investigation supports the suitability of these values for preliminary design, although insitu CBR testing should be carried out as part of the detailed design of new pavements once the layout and levels of the proposed development are known.

Due to the presence of clay soils, earthworks and road formations within winter months may be challenging and the formation level may be expected to degrade rapidly with site traffic and rain.

5.6 Buried Services

Precautions to ensure the protection of potentially sensitive underground services, such as drinking water pipes, are not likely to be required based on the results of parcel specific soil contamination testing.

Statutory utility providers do however have a responsibility for ensuring the provision of wholesome water and may insist upon a parcel wide requirement for protected plastic services, particularly due to the former military use and multiple phases of development and redevelopment at this site. Detailed discussions with the utility company should be held as soon as possible in order to discuss the protection of buried potentially sensitive services.

5.7 Effect of Sulphates

The results of chemical analyses of selected soil samples for the presence of sulphates have indicated low levels of sulphates such that buried concrete should be designed in accordance with Class DS-1 AC-1s of Table 2 of BRE Special Digest 1: SD1. The guidelines contained in this digest should be followed in the design of foundation concrete.

5.8 Surface Water Drainage

Soakage testing did not form part of the brief for this ground investigation work as infiltration based drainage is not considered to present a viable option for the disposal of surface waters due to the predominantly clayey nature of the near surface soils. A scheme has been designed by AECOM for the development wide management of surface water, including attenuation, storage and discharge to the stream that forms the northern boundary to the development parcel

5.9 Contamination Risk Assessment

The historical use of the site as part of a post World War Two period military barracks presents the potential for a wide range of potential ground contamination. The ground investigation has identified the presence of asbestos and polyaromatic hydrocarbon contamination that are likely to be associated with former construction materials used in the former buildings that were subsequently demolished that could pose a risk with regards to ground contamination.

One of the requirements of the Environment Act (1995) is that local authorities carry out inspections of their area with a view to identifying sites that may be contaminated. When assessing whether a site is contaminated the local authority will attempt to establish the presence of a ‘pollution linkage’. A pollution linkage requires there to be a source of contamination, a sensitive receptor that can be adversely affected by the contamination and a pathway via which contamination can reach the target.

The proposed development of the site will introduce new sensitive receptors in the form of end users and construction workers, together with the formation of new pathways through the creation of areas of private domestic gardens, although within other parts of the development such as areas of car parking and the proposed retail store within the southern part of the site, any contaminated soils would be effectively capped by the proposed extent of hard surfaced car parking and the proposed buildings.

With regards to the specific considerations required under the planning conditions, the risk to the following potentially sensitive receptors has been considered;

Human Health (end users) – RESIDENTIAL DEVELOPMENT AREAS
Potential risks posed to human health have been considered and the results of soil contamination testing indicate that there is a requirement for ground remediation through the placement of a clean capping layer of topsoil and subsoil within areas of proposed private domestic gardens and areas of proposed managed communal access soft landscaping.

It is proposed that this clean capping should be a minimum of 600mm of clean topsoil and subsoil to proposed areas of private domestic gardens, with a requirement for 450mm of clean topsoil and subsoil in areas of managed planting. This capping could be reduced to 300mm in areas of publicly accessible managed lawn and grass.

Subject to the completion of the programme of soil gas monitoring for this site a requirement for soil gas protection to be incorporated into the design of ground floor slabs is not currently anticipated. This assessment is based upon the findings of previous monitoring carried out on adjoining sites together with the assumed low to negligible permeability of the London Clay and the presence of a hydrogeological barrier to potential soil gas migration being present between the nearest landfill site and this development parcel.

As with any brownfield redevelopment site there is a potential for localised ground contamination that should be managed as part of an overall site contaminated land watching brief.

Human Health (end users) – COMMERCIAL DEVELOPMENT AREAS
Potential risks posed to human health have been considered and the results of soil contamination testing indicate that there is not a requirement for ground remediation associated with the commercial redevelopment proposals other than the provision of a suitable depth of clean topsoil and subsoil capping to any in-ground areas of soft landscaping that may be proposed as part of the commercial landscaping scheme. The suitable depth for managed areas of soft landscaping and planting is normally set at 450mm, which is anticipated to be similar to the basic requirements of landscape architects responsible for designing the scheme, noting that this requirement is also likely to be less than the anticipated requirement of 1.00m deep tree pits that are normally specified for standard or mature standard trees used in landscaping schemes.

Once the detailed landscaping proposals have been finalised for the commercial development areas, the requirement for remediation will need to be reviewed and updated.

Human Health (site workers and future maintenance workers)
Precautions with regards to site workers and future maintenance workers are anticipated over and above normal safe working practices such as restricted eating and drinking, regular hand washing and the provision and use of routine PPE in order to ensure protection from any relic asbestos contamination within the existing fill materials.

Task specific risk assessments will need to be carried out by the Contractor to ensure that a safe system of work can be developed for this site.

Property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
The risk to these potential receptors has been considered and in view of the absence of significant potentially mobile ground contamination, a significant risk warranting further action has not been identified. The requirement for protected services such as drinking water has been considered and should be discussed in detail with the statutory utility provider for potable water.

Adjoining land,
The risk to this potential receptor has been considered and in view of the absence of significant potentially mobile ground contamination, a significant risk warranting further action has not been identified.

Groundwaters and surface waters
The risk to these potential receptors has been considered and in view of the absence of significant potentially mobile ground contamination, or a hydraulically continuous groundwater regime, a significant risk warranting further action has not been identified.

Ecological systems
The risk to this potential receptor has been considered and in view of the absence of significant potentially mobile ground contamination, a significant risk warranting further action has not been identified.

5.10 Waste Disposal and Materials Management

Any spoil arising from excavations or landscaping works will need to be disposed of to a licensed tip. Under the European Waste Directive landfills are classified as accepting Inert, Non-hazardous or Hazardous wastes in accordance with Waste Acceptance Criteria (WAC) which, for Non-hazardous and Inert wastes are based upon the results of CEN method bulk leaching tests or percolation tests.

Based upon the results of the analyses carried out and the technical guidance provided by the Environment Agency[1] it is considered likely that arisings from construction works on this land parcel are likely to be generally classified as Non-Hazardous waste, although arisings from excavations into natural ground may be classified as Inert providing they can be effectively segregated.

The presence of asbestos within the made ground will need to be carefully considered and the measured asbestos concentrations would mean that the arisings of made ground could not be disposed of as Inert wastes, although they are not likely to attract a Hazardous Waste classification.

In the unlikely event that during the course of the ground works soils are found to be stained or have any hydrocarbon odour, they should be stockpiled separately from other soils in order that they may be tested to determine a revised waste classification, as these soils may potentially require classification as Hazardous waste. Any such segregation, stockpiling or on site treatment to reduce or later the likely waste classification will need to be carried out in accordance with a Materials Management Plan that will need to be approved by the Environment Agency prior to commencement of work.

In any case, all waste classifications should be confirmed by the receiving landfill once the soils to be discarded have been identified. In order to finalise an Inert waste classification, it will probably be necessary to carry out further analyses including WAC CEN method bulk leaching tests. Such tests should be carried out upon representative samples from the waste stream once the extent of the materials to be discarded has been established.

1 Environment Agency 2003. *Hazardous Waste: Interpretation of the definition and classification of hazardous waste.* Technical Guidance WM2

The local waste regulation department of the Environment Agency (EA) should be contacted to obtain details of tips that are licensed to accept the soil represented by the test results. The tips will be able to provide costs for disposing of this material and the scope of any additional testing that may be required.

6.0 REQUIREMENT FOR REMEDIATION

On the basis of the ground investigation works, subject to the completion of the programme of soil gas monitoring, the following requirement for remediation has been identified;

Requirement for Soil Contamination Remediation
Further remediation above and beyond the provision of a clean capping layer and a routine watching brief for ground contamination is not anticipated to be required.

For residential development areas it is proposed that this clean capping should be a minimum of 600mm of clean topsoil and subsoil to proposed areas of private domestic gardens, with a requirement for 450mm of clean topsoil and subsoil in areas of managed planting. This capping could be reduced to 300mm in areas of publicly accessible managed lawn and grass.

For commercial development areas, should these include any areas of in-ground soft landscaping then a similar clean capping should be provided comprising a reduced 450mm thickness of clean topsoil and subsoil. Should the landscaping scheme comprise above ground planting in raise planters that are effectively isolated from the existing ground, additional precautions are not envisaged to be required.

A watching brief will need to specifically consider parts of the site where access for ground investigation has been restricted / limited / not possible.

Details of the Remediation Validation Plan will need to be agreed in due course and will include testing of topsoil to be used in areas of garden and soft landscaping, together with inspections to confirm the depth of the capping layer and the depth of topsoil.

Requirement for Groundwater Remediation
The ground investigation works have not indicated the potential for on-site contamination of the groundwater, such that a requirement for groundwater remediation is not envisaged.

Requirement for Soil Gas Remediation
The desk study research has not identified an increased risk with regards to soil gasses and monitoring carried out in the vicinity of the site previously has not identified a requirement for the development at this site. Confirmatory site specific gas monitoring is currently in hand and will be issued in due course.

9.0 FURTHER WORK

As with the development of any site there is the risk of further localised pockets of contamination being encountered as part of the proposed ground works. The development should therefore be carried out in accordance with the requirements of a routine geo-environmental watching brief, whereby should any contaminated or suspicious soils be encountered they may be appropriately

tested, investigated and assessed by Wilson Bailey Partnership in consultation with the Regulatory Authorities before agreeing the scope of any remedial actions as necessary.

A phase of enabling site clearance will be required prior to the redevelopment of this site through the removal and reuse of on-site stockpiles of earthworks suitable materials as part of a Materials Management Plan. A watching brief should also be maintained during this phase of works to check for the presence of any localised ground contamination that may require further investigation and assessment.

Any reuse of materials on this site should be carried out under a Materials Management Plan and any placement should be carried out in accordance with a Earthworks Specification that will need to be developed for this site.

A Remediation Validation Plan will need to be formulated to set out the requirements of the report that will need to be presented to demonstrate the completion of the capping works at this site and the importation of suitably clean earthworks suitable materials and topsoil.

APPENDIX

Borehole Records

Soil Geotechnical Laboratory Analyses

Soil Chemical Analyses

Selected Historical Ordnance Survey Maps

Site Plan

WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH1

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.70)	MADE GROUND (reworked brown clay with gravel and brick)		
0.50	D1				0.80			
1.00-1.45 1.00	SPT N=7 D2		1,1/1,2,2,2			Reworked silty sandy CLAY with scattered fine flint gravel - possible made ground		
1.50	D3				(1.30)			
2.00-2.45 2.00	SPT N=11 D4		1,1/2,3,3,3		2.10	Firm brown with pale grey mottled slightly silty fissured CLAY		
2.50	D5				(0.90)			
3.00-3.45 3.00	SPT N=12 D6		2,2/3,3,3,3		3.00	Complete at 3.00m		

Remarks
Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 3.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH1

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH10

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.80)	MADE GROUND (reworked clay with brick and gravel)		
0.50	D1							
1.00	D2		Water strike(1) at 0.90m.		0.90 (0.20) 1.10	MADE GROUND (flint gravel)		▽1
1.50	D3					Firm brown with pale grey mottled slightly silty fissured CLAY		
2.00	D4				(1.90)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater encountered at 0.9m

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH10

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH11

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
0.50	D1				(1.30)	MADE GROUND (reworked clay with occasional fine brick and gravel and partings of fine sandy gravel)		
1.00	D2							
1.50	D3				1.40	Firm brown with grey mottled slighhtly silty fissured CLAY		
2.00	D4				(1.60)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH11

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH12

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.50)	MADE GROUND (reworked brown sandy clay with fine flint gravel)		
0.50	D1				0.60	Firm brown with pale grey mottled slightly silty fissured CLAY		
1.00	D2							
1.50	D3				(2.40)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH12

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH13

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
0.50	D1				(0.80)	MADE GROUND (reworked brown clay with brick and gravel)		
					0.90	Firm brown with pale grey mottled slightly silty fissured CLAY		
1.00-1.45 1.00	SPT N=8 D2		1,1/2,2,2,2					
1.50	D3							
					(2.10)			
2.00-2.45 2.00	SPT N=9 D4		2,2/2,2,2,3					
2.50	D5							
					3.00	Complete at 3.00m		
3.00-3.45 3.00	SPT N=12 D6		2,3/3,2,3,4					

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH13

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH14

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (reworked topsoil)		
						MADE GROUND (reworked brown clay and gravel)		
0.50	D1				(1.00)			
1.00	D2				1.20			▽1
			Water strike(1) at 1.20m.		(0.20) 1.40	MADE GROUND (shingle)		
1.50	D3					Firm brown with pale grey mottled slightly silty CLAY		
2.00	D4				(1.60)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater encounteed at 1.20m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH14

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH15

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
						MADE GROUND (dark brown sandy clay with gravek)		
0.50	D1							
					(1.40)			
1.00	D2							
1.50	D3				1.50	Firm brown and pale grey mottled silty CLAY		
2.00	D4							
					(1.50)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 3.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH15

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH16

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30) 0.30	MADE GROUND (reworked topsoil)		
					(0.30) 0.60	Firm dark brown slightly silty CLAY		
0.50	D1					Firm brown with pale grey mottled slightly tsilty fissured CLAY		
1.00	D2							
1.50	D3				(2.40)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Grounwdater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH16

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH17

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40) 0.40	MADE GROUND (with crush)		
0.50	D1				(0.65)	Yellowish orange-brown silty sandy fine to medium flint GRAVEL		∇1
1.00 1.00-1.45	D2 SPT N=10		Water strike(1) at 1.00m. 2,2/3,3,2,2		1.05 (0.25) 1.30	Soft pake grey and brown silty sandy CLAY with fine flint gravel		
1.50	D3					Firm brown silty CLAY with occasional partings of orange-brown silty fissured sand		
2.00-2.45 2.00	SPT N=13 D4		2,2/3,4,3,3		(1.70)			
2.50	D5							
3.00-3.45 3.00	SPT N=13 D6		3,4/4,3,3,3		3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:50	
	Figure No. J202252.BH17	

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH18

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (brown sandy clay with brick)		
0.50	D1				0.60			
					(0.70)	MADE GROUND (brown sandy fine ot medium flint gravel with glass shards)		
1.00	D2							∇1
			Water strike(1) at 1.20m.		1.30	Firm brown and grey mottled silty CLAY		
1.50	D3							
2.00	D4				(1.70)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater encountered at 1.20m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH18

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH19

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			Water strike(1) at 0.00m.			MADE GROUND (brown sandy clay with gravel and brick)		1
					(0.60)			
0.50	D1				0.60	Pale yellowish brown silty sandy fine to medium flint GRAVEL		
					(0.60)			
1.00	D2				1.20	Firm brown with pale grey mottled silty CLAY		
1.50	D3							
2.00	D4				(1.80)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater encountered at 0.80m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH19

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH2

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
						MADE GROUND (crushed concrete and sand)		
0.50	D1				(1.30)			
1.00	D2		Water strike(1) at 1.00m.					∇1
					1.40	Soft dark grey silty CLAY with scatteed fine flint gravel		
1.50	D3				(0.40)			
					1.80	Firm brown fissured slightly silty CLAY		
2.00	D4							
					(1.20)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater encountered at 1.00m. Borehole sides unstable in crushed concrete - poor recovery 1.00m to 2.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH2

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH20

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40) 0.40	MADE GROUND (brown sandy clay with abundant gravel and brick)		
0.50	D1				(0.90) 1.30	Pale yellowish brown silty sandy fine to medium flint GRAVEL		▽1
1.00	D2		Water strike(1) at 1.00m.					
1.50	D3				(1.70) 3.00	Firm brown with pale grey mottled silty CLAY		
2.00	D4							
2.50	D5							
3.00	D6					Complete at 3.00m		

Remarks
Groundwater encounrered at 1.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH20

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH21

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (brick rubble with brown clay)		
0.50	D1				0.60 (0.20) 0.80	Soft brown and grey sandy CLAY with scattered fine flint gravel - possible made ground		
1.00-1.45 1.00	SPT N=10 D2		2,3/3,2,2,3			Firm brown slightly silty CLAY		
1.50	D3							
					(2.20)			
2.00-2.45 2.00	SPT N=9 D4		3,2/2,3,2,2					
2.50	D5							
3.00-3.45 3.00	SPT N=14 D6		4,4/4,3,3,4		3.00	Complete at 3.00m		

Remarks
Groudnwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH21

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH22

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40) 0.40	MADE GROUND (reworked brown sandy clay)		
0.50	D1					Firm brown mottled pale grey fissured CLAY		
1.00	D2							
1.50	D3				(2.60)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:50	
	Figure No. J202252.BH22	

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH23

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND (crushed conrete, brick and soil)		
0.50	D1				0.50 (0.15) 0.65	MADE GROUND (reworked brown sandy clay with gravel and brick)		
1.00	D2					Firm brown with pale grey mottled fissured CLAY		
1.50	D3				(2.35)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH23

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH24

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.70)	MADE GROUND 9reworked brown sandy clay with abundant brick)		
0.50	D1				0.80	Firm brown silty fissured CLAY		
1.00-1.45 1.00	SPT N=6 D2		1,1/1,1,2,2					
1.50	D3							
					(2.20)			
2.00-2.45 2.00	SPT N=9 D4		2,2/1,2,3,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH24

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH25

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			Water strike(1) at 0.00m.			MADE GROUND (reworked clay and sand with brick)		1
					(0.70)			
0.50	D1				0.70	Firm brown silty fissured CLAY		
1.00-1.45 1.00	SPT N=8 D2		1,1/2,2,2,2					
1.50	D3							
					(2.30)			
2.00-2.45 2.00	SPT N=11 D4		2,2/3,3,2,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groudnwater encountered at 0.30m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH25

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH26

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30) 0.30	MADE GROUND (reworked topsoil)		
0.50	D1				(0.50) 0.80	MADE GROUND (reworked brown sandy clay with concrete)		
1.00	D2					Firm brown with pale grey mottled CLAY		
1.50	D3							
2.00	D4				(2.20)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH26

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH27

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MNDE GROUND (reworked topsoil with clay)		
					(0.20) 0.40	MADE GROUND (shingle)		
0.50	D1				(0.30) 0.70	MADE GROUND (reworked brown sand and clay)		
1.00	D2					Firm brown with pale grey mottled CLAY		
1.50	D3				(2.30)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:50	
	Figure No. J202252.BH27	

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH28

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (reworked topsoil)		
					(0.20) 0.40	MADE GROUND (brown sand with dark grey sandy gravel)		
0.50	D1					Firm brown mottled pale grey CLAY		
1.00-1.45 1.00	SPT N=8 D2		1,1/2,2,2,2					
1.50	D3				(2.60)			
2.00-2.45 2.00	SPT N=11 D4		1,2/2,3,3,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH28

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH29

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50) 0.50	MADE GROUND (reworked brown sandy gravel and crushed brick)		
0.50	D1					MADE GROUND (reworked clay with brick)		
1.00-1.45 1.00	SPT N=5 D2		1,0/0,1,2,2		(0.90) 1.40			
1.50	D3				(0.20) 1.60	MADE GROUND (shingle)		
2.00-2.45 2.00	SPT N=8 D4		2,2/2,2,2,2		(1.40)	Firm brown silty fissured CLAY		
2.50	D5							
3.00-3.45 3.00	SPT N=8 D6		1,1/2,2,2,2		3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH29

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH3

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (crushed concrete and clay)		
0.50	D1				(0.95)			
					0.95	Firm becoming stiff brown fissured slightly silty sandy CLAY		
1.00	D2							
1.50	D3							
2.00	D4				(2.05)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH3

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH30

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (crushed soil and brick)		
0.50	D0				0.60			
0.75	D1				(0.50)	MADE GROUND (reworked brown clay, brick and gravel)		
1.00-1.45 1.00	SPT N=6 D2		1,1/1,2,2,1		1.10	Firm pale brown and pale grey mottled silty slightly sandy CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=8 D4		1,2/2,2,2,2		(1.90)			
2.50	D5							
3.00-3.45 3.00	SPT N=15 D6		2,3/3,4,4,4		3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH30

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Site	Number
Arborfield District Centre	BH31

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND (brown sandy clay with brick)		
					0.50	Firm brown slightly silty CLAY		
0.50	D1							
1.00	D2							
1.50	D3				(2.50)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 3.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH31

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Site	Number
Arborfield District Centre	BH32

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (reworked brown sandy clay with gravel)		
0.50	D1				0.60	Firm brown silty CLAY		
1.00	D2							
1.50	D3				(2.40)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH32

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH33

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND (crush)		
0.50	D0				0.50			
					(0.45)	MADE GROUND (reworked clay with gravel)		
0.75	D1				0.95			
1.00-1.45 1.00	SPT N=6 D2		1,1/2,2,1,1			Firm brown silty fissured CLAY		
1.50	D3							
					(2.05)			
2.00-2.45 2.00	SPT N=12 D4		2,2/3,3,3,3					
2.50	D5							
					3.00			
3.00	D6					Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH33

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH34

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (reworked brown sandy clay with brick and gravel)		
0.50	D1				(1.20)			
1.00-1.45 1.00	SPT N=4 D2		0,0/0,0,2,2		1.20	Firm bown silty CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=10 D4		2,2/2,3,2,3		(1.80)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH34

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH35

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (reworked topsoil)		
					(0.30) 0.50	MADE GROUND (reworked brown sandy clay with brick)		
0.50	D1					Firm brown slightly silty CLAY		
1.00	D2							
1.50	D3				(2.50)			
2.00	D4							
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH35

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Site	Number
Arborfield District Centre	BH36

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40) 0.40	MADE GROUND (reworked brown sandy clay with brick, sand and clay)		
0.50	D1					Firm brown slightly silty CLAY		
1.00-1.45 1.00	SPT N=8 D2		2,2/2,2,2,2					
1.50	D3				(2.60)			
2.00-2.45 2.00	SPT N=11 D4		2,2/3,3,2,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH36

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Site	Number
Arborfield District Centre	BH37

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (reworked crush and tarmac)		
						MADE GROUBD (reworked brown sandy clay)		
0.50	D1							
					(1.40)			
1.00	D2							
1.50	D3				1.60	Firm brown slightly silty CLAY		
2.00	D4							
					(1.40)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:50	
	Figure No. J202252.BH37	

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Site	Number
Arborfield District Centre	BH38

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40) 0.40	MADE GROUND (reworked clay)		
0.50	D1				(0.20) 0.60	MADE GROUND (black ashy sand)		
					(0.05) 0.65	MADE GROUND (concrete)		
					0.80	MADE GROUND (reworked clay with brick)		
1.00-1.45 1.00	SPT N=7 D2		1,1/1,2,2,2			Firm pale brown and pale grey mottled silty CLAY		
1.50	D3							
					(2.20)			
2.00-2.45 2.00	SPT N=10 D4		2,2/2,3,2,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH38

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Site	Number
Arborfield District Centre	BH39

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (reworked brown clay with brick)		
0.50	D1				(1.40)			
1.00-1.45 1.00	SPT N=7 D2		1,1/2,2,1,2					
					1.40	Firm brown silty CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=10 D4		2,2/3,3,2,2		(1.60)			
2.50	D5							
3.00-3.45 3.00	SPT N=10 D6		3,3/2,2,3,3		3.00	Complete at 3.00m		

Remarks
Groundwater not encountered. Standpipe installed witrh a reponse zone from 1.00m to 3.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH39

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Site	Number
Arborfield District Centre	BH4

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.60)	MADE GROUND (crushed concrete and clay)		
0.50	D1				0.70	MADE GROUND (crushed conrete with sand and gravel)		
1.00	D2				(1.20)			
1.50	D3				1.90			
2.00	D4				(0.40)	Soft dark grey silty sandy CLAY with scatterd flint gravel		
					2.30	Firm brown fissured CLAY		
2.50	D5				(0.70)			
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered. Poor recovery 1.00m to 2.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH4

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WILSON BAILEY
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Site	Number
Arborfield District Centre	BH40

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (reworked brown clay with brick and gravel)		
0.50	D1				(1.20)			
1.00	D2				1.20	Firm brown silty CLAY		
1.50	D3							
2.00	D4				(1.80)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH40

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH41

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (crushed brick, tarmac and concrete)		
0.50	D1				0.60	MADE GROUND (reworked brown sandy clay with brick)		
1.00	D2				(0.80)			
1.50	D3				1.40	Firm brown silty CLAY		
2.00	D4				(1.60)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks	Scale (approx)	Logged By
	1:50	
	Figure No. J202252.BH41	

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Site	Number
Arborfield District Centre	BH42

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (reworked brick, concrete crush, tarmac and brown sandy clay)		
0.50	D1				0.60	Firm brown slightly silty CLAY		
1.00-1.45 1.00	SPT N=7 D2		0,1/1,2,2,2					
1.50	D3				(2.40)			
2.00-2.45 2.00	SPT N=9 D4		1,2/2,2,2,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH42

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Site	Number
Arborfield District Centre	BH43

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 05/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.70)	MADE GROUND (crushed concrete, brick and brown sand)		
0.50	D1				0.70	Firm pale yellowish brown and orange-brown with pale grey mottled slightly silty CLAY		
1.00-1.45 1.00	SPT N=6 D2		2,2/1,1,2,2					
1.50	D3				(2.30)			
2.00-2.45 2.00	SPT N=10 D4		2,3/3,2,2,3					
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH43

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GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH5

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND (reworked brown clay)		
0.50	D1				0.60			
					(0.35)	MADE GROUND (crushed concrete)]		
					0.95			▽1
1.00 1.00-1.45	D2 SPT N=26		Water strike(1) at 1.00m. 3,8/10,6,6,4			MADE GROUND (gravel and clay)		
					(0.80)			
1.50	D3							
					1.75	Firm brown fissured slightly silty CLAY		
2.00-2.45 2.00	SPT N=11 D4		2,2/2,3,3,3					
					(1.25)			
2.50	D5							
					3.00			
3.00-3.45 3.00	SPT N=12 D6		2,2/3,3,3,3			Complete at 3.00m		

Remarks
Groundwater encountered at 1.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH5

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Site	Number
Arborfield District Centre	BH6

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (topsoil)		
0.50	D1				(0.80)	MADE GROUND (reworked crush and tarmac with brown sand and chalk)		
					0.90			
1.00	D2				(0.40)	Soft dark grey silty sandy CLAY		
					1.30			
1.50	D3					Firm becoming stiff brown silty CLAY		
2.00	D4				(1.70)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH6

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Site	Number
Arborfield District Centre	BH7

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (crushed concrete, brick, clay and sand)		
0.50	D1				(1.10)			
1.00	D2				1.10	Soft dark grey sandy CLAY		
					1.15	Firm brown slightly silty fissured CLAY		
1.50	D3							
2.00	D4				(1.85)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater not enciountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH7

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Site	Number
Arborfield District Centre	BH8

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND (crushed concrete, brick and clay)		
0.50	D1				(1.00)			
1.00	D2				1.00 (0.20) 1.20	Brown silty sandy very clayey fine to medium flint GRAVEL		∇1
			Water strike(1) at 1.20m.			Firm brown slightly silty fissured CLAY		
1.50	D3							
2.00	D4				(1.80)			
2.50	D5							
3.00	D6				3.00	Complete at 3.00m		

Remarks
Groundwater seepage at 1.20m. Standpipe installed with a response zone from 1.00m to 3.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH8

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre	BH9

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler			Crest Nicholson Chiltern	J202252
	Location	**Dates** 02/12/2022	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (crushed concrete)		
						Firm grey and brown silty sandy CLAY		
0.50	D1				(0.90)			
1.00-1.45 1.00	SPT N=8 D2		1,1/2,2,2,2		1.10	Firm brown with pale grey mottled slightly fissured CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=8 D4		1,2/2,2,2,2		(1.90)			
2.50	D5							
3.00-3.45 3.00	SPT N=11 D6		2,2/2,3,3,3		3.00	Complete at 3.00m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202252.BH9

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Borehole Number
Arborfield District Centre (Supermarket)	CP01

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 20/02/2023	**Engineer** DPB	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	MADE GROUND (brick, rubble and soil fill)		
						0.30	MADE GROUND (plastic membrane)		
						0.40 (0.20)			
0.50	B1					0.60	MADE GROUND (orange-brown grey clayey fill)		
						(0.60)	Grey silty sandy CLAY		
1.00	B2					1.20			
1.20-1.65 1.20	SPT N=7 D3			1,1/1,1,2,3			Orange-brown grey silty sandy CLAY		
2.00	U4								
2.45	D5					(2.70)			
3.00-3.45 3.00	SPT N=15 D6			2,2/3,3,4,5					∇1
				Water strike(1) at 3.40m.					
						3.90	Grey silty CLAY		
4.00	U7								
4.45	D8								
5.00-5.45 5.00	SPT N=23 D9			2,3/5,5,6,7					
6.00	D10								
6.50	U11								
6.95	D12								
7.50	D13								
8.00-8.45 8.00	SPT N=26 D14			3,4/6,6,6,8					
9.00	D15								
9.50	U16								

Remarks
1 hour dnad digging inspection pit to 1.20m. Slight water seepage at 3.40m - no rise.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP01

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WILSON BAILEY
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Site	Borehole Number
Arborfield District Centre (Supermarket)	CP01

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 20/02/2023	**Engineer** DPB	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
9.95	D17								
10.50	D18								
11.00-11.45 11.00	SPT N=28 D19			3,4/5,7,7,9					
						(16.10)			
12.00	D20								
12.50	U21								
12.95	D22								
13.50	D23								
14.00-14.45 14.00	SPT N=35 D24			3,6/8,8,9,10					
15.00	D25								
15.50	U26								
15.95	D27								
16.50	D28								
17.00-17.45 17.00	SPT N=40 D29			4,6/7,9,9,15					
18.00	D30								
18.50	U31								
18.90	D32								
19.50-19.95 19.50	SPT N=39 D33			4,5/8,8,9,14					
						20.00			

Remarks
1 hour dnad digging inspection pit to 1.20m. Slight water seepage at 3.40m - no rise.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP01

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Borehole Number
Arborfield District Centre (Supermarket)	CP02

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 21/02/2023	**Engineer** DPB	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	MADE GROUND (gravel, brick rublble and soil fill)		
						0.30	MADE GROUND (plastic membrane)		
						0.40 (0.20)			
0.50	B1					0.60	MADE GROUND (orange-brown grey clay fill)		
						(0.50)	Grey silty sandy CLAY		
1.00	B2					1.10	Orange-browbn grey silty sandy CLAY		
1.20	U3								
1.65	D4								
2.00-2.45 2.00	SPT N=9 D5			1,1/2,2,2,3		(2.20)			
3.00	U6								
				Water strike(1) at 3.30m.		3.30	Grey silty CLAY		▽1
3.45	D7								
4.00-4.45 4.00	SPT N=20 D8			2,3/4,4,6,6		(2.15)			
5.00	U9								
5.45	D10					5.45	CLAYSTONE band		
6.00	D11								
6.50-6.95 6.50	SPT N=24 D12			2,3/5,6,6,7		(2.95)			
7.50	D13								
8.00	U14								
8.40	D15			Water strike(2) at 8.40m.		8.40	CLAYSTONE		▽2
						(0.40)			
8.80	B16					8.80	Grey silty CLAY		
9.00	D17								
9.50-9.95 9.50	SPT N=31 D18			3,4/6,7,8,10					

Remarks
1 hour hand digging inspection pit to 1.20m. Water seepage at 3.30m and 8.40m - no rise.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP02

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Borehole Number
Arborfield District Centre (Supermarket)	CP02

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 21/02/2023	**Engineer** DPB	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00	D19								
11.00	U20								
11.45	D21								
12.00	D22								
12.50-12.95 12.50	SPT N=34 D23			3,5/7,8,9,10					
13.50	D24								
14.00	U25								
						(11.20)			
14.45	D26								
15.00	D27								
15.50-15.95 15.50	SPT N=37 D28			3,4/7,9,9,12					
16.50	D29								
17.00	U30								
17.45	D31								
18.00	D32								
18.50-18.95 18.50	SPT N=37 D33			4,6/7,9,10,11					
19.50	U34								
19.95	D35					20.00			

Remarks
1 hour hand digging inspection pit to 1.20m. Water seepage at 3.30m and 8.40m - no rise.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP02

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Borehole Number
Arborfield District Centre (Supermarket)	CP03

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 22/02/2023	**Engineer** DPB	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						0.10	MADE GROUND (grass and soil)		
							MADE GROUND (brick, gravel and clayey fill)		
0.50	B1					(1.10)			
1.00	B2					1.20	Orange-brown grey silty sandy CLAY		
1.20-1.65 1.20	SPT N=5 D3			1,1/1,1,1,2					
2.00	U4								
2.45	D5					(2.60)			
3.00-3.45 3.00	SPT N=9 D6			1,1/2,2,2,3					
						3.80	Grey silty CLAY		
4.00	U7								
4.45	D8								
5.00-5.45 5.00	SPT N=19 D9			2,3/4,5,5,5					
6.00	D10								
6.50	U11								
6.95	D12								
7.50	D13								
8.00-8.45 8.00	SPT N=27 D14			3,4/5,7,7,8		(8.70)			
9.00	D15								
9.50	U16								

Remarks
1 hour hand digging inspection pit to 1.20m.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP03

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WILSON BAILEY
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Site	Borehole Number
Arborfield District Centre (Supermarket)	CP03

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Crest Nicholson	J202302
	Location	**Dates** 22/02/2023	**Engineer** DPB	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
9.95	D17								
10.50	D18								
11.00-11.45 11.00	SPT N=30 D19			3,4/6,7,8,9					
12.00	D20								
12.50	U21					12.50 (0.30)	CLAYSTONE		
12.75	D22					12.80	Grey silty CLAY		
13.50	D23								
14.00-14.45 14.00	SPT N=35 D24			3,5/7,8,9,11					
15.00	D25								
15.50	U26								
15.95	D27								
16.50	D28					(7.20)			
17.00-17.45 17.00	SPT N=39 D29			4,6/8,8,10,13					
18.00	D30								
18.50	U31								
18.95	D32								
19.50-19.95 19.50	SPT N=41 D33			4,6/8,9,10,14					
						20.00			

Remarks
1 hour hand digging inspection pit to 1.20m.

Scale (approx)	Logged By
1:50	

Figure No. J202302.CP03

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre - Sainsburys Land Parcel	WS01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				J202306
	Location	**Dates** 15/03/2023	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND (reworked topsoil)		
					(0.60)	MADE GROUND (reworked brown sandy clay with gravel)		
0.50	D1				0.70			▽1
			Water strike(1) at 0.70m.		(0.10)	MADE GROUND (crushed brick and tarmac)		
					0.80			
					(0.15)	Firm dark bluish grey silty slightly sandy CLAY		
					0.95			
1.00-1.45	SPT N=5		1,1/1,1,1,2			Firm orange-brown and brown silty sandy CLAY		
1.00	D2							
1.50	D3							
2.00-2.45	SPT N=9		1,1/2,2,2,3					
2.00	D4				(2.45)			
2.50	D5							
3.00-3.45	SPT N=14		2,2/3,3,4,4					
3.00	D6							
					3.40			
3.50	D7					Firm becoming stiff dark bluish grey slightly silty CLAY		
4.00-4.45	SPT N=20		3,4/4,5,5,6					
4.00	D8							
					(2.05)			
4.50	D9							
5.00-5.45	SPT N=20		4,4/4,4,6,6					
5.00	D10							
					5.45			
5.45	D11					Complete at 5.45m		

Remarks
Groundwater seepage at 0.70m. Standpipe installed with a response zone form 1.00m to 5.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202306.WS01

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GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre - Sainsburys Land Parcel	WS02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				J202306
	Location	**Dates** 15/03/2023	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15) 0.15	MADE GROUND (reworked topsoil)		
0.50	D1				(0.70) 0.85	MADE GROUND (brown sandy clay with bricks, concrete and gravel)		
1.00-1.45 1.00	SPT N=6 D2		1,1/1,1,2,2			Firm pale brown with pale grey and orange-brown mottled silty slightly sandy CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=10 D4		2,2/2,2,3,3		(2.75)			
2.50	D5							
3.00-3.45 3.00	SPT N=17 D6		3,3/4,4,4,5					
3.50	D7				3.60	Firm becoming stiff dark bluish grey CLAY		
4.00-4.45 4.00	SPT N=17 D8		3,4/4,4,5,4					
4.50	D9				(1.85)			
5.00-5.45 5.00	SPT N=18 D10		4,4/4,4,5,5					
5.45	D11				5.45	Complete at 5.45m		

Remarks
Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 5.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202306.WS02

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GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre - Sainsburys Land Parcel	WS03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				J202306
	Location	**Dates** 15/03/2023	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (reworked topsoil)		
0.50	D1				(0.75) 0.95	MADE GROUND (reworked brown sandy clay with bricks and brick fragments)		
1.00-1.45 1.00	SPT N=6 D2		1,1/1,1,2,2			Firm brown with pale orange-brown and pale grey mottled slightly silty CLAY with occasional partings of orange-brown silty fine sand		
1.50	D3							
2.00-2.45 2.00	SPT N=9 D4		1,1/2,2,2,3		(2.75)			
2.50	D5							
3.00-3.45 3.00	SPT N=13 D6		2,2/3,3,3,4					
3.50	D7				3.70	Firmmbecoming stiff dark grey slightly silty CLAY		
4.00-4.45 4.00	SPT N=18 D8		3,3/4,4,5,5					
4.50	D9				(1.75)			
5.00-5.45 5.00	SPT N=22 D10		3,4/4,5,6,7					
5.45	D11				5.45	Complete at 5.45m		

Remarks
Gorundwater not encountered. Standpipe installed with a response zone form 1.00m to 5.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202306.WS03

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GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre - Sainsburys Land Parcel	WS04

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				J202306
	Location	**Dates** 15/03/2023	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35) 0.35	MADE GROUND (reworked topsoil with brick and gravel)		
0.50	D1				(0.45) 0.80	Soft pale yellowish brown and pale grye silty sandy CLAY with occassional decayed rootlets to 0.70m		
1.00-1.45 1.00	SPT N=13 D2		1,2/2,4,3,4			Firm brown silty CLAY with occasional pale grey mottled and occasional partings of orange-brown silty sand		
1.50	D3							
2.00-2.45 2.00	SPT N=8 D4		2,2/2,2,2,2		(2.60)			
2.50	D5							
3.00-3.45 3.00	SPT N=19 D6		4,4/3,6,5,5					
3.50	D7				3.40	Firm becoming stiff dakr bluish grey slightly silty CLAY		
4.00-4.45 4.00	SPT N=20 D8		3,4/5,5,5,5					
4.50	D9				(2.05)			
5.00-5.45 5.00	SPT N=27 D10		3,4/5,6,7,9					
5.45	D11				5.45	Complete at 5.45m		

Remarks
Groundwater not encountered. Standpipe installed with a resonse zone from 1.00m to 5.00m.

Scale (approx)	Logged By
1:50	

Figure No. J202306.WS04

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WILSON BAILEY
GEOTECHNICAL & ENVIROMENTAL

Site	Number
Arborfield District Centre - Sainsburys Land Parcel	WS05

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Windowless Sampler				J202306
	Location	**Dates** 15/03/2023	**Engineer** DPB	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	MADE GROUND (crushed concrete and brown clay)		
					(0.40)	MADE GROUND (reworked brown sandy clay)		
0.50	D1				0.60 (0.45)	MADE GROUND (dark brown and black silty sand wiht ash, clinker, brick and conctete)		
1.00-1.45 1.00	SPT N=9 D2		1,2/2,2,2,3		1.05 (0.30)	Firm dark browbn silty slightly sandy CLAY		
1.50	D3				1.35	Firm brown with occasional pale grey mottled slightly silty CLAY		
2.00-2.45 2.00	SPT N=10 D4		1,2/2,2,3,3					
2.50	D5				(2.35)			
3.00-3.45 3.00	SPT N=15 D6		2,3/3,4,4,4					
3.50	D7				3.70	Firm becoming stiff dark bluish grey slightly silty CLAY		
4.00-4.45 4.00	SPT N=16 D8		3,4/3,4,4,5					
4.50	D9				(1.75)			
5.00-5.45 5.00	SPT N=21 D10		4,5/5,5,5,6					
5.45	D11				5.45	Complete at 5.45m		

Remarks
Groundwater not encountered.

Scale (approx)	Logged By
1:50	

Figure No. J202306.WS05

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Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
32832	Arborfield DC	Samples received	06/12/2022
		Schedule received	07/12/2022
Project No.	Client	Project started	07/12/2022
32832		Testing Started	13/01/2023

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
BH1	-	1.50	-	D	Orangish brown slightly mottled bluish grey slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	23	95	42	18	24	
BH1	-	2.50	-	D	Orangish brown slightly mottled grey sandy silty CLAY	26	100	45	22	23	
BH3	-	1.50	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY with rare fine gravel	24	99	53	21	32	
BH7	-	1.50	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	26	100	51	22	29	
BH8	-	1.50	-	D	Orangish brown slightly mottled bluish grey slightly sandy silty CLAY	27	100	51	21	30	
BH12	-	1.00	-	D	Orangish brown slightly mottled bluish grey slightly sandy silty CLAY	25	100	52	22	30	
BH12	-	2.00	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	25	100	43	21	22	
BH12	-	3.00	-	D	Dark grey slightly mottled orangish brown slightly sandy silty CLAY	24	100	46	21	25	
BH23	-	2.00	-	D	Orangish brown slightly mottled grey sandy silty CLAY	24	100	39	20	19	
BH33	-	1.00	-	D	Orangish brown slightly mottled bluish grey slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-anguar to rounded)	27	95	51	21	30	
BH33	-	2.00	-	D	Orangish brown slightly mottled grey and dark grey slightly sandy silty CLAY with rare fine gravel	23	99	45	21	24	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

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Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

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Checked and Approved
Initials J.P
Date: 16/01/2023

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
33076	Arborfield Disctrict Centre (Supermarket)	Samples received	01/03/2023
		Schedule received	02/03/2023
Project No.	Client	Project started	02/03/2023
-	Wilson Bailey	Testing Started	09/03/2023

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
BH01	-	2.00	-	U	Medium strength brown, orangish brown and grey fine sandy silty CLAY	24	100	41	21	20	
BH01	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	23	100	56	24	32	
BH01	-	18.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	25	100	70	29	41	
BH02	-	5.00	-	U	Very high strength dark grey slightly fine sandy silty CLAY with occasional pockets of fmc claystone fragments	21	100	45	20	25	
BH02	-	14.00	-	U	Extremely high strength dark grey slightly fine sandy silty CLAY	23	100	58	23	35	
BH03	-	2.00	-	U	Medium strength orangish brown mottled grey fine sandy silty CLAY	28	100	45	22	23	
BH03	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	21	100	53	23	30	
BH03	-	18.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	24	100	60	25	35	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

NOTE: The report shall not be reproduced except in full without authority of the laboratory

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved
Initials J.P
Date: 15/03/2023

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
33160	Arborfield DC Sains	Samples received	15/03/2023
		Schedule received	16/03/2023
Project No.	Client	Project started	17/03/2023
-	Wilson Bailey	Testing Started	28/03/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil Description	NMC %	Passing 425µm %	LL %	PL %	PI %	Remarks
WS01	-	1.50	-	D	Brown, orangish brown and bluish grey mottled slightly sandy silty CLAY	27	100	49	22	27	
WS01	-	2.50	-	D	Brown slightly mottled orangish brown slightly fine sandy silty CLAY	22					
WS01	-	3.50	-	D	Orangish brown slightly mottled grey slighty sandy silty CLAY	25	100	38	20	18	
WS01	-	4.50	-	D	Grey slightly fine sandy silty CLAY	20					
WS02	-	1.50	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	26	100	42	20	22	
WS02	-	2.50	-	D	Brown slightly sandy silty CLAY	23					
WS02	-	3.50	-	D	Dark grey and occasional brown sandy silty CLAY	21	100	39	19	20	
WS02	-	4.50	-	D	Grey slightly fine sandy silty CLAY	21					
WS03	-	1.00	-	D	Orangish brown slightly mottled bluish grey slightly sandy silty CLAY	27	99	47	20	27	
WS03	-	2.00	-	D	Orangish brown and light grey mottled slightly fine sandy silty CLAY	23					
WS03	-	3.50	-	D	Orangish brown mottled grey slightly sandy silty CLAY	22	100	38	18	20	
WS04	-	0.50	-	D	Orangish brown and light grey mottled sandy silty CLAY with traces of roots and rootlets	21					

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

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MSF-5-R1(b)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
33160	Arborfield DC Sains	Samples received	15/03/2023
		Schedule received	16/03/2023
Project No.	Client	Project started	17/03/2023
-	Wilson Bailey	Testing Started	28/03/2023

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
WS04	-	1.00	-	D	Orangish brown slightly sandy silty CLAY	24	100	38	20	18	
WS04	-	1.75	-	D	Orangish brown and light grey slighty fine sandy silty CLAY	23					
WS04	-	2.50	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	24	100	41	20	21	
WS04	-	4.00	-	D	Grey slightly fine sandy silty CLAY	20					
WS05	-	1.50	-	D	Orangish brown, brown and bluish grey mottled slightly sandy silty CLAY	26	100	43	20	23	
WS05	-	2.00	-	D	Orangish brown and light grey mottled slightly fine sandy silty CLAY	24					
WS05	-	3.50	-	D	Orangish brown mottled grey slightly sandy silty CLAY	24	100	38	19	19	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

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Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

Unconsolidated Undrained Triaxial Compression tests without measurement of pore pressure
Summary of Results

Tests carried out in accordance with BS1377:Part 7 : 1990 clause 8 or 9 as appropriate to test

Job No.	Project Name	Programme	
33076	Arborfield Disctrict Centre (Supermarket)	Samples received	01/03/2023
		Schedule received	02/03/2023
Project No.	Client	Project started	02/03/2023
-	Wilson Bailey	Testing Started	07/03/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil Description	Test Type	Density bulk Mg/m3	Density dry Mg/m3	w %	Length mm	Diameter mm	σ3 kPa	At failure Axial strain %	At failure σ1 - σ3 kPa	At failure cu kPa	At failure Mode	Remarks
BH01	-	2.00	-	U	Medium strength brown, orangish brown and grey fine sandy silty CLAY	UU	2.02	1.61	25	198	103	40	19	142	71	P	
BH01	-	4.00	-	U	Very high strength dark grey fine sandy silty CLAY	UU	2.09	1.72	22	198	103	80	19	303	152	C	
BH01	-	6.50	-	U	Very high strength dark grey fine sandy silty CLAY	UU	2.08	1.73	21	198	103	130	11	471	236	C	
BH01	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	UU	2.05	1.64	25	198	103	190	13	524	262	C	
BH01	-	12.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	2.07	1.69	23	198	103	250	12	426	213	C	
BH01	-	15.50	-	U	Very high strength dark grey fine sandy silty CLAY	UU	2.03	1.67	22	198	103	310	11	568	284	B	
BH01	-	18.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	2.05	1.64	25	198	103	370	11	383	192	B	
BH02	-	1.20	-	U	Low strength orangish brown, brown and grey slightly fine sandy silty CLAY with occasional black flecks	UU	1.85	1.47	26	198	103	25	15	72	36	C	
BH02	-	3.00	-	U	Low strength brown slightly mottled orangish brown silty CLAY with occasional fmc claystone fragments and occasional black flecks	UU	1.91	1.43	33	198	103	60	20	74	37	P	Sample slightly softened, partially remoulded at base
BH02	-	5.00	-	U	Very high strength dark grey slightly fine sandy silty CLAY with occasional pockets of fmc claystone fragments	UU	2.09	1.70	23	198	103	100	20	334	167	C	
BH02	-	8.00	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	2.14	1.76	21	198	103	160	9.1	510	255	B	
BH02	-	11.00	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	2.05	1.69	22	198	103	220	13	588	294	C	
BH02	-	14.00	-	U	Extremely high strength dark grey slightly fine sandy silty CLAY	UU	2.01	1.63	23	198	103	280	8.1	651	325	B	

Legend
- UU - single stage test (single and multiple specimens)
- UUM - Multistage test on a single specimen
- suffix R - remoulded or recompacted
- σ3 Cell pressure
- σ1 - σ3 Maximum corrected deviator stress
- cu Undrained shear strength, ½ (σ1 - σ3)
- Mode of failure ; B - Brittle; P - Plastic; C - Compound

Test Report by K4 SOILS LABORATORY
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UKAS TESTING 2519

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Checked and Approved

Initials: J.P

Date: 15/03/2023

MSF-5-R7b

Unconsolidated Undrained Triaxial Compression tests without measurement of pore pressure
Summary of Results

Tests carried out in accordance with BS1377:Part 7 : 1990 clause 8 or 9 as appropriate to test

Job No.	Project Name	Programme	
33076	Arborfield Disctrict Centre (Supermarket)	Samples received	01/03/2023
		Schedule received	02/03/2023
Project No.	Client	Project started	02/03/2023
-	Wilson Bailey	Testing Started	07/03/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil Description	Test Type	Density bulk Mg/m3	Density dry Mg/m3	w %	Length mm	Diameter mm	σ3 kPa	At failure Axial strain %	At failure σ1 - σ3 kPa	At failure cu kPa	At failure Mode	Remarks
BH02	-	17.00	-	U	Extremely high strength dark grey slightly fine sandy silty CLAY	UU	2.07	1.71	21	198	103	340	5.6	746	373	B	
BH02	-	19.50	-	U	Very high strength dark grey silty CLAY	UU	2.04	1.65	24	198	103	390	9.6	474	237	B	
BH03	-	2.00	-	U	Medium strength orangish brown mottled grey fine sandy silty CLAY	UU	1.97	1.57	26	198	103	40	20	109	55	P	
BH03	-	4.00	-	U	Very high strength dark grey fine sandy silty CLAY	UU	2.09	1.73	21	198	103	80	13	350	175	C	
BH03	-	6.50	-	U	Very high strength dark grey fine sandy silty CLAY	UU	2.03	1.68	21	198	103	130	17	412	206	C	
BH03	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	UU	2.05	1.68	22	198	103	190	12	458	229	C	
BH03	-	12.50	-	U	Very high strength dark grey fine sandy silty CLAY with rare coarse claystone fragments	UU	2.02	1.65	22	150	103	250	19	543	271	C	Short sample, claystone fragments removed
BH03	-	15.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	1.99	1.60	24	198	103	310	6.1	450	225	B	
BH03	-	18.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	UU	2.08	1.68	24	198	102	370	20	447	223	C	

Legend
UU - single stage test (single and multiple specimens)
UUM - Multistage test on a single specimen
suffix R - remoulded or recompacted

σ3 Cell pressure
σ1 - σ3 Maximum corrected deviator stress
cu Undrained shear strength, ½ (σ1 - σ3)

Mode of failure ;
B - Brittle
P - Plastic
C - Compound

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UKAS TESTING 2519

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Checked and Approved

Initials: J.P

Date: 15/03/2023

MSF-5-R7b

Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results

Tested in accordance with BS1377 : Part 3 : 2018, Clause 7.6 & Clause 12

Job No.	Project Name	Programme	
32832	Arborfield DC	Samples received	06/12/2022
		Schedule received	07/12/2022
Project No.	Client	Project started	07/12/2022
32832		Testing Started	13/01/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil description	Dry Mass passing 2mm %	SO4 Content mg/l	pH	Remarks
BH1	-	1.50	-	D	Orangish brown slightly mottled bluish grey slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	98	300	7.2	
BH7	-	1.50	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	100	320	7.1	
BH12	-	2.00	-	D	Orangish brown slightly mottled grey slightly sandy silty CLAY	100	50	7.2	
BH33	-	1.00	-	D	Orangish brown slightly mottled bluish grey slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-anguar to rounded)	98	60	7.1	

Test Report by K4 SOILS LABORATORY
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Date: 16/01/2023

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R29

Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results
Tested in accordance with BS1377 : Part 3 : 2018, Clause 7.6 & Clause 12

Job No.	Project Name	Programme	
33076	Arborfield Disctrict Centre (Supermarket)	Samples received	01/03/2023
		Schedule received	02/03/2023
Project No.	Client	Project started	02/03/2023
-	Wilson Bailey	Testing Started	13/03/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil description	Dry Mass passing 2mm %	SO4 Content mg/l	pH	Remarks
BH01	-	2.00	-	U	Medium strength brown, orangish brown and grey fine sandy silty CLAY	100	340	7.8	
BH01	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	100	640	7.6	
BH02	-	5.00	-	U	Very high strength dark grey slightly fine sandy silty CLAY with occasional pockets of fmc claystone fragments	98	670	7.7	
BH02	-	14.00	-	U	Extremely high strength dark grey slightly fine sandy silty CLAY	100	710	7.7	
BH03	-	2.00	-	U	Medium strength orangish brown mottled grey fine sandy silty CLAY	100	210	7.8	
BH03	-	9.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY with rare decomposed shell fragments	100	630	7.5	
BH03	-	18.50	-	U	Very high strength dark grey slightly fine sandy silty CLAY	100	640	7.5	

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
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UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R29

Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results

Tested in accordance with BS1377 : Part 3 : 2018, Clause 7.6 & Clause 12

Job No.	Project Name	Programme	
33160	Arborfield DC Sains	Samples received	15/03/2023
		Schedule received	16/03/2023
Project No.	Client	Project started	17/03/2023
-	Wilson Bailey	Testing Started	28/03/2023

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil description	Dry Mass passing 2mm %	SO4 Content mg/l	pH	Remarks
WS01	-	1.50	-	D	Brown, orangish brown and bluish grey mottled slightly sandy silty CLAY	100	190	7.7	
WS02	-	2.50	-	D	Brown slightly sandy silty CLAY	100	240	7.6	
WS03	-	1.00	-	D	Orangish brown slightly mottled bluish grey slightly sandy silty CLAY	100	220	7.6	
WS04	-	1.00	-	D	Orangish brown slightly sandy silty CLAY	100	240	7.7	
WS05	-	1.50	-	D	Orangish brown, brown and bluish grey mottled slightly sandy silty CLAY	100	230	7.7	

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Date: 31/03/2023

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MSF-5-R29

Dominic Brightman
Wilson Bailey Geotechnical & Environmental Ltd
Northdown Farmhouse
Donhead St Mary
Wiltshire
SP7 9DD

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 22-10295

Site Reference:	Arb DC
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	07/12/2022
Sample Scheduled Date:	07/12/2022
Report Issue Number:	1
Reporting Date:	16/12/2022

Authorised by:

[redacted]

Ela Mysiara
Quality Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH1	BH2	BH4	BH5	BH7
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	1.20	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623350 [A]	623351 [A]	623352 [A]	623353 [A]	623354 [A]

Determinand	**Unit**	**RL**	**Accreditation**		(n)			(n)
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Detected	Not Detected	Not Detected
Sample Matrix [(S)]	Material Type	N/a	NONE			Chrysotile present in microscopic bitumen debris		
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**			Chrysotile		
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**			0.284		
pH	pH Units	N/a	**MCERTS**	7.1	10.3	9.3	10.1	11.2
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	2.9	0.4	0.9	0.2	0.4
Arsenic (As)	mg/kg	< 2	**MCERTS**	7	5	5	24	9
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	12	15	13	20	16
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	20	7	26	28	24
Lead (Pb)	mg/kg	< 3	**MCERTS**	56	66	48	9	21
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	9	7	11	11	8
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	**MCERTS**	88	21	41	50	49
Total Phenols (monohydric)	mg/kg	< 1	NONE	2.6	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

A - No Sampling Date Provided

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH9	BH9	BH10	BH11	BH13
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.25	0.75	0.50	1.00	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623355 [A]	623356 [A]	623357 [A]	623358 [A]	623359 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix [(S)]	Material Type	N/a	NONE					
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**					
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**					
pH	pH Units	N/a	**MCERTS**	7.1	6.3	7.7	8.2	8.0
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	1.7	0.5	0.4	1.1	0.6
Arsenic (As)	mg/kg	< 2	**MCERTS**	9	4	5	8	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	17	7	17	21	15
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	23	< 4	7	6	12
Lead (Pb)	mg/kg	< 3	**MCERTS**	28	7	19	15	20
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	11	< 3	8	8	7
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	**MCERTS**	54	11	29	36	58
Total Phenols (monohydric)	mg/kg	< 1	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH16	BH18	BH19	BH21	BH23
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 16/12/2022	**DETS Sample No**	623360 A	623361 A	623362 A	623363 A	623364 A

Determinand	**Unit**	**RL**	**Accreditation**					(n)
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Detected	Detected	Not Detected
Sample Matrix (S)	Material Type	N/a	NONE			bundles of chrysotile	bundles of chrysotile and amosite	
Asbestos Type (S)	PLM Result	N/a	**ISO17025**			Chrysotile	Chrysotile Amosite	
Asbestos Quantification (S)	%	< 0.001	**ISO17025**			< 0.001	< 0.001	
pH	pH Units	N/a	**MCERTS**	7.6	7.6	7.9	7.6	9.8
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	0.6	0.6	1.2	0.8	0.8
Arsenic (As)	mg/kg	< 2	**MCERTS**	5	6	8	8	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	0.2	< 0.2	0.3
Chromium (Cr)	mg/kg	< 2	**MCERTS**	11	10	16	15	15
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	4	4	18	11	16
Lead (Pb)	mg/kg	< 3	**MCERTS**	13	11	55	27	25
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	3	3	7	6	9
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	**MCERTS**	20	24	213	133	43
Total Phenols (monohydric)	mg/kg	< 1	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH26	BH28	BH28	BH29	BH31
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.50	1.00	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623365 [A]	623366 [A]	623367 [A]	623368 [A]	623369 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Detected	Detected	Detected
Sample Matrix [(S)]	Material Type	N/a	NONE			amosite present in microscopic sheeting board debris and bundles. chrysotile present as bundles	bundle of amosite	chrysotile in microscopic bitumen. bundles of amosite
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**			Amosite Chrysotile	Amosite	Chrysotile Amosite
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**			0.001	< 0.001	0.002
pH	pH Units	N/a	**MCERTS**	7.9	7.9	7.5	7.4	8.2
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	0.6	1.1	1.5	0.5	0.4
Arsenic (As)	mg/kg	< 2	**MCERTS**	8	16	9	8	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	17	26	17	16	13
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	9	245	30	10	10
Lead (Pb)	mg/kg	< 3	**MCERTS**	21	140	46	15	23
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	10	25	12	12	7
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	**MCERTS**	111	217	125	39	55
Total Phenols (monohydric)	mg/kg	< 1	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH33	BH37	BH37	BH38	BH39
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.75	0.50	1.50	0.50	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623370 [A]	623371 [A]	623372 [A]	623373 [A]	623374 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix [(S)]	Material Type	N/a	NONE					
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**					
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**					
pH	pH Units	N/a	**MCERTS**	6.8	6.9	5.9	6.8	7.7
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	0.3	0.9	0.3	1.8	0.5
Arsenic (As)	mg/kg	< 2	**MCERTS**	4	8	11	19	11
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	11	14	21	16	20
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	< 4	13	8	62	16
Lead (Pb)	mg/kg	< 3	**MCERTS**	8	21	8	40	22
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	3	11	13	48	10
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	**MCERTS**	18	40	34	60	48
Total Phenols (monohydric)	mg/kg	< 1	NONE	< 2	< 2	< 2	< 2	< 2

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Subcontracted analysis (S)

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Soil Analysis Certificate						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Arb DC	**TP / BH No**	BH40	BH42	BH42	BH43	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.75	0.75	
Reporting Date: 16/12/2022	**DETS Sample No**	623375 [A]	623376 [A]	623377 [A]	623378 [A]	

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected	Not Detected	
Sample Matrix [(S)]	Material Type	N/a	NONE					
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**					
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**					
pH	pH Units	N/a	**MCERTS**	7.8	7.9	6.1	7.2	
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	0.5	1.5	0.7	0.4	
Arsenic (As)	mg/kg	< 2	**MCERTS**	7	11	5	7	
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (Cr)	mg/kg	< 2	**MCERTS**	12	15	11	12	
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	
Copper (Cu)	mg/kg	< 4	**MCERTS**	16	39	6	6	
Lead (Pb)	mg/kg	< 3	**MCERTS**	29	94	14	13	
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	**MCERTS**	10	18	4	4	
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	**MCERTS**	51	70	20	28	
Total Phenols (monohydric)	mg/kg	< 1	NONE	< 2	< 2	< 2	< 2	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH1	BH2	BH4	BH5	BH7
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	1.20	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623350 A	623351 A	623352 A	623353 A	623354 A

Determinand	**Unit**	**RL**	**Accreditation**		(n)			(n)
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	6.52	< 0.1	2.17
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	4.15	< 0.1	2.51
Phenanthrene	mg/kg	< 0.1	**MCERTS**	0.36	0.20	50.50	< 0.1	26
Anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.13	15.30	< 0.1	5.46
Fluoranthene	mg/kg	< 0.1	**MCERTS**	1.03	0.79	119	< 0.1	40.60
Pyrene	mg/kg	< 0.1	**MCERTS**	0.90	1.06	103	< 0.1	31.60
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	0.53	0.39	54.70	< 0.1	16.50
Chrysene	mg/kg	< 0.1	**MCERTS**	0.59	0.42	50.60	< 0.1	10.70
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.79	0.44	63.40	< 0.1	19.10
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.24	0.14	15.30	< 0.1	4.20
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	0.53	0.30	51	< 0.1	13.40
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	0.36	0.20	27.90	< 0.1	7.44
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	5.28	< 0.1	1.69
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	0.32	0.17	22.10	< 0.1	6.12
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	5.7	4.2	590	< 1.6	188

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation
A - No Sampling Date Provided

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH9	BH9	BH10	BH11	BH13
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.25	0.75	0.50	1.00	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623355 A	623356 A	623357 A	623358 A	623359 A

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.66	< 0.1	0.75
Anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.36	< 0.1	0.22
Fluoranthene	mg/kg	< 0.1	**MCERTS**	0.19	< 0.1	3.20	< 0.1	2.55
Pyrene	mg/kg	< 0.1	**MCERTS**	0.16	< 0.1	2.96	< 0.1	2.17
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.33	< 0.1	1.65
Chrysene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.57	< 0.1	1.70
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.16	< 0.1	1.25	< 0.1	2.63
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.35	< 0.1	0.70
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.07	< 0.1	2.22
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.61	< 0.1	1.67
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.14	< 0.1	0.38
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.43	< 0.1	1.40
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	< 1.6	< 1.6	13.9	< 1.6	18

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH16	BH18	BH19	BH21	BH23
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 16/12/2022	**DETS Sample No**	623360 A	623361 A	623362 A	623363 A	623364 A

Determinand	**Unit**	**RL**	**Accreditation**					(n)
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	0.58
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	0.41
Phenanthrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.79	0.14	6.45
Anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.23	< 0.1	1.77
Fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	2.11	0.32	14.20
Pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.85	0.29	10.70
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.09	0.15	6.06
Chrysene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.23	0.15	5.05
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.65	0.21	6.66
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.67	< 0.1	2.27
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	1.51	0.17	6.26
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.98	0.14	2.96
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.20	< 0.1	0.67
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.81	< 0.1	2.12
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	< 1.6	< 1.6	13.1	< 1.6	66.2

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH26	BH28	BH28	BH29	BH31
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.50	1.00	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623365 A	623366 A	623367 A	623368 A	623369 A

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.28	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	**MCERTS**	0.13	0.55	0.33	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.12	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	**MCERTS**	0.32	1.72	1.42	0.32	< 0.1
Pyrene	mg/kg	< 0.1	**MCERTS**	0.29	1.59	1.25	0.27	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	0.17	0.78	0.73	0.17	< 0.1
Chrysene	mg/kg	< 0.1	**MCERTS**	0.20	0.92	0.88	0.18	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.25	1.13	1.18	0.17	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.33	0.43	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	0.18	0.91	0.96	0.14	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	0.14	0.59	0.70	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.14	0.14	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.44	0.56	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	1.7	9.5	8.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH33	BH37	BH37	BH38	BH39
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.75	0.50	1.50	0.50	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623370 A	623371 A	623372 A	623373 A	623374 A

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.24	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.21	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	**MCERTS**	< 0.1	2.10	< 0.1	0.20	0.14
Anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.68	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	6.07	< 0.1	0.81	0.84
Pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	5.20	< 0.1	0.73	0.81
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	3.45	< 0.1	0.46	0.58
Chrysene	mg/kg	< 0.1	**MCERTS**	< 0.1	2.61	< 0.1	0.51	0.55
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	4.16	< 0.1	0.80	0.74
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	< 0.1	1.44	< 0.1	0.29	0.22
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	4.13	< 0.1	0.61	0.66
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	< 0.1	2.44	< 0.1	0.53	0.53
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.51	< 0.1	0.11	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	< 0.1	1.94	< 0.1	0.41	0.42
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	< 1.6	35.2	< 1.6	5.5	5.5

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Arb DC	**TP / BH No**	BH40	BH42	BH42	BH43	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.75	0.75	
Reporting Date: 16/12/2022	**DETS Sample No**	623375 A	623376 A	623377 A	623378 A	

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.11	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.37	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	0.31	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	**MCERTS**	0.93	3.79	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	**MCERTS**	0.27	1.36	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	**MCERTS**	3.01	18.70	< 0.1	0.22	
Pyrene	mg/kg	< 0.1	**MCERTS**	2.79	16.20	< 0.1	0.21	
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	1.75	9.28	< 0.1	0.14	
Chrysene	mg/kg	< 0.1	**MCERTS**	1.60	7.88	< 0.1	0.13	
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	2.20	14.70	< 0.1	0.16	
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.71	4.65	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	1.96	13.30	< 0.1	0.15	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	1.25	7.01	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	0.29	1.62	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	0.99	5.23	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	17.7	105	< 1.6	< 1.6	

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH1	BH2	BH4	BH5	BH7
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	1.20	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623350 A	623351 A	623352 A	623353 A	623354 A

Determinand	**Unit**	**RL**	**Accreditation**		(n)			(n)
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	< 2	24	< 2	7
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	199	< 3	65
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10	< 10	319	< 10	88
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	542	< 21	160
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	542	< 42	160

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation
A - No Sampling Date Provided

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH9	BH9	BH10	BH11	BH13
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.25	0.75	0.50	1.00	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623355 [A]	623356 [A]	623357 [A]	623358 [A]	623359 [A]

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	6	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH16	BH18	BH19	BH21	BH23
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 16/12/2022	**DETS Sample No**	623360 A	623361 A	623362 A	623363 A	623364 A

Determinand	**Unit**	**RL**	**Accreditation**					(n)
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	4
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	4	< 3	33
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10	< 10	43	< 10	45
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	47	< 21	82
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	47	< 42	82

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH26	BH28	BH28	BH29	BH31
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.50	1.00	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623365 A	623366 A	623367 A	623368 A	623369 A

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	4	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	11	6	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10	15	19	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	29	25	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH33	BH37	BH37	BH38	BH39
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.75	0.50	1.50	0.50	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623370 A	623371 A	623372 A	623373 A	623374 A

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	3	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	31	< 3	3	3
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10	69	< 10	< 10	13
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	103	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	103	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Arb DC	**TP / BH No**	BH40	BH42	BH42	BH43	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.75	0.75	
Reporting Date: 16/12/2022	**DETS Sample No**	623375 A	623376 A	623377 A	623378 A	

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	13	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	12	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	24	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	4	< 2	< 2	
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	16	63	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	39	147	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	55	214	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	55	238	< 42	< 42	

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH1	BH2	BH4	BH5	BH7
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	1.20	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623350 [A]	623351 [A]	623352 [A]	623353 [A]	623354 [A]

Determinand	**Unit**	**RL**	**Accreditation**		(n)			(n)
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation
A - No Sampling Date Provided

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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH9	BH9	BH10	BH11	BH13
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.25	0.75	0.50	1.00	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623355 A	623356 A	623357 A	623358 A	623359 A

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH16	BH18	BH19	BH21	BH23
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 16/12/2022	**DETS Sample No**	623360 A	623361 A	623362 A	623363 A	623364 A

Determinand	Unit	RL	Accreditation					(n)
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

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Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH26	BH28	BH28	BH29	BH31
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.50	1.00	0.75
Reporting Date: 16/12/2022	**DETS Sample No**	623365 A	623366 A	623367 A	623368 A	623369 A

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arb DC	**TP / BH No**	BH33	BH37	BH37	BH38	BH39
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.75	0.50	1.50	0.50	0.50
Reporting Date: 16/12/2022	**DETS Sample No**	623370 A	623371 A	623372 A	623373 A	623374 A

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-10295	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Arb DC	**TP / BH No**	BH40	BH42	BH42	BH43	
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	**Depth (m)**	0.50	0.25	0.75	0.75	
Reporting Date: 16/12/2022	**DETS Sample No**	623375 A	623376 A	623377 A	623378 A	

Determinand	**Unit**	**RL**	**Accreditation**					
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	

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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 22-10295
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Arb DC
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 16/12/2022

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 623350	BH1	None Supplied	0.50	17.5	Brown sandy clay
^ 623351	BH2	None Supplied	0.50	13.6	Brown sandy gravel with stones and concrete
^ 623352	BH4	None Supplied	0.50	8.4	Brown gravelly sand with stones and concrete
^ 623353	BH5	None Supplied	1.20	12.8	Brown gravelly sand with stones
^ 623354	BH7	None Supplied	0.75	11.8	Brown sandy gravel with stones and concrete
^ 623355	BH9	None Supplied	0.25	17.4	Brown sandy clay with stones
^ 623356	BH9	None Supplied	0.75	10	Brown sandy clay
^ 623357	BH10	None Supplied	0.50	13.5	Brown sandy clay
^ 623358	BH11	None Supplied	1.00	19.7	Brown sandy clay with stones
^ 623359	BH13	None Supplied	0.50	10.1	Brown sandy clay
^ 623360	BH16	None Supplied	0.50	12.7	Brown sandy clay with stones
^ 623361	BH18	None Supplied	0.50	13.9	Brown sandy clay with stones
^ 623362	BH19	None Supplied	0.50	13.1	Brown sandy clay with stones and concrete
^ 623363	BH21	None Supplied	0.25	13.1	Brown sandy clay with stones
^ 623364	BH23	None Supplied	0.25	10.7	Brown sandy gravel with stones and concrete
^ 623365	BH26	None Supplied	0.50	13.2	Brown sandy clay with stones and brick
^ 623366	BH28	None Supplied	0.25	15.7	Brown sandy clay with stones and concrete
^ 623367	BH28	None Supplied	0.50	19	Brown sandy clay with stones
^ 623368	BH29	None Supplied	1.00	15.2	Brown sandy clay with stones
^ 623369	BH31	None Supplied	0.75	12.4	Brown sandy clay with stones
^ 623370	BH33	None Supplied	0.75	13.3	Brown sandy clay
^ 623371	BH37	None Supplied	0.50	13.1	Brown sandy clay
^ 623372	BH37	None Supplied	1.50	19.7	Brown sandy clay
^ 623373	BH38	None Supplied	0.50	11.5	Black sandy clay with stones and concrete
^ 623374	BH39	None Supplied	0.50	16.5	Brown sandy clay with stones
^ 623375	BH40	None Supplied	0.50	12.6	Brown sandy clay with stones and brick
^ 623376	BH42	None Supplied	0.25	12.4	Black sandy clay with stones and concrete
^ 623377	BH42	None Supplied	0.75	10.7	Brown sandy clay with stones
^ 623378	BH43	None Supplied	0.75	14.4	Brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
^ no sampling date provided; unable to confirm if samples are within acceptable holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 22-10295
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Arb DC
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 16/12/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

Dominic Brightman
Wilson Bailey Geotechnical & Environmental Ltd
Northdown Farmhouse
Donhead St Mary
Wiltshire
SP7 9DD

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 23-04394

Site Reference:	Arborfield District Centre Sainsburys
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	29/03/2023
Sample Scheduled Date:	29/03/2023
Report Issue Number:	1
Reporting Date:	05/04/2023

Authorised by:

[redacted]

Kevin Old
Operations Director

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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Soil Analysis Certificate						
DETS Report No: 23-04394	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS01	WS02	WS03	WS04	WS05
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 05/04/2023	**DETS Sample No**	643929 [A]	643930 [A]	643931 [A]	643932 [A]	643933 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Detected	Detected	Not Detected	Not Detected	Not Detected
Sample Matrix [(S)]	Material Type	N/a	NONE	Chrysotile present in bundles	Chrysotile present in bundles			
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**	Chrysotile	Chrysotile			
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**	< 0.001	< 0.001			
pH	pH Units	N/a	**MCERTS**	8.0	8.0	7.9	7.3	7.8
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	2	1.9	0.7	2.1	0.4
Arsenic (As)	mg/kg	< 2	**MCERTS**	10	11	7	7	9
W/S Boron	mg/kg	< 1	NONE	1.2	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	0.5	0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	18	16	17	15	21
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	22	65	44	11	11
Lead (Pb)	mg/kg	< 3	**MCERTS**	54	99	54	36	16
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	11	10	9	6	18
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	**MCERTS**	91	193	82	70	44
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

A - No Sampling Date Provided

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Soil Analysis Certificate						
DETS Report No: 23-04394	**Date Sampled**	None Supplied				
Wilson Bailey Geotechnical & Environmental Ltd	**Time Sampled**	None Supplied				
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS05				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	0.75				
Reporting Date: 05/04/2023	**DETS Sample No**	643934 [A]				

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen [(S)]	N/a	N/a	**ISO17025**	Not Detected				
Sample Matrix [(S)]	Material Type	N/a	NONE					
Asbestos Type [(S)]	PLM Result	N/a	**ISO17025**					
Asbestos Quantification [(S)]	%	< 0.001	**ISO17025**					
pH	pH Units	N/a	**MCERTS**	7.4				
TOC (Total Organic Carbon)	%	< 0.1	**MCERTS**	2.9				
Arsenic (As)	mg/kg	< 2	**MCERTS**	7				
W/S Boron	mg/kg	< 1	NONE	< 1				
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2				
Chromium (Cr)	mg/kg	< 2	**MCERTS**	16				
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2				
Copper (Cu)	mg/kg	< 4	**MCERTS**	11				
Lead (Pb)	mg/kg	< 3	**MCERTS**	19				
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1				
Nickel (Ni)	mg/kg	< 3	**MCERTS**	7				
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2				
Zinc (Zn)	mg/kg	< 3	**MCERTS**	29				
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04394	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS01	WS02	WS03	WS04	WS05
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 05/04/2023	**DETS Sample No**	643929 [A]	643930 [A]	643931 [A]	643932 [A]	643933 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.18	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	**MCERTS**	0.77	0.17	1.84	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	**MCERTS**	0.30	< 0.1	0.45	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	**MCERTS**	2.90	0.71	1.89	0.42	< 0.1
Pyrene	mg/kg	< 0.1	**MCERTS**	2.75	0.66	1.44	0.37	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	1.64	0.41	0.69	0.19	< 0.1
Chrysene	mg/kg	< 0.1	**MCERTS**	1.45	0.46	0.62	0.21	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	2.01	0.78	0.57	0.24	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.74	0.26	0.21	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	1.81	0.64	0.47	0.19	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	0.96	0.47	0.24	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	0.18	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	0.82	0.41	0.19	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	16.3	5	8.9	1.6	< 1.6

A - No Sampling Date Provided

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-04394	**Date Sampled**	None Supplied				
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied				
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS05				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	0.75				
Reporting Date: 05/04/2023	**DETS Sample No**	643934 A				

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1				
Acenaphthylene	mg/kg	< 0.1	**MCERTS**	< 0.1				
Acenaphthene	mg/kg	< 0.1	**MCERTS**	0.15				
Fluorene	mg/kg	< 0.1	**MCERTS**	0.14				
Phenanthrene	mg/kg	< 0.1	**MCERTS**	1.15				
Anthracene	mg/kg	< 0.1	**MCERTS**	0.41				
Fluoranthene	mg/kg	< 0.1	**MCERTS**	3.32				
Pyrene	mg/kg	< 0.1	**MCERTS**	2.59				
Benzo(a)anthracene	mg/kg	< 0.1	**MCERTS**	1.59				
Chrysene	mg/kg	< 0.1	**MCERTS**	1.49				
Benzo(b)fluoranthene	mg/kg	< 0.1	**MCERTS**	1.97				
Benzo(k)fluoranthene	mg/kg	< 0.1	**MCERTS**	0.64				
Benzo(a)pyrene	mg/kg	< 0.1	**MCERTS**	1.60				
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	**MCERTS**	0.99				
Dibenz(a,h)anthracene	mg/kg	< 0.1	**MCERTS**	0.23				
Benzo(ghi)perylene	mg/kg	< 0.1	**MCERTS**	0.90				
Total EPA-16 PAHs	mg/kg	< 1.6	**MCERTS**	17.2				

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-04394	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS01	WS02	WS03	WS04	WS05
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 05/04/2023	**DETS Sample No**	643929 [A]	643930 [A]	643931 [A]	643932 [A]	643933 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	8	< 3	7	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	22	31	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	30	31	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

A - No Sampling Date Provided

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-04394	**Date Sampled**	None Supplied				
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied				
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS05				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	0.75				
Reporting Date: 05/04/2023	**DETS Sample No**	643934 A				

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01				
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2				
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2				
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3				
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3				
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10				
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21				
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01				
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	6				
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	20				
Aromatic (C5 - C35)	mg/kg	< 21	NONE	27				
Total >C5 - C35	mg/kg	< 42	NONE	< 42				

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04394	**Date Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS01	WS02	WS03	WS04	WS05
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	0.50	0.50	0.50	0.25	0.25
Reporting Date: 05/04/2023	**DETS Sample No**	643929 [A]	643930 [A]	643931 [A]	643932 [A]	643933 [A]

Determinand	**Unit**	**RL**	**Accreditation**					
Benzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

A - No Sampling Date Provided

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-04394	**Date Sampled**	None Supplied				
Wilson Bailey Geotechnical & Environmental L	**Time Sampled**	None Supplied				
Site Reference: Arborfield District Centre Sainsburys	**TP / BH No**	WS05				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	0.75				
Reporting Date: 05/04/2023	**DETS Sample No**	643934 A				

Determinand	**Unit**	**RL**	**Accreditation**					
Benzene	ug/kg	< 2	**MCERTS**	< 2				
Toluene	ug/kg	< 5	**MCERTS**	< 5				
Ethylbenzene	ug/kg	< 2	**MCERTS**	< 2				
p & m-xylene	ug/kg	< 2	**MCERTS**	< 2				
o-xylene	ug/kg	< 2	**MCERTS**	< 2				
MTBE	ug/kg	< 5	**MCERTS**	< 5				

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 23-04394	
Wilson Bailey Geotechnical & Environmental Ltd	
Site Reference: Arborfield District Centre Sainsburys	
Project / Job Ref: None Supplied	
Order No: None Supplied	
Reporting Date: 05/04/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 643929	WS01	None Supplied	0.50	14.4	Brown sandy clay with stones
^ 643930	WS02	None Supplied	0.50	12.6	Brown sandy clay with brick
^ 643931	WS03	None Supplied	0.50	11.1	Brown sandy clay with stones and brick
^ 643932	WS04	None Supplied	0.25	24.4	Brown sandy clay with vegetation
^ 643933	WS05	None Supplied	0.25	16	Brown sandy clay with stones
^ 643934	WS05	None Supplied	0.75	13.2	Brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
^ no sampling date provided; unable to confirm if samples are within acceptable holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 23-04394
Wilson Bailey Geotechnical & Environmental Ltd
Site Reference: Arborfield District Centre Sainsburys
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 05/04/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

ARBORFIELD DISTRICT CENTRE, SHEERLANDS ROAD, ARBORFIELD, RG2 9GB

Order Details

Date: 30/08/2022

Your ref: db_CN

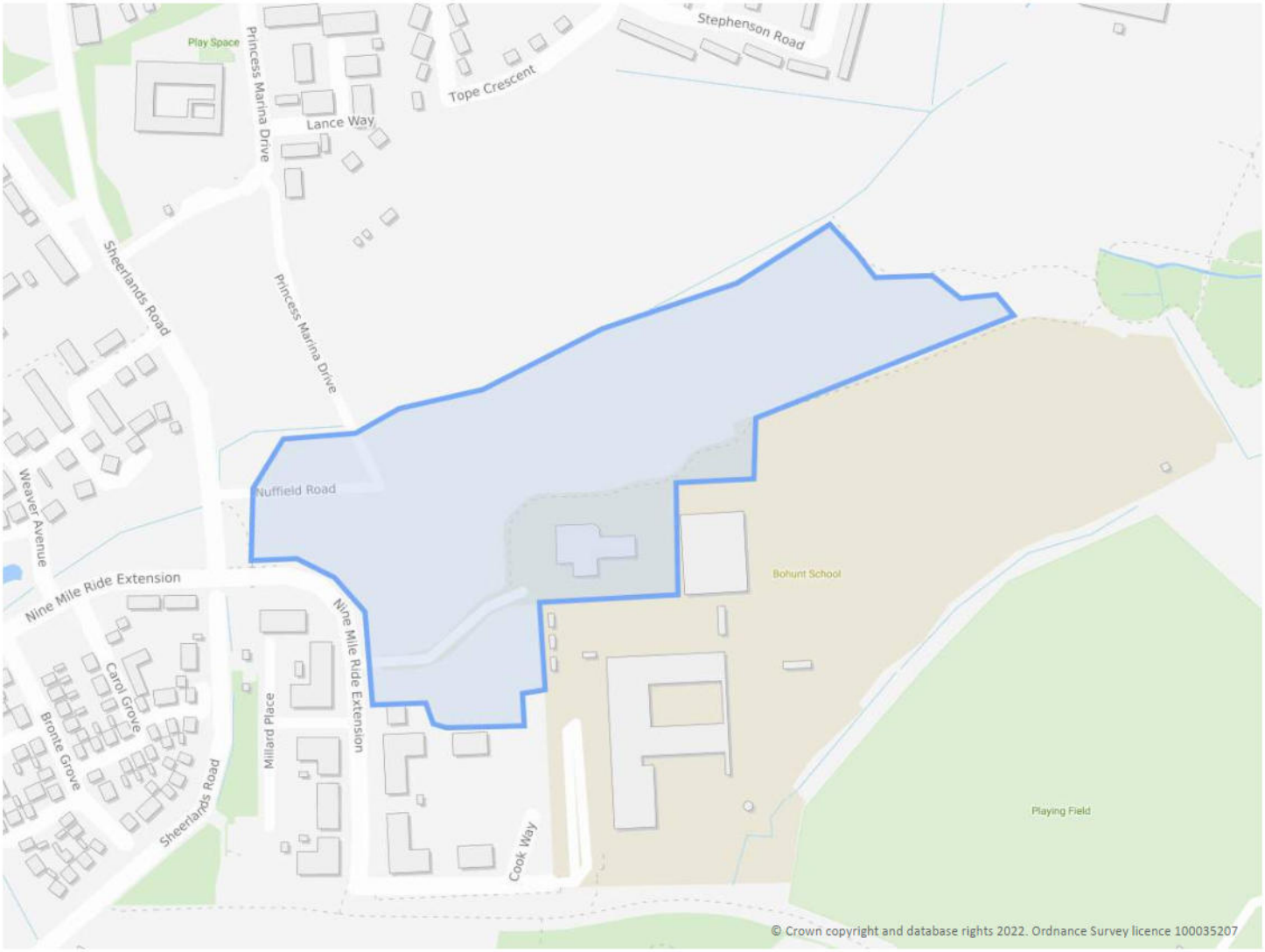
Our Ref: GS-9016313

Site Details

Location: 477009 165199

Area: 7.16 ha

Authority: Wokingham Borough Council



Summary of findings p. 2

Aerial image p. 8

OS MasterMap site plan p.13

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	1	3	10	9	-
15	1.2	Historical tanks	4	0	11	7	-
17	1.3	Historical energy features	0	0	3	5	-
17	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
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	5	13	12	-
21	2.2	Historical tanks	7	0	18	13	-
22	2.3	Historical energy features	0	0	5	9	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	**Section**	**Waste and landfill**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	1	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	3	-
26	3.5	Historical waste sites	0	0	0	0	-
26	3.6	Licensed waste sites	0	0	0	0	-
26	3.7	Waste exemptions	0	0	2	11	-
Page	**Section**	**Current industrial land use**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
28	4.1	Recent industrial land uses	1	0	7	-	-
29	4.2	Current or recent petrol stations	0	0	0	0	-
29	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-

30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	1	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	1	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	1	-
33	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	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)				
35	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
37	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	**5.6**	**Groundwater abstractions**	0	0	0	0	2
41	5.7	Surface water abstractions	0	0	0	0	0
41	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
43	**6.1**	**Water Network (OS MasterMap)**	0	10	31	-	-

47	**6.2**	**Surface water features**	0	5	20	-	-
47	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
47	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
48	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
49	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
49	7.2	Historical Flood Events	0	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
50	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
50	7.5	Flood Storage Areas	0	0	0	-	-
51	7.6	Flood Zone 2	None (within 50m)				
51	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
52	**8.1**	**Surface water flooding**	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
54	**9.1**	**Groundwater flooding**	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
55	**10.1**	**Sites of Special Scientific Interest (SSSI)**	0	0	0	0	1
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	**10.6**	**Local Nature Reserves (LNR)**	0	0	0	0	1
57	**10.7**	**Designated Ancient Woodland**	0	0	1	3	53
60	10.8	Biosphere Reserves	0	0	0	0	0
61	10.9	Forest Parks	0	0	0	0	0
61	10.10	Marine Conservation Zones	0	0	0	0	0
61	10.11	Green Belt	0	0	0	0	0
61	10.12	Proposed Ramsar sites	0	0	0	0	0

61	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
62	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
62	10.15	Nitrate Sensitive Areas	0	0	0	0	0
62	**10.16**	**Nitrate Vulnerable Zones**	1	0	0	0	1
63	**10.17**	**SSSI Impact Risk Zones**	2	-	-	-	-
65	**10.18**	**SSSI Units**	0	0	0	0	2
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
66	11.1	World Heritage Sites	0	0	0	-	-
67	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
67	11.3	National Parks	0	0	0	-	-
67	11.4	Listed Buildings	0	0	0	-	-
67	**11.5**	**Conservation Areas**	1	0	0	-	-
68	**11.6**	**Scheduled Ancient Monuments**	0	0	2	-	-
68	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
69	**12.1**	**Agricultural Land Classification**	Grade 3 (within 250m)				
70	12.2	Open Access Land	0	0	0	-	-
70	12.3	Tree Felling Licences	0	0	0	-	-
70	12.4	Environmental Stewardship Schemes	0	0	0	-	-
71	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
72	**13.1**	**Priority Habitat Inventory**	0	0	10	-	-
73	13.2	Habitat Networks	0	0	0	-	-
73	13.3	Open Mosaic Habitat	0	0	0	-	-
73	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
74	**14.1**	**10k Availability**	Identified (within 500m)				
75	**14.2**	**Artificial and made ground (10k)**	0	0	1	4	-
77	**14.3**	**Superficial geology (10k)**	0	1	0	0	-

78	14.4	Landslip (10k)	0	0	0	0	-
79	**14.5**	**Bedrock geology (10k)**	2	0	1	0	-
80	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
81	**15.1**	**50k Availability**	Identified (within 500m)				
82	**15.2**	**Artificial and made ground (50k)**	0	0	1	1	-
83	15.3	Artificial ground permeability (50k)	0	0	-	-	-
84	**15.4**	**Superficial geology (50k)**	0	1	0	0	-
85	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
85	15.6	Landslip (50k)	0	0	0	0	-
85	15.7	Landslip permeability (50k)	None (within 50m)				
86	**15.8**	**Bedrock geology (50k)**	1	0	1	0	-
87	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
87	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
88	**16.1**	**BGS Boreholes**	12	0	16	-	-
Page	Section	Natural ground subsidence					
90	**17.1**	**Shrink swell clays**	Low (within 50m)				
91	**17.2**	**Running sands**	Low (within 50m)				
93	**17.3**	**Compressible deposits**	Moderate (within 50m)				
95	**17.4**	**Collapsible deposits**	Very low (within 50m)				
96	**17.5**	**Landslides**	Very low (within 50m)				
97	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
98	18.1	Natural cavities	0	0	0	0	-
99	**18.2**	**BritPits**	0	0	0	2	-
99	**18.3**	**Surface ground workings**	0	5	8	-	-
100	18.4	Underground workings	0	0	0	0	0
100	**18.5**	**Historical Mineral Planning Areas**	0	0	1	0	-

101	18.6	Non-coal mining	0	0	0	0	0
101	18.7	Mining cavities	0	0	0	0	0
101	18.8	JPB mining areas	None (within 0m)				
101	18.9	Coal mining	None (within 0m)				
101	18.10	Brine areas	None (within 0m)				
102	18.11	Gypsum areas	None (within 0m)				
102	18.12	Tin mining	None (within 0m)				
102	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
103	**19.1**	**Radon**	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
104	**20.1**	**BGS Estimated Background Soil Chemistry**	5	5	-	-	-
105	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
105	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
106	21.1	Underground railways (London)	0	0	0	-	-
106	21.2	Underground railways (Non-London)	0	0	0	-	-
106	21.3	Railway tunnels	0	0	0	-	-
106	21.4	Historical railway and tunnel features	0	0	0	-	-
106	21.5	Royal Mail tunnels	0	0	0	-	-
107	21.6	Historical railways	0	0	0	-	-
107	21.7	Railways	0	0	0	-	-
107	21.8	Crossrail 1	0	0	0	0	-
107	21.9	Crossrail 2	0	0	0	0	-
107	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 29/06/2019

Site Area: 7.16ha

Recent site history - 2013 aerial photograph

Capture Date: 11/07/2013

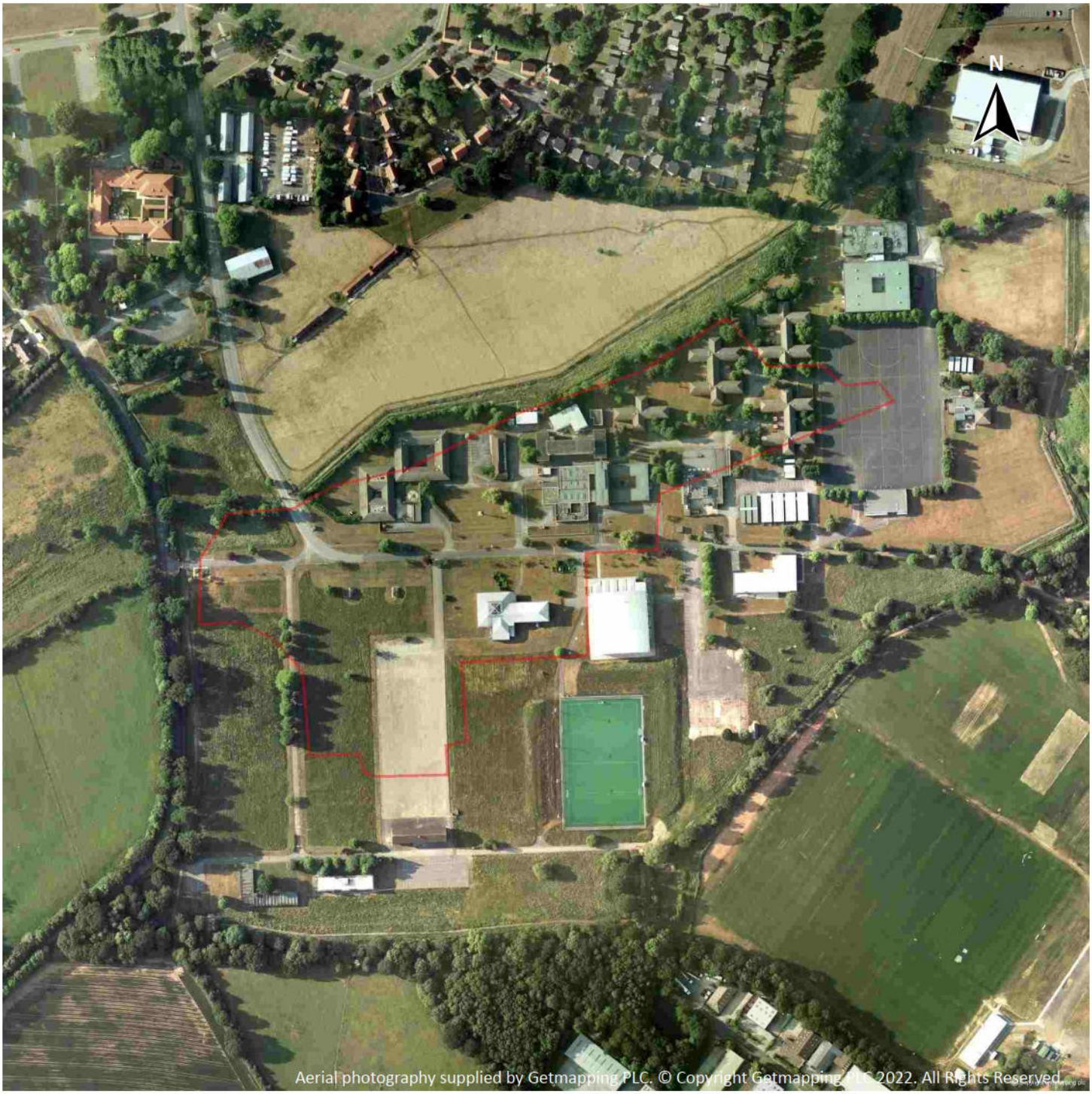
Site Area: 7.16ha

Recent site history - 2010 aerial photograph

Capture Date: 25/09/2010

Site Area: 7.16ha

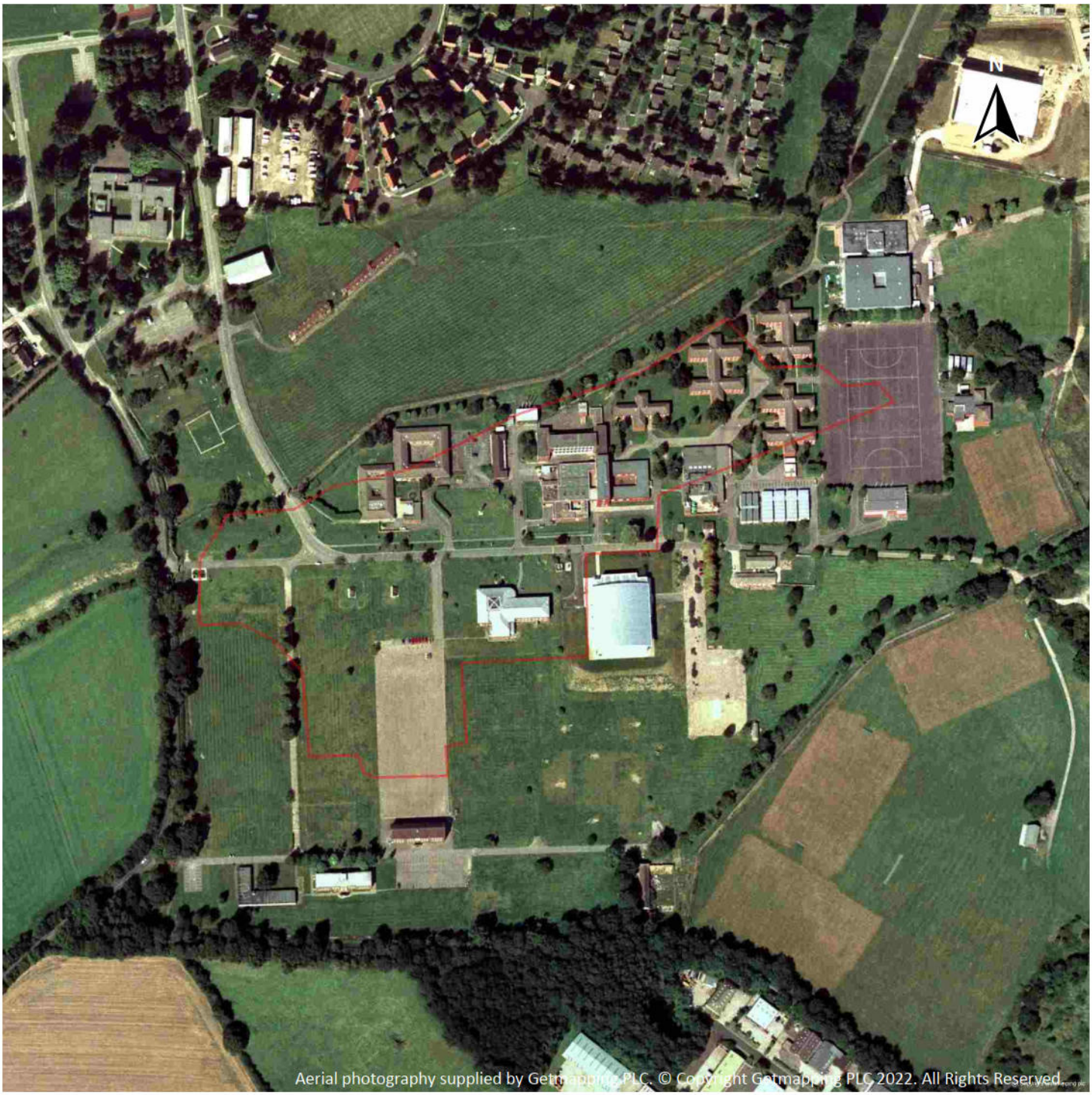
Recent site history - 2005 aerial photograph



Capture Date: 19/06/2005

Site Area: 7.16ha

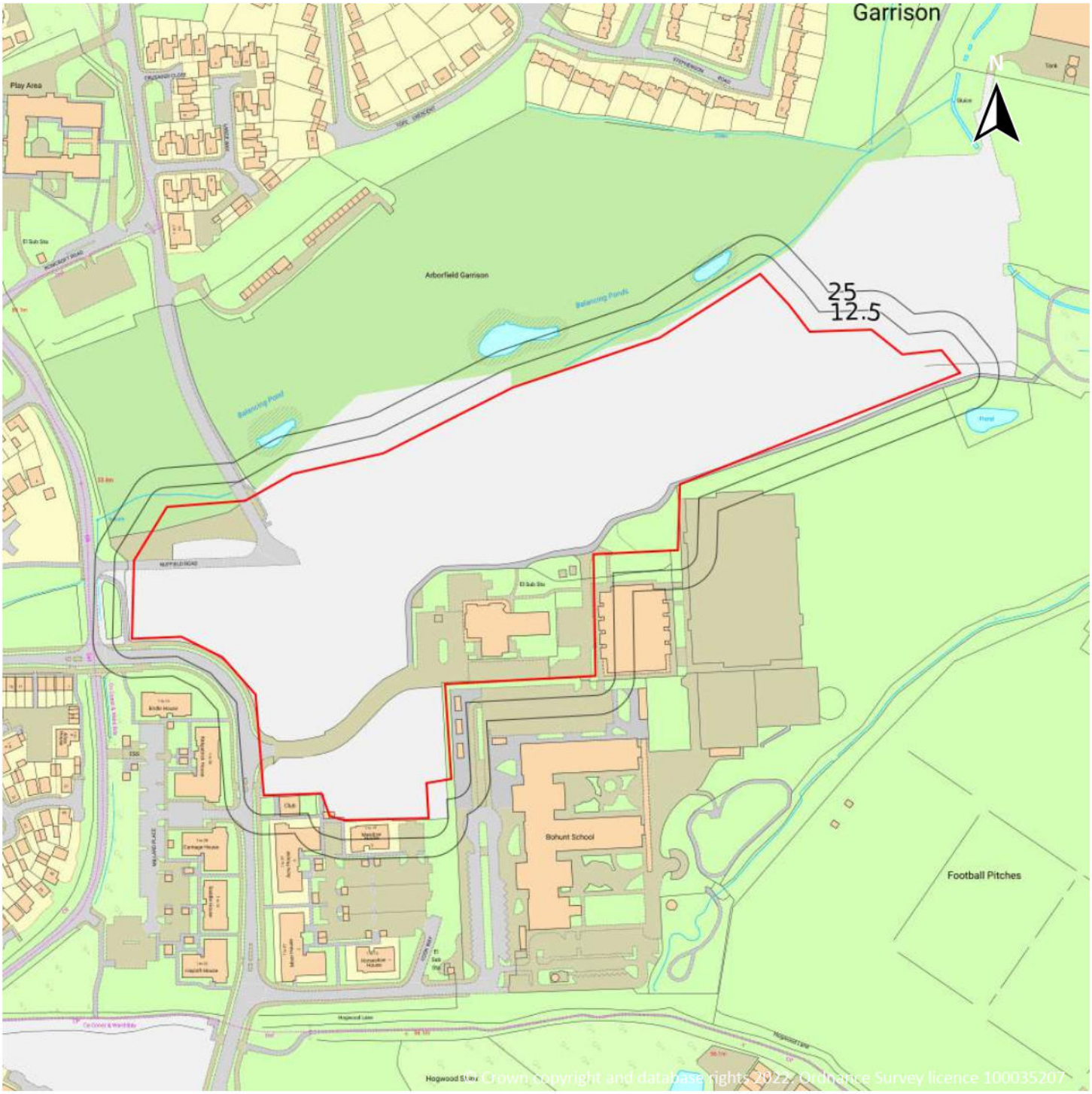
Recent site history - 1999 aerial photograph



Capture Date: 04/09/1999

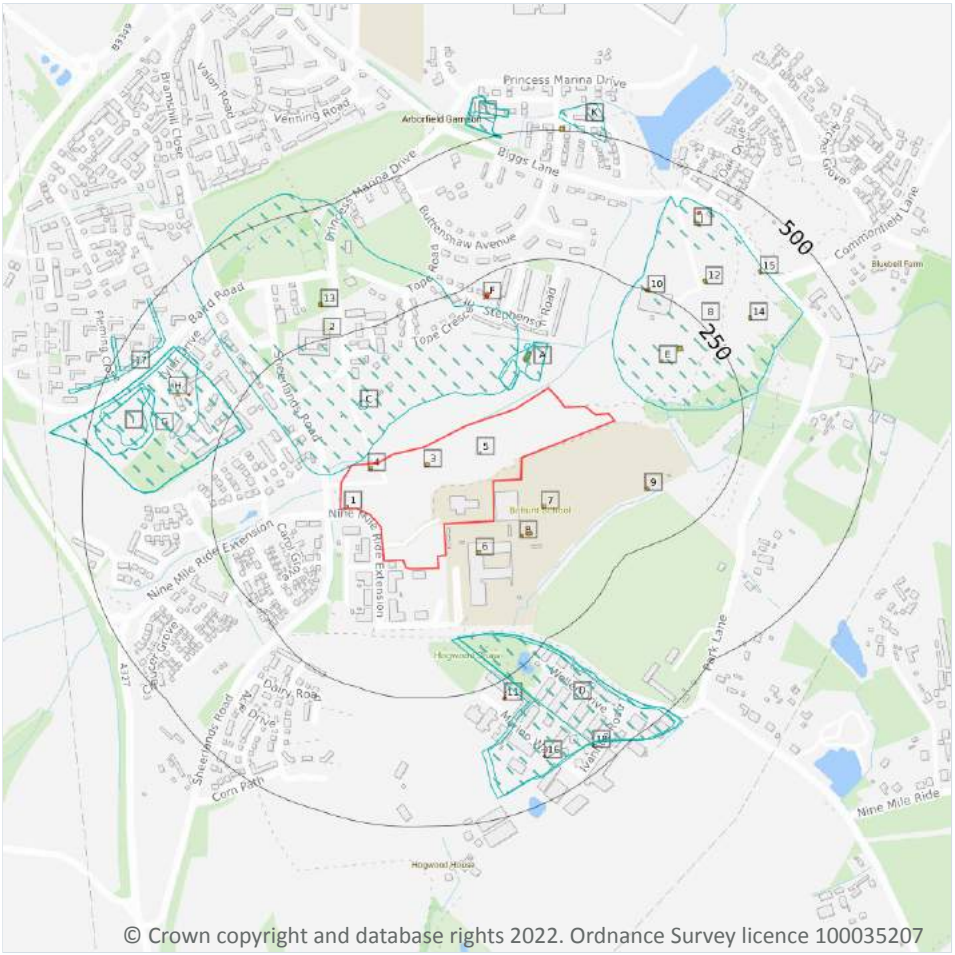
Site Area: 7.16ha

OS MasterMap site plan



Site Area: 7.16ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	23

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 14**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Unspecified Depot**	**1932 - 1938**	**1954008**

ID	Location	Land use	Dates present	Group ID
A	21m NW	Filter Beds	1932	1946823
A	21m NW	Filter Beds	1938	1941389
A	37m NW	Filter Beds	1932	1967547
8	65m NE	Barracks	1969 - 1978	1946287
A	68m NW	Sewage Tanks	1932	1961930
A	68m NW	Sewage Tanks	1938	1901209
C	103m NW	Unspecified Tank	1910	1858191
D	139m S	Unspecified Works	1977	1947109
D	141m S	Brick Works	1938	1864663
D	142m S	Unspecified Works	1960	1935454
G	211m NW	Unspecified Works	1961	1860403
G	211m NW	Brick and Tile Works	1988	1949529
G	211m NW	Brick and Tile Works	1969 - 1978	1957247
H	303m NW	Brick Works	1938	1864662
H	375m NW	Chimney	1988	1874980
I	376m W	Clay Pit	1969 - 1978	1914380
I	376m W	Clay Pit	1988	1957770
I	391m W	Unspecified Pit	1961	1879811
17	433m NW	Unspecified Ground Workings	1969	1852449
K	489m N	Unspecified Heap	1988	1869657
L	492m N	Filter Beds	1938	1933731
L	493m N	Filter Beds	1932	1889897

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	22

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 14**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Tank**	**1967 - 1975**	**326326**
3	**On site**	**Unspecified Tank**	**1967 - 1975**	**318089**
4	**On site**	**Unspecified Tank**	**1967 - 1975**	**315737**
5	**On site**	**Unspecified Tank**	**1967**	**305633**
6	56m S	Unspecified Tank	1967 - 1975	322997
B	59m SE	Unspecified Tank	1975	305634
7	65m SE	Unspecified Tank	1967 - 1975	319239
A	65m NW	Sewage Tanks	1933	309568
B	66m E	Tanks	1987	327383
B	68m E	Tanks	1967 - 1975	314282
C	96m N	Unspecified Tank	1911	305637
9	142m SE	Unspecified Tank	1967	305631
E	143m NE	Unspecified Tank	1967	305632
E	180m NE	Unspecified Tank	1975 - 1993	320020
10	246m N	Unspecified Tank	1967 - 1975	320743
12	313m NE	Unspecified Tank	1967 - 1975	318968
13	314m N	Unspecified Tank	1967	305638
14	326m NE	Unspecified Tank	1967 - 1975	315253
H	357m NW	Unspecified Tank	1967	305636
15	399m NE	Unspecified Tank	1967 - 1975	328207
J	402m NE	Unspecified Tank	1967 - 1975	326990
K	498m N	Unspecified Tank	1967 - 1993	319933

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 14**

ID	Location	Land use	Dates present	Group ID
F	210m NW	Electricity Substation	1987	193342
F	211m NW	Electricity Substation	1967 - 1975	194997
F	212m NW	Electricity Substation	1993	207257
11	279m SE	Electricity Substation	1991	189552
H	338m NW	Electricity Substation	1999	189551
16	416m SE	Electricity Substation	1987 - 1991	197329
J	423m NE	Electricity Substation	1975	189553
18	453m SE	Electricity Substation	1987 - 1991	202196

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	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

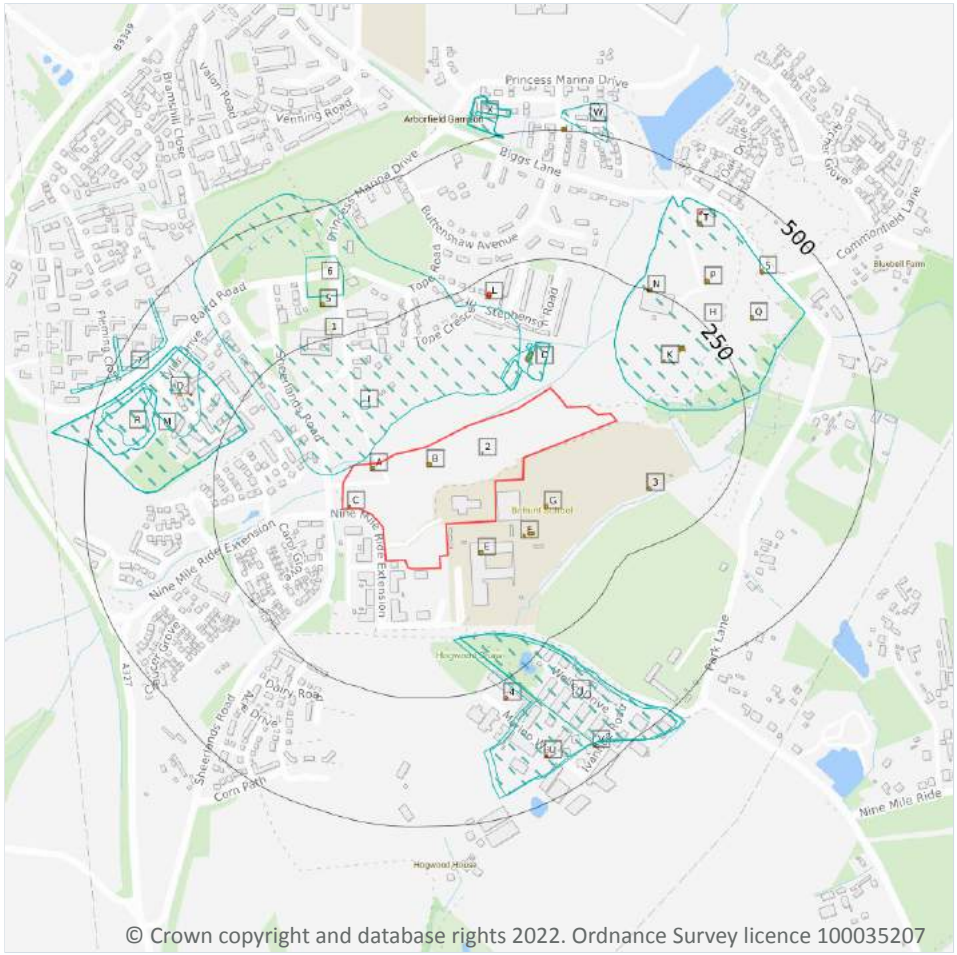
1.6 Historical military land

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



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	31

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**	**Unspecified Depot**	**1938**	**1954008**
D	21m NW	Filter Beds	1932	1946823
D	21m NW	Filter Beds	1932	1946823

ID	Location	Land Use	Date	Group ID
D	21m NW	Filter Beds	1938	1941389
D	37m NW	Filter Beds	1932	1967547
D	37m NW	Filter Beds	1932	1967547
H	65m NE	Barracks	1969	1946287
H	65m NE	Barracks	1978	1946287
D	68m NW	Sewage Tanks	1932	1961930
D	68m NW	Sewage Tanks	1932	1961930
D	68m NW	Sewage Tanks	1938	1901209
I	103m NW	Unspecified Tank	1910	1858191
J	139m S	Unspecified Works	1977	1947109
J	141m S	Brick Works	1938	1864663
J	142m S	Unspecified Works	1960	1935454
M	211m NW	Brick and Tile Works	1988	1949529
M	211m NW	Brick and Tile Works	1969	1957247
M	211m NW	Brick and Tile Works	1978	1957247
M	211m NW	Unspecified Works	1961	1860403
O	303m NW	Brick Works	1938	1864662
6	325m N	Unspecified Depot	1932	1954008
O	375m NW	Chimney	1988	1874980
R	376m W	Clay Pit	1988	1957770
R	376m W	Clay Pit	1969	1914380
R	376m W	Clay Pit	1978	1914380
R	391m W	Unspecified Pit	1961	1879811
7	433m NW	Unspecified Ground Workings	1969	1852449
W	489m N	Unspecified Heap	1988	1869657
X	492m N	Filter Beds	1938	1933731
X	493m N	Filter Beds	1932	1889897
X	493m N	Filter Beds	1932	1889897

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	38

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
2	**On site**	**Unspecified Tank**	**1967**	**305633**
A	**On site**	**Unspecified Tank**	**1975**	**315737**
A	**On site**	**Unspecified Tank**	**1967**	**315737**
B	**On site**	**Unspecified Tank**	**1975**	**318089**
B	**On site**	**Unspecified Tank**	**1967**	**318089**
C	**On site**	**Unspecified Tank**	**1975**	**326326**
C	**On site**	**Unspecified Tank**	**1967**	**326326**
E	56m S	Unspecified Tank	1975	322997
E	56m S	Unspecified Tank	1967	322997
F	59m SE	Unspecified Tank	1975	305634
G	65m SE	Unspecified Tank	1975	319239
G	65m SE	Unspecified Tank	1967	319239
D	65m NW	Sewage Tanks	1933	309568
F	66m E	Tanks	1987	327383
F	68m E	Tanks	1975	314282
F	68m E	Tanks	1967	314282
I	96m N	Unspecified Tank	1911	305637
3	142m SE	Unspecified Tank	1967	305631
K	143m NE	Unspecified Tank	1967	305632
K	180m NE	Unspecified Tank	1987	320020
K	183m NE	Unspecified Tank	1993	320020
K	183m NE	Unspecified Tank	1993	320020
K	184m NE	Unspecified Tank	1975	320020

ID	Location	Land Use	Date	Group ID
N	246m N	Unspecified Tank	1967	320743
N	249m N	Unspecified Tank	1975	320743
P	313m NE	Unspecified Tank	1975	318968
P	313m NE	Unspecified Tank	1967	318968
5	314m N	Unspecified Tank	1967	305638
Q	326m NE	Unspecified Tank	1975	315253
Q	326m NE	Unspecified Tank	1967	315253
O	357m NW	Unspecified Tank	1967	305636
S	399m NE	Unspecified Tank	1975	328207
S	399m NE	Unspecified Tank	1967	328207
T	402m NE	Unspecified Tank	1975	326990
T	402m NE	Unspecified Tank	1967	326990
W	498m N	Unspecified Tank	1975	319933
W	498m N	Unspecified Tank	1967	319933
W	499m N	Unspecified Tank	1987	319933

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**14**

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
L	210m NW	Electricity Substation	1987	193342
L	211m NW	Electricity Substation	1975	194997
L	211m NW	Electricity Substation	1967	194997
L	212m NW	Electricity Substation	1993	207257
L	212m NW	Electricity Substation	1993	207257

ID	Location	Land Use	Date	Group ID
4	279m SE	Electricity Substation	1991	189552
O	338m NW	Electricity Substation	1999	189551
U	416m SE	Electricity Substation	1987	197329
U	416m SE	Electricity Substation	1988	197329
U	416m SE	Electricity Substation	1991	197329
T	423m NE	Electricity Substation	1975	189553
V	453m SE	Electricity Substation	1987	202196
V	453m SE	Electricity Substation	1988	202196
V	453m SE	Electricity Substation	1991	202196

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.

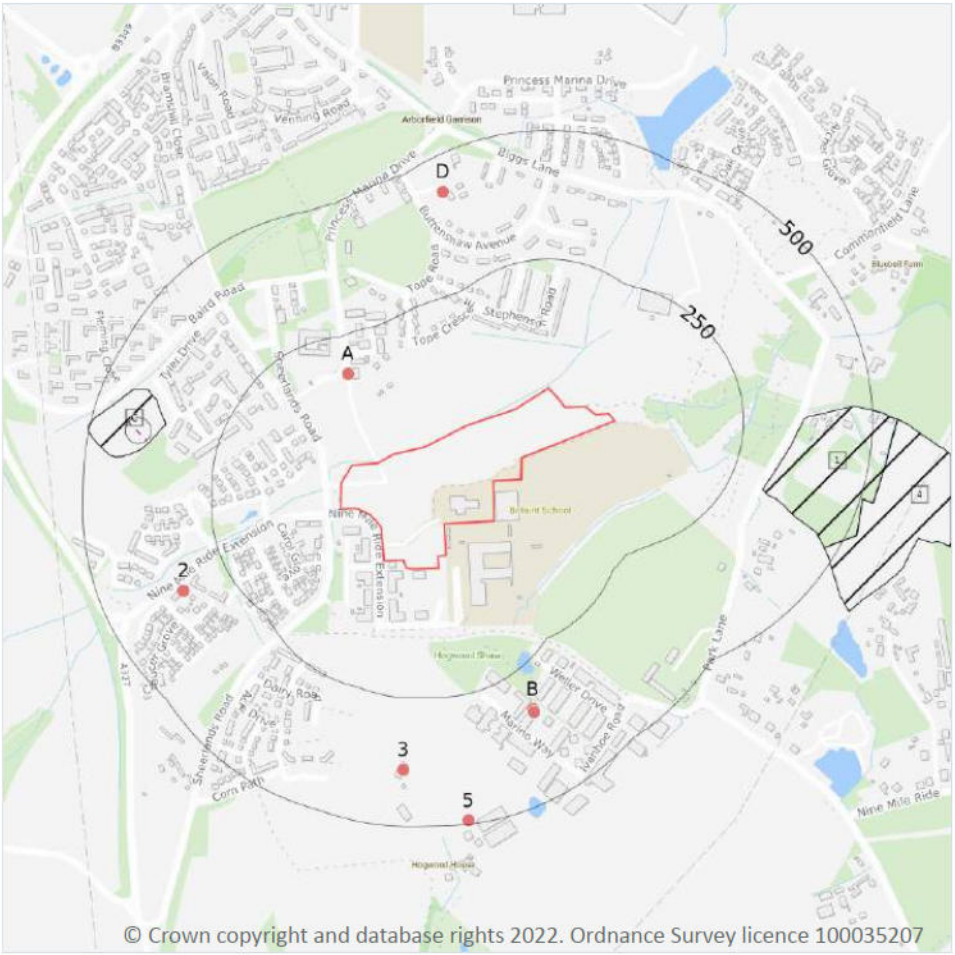
2.5 Historical garages

Records within 500m	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (LA/OS)

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	1

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site address	Source	Data type
C	381m W	Whitehall Brick works, Arborfield	Historical Maps	Point

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	3

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.

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Details		
1	316m SE	Site Address: Moor Farm, Finchampstead Licence Holder Address: -	Waste Licence: Yes Site Reference: 54/12/4/230, WOK27 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 31/03/1988 Licence Surrender: 25/04/1994	Operator: - Licence Holder: T N Chivers Esquire First Recorded 31/12/1987 Last Recorded: 25/04/1994
C	358m W	Site Address: Whitehall Brickworks, Arborfield Licence Holder Address: -	Waste Licence: - Site Reference: 54/12/5/8, WOK12 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded 31/12/1981 Last Recorded: 31/12/1982
4	475m SE	Site Address: Coleshill Farm, Finchampstead Licence Holder Address: -	Waste Licence: Yes Site Reference: WOK25, 54/12/4/188 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 14/09/1984 Licence Surrender: 23/10/1990	Operator: - Licence Holder: D R Walker Plant Hire (Reading) Limited First Recorded 31/12/1984 Last Recorded: 31/12/1989

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	13

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.

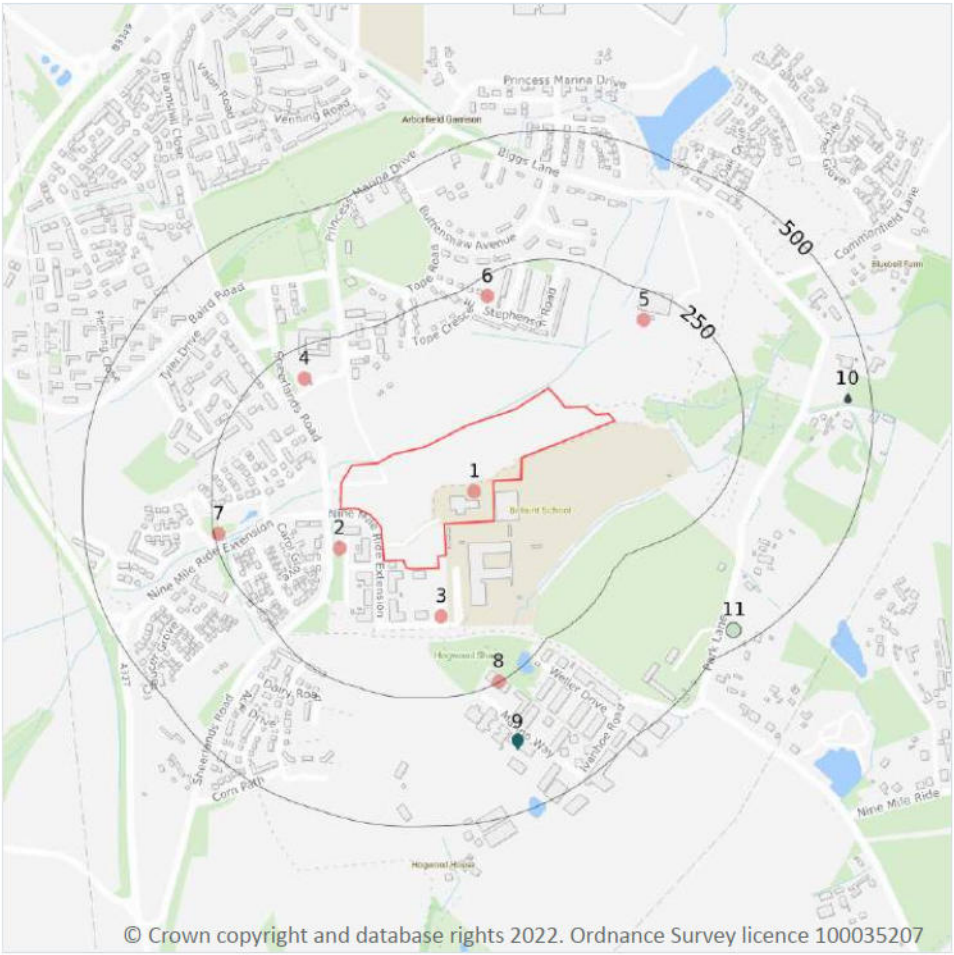
Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	177m N	-	WEX156500	Treating waste exemption	Not on a Farm	Screening and blending of waste
A	177m N	-	WEX156500	Using waste exemption	Not on a Farm	Use of waste in construction
B	329m SE	B6 Falcon Business Park 28 Ivanhoe Road Wokingham RG40 4QQ	EPR/BE5442HT /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers
B	329m SE	B6 Falcon Business Park 28 Ivanhoe Road Wokingham RG40 4QQ	EPR/BE5442HT /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
B	334m SE	28-29, IVANHOE ROAD, HOGWOOD INDUSTRIAL ESTATE, FINCHAMPSTEAD, WOKINGHAM, RG40 4QQ	WEX259782	Storing waste exemption	Not on a farm	Storage of waste in secure containers

ID	Location	Site	Reference	Category	Sub-Category	Description
B	334m SE	28-29, IVANHOE ROAD, HOGWOOD INDUSTRIAL ESTATE, FINCHAMPSTEAD, WOKINGHAM, RG40 4QQ	WEX259782	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	334m SE	28-29, IVANHOE ROAD, HOGWOOD INDUSTRIAL ESTATE, FINCHAMPSTEAD, WOKINGHAM, RG40 4QQ	WEX118800	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	334m SE	28-29, IVANHOE ROAD, HOGWOOD INDUSTRIAL ESTATE, FINCHAMPSTEAD, WOKINGHAM, RG40 4QQ	WEX118800	Storing waste exemption	Not on a farm	Storage of waste in a secure place
2	344m SW	-	WEX263765	Using waste exemption	Not on a farm	Use of waste in construction
3	390m S	-	WEX270761	Using waste exemption	Not on a farm	Use of waste in construction
D	432m NW	Natta Building Company, Biggs Lane, Arborfield, RG29LN	WEX152659	Treating waste exemption	Not on a farm	Screening and blending of waste
D	432m NW	Natta Building Company, Biggs Lane, Arborfield, Rg29Ln	WEX136429	Using waste exemption	Not on a farm	Use of waste in construction
5	494m S	HOGWOOD FARM, THE FARM HOUSE, SHEERLANDS ROAD, FINCHAMPSTEAD, WOKINGHAM, RG40 4QY	WEX154784	Using waste exemption	Not on a Farm	Use of waste in construction

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- 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	8

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Electricity Sub Station**	**Berkshire, RG2**	**Electrical Features**	**Infrastructure and Facilities**
2	77m S	Electricity Sub Station	Berkshire, RG2	Electrical Features	Infrastructure and Facilities
3	93m S	Electricity Sub Station	Berkshire, RG2	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	192m NW	Electricity Sub Station	Berkshire, RG2	Electrical Features	Infrastructure and Facilities
5	194m N	Tank	Berkshire, RG2	Tanks (Generic)	Industrial Features
6	214m NW	Electricity Sub Station	Berkshire, RG2	Electrical Features	Infrastructure and Facilities
7	241m W	Electricity Sub Station	Berkshire, RG2	Electrical Features	Infrastructure and Facilities
8	248m SE	Broadband Technology 2000 Ltd	Units 17 and 19, Marino Way, Finchampstead, Berkshire, RG40 4RF	Electrical Components	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	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 28**

ID	Location	Address	Details	
9	370m SE	Kumarlo Bodyworks Ltd, Unit 1, Ivanhoe Rd, Hogwood Industrial Estate, Finchampstead, RG40 4QQ	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	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.

4.13 Licensed Discharges to controlled waters

Records within 500m	1

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 28**

ID	Location	Address	Details	
10	453m E	PARK LANE SAWMILLS, PARK LANE, FINC, PARK LANE SAWMILLS PARK LANE F, INCHAMPSTEAD BERKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CATM.2539 Permit Version: 1 Receiving Water: TRIB OF LONGMOOR STREAM	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 28/11/1996 Effective Date: 28/11/1996 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	1

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 28**

ID	Location	Details	
11	466m SE	Incident Date: 05/04/2002 Incident Identification: 69193 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

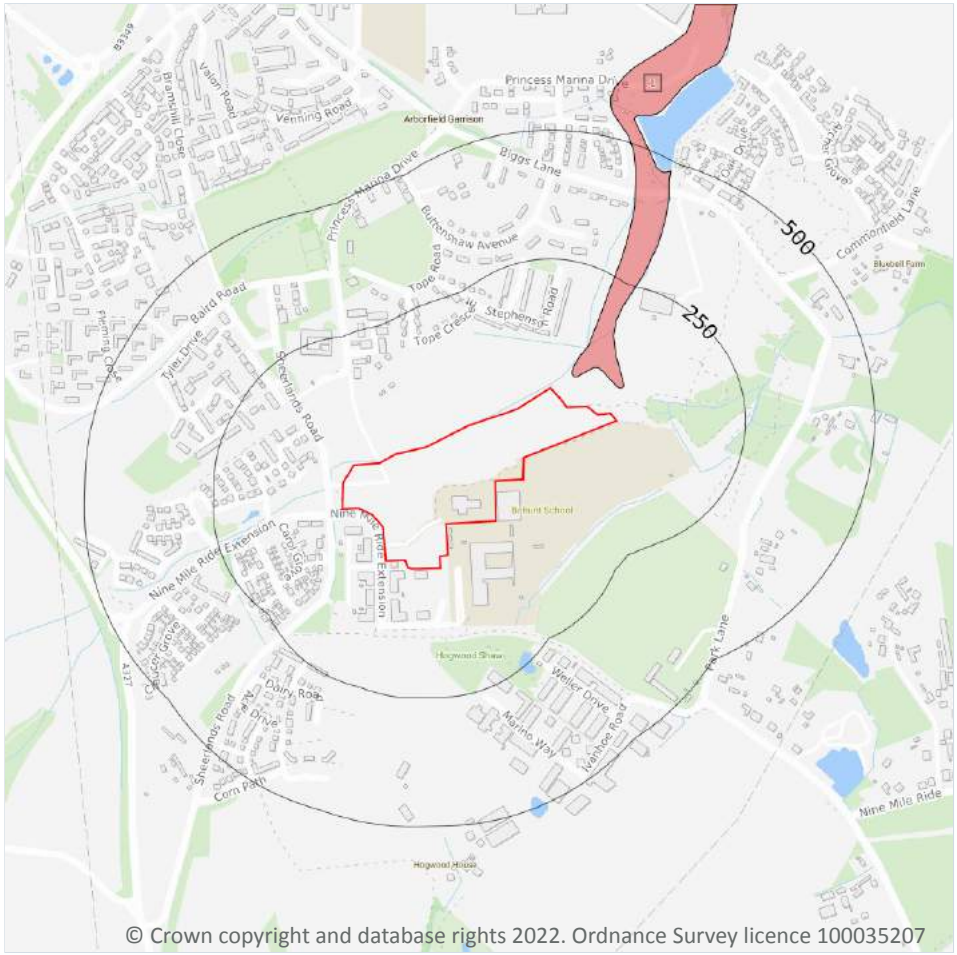
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



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Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	1

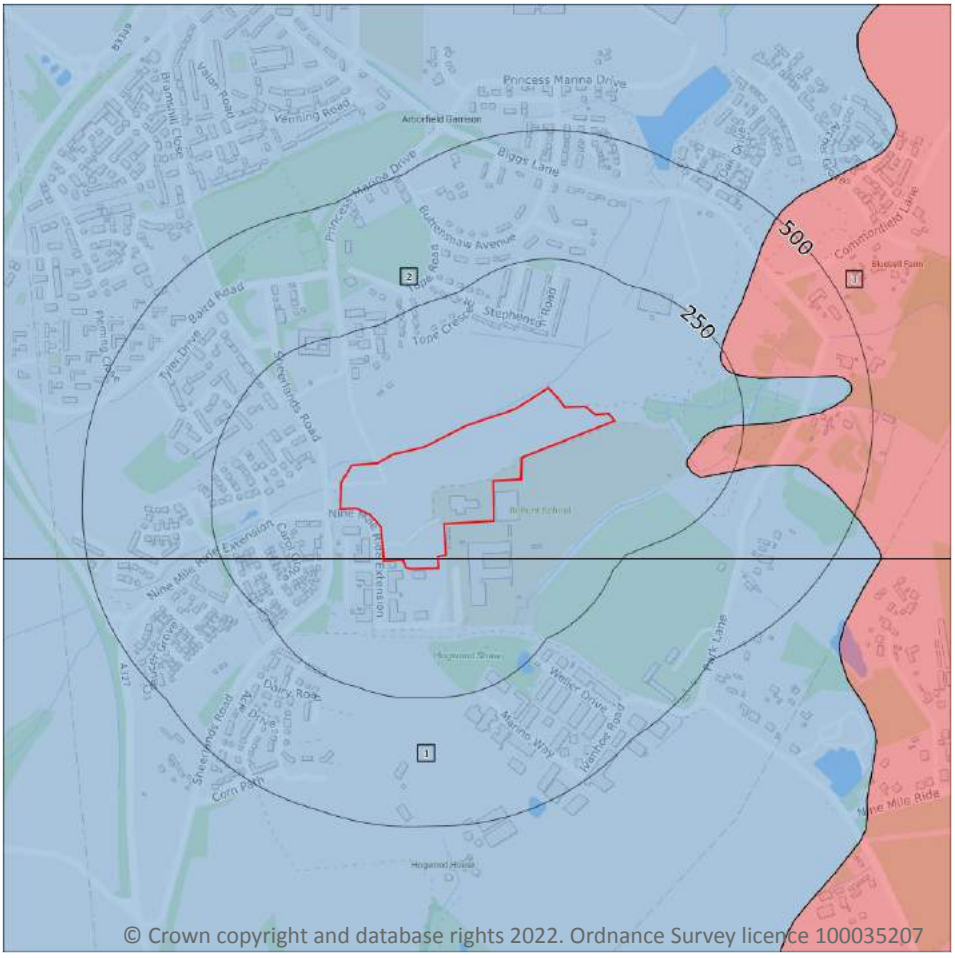
Aquifer status of groundwater held within superficial geology.

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

ID	Location	Designation	Description
1	49m NE	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.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	3

Aquifer status of groundwater held within bedrock geology.

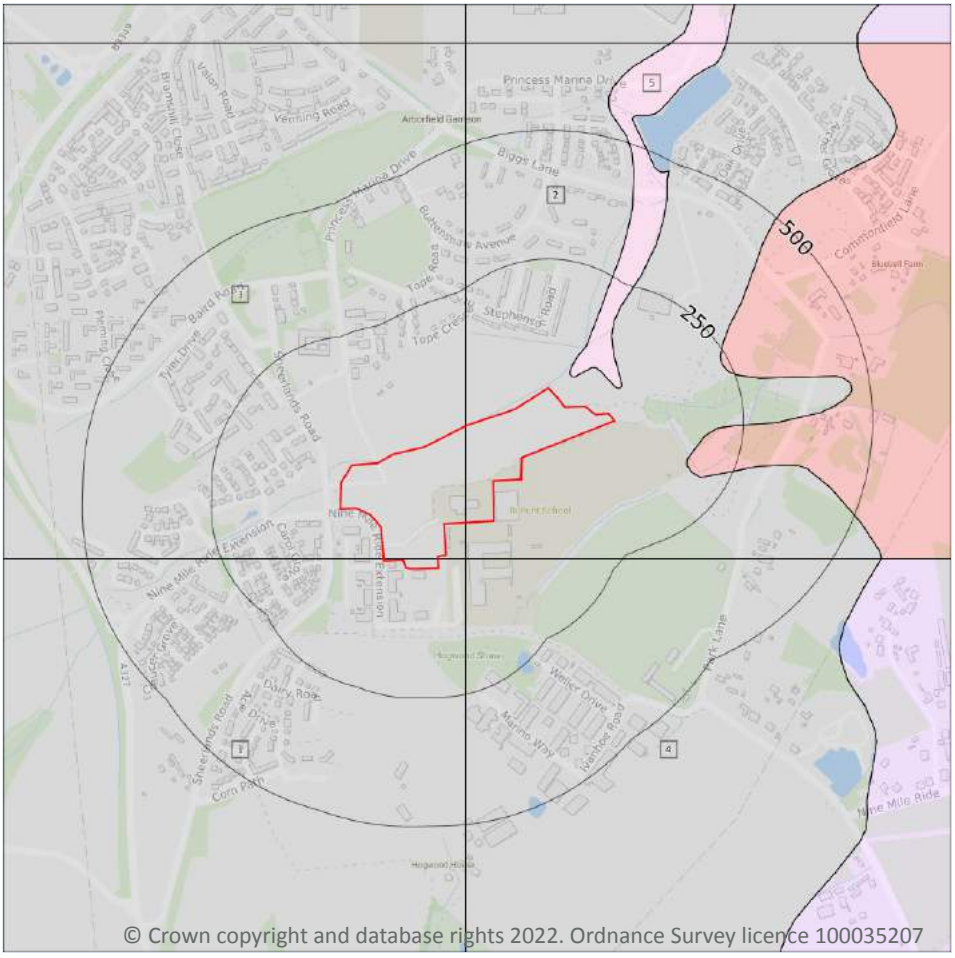
Features are displayed on the Bedrock aquifer map on **page 35**

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

ID	Location	Designation	Description
3	160m SE	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



Site Outline

Search buffers in metres (m)

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

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

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	5

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 37**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed**
2	**On site**	**Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed**
3	**On site**	**Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed**
4	38m E	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
5	49m NE	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

5.5 Groundwater vulnerability- local information

Records on site	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

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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	2

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 40**

ID	Location	Details	
-	1799m W	Status: Historical Licence No: 28/39/24/0079 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: FARLEY HALL, FARLEY HILL, BERKS -WELL Data Type: Point Name: THE RT HON VISCOUNT NICHOLAS BEARSTED Easting: 475000 Northing: 164710	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/01/1967 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date: -
-	1801m W	Status: Historical Licence No: 28/39/24/0079 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT FARLEY HALL, FARLEY HILL, BERKS Data Type: Point Name: SAMUEL Easting: 475000 Northing: 164700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/01/1967 Expiry Date: - Issue No: 100 Version Start Date: 09/01/1967 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0

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

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	**0**

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	**0**

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

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

6 Hydrology

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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	41

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

Features are displayed on the Hydrology map on **page 43**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	**On site**	**Inland river not influenced by normal tidal action.**	**Not provided**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	2m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	3m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	19m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	20m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	22m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	22m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	24m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	30m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	32m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	64m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	68m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	69m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	77m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
F	89m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	93m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	104m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	104m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	104m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	105m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	105m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	105m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	106m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	107m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
I	109m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	131m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	131m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
H	134m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	151m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	156m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	157m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	158m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	160m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	160m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
6	161m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	179m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	229m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	238m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	241m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
O	246m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	25

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.

Features are displayed on the Hydrology map on **page 43**

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 43**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Barkham Brook**	**GB106039017400**	**Loddon**	**Loddon and Trib**

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

6.4 WFD Surface water bodies

Records identified	1

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.

Features are displayed on the Hydrology map on **page 43**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1420m NE	River	Barkham Brook	GB106039017400	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	0

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.

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.

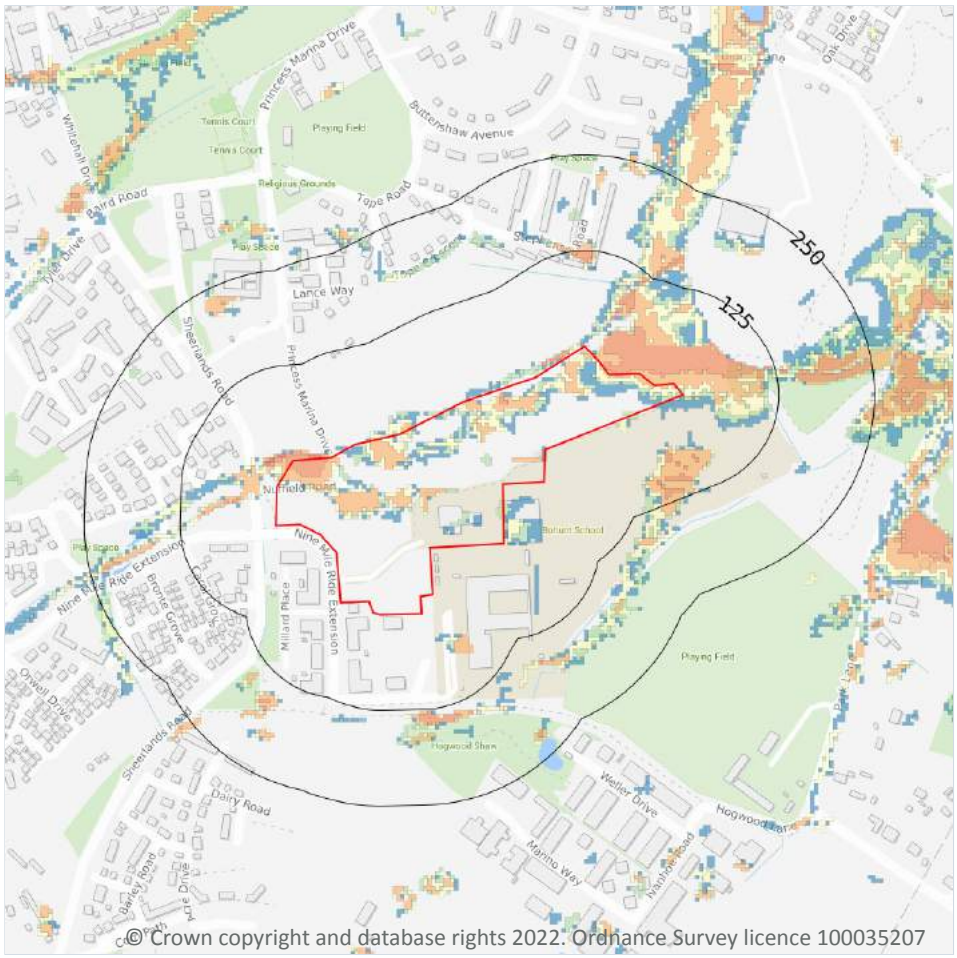
7.7 Flood Zone 3

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, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 1.0m**

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 52**

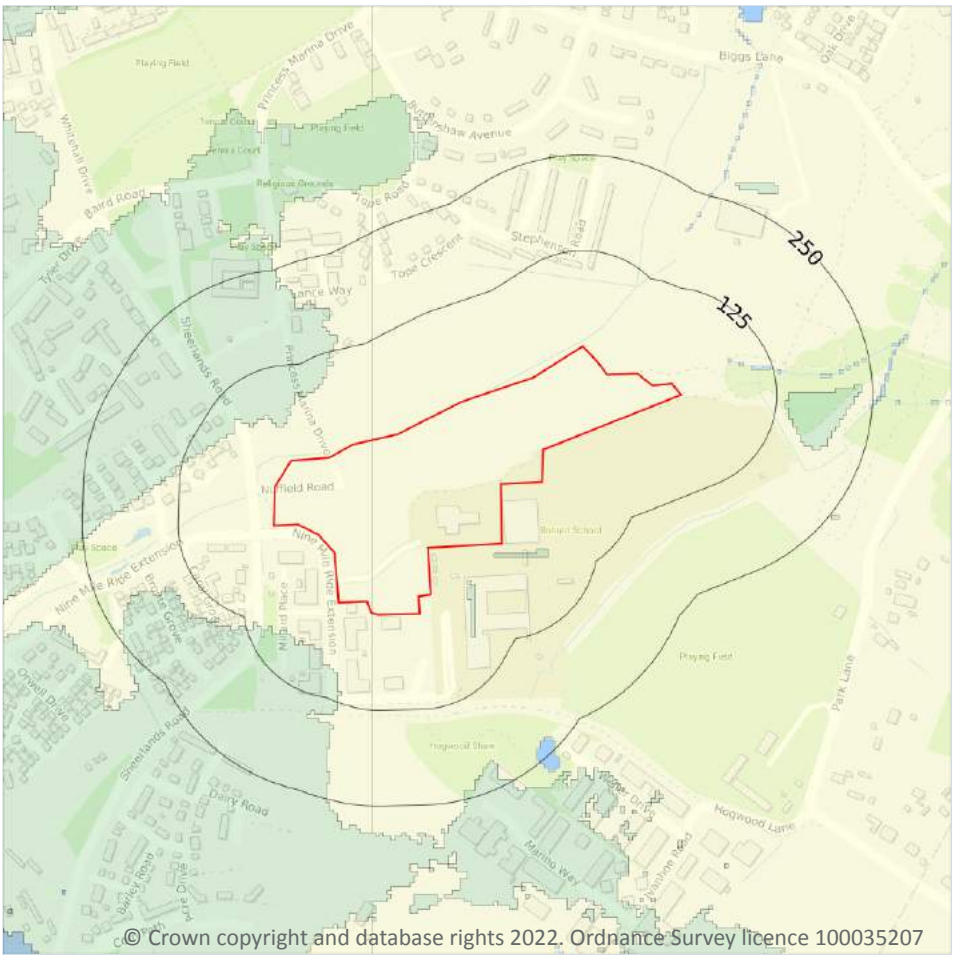
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

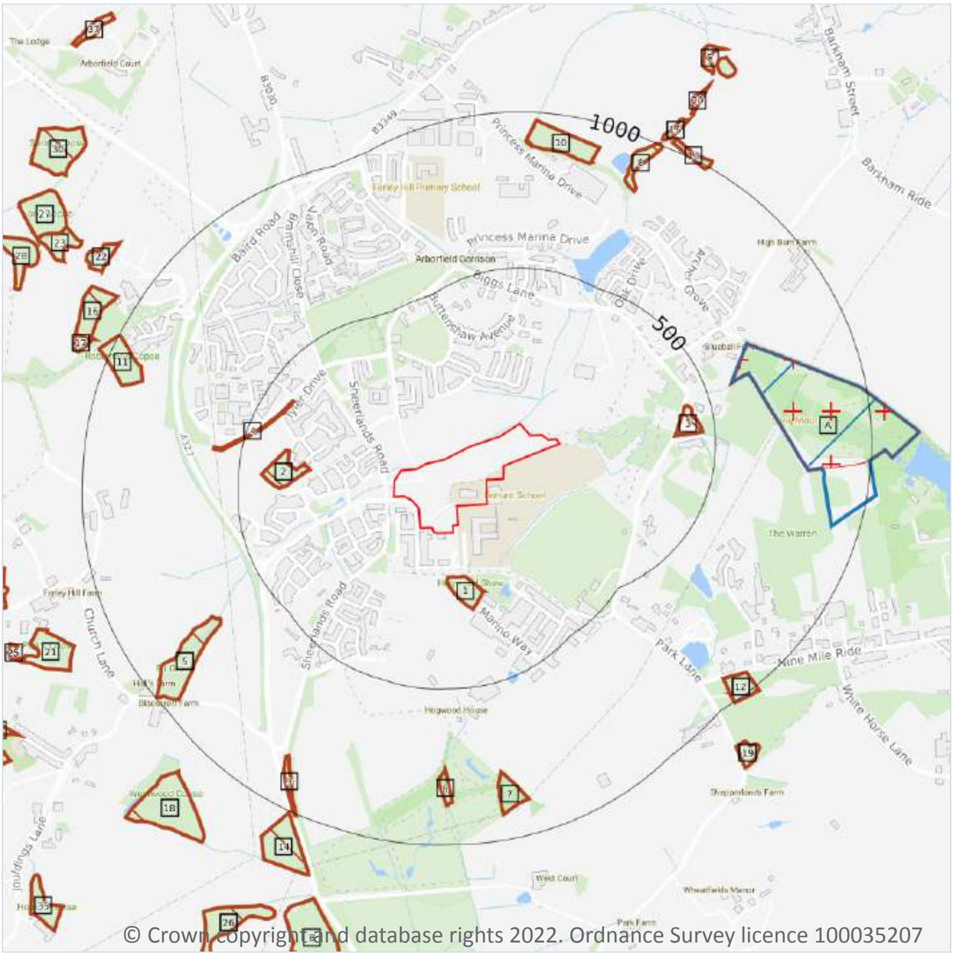
Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

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 54**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline
Search buffers in metres (m)
Sites of Special Scientific Interest (SSSI)
Local Nature Reserves (LNR)
Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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 55**

ID	Location	Name	Data source
A	584m E	Longmoor Bog	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 55**

ID	Location	Name	Data source
A	585m E	Longmoor Bog	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	57

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 55**

ID	Location	Name	Woodland Type
1	143m S	Hogwood Shaw(tithe: Hogwood Shaw)	Ancient & Semi-Natural Woodland
2	274m W	Whitehall Copse (Tithe Map: White Hall Coppice)(tithe:white Hall Coppice)	Ancient & Semi-Natural Woodland
3	371m E	(Tithe=411=the Clumps; Osd=long Moor)	Ancient & Semi-Natural Woodland
4	409m NW	Whitehall Copse (Tithe Map: White Hall Coppice)(tithe:white Hall Coppice)	Ancient & Semi-Natural Woodland
5	681m SW	(Epoch2:fir Grove)(tithe: Yew Tree Copse)	Ancient & Semi-Natural Woodland
6	756m S	(Tithe: Redgates Shaw)	Ancient & Semi-Natural Woodland
7	782m S	(Tithe: Garden Shaw)	Ancient & Semi-Natural Woodland
8	831m NE	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
9	843m SW	Unknown	Ancient & Semi-Natural Woodland
10	864m N	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
11	870m W	Robinhood Copse (Tithe Map: Robin Hood's Coppice)(tithe:robin Wood Coppice)	Ancient & Semi-Natural Woodland
12	917m SE	Unknown	Ancient & Semi-Natural Woodland
13	989m NE	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
14	1005m SW	Claypits(tithe: Clay Pit)	Ancient & Semi-Natural Woodland
15	1021m N	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
16	1067m NW	(Tithe Map: Hurdle Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
17	1073m NW	Unknown	Ancient & Semi-Natural Woodland
18	1100m SW	Westwood Copse(tithe: Westwood Copse)	Ancient & Semi-Natural Woodland
19	1115m SE	(Tithe: Sandpit Copse)	Ancient & Semi-Natural Woodland
20	1131m NE	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
21	1132m SW	Pink's Copse(tithe:pinks Coppice)	Ancient & Semi-Natural Woodland
22	1152m NW	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
B	1236m S	Lea Copse(tithe: Lea Copse)	Ancient & Semi-Natural Woodland
23	1256m NW	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
24	1270m W	Churchland Copse(tithe:burchetts Coppice)	Ancient & Semi-Natural Woodland
C	1276m NE	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
C	1284m NE	Kidgem Copse (Tithe:kitchem Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
25	1301m W	Pink's Copse(tithe:pinks Coppice)	Ancient & Semi-Natural Woodland
26	1311m S	Lea Copse(tithe: Lea Copse)	Ancient & Semi-Natural Woodland
27	1327m NW	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
28	1343m NW	(Tithe Map: Coppice)	Ancient & Semi-Natural Woodland
-	1407m W	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
D	1425m SW	(Tithe Map: Farley Hill Common)	Ancient & Semi-Natural Woodland
-	1428m S	Lea Copse(tithe: Lea Copse)	Ancient & Semi-Natural Woodland
30	1431m NW	(Epo2:spring Copse. Tithe Map: Spring Coppice)(tithe:spring Coppice)	Ancient & Semi-Natural Woodland
-	1473m W	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
D	1494m SW	Unknown	Ancient & Semi-Natural Woodland
-	1500m S	Lea Copse(tithe: Lea Copse)	Ancient & Semi-Natural Woodland
-	1513m SW	(Tithe Map: Farley Hill Common)	Ancient Replanted Woodland
-	1528m W	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1542m W	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1545m W	(Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1590m W	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1595m SW	(Tithe Map: Farley Hill Common)	Ancient & Semi-Natural Woodland
-	1596m SW	(Tithe:little Coppice Late Hornes)	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
-	1598m SW	(Tithe Map: Farley Hill Common)	Ancient & Semi-Natural Woodland
-	1631m SW	Wyvols Copse (Tithe Map: Wyfold Coppice)(tithe:wyfold Copse)	Ancient Replanted Woodland
-	1635m SW	Pickets Copse (Tithe Map: Piggots Coppice)(tithe:piggots Or Picketts Coppice)	Ancient Replanted Woodland
35	1656m SW	Hornes Copse	Ancient & Semi-Natural Woodland
-	1674m SE	Banisters Copse(tithe: Banisters Copse)	Ancient & Semi-Natural Woodland
37	1705m NW	Unknown	Ancient & Semi-Natural Woodland
-	1715m W	Great Copse (Tithe Map: Horns Coppice)(tithe:horns Coppice)	Ancient & Semi-Natural Woodland
-	1731m W	Great Copse (Tithe Map: Horns Coppice)(tithe:horns Coppice)	Ancient & Semi-Natural Woodland
-	1786m S	Poors Copse(tithe: Poors Copse)	Ancient & Semi-Natural Woodland
-	1823m N	(Tithe:little Coppice)	Ancient & Semi-Natural Woodland
-	1894m N	Bignell's Copse(tithe:bignolds Coppice)	Ancient & Semi-Natural Woodland
-	1903m N	The Coombes	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	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

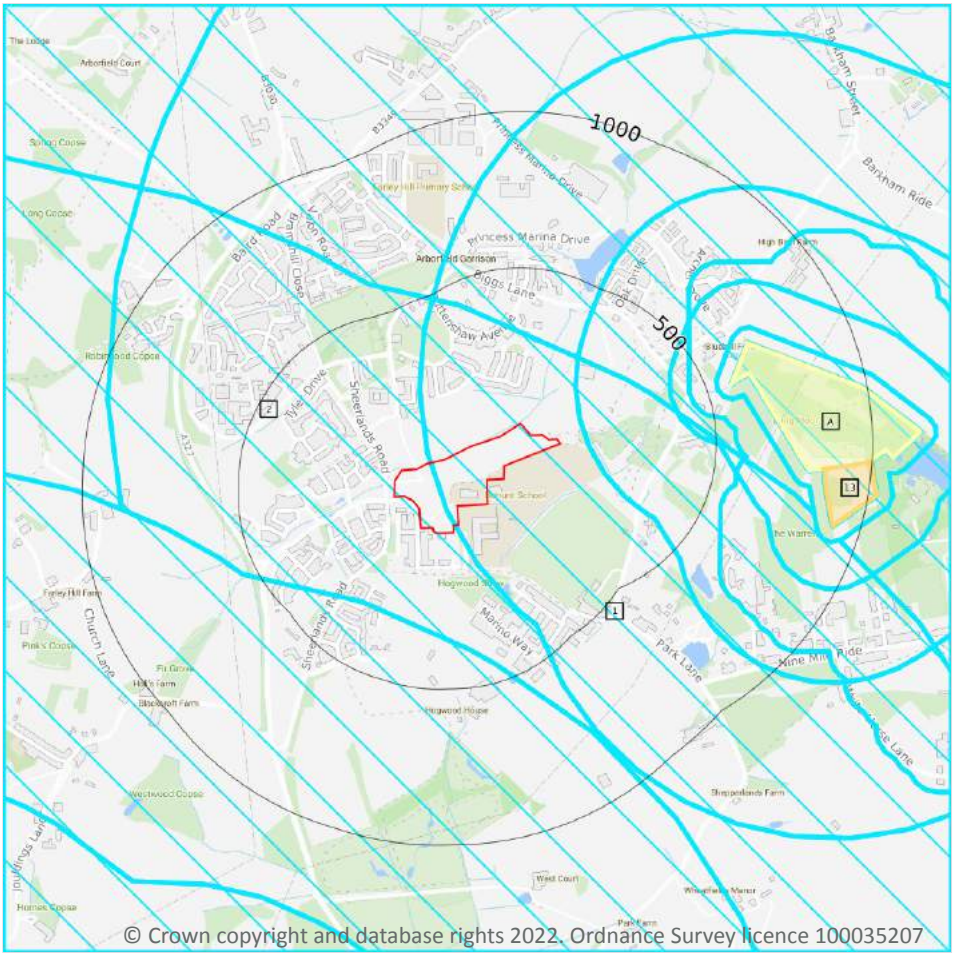
Records within 2000m	2

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	**Barkham Brook NVZ**	**Surface Water**	**449**	**Existing**
651m N	Barkham Brook NVZ	Surface Water	449	Existing

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

SSSI Impact Zones and Units



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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	2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 63**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.** **Wind and Solar - Wind turbines.** **Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.** **Residential - Any residential developments with a total net gain in residential units.** **Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.** **Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).** **Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.** **Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.** **Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.** **Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .**
2	On site	**Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.** **Wind and Solar - Wind turbines.** **Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.** **Residential - Any residential developments with a total net gain in residential units.** **Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.** **Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).** **Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.** **Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.** **Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.** **Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	2

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 63**

ID: A
Location: 584m E
SSSI name: Longmoor Bog
Unit name: Wdc
Broad habitat: Fen, Marsh And Swamp - Lowland
Condition: Unfavourable - Recovering
Reportable features:

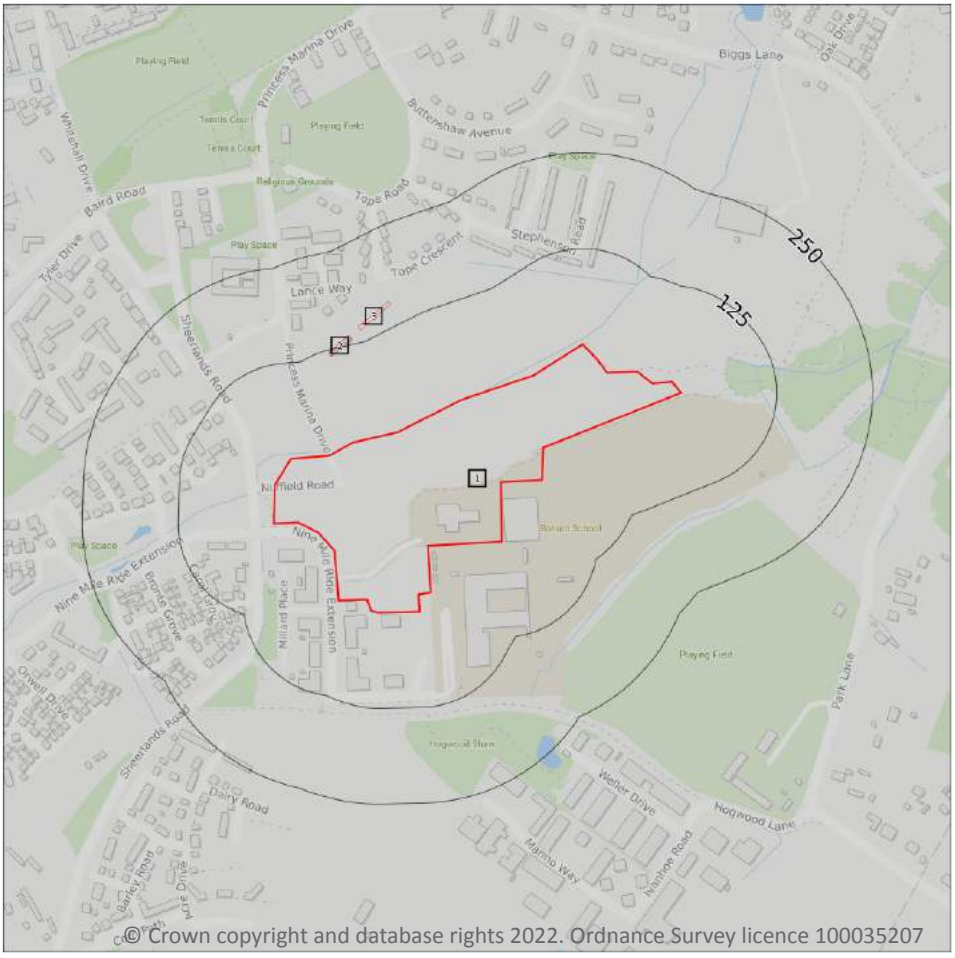
Feature name	Feature condition	Date of assessment
Lowland fens, including basin, flood-plain, open water transition and valley fens	Unfavourable - Recovering	22/07/2013
Lowland wet heath	Unfavourable - Recovering	22/07/2013
Wet woodland	Favourable	22/07/2013

ID: 13
Location: 845m E
SSSI name: Longmoor Bog
Unit name: California
Broad habitat: Fen, Marsh And Swamp - Lowland
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland wet heath	Unfavourable - No change	22/07/2013

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	1

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

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

ID	Location	Name	District	Date of designation
1	**On site**	**The Local Authority for this area have not supplied conservation area data.**		**-**

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

11.6 Scheduled Ancient Monuments

Records within 250m	**2**

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.

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

ID	Location	Ancient monument name	Reference number
2	116m N	Infirmary Stables, Arborfield	1006949
3	141m N	Infirmary Stables, Arborfield	1006949

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

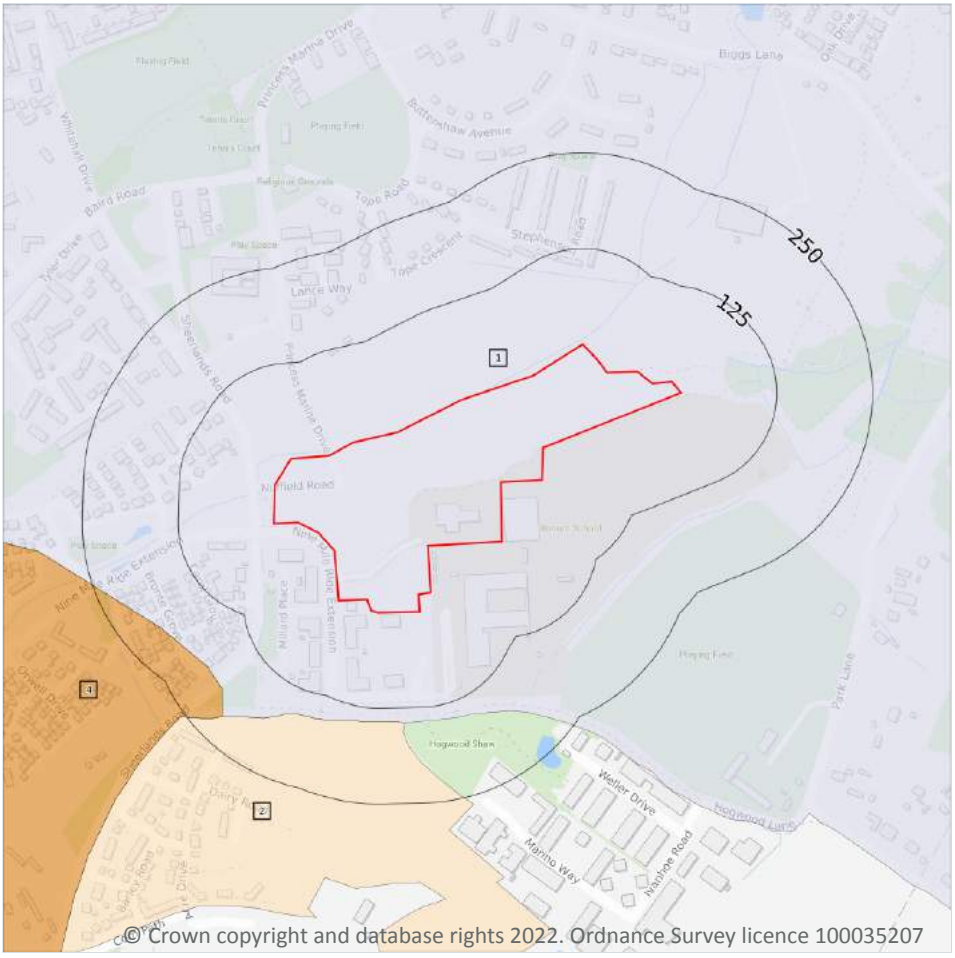
11.7 Registered Parks and Gardens

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	3

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

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

ID	Location	Classification	Description
1	**On site**	**Grade 4**	**Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.**

ID	Location	Classification	Description
2	142m S	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
4	191m SW	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.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

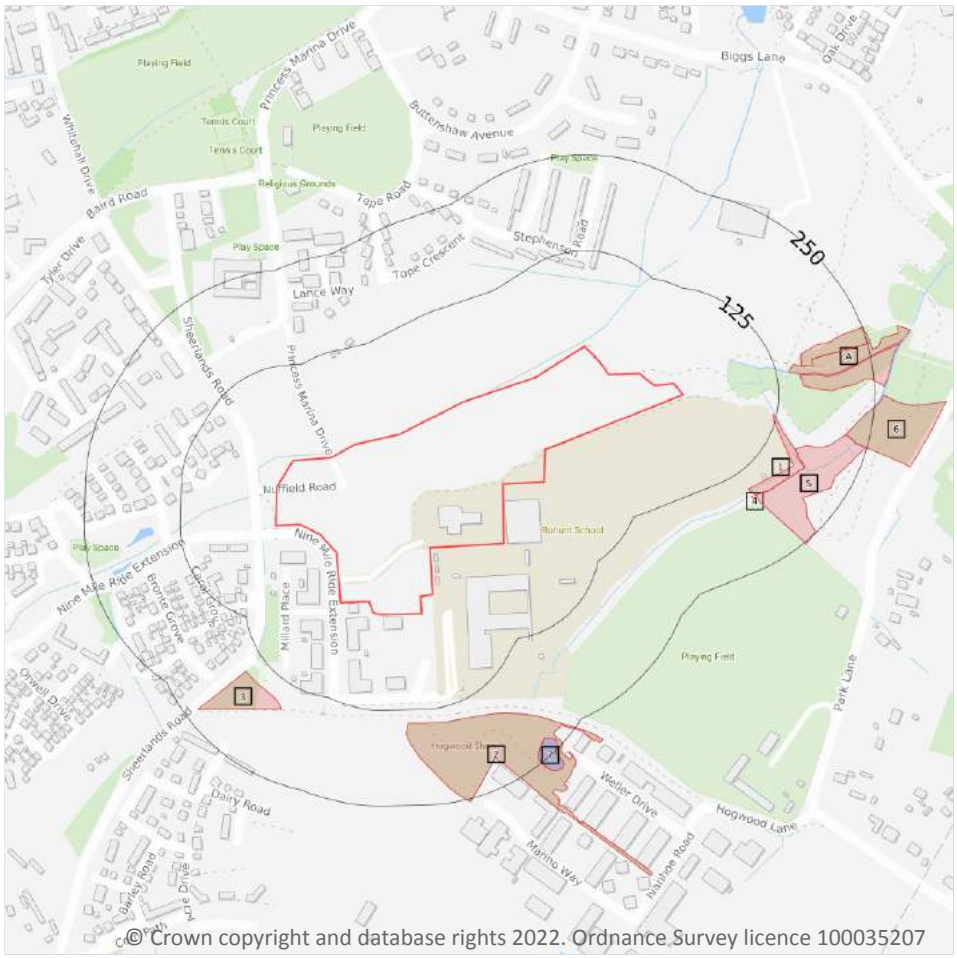
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders

Habitat Networks

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

13.1 Priority Habitat Inventory

Records within 250m	10

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

Features are displayed on the Habitat designations map on **page 72**

ID	Location	Main Habitat	Other habitats
1	121m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	141m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	143m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	151m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
A	155m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	159m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	161m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	162m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	219m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	229m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

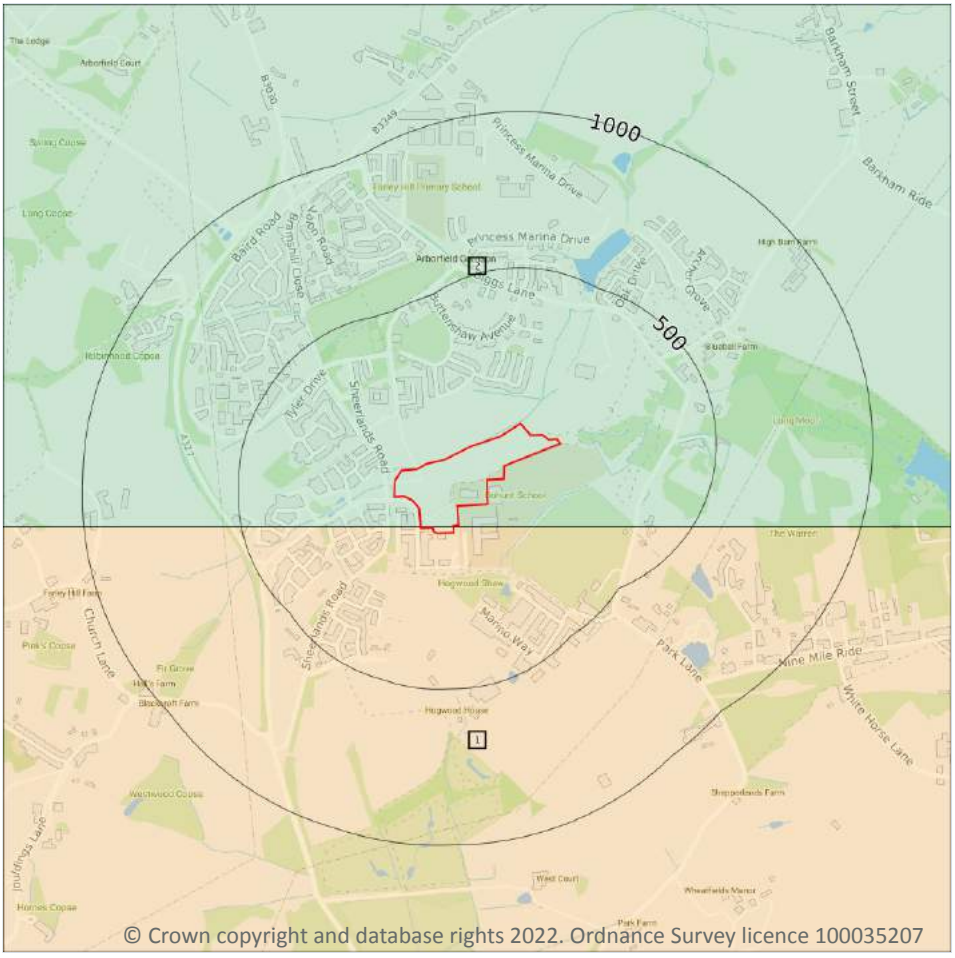
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

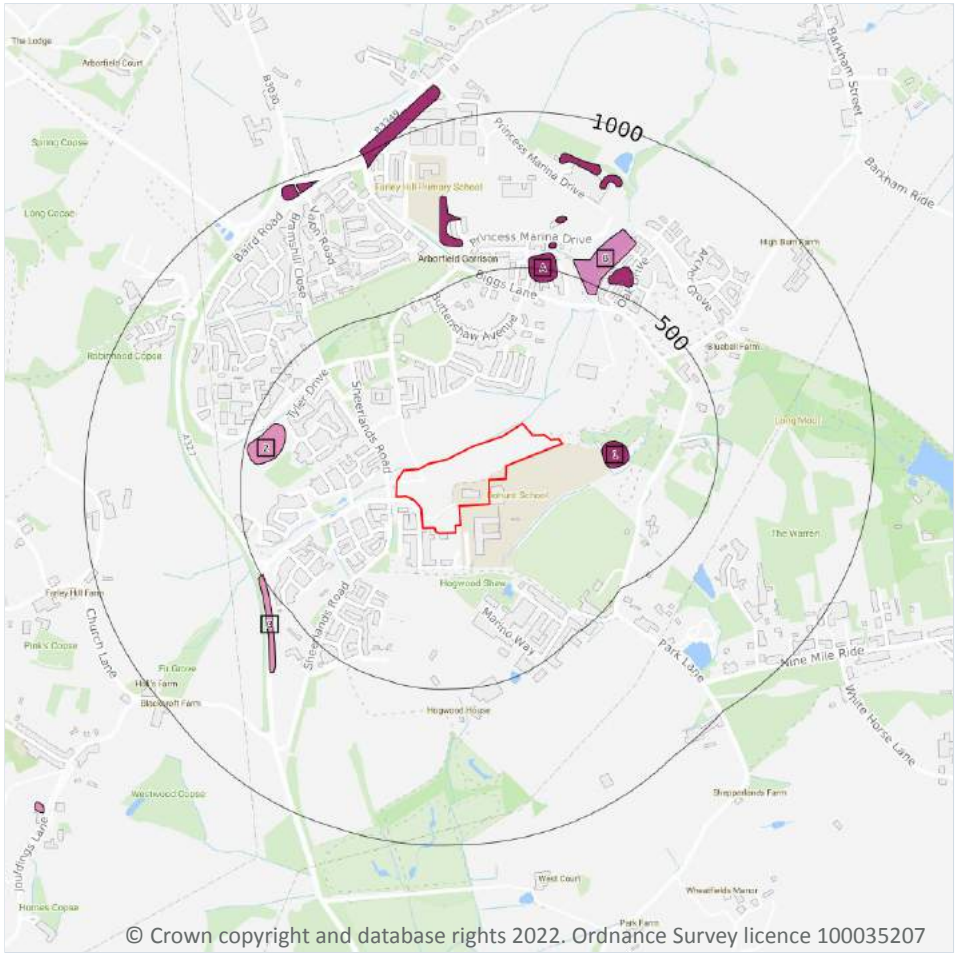
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 74**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Partial**	**Partial**	**No coverage**	**SU76SE**
2	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SU76NE**

This data is sourced from the British Geological Survey.

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



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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	5

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.

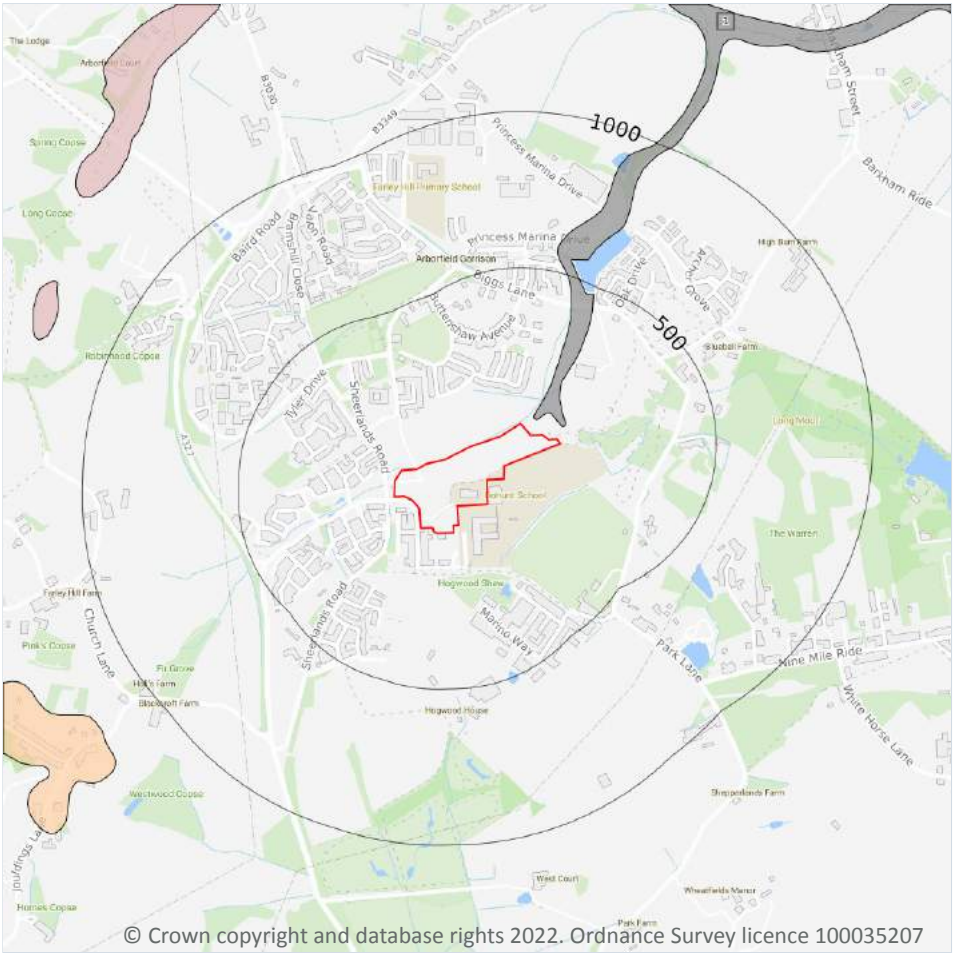
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 75**

ID	Location	LEX Code	Description	Rock description
1	128m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	381m W	WGR-VOID	Worked Ground (Undivided)	Void
A	458m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	467m NE	WGR-VOID	Worked Ground (Undivided)	Void

ID	Location	LEX Code	Description	Rock description
3	494m SW	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m	1

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

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

ID	Location	LEX Code	Description	Rock description
1	44m N	ALV-Z	Alluvium - Silt (unlithified Deposits Coding Scheme)	Silt

This data is sourced from the British Geological Survey.

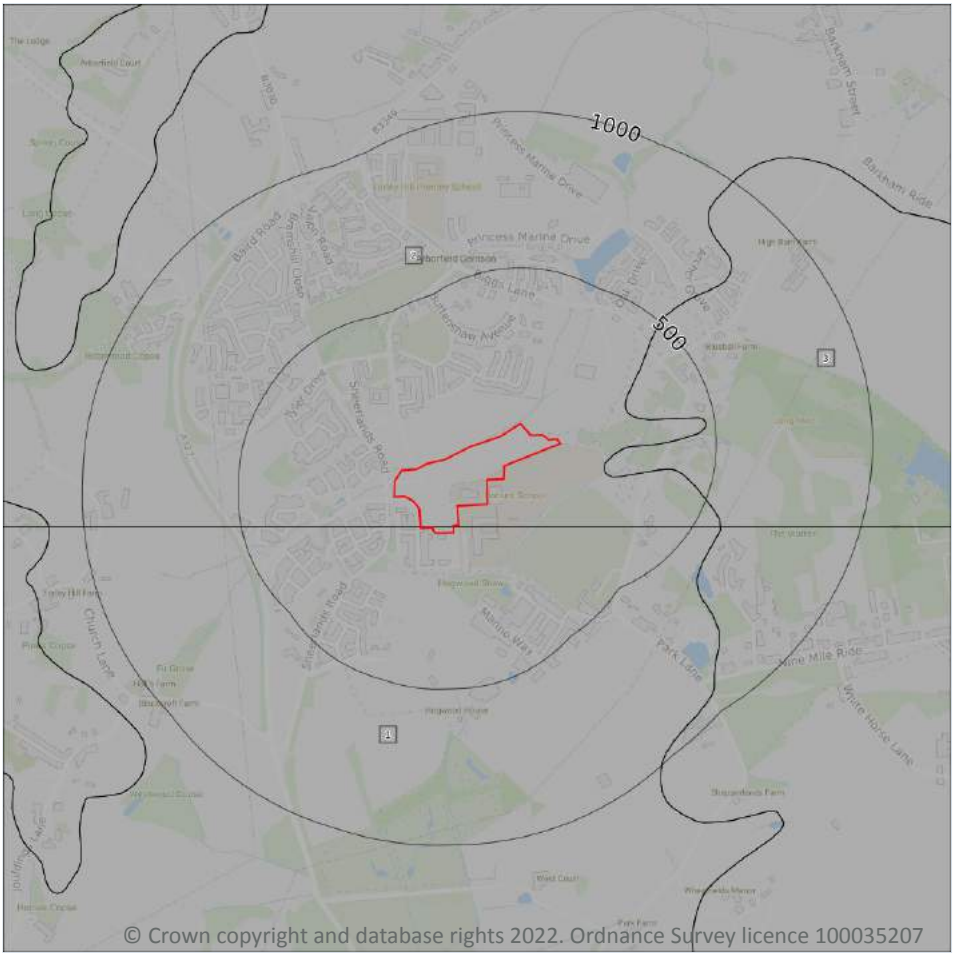
14.4 Landslip (10k)

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	3

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 79**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-CLSISA**	**London Clay Formation - Clay, Silt And Sand**	**Eocene Epoch**
2	**On site**	**LC-CLSISA**	**London Clay Formation - Clay, Silt And Sand**	**Eocene Epoch**
3	157m SE	BGS-SANDU	Bagshot Formation - Sand	Eocene Epoch

This data is sourced from the British Geological Survey.

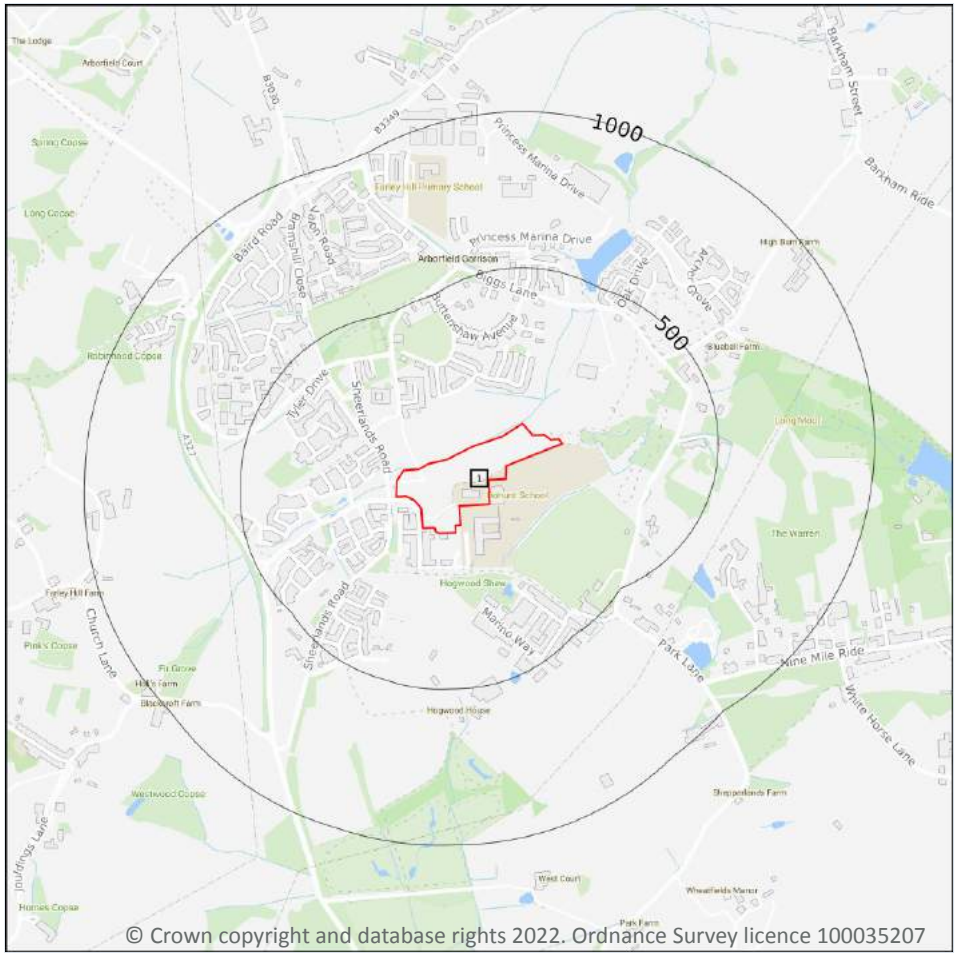
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



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Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

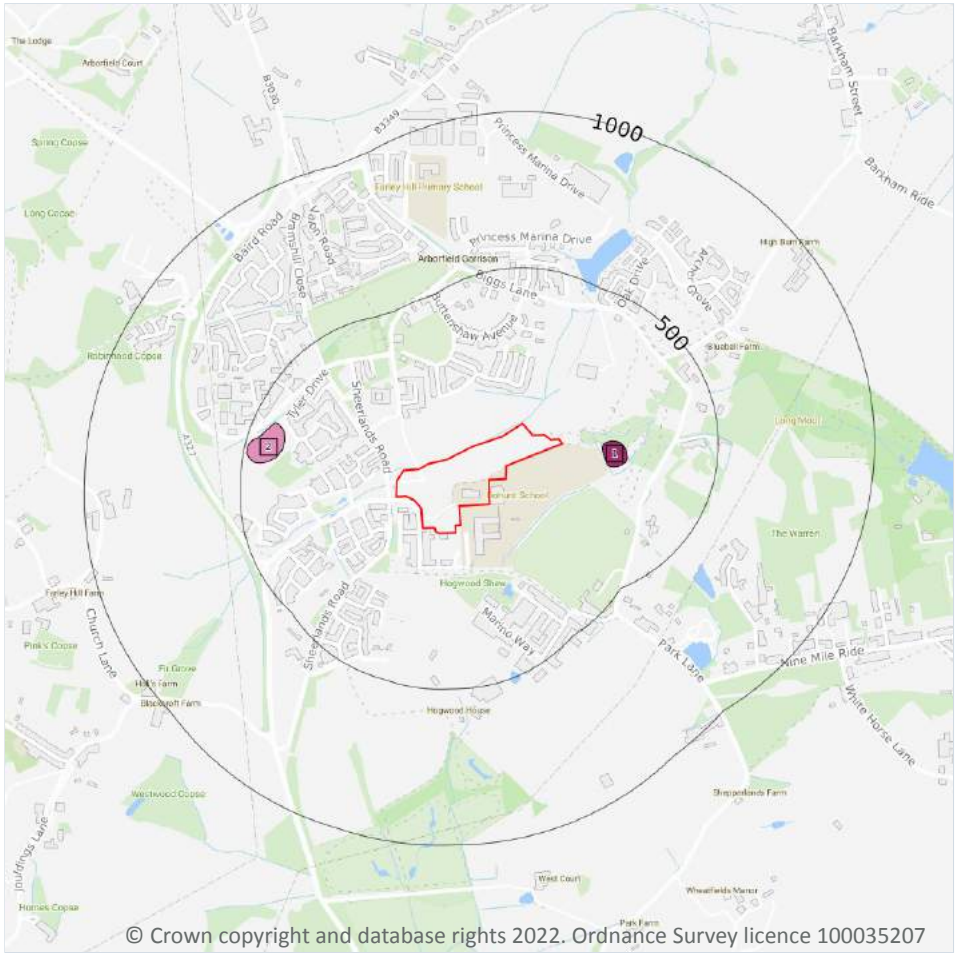
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 81**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**EW268_reading_v4**

This data is sourced from the British Geological Survey.

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



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Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	2

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 82**

ID	Location	LEX Code	Description	Rock description
1	128m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	380m W	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

This data is sourced from the British Geological Survey.

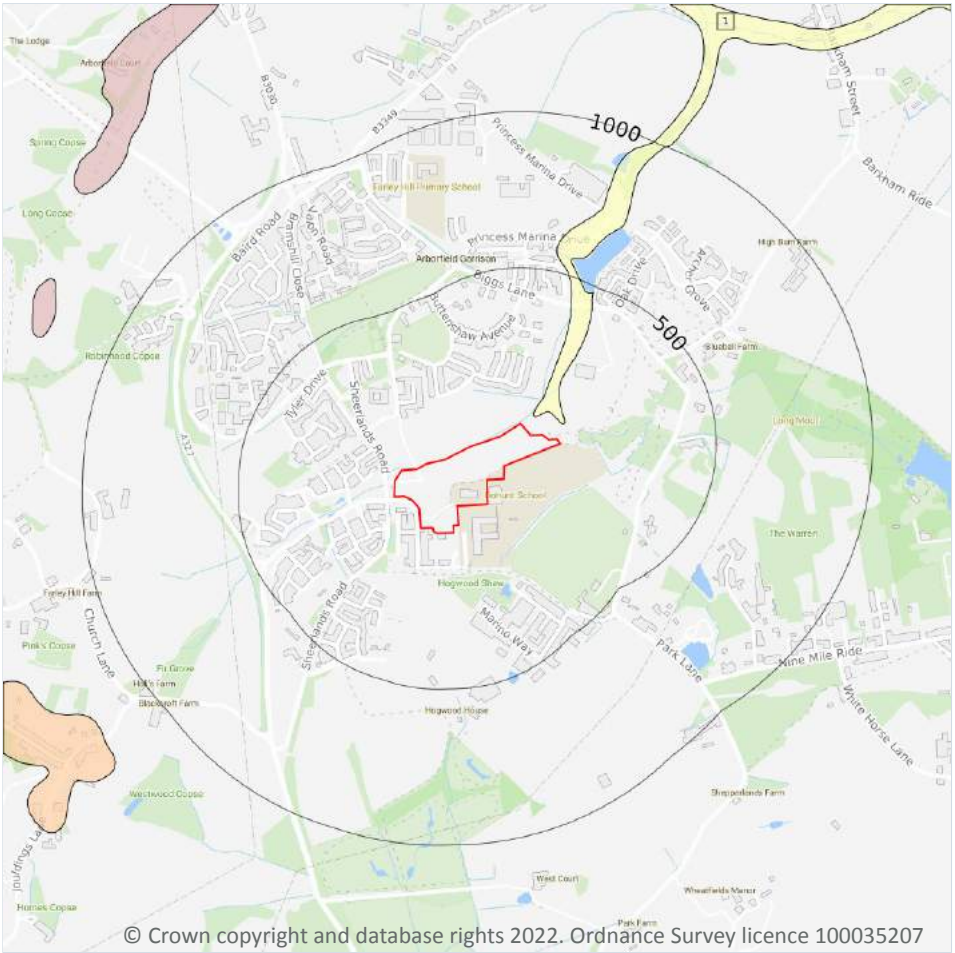
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m	1

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

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

ID	Location	LEX Code	Description	Rock description
1	49m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

Location	Flow type	Maximum permeability	Minimum permeability
49m N	Intergranular	High	Very Low

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.

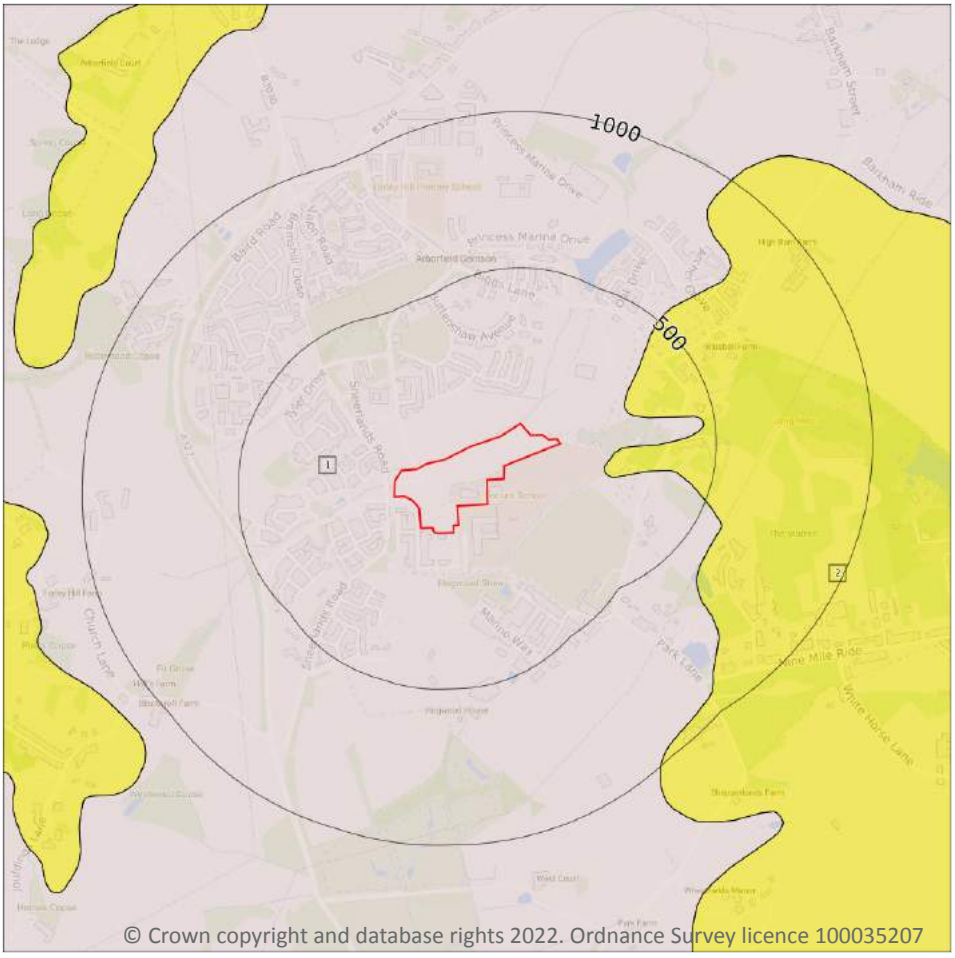
15.7 Landslip permeability (50k)

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 86**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-XCZS**	**LONDON CLAY FORMATION - CLAY, SILT AND SAND**	**YPRESIAN**
2	160m SE	BGS-S	BAGSHOT FORMATION - SAND	YPRESIAN

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	**Mixed**	**Moderate**	**Very Low**
On site	**Mixed**	**Moderate**	**Very Low**

This data is sourced from the British Geological Survey.

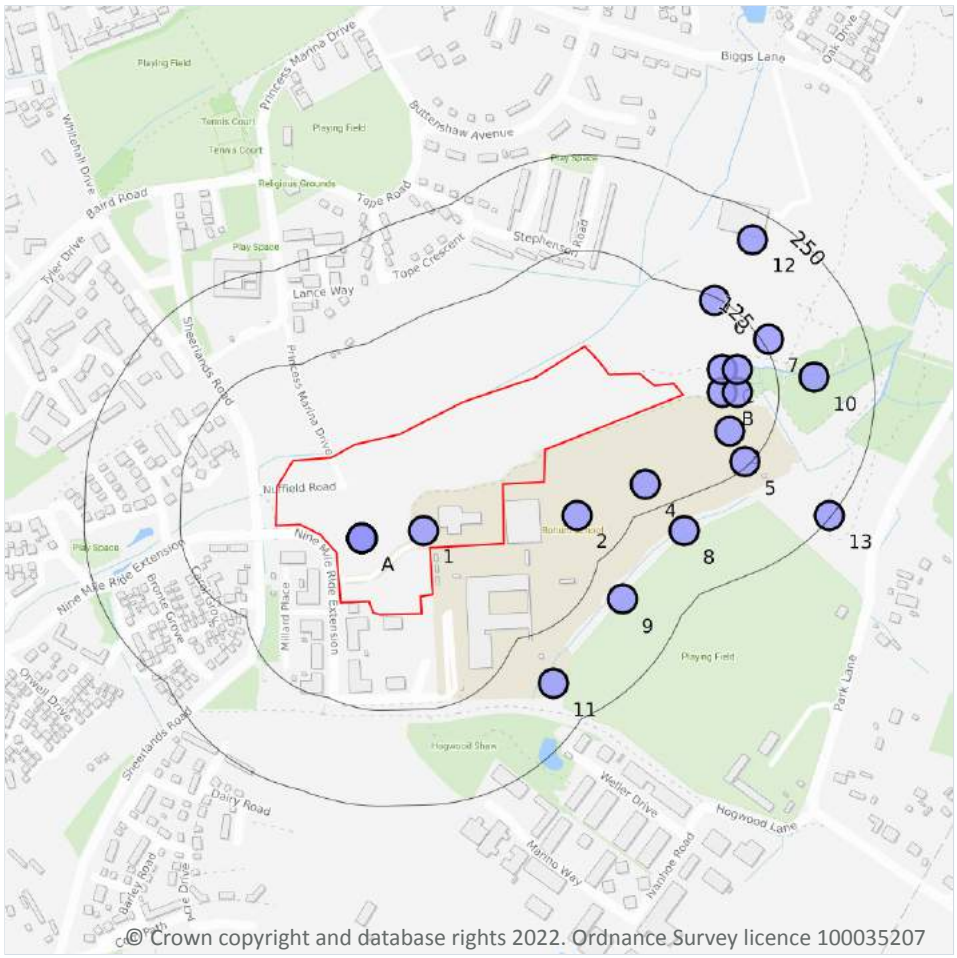
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m	28

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.

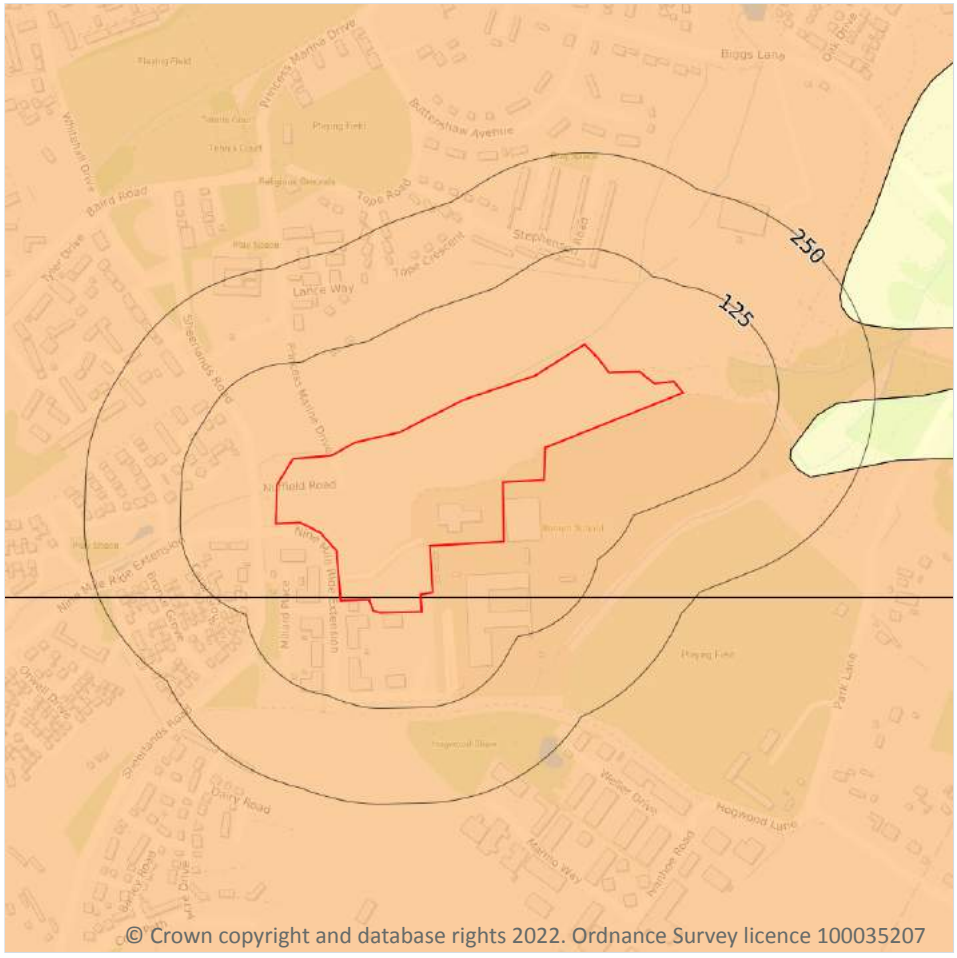
Features are displayed on the Boreholes map on **page 88**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	476950 165090	ARBORFIELD GARRISON 97	3.0	N	427084
A	On site	476870 165080	ARBORFIELD GARRISON TP 3	-	Y	N/A
A	On site	476870 165080	ARBORFIELD GARRISON TP 4	3.6	N	426986

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 7**	**3.3**	**N**	426989
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 5**	**3.4**	**N**	426987
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 11**	**3.4**	**N**	426993
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 1**	**3.1**	**N**	426983
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 8**	**3.8**	**N**	426990
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 10**	**3.5**	**N**	426992
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 2**	**3.5**	**N**	426984
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 6**	**3.6**	**N**	426988
A	**On site**	**476870 165080**	**ARBORFIELD GARRISON TP 9**	**3.5**	**N**	426991
B	51m E	477340 165270	ARBORFIELD GARRISON 52	6.0	N	427040
2	61m SE	477150 165110	ARBORFIELD GARRISON 98	3.0	N	427085
C	61m NE	477340 165300	ARBORFIELD GARRISON 50	10.0	N	427038
B	71m E	477360 165270	ARBORFIELD GARRISON 53	6.0	N	427041
3	77m SE	477350 165220	ARBORFIELD GARRISON 94	3.0	N	427081
C	78m NE	477360 165300	ARBORFIELD GARRISON 51	6.0	N	427039
4	91m S	477240 165150	ARBORFIELD GARRISON 99	3.0	N	427086
5	119m SE	477370 165180	ARBORFIELD GARRISON 96	3.0	N	427083
6	121m NE	477330 165390	ARBORFIELD GARRISON 90	3.0	N	427078
7	133m NE	477400 165340	ARBORFIELD GARRISON 91	3.0	N	427079
8	165m S	477290 165090	ARBORFIELD GARRISON 100	3.0	N	427087
9	172m SE	477210 165000	ARBORFIELD GARRISON 103	3.0	N	427090
10	173m E	477460 165290	ARBORFIELD GARRISON 93	3.0	N	427080
11	194m S	477120 164890	ARBORFIELD GARRISON 105	3.0	N	427294
12	215m NE	477380 165470	ARBORFIELD GARRISON 87	3.0	N	427075
13	247m SE	477480 165110	ARBORFIELD GARRISON 101	3.0	N	427088

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

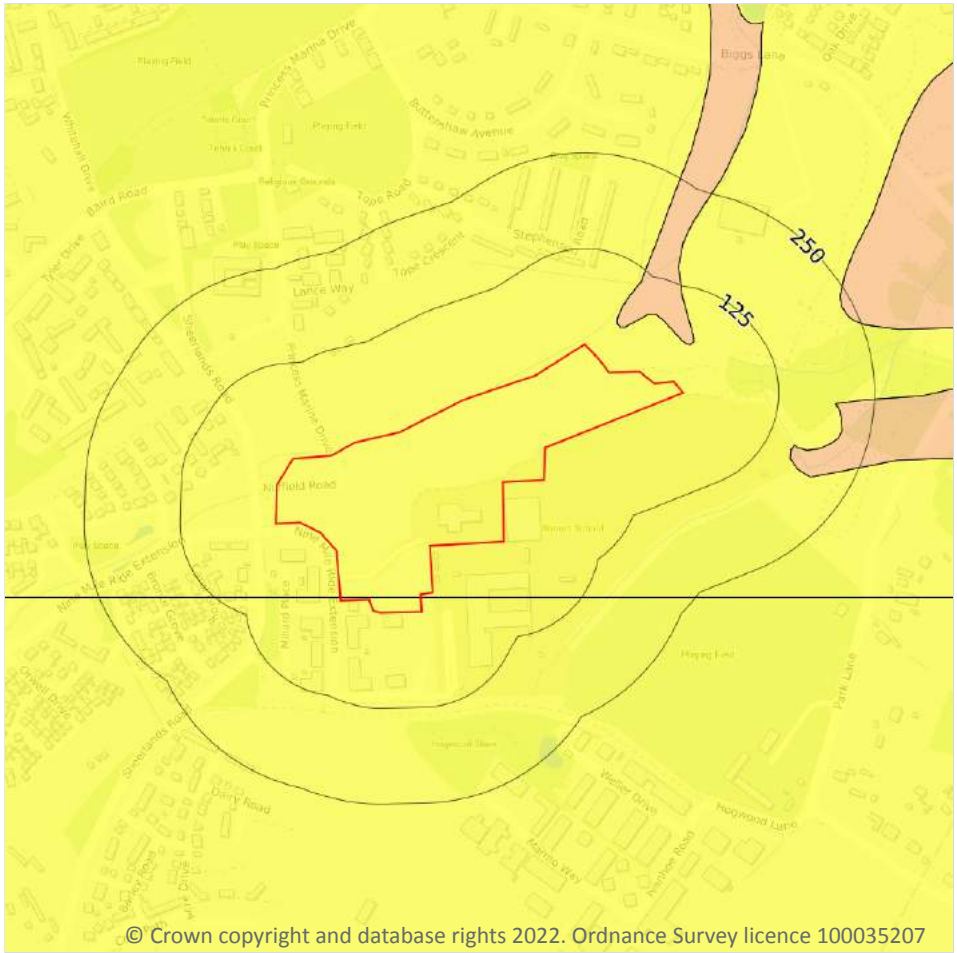
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 90**

Location	Hazard rating	Details
On site	**Low**	**Ground conditions predominantly medium plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	2

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.

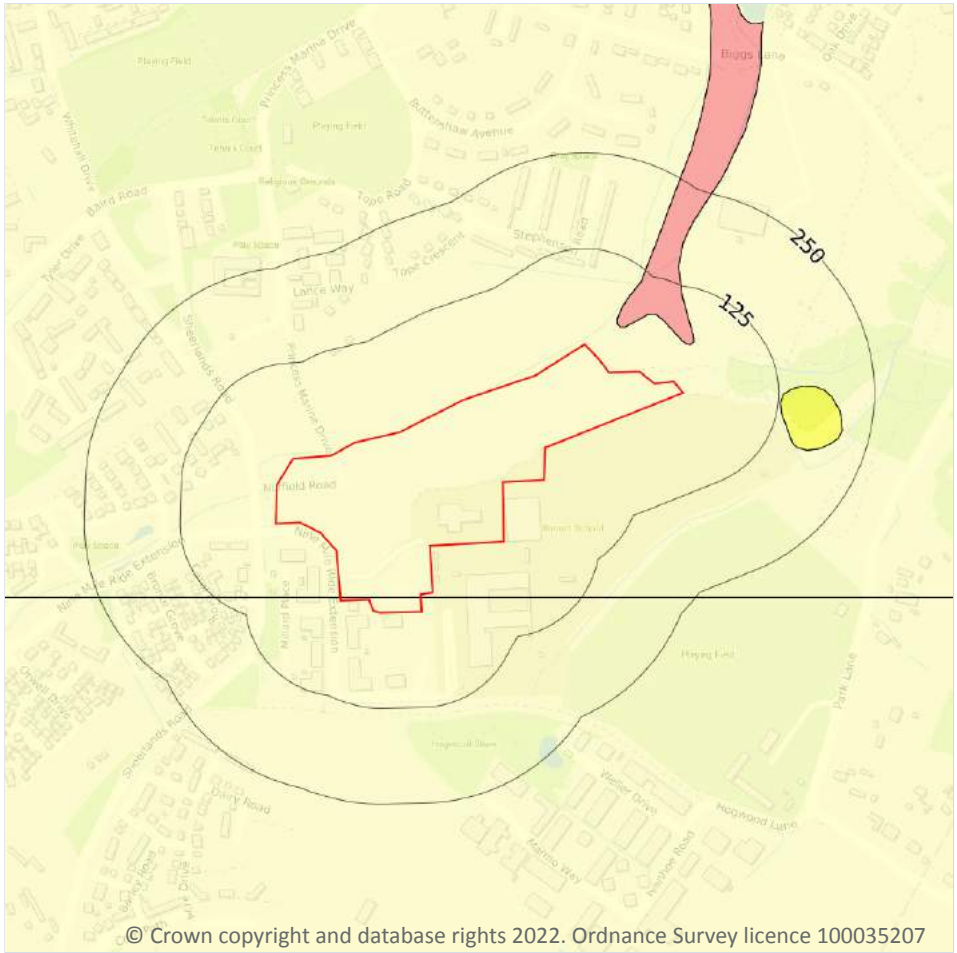
Features are displayed on the Natural ground subsidence - Running sands map on **page 91**

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.**

Location	Hazard rating	Details
49m NE	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



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

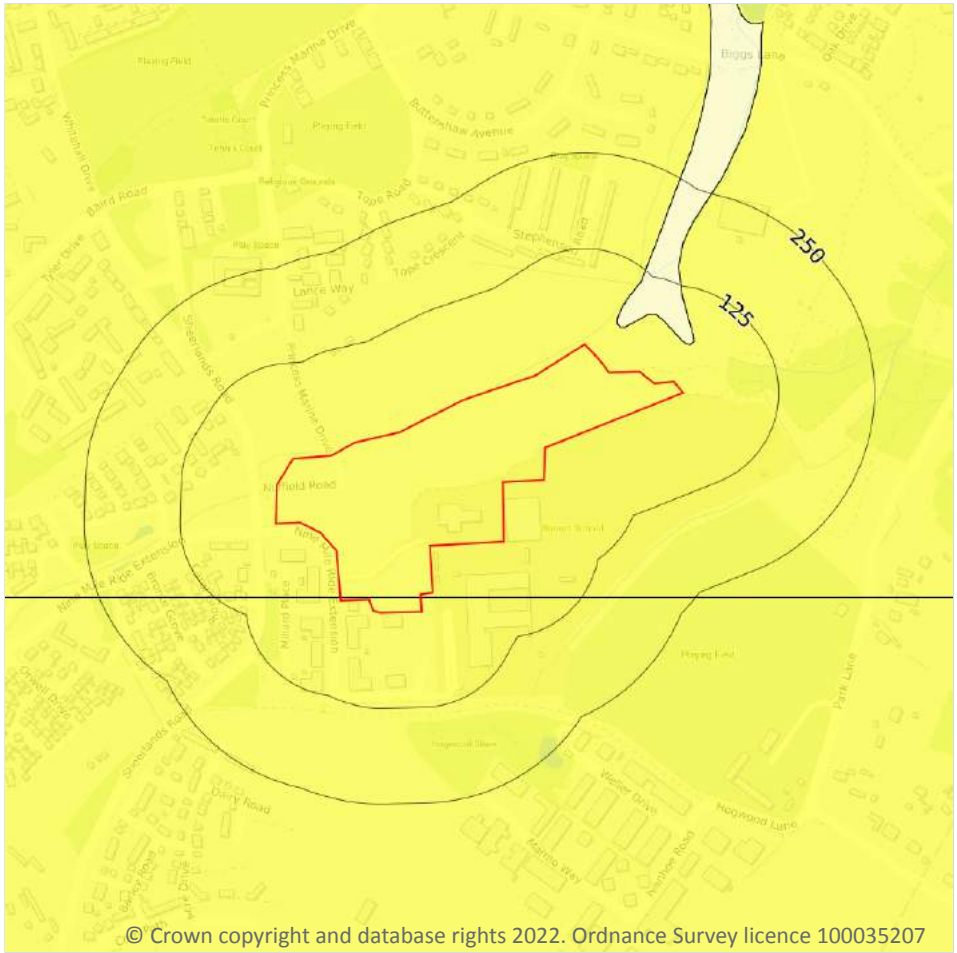
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 93**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
49m NE	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

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	2

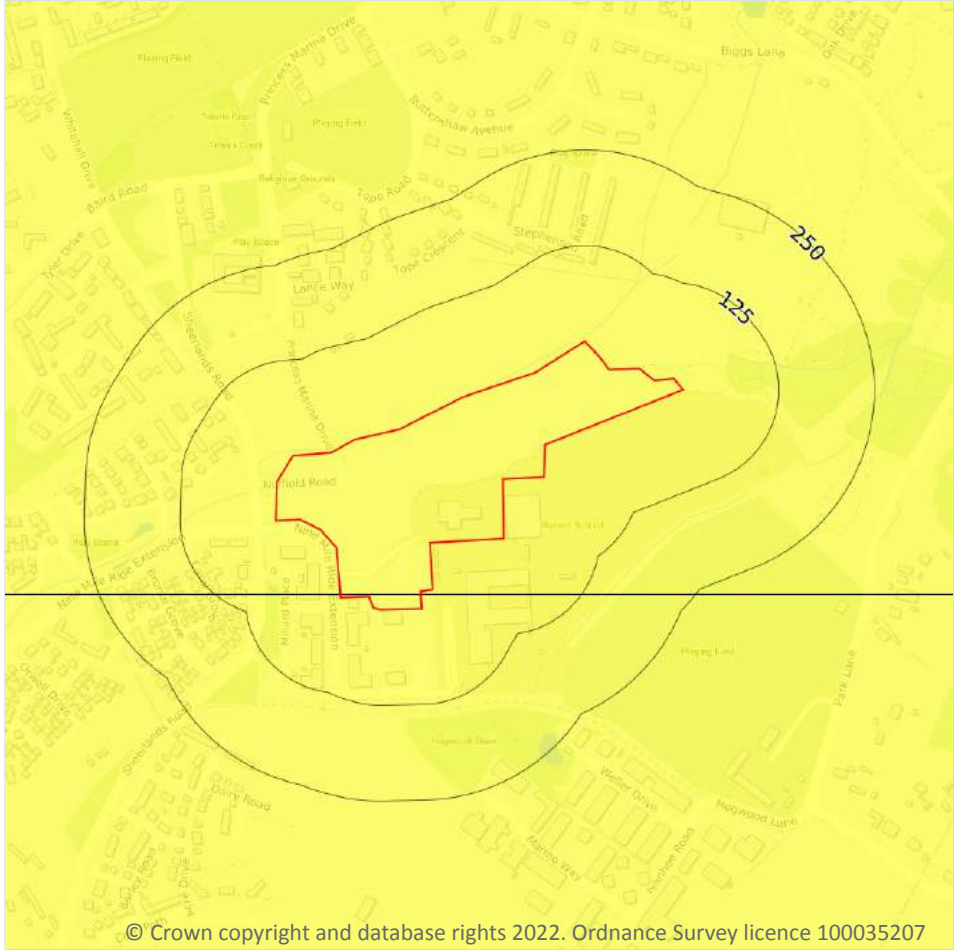
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 95**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
49m NE	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

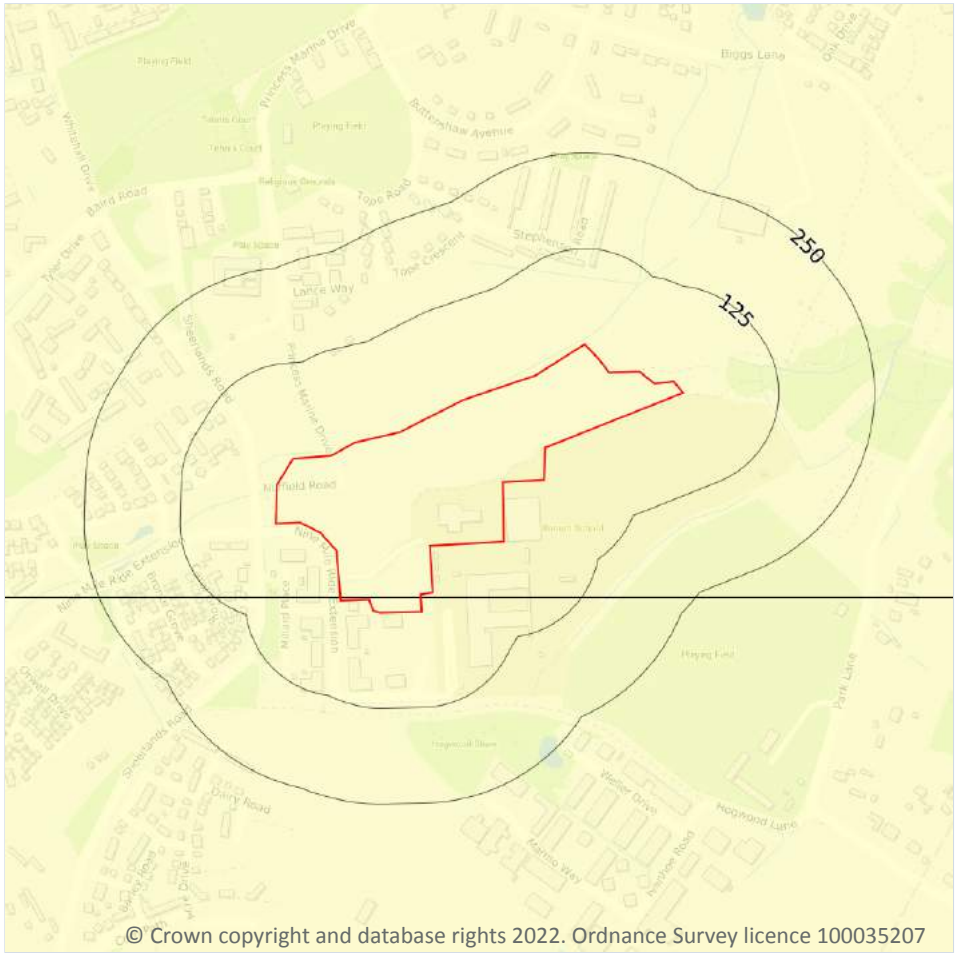
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 96**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 97**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities

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Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

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 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.

18.2 BritPits

Records within 500m	2

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, ground workings and natural cavities map on **page 98**

ID	Location	Details	Description
B	345m SE	Name: Hogwood Shaw Brick Works Address: Arborfield Garrison, WOKINGHAM, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	379m W	Name: Whitehall Address: Arborfield, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	13

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 98**

ID	Location	Land Use	Year of mapping	Mapping scale
A	21m NW	Filter Beds	1932	1:10560
A	21m NW	Filter Beds	1932	1:10560
A	21m NW	Filter Beds	1938	1:10560
A	37m NW	Filter Beds	1932	1:10560
A	37m NW	Filter Beds	1932	1:10560
A	68m NW	Sewage Tanks	1932	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
A	68m NW	Sewage Tanks	1932	1:10560
A	68m NW	Sewage Tanks	1938	1:10560
B	141m S	Brick Works	1938	1:10560
C	211m NW	Brick and Tile Works	1988	1:10000
C	211m NW	Brick and Tile Works	1969	1:10000
C	211m NW	Brick and Tile Works	1978	1:10000
1	229m SE	Pond	1977	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 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.

18.5 Historical Mineral Planning Areas

Records within 500m	1

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 98**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
C	217m W	Whitehall	Clay, bricks	Surface mineral working	Valid	06/47

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

18.8 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.

18.9 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.

18.10 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.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

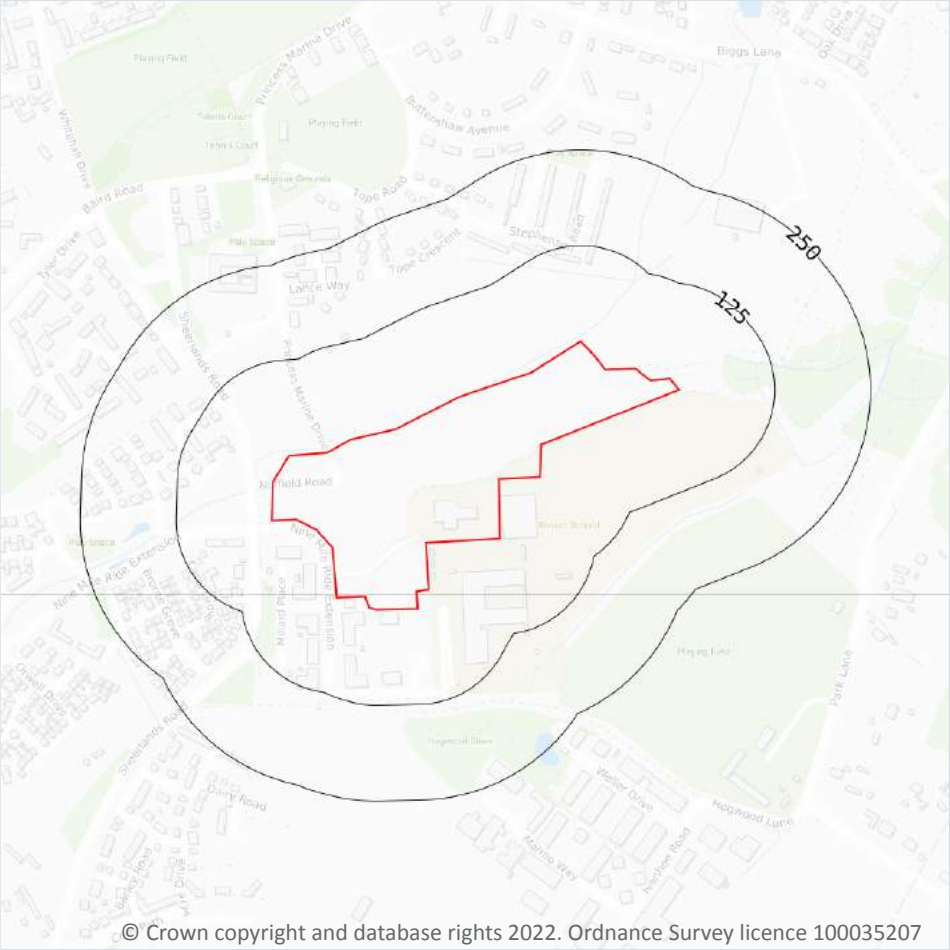
18.13 Clay mining

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 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%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

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

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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	10

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**	**60 - 90 mg/kg**	**15 - 30 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**
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**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
39m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m NE	15 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.

20.2 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.

20.3 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.

21 Railway infrastructure and projects

21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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.

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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.

21.7 Railways

Records within 250m	**0**

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	**0**

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

This data is sourced from publicly available information by Groundsure.

21.9 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.

21.10 HS2

Records within 500m	**0**

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

This data is sourced from HS2 ltd.

Data providers

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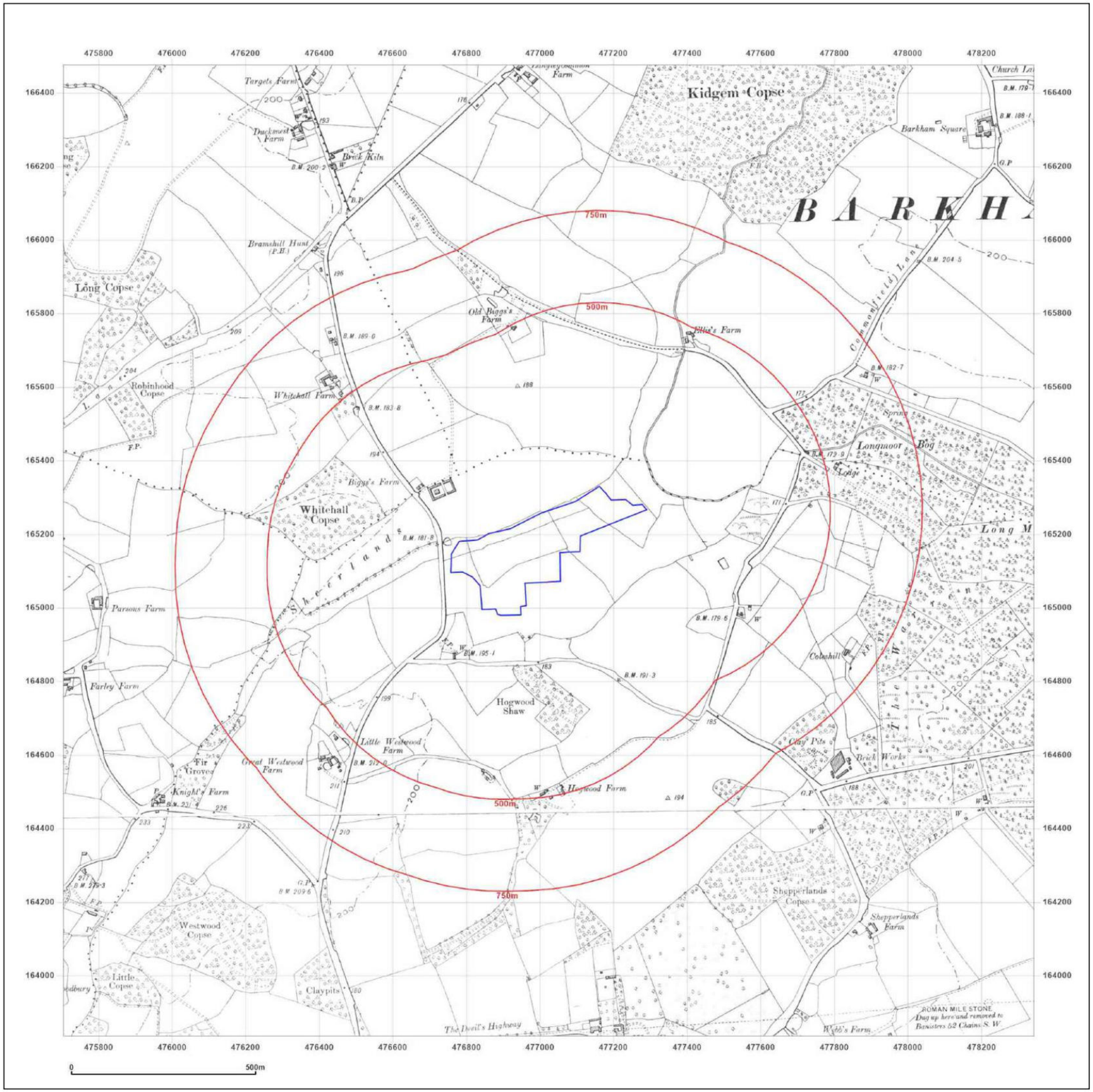

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1872
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Edition N/A
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Surveyed 1871
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Edition N/A
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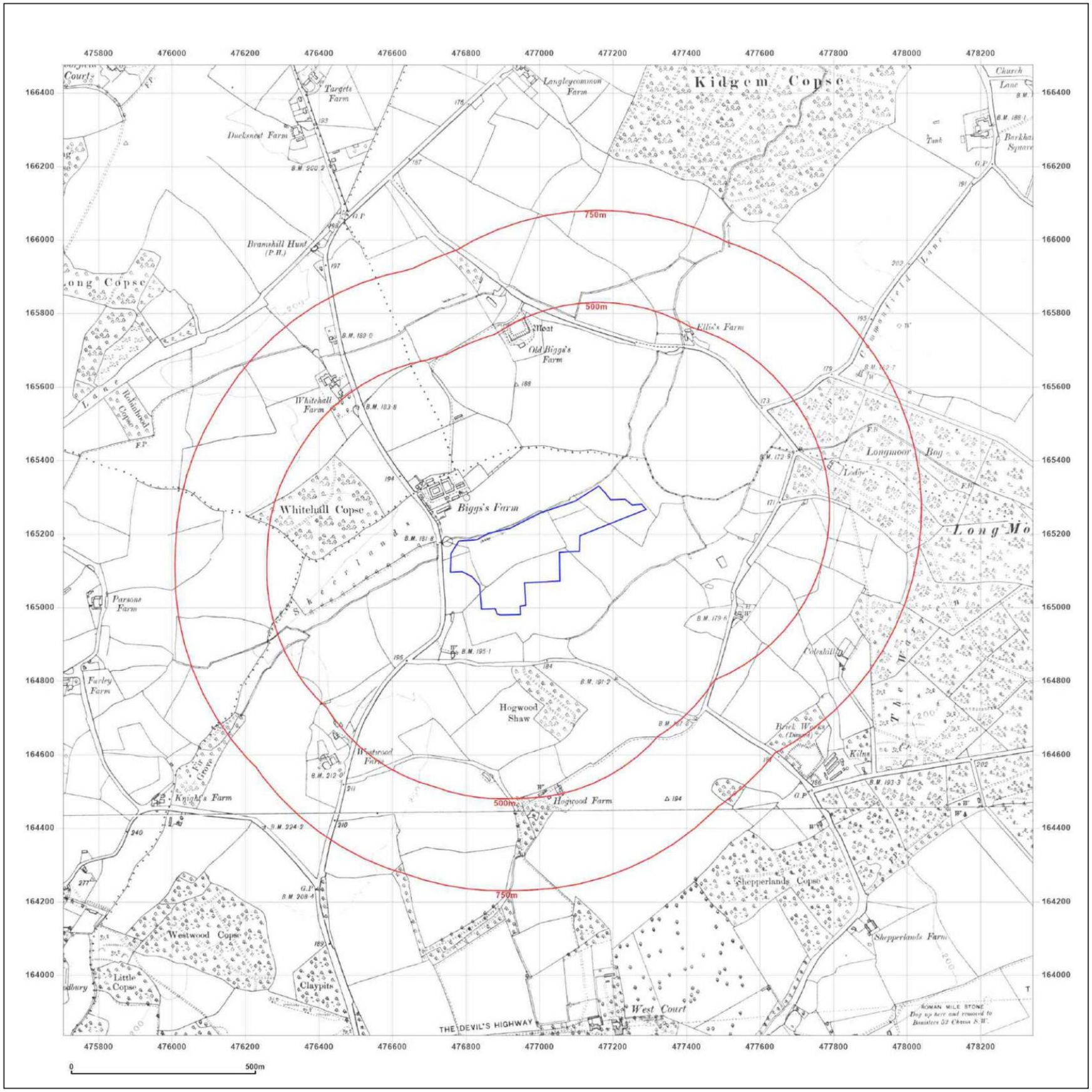

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: County Series

Map date: **1909-1910**

Scale: 1:10,560

Printed at: 1:10,560

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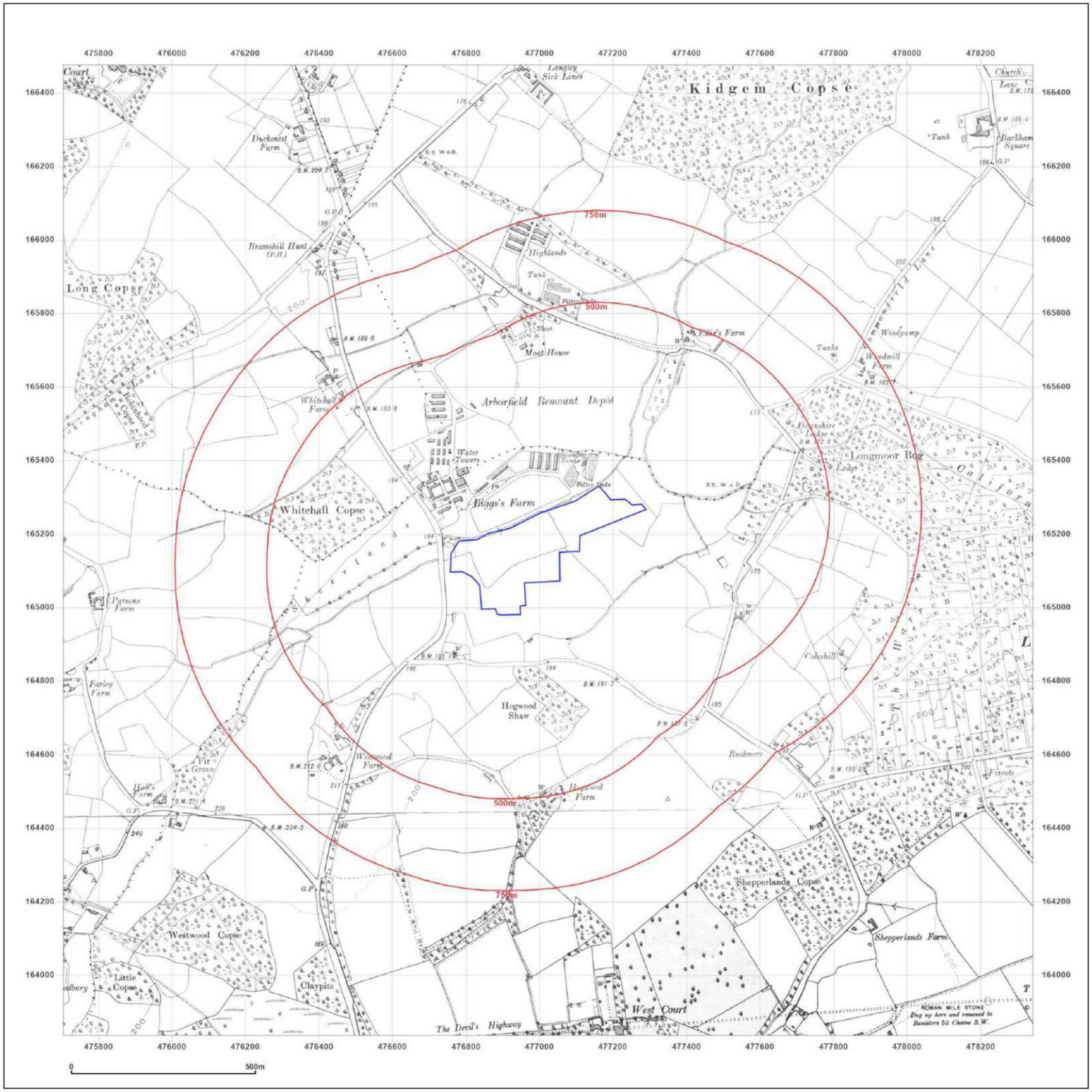

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: County Series

Map date: **1930-1932**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1871
~~Revised 1932~~
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1871
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

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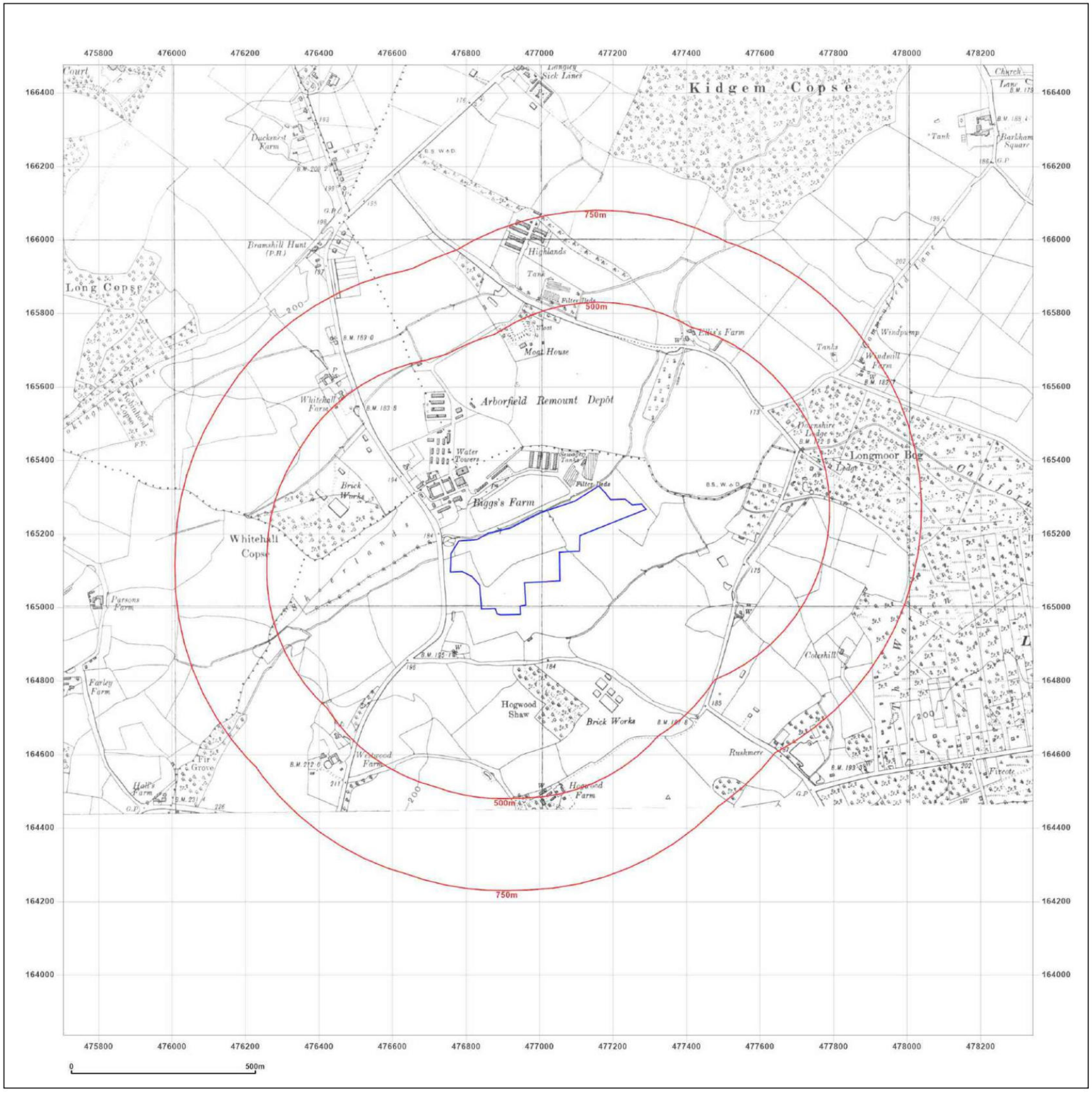

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1871
Revised 1938
Edition N/A
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Levelled N/A

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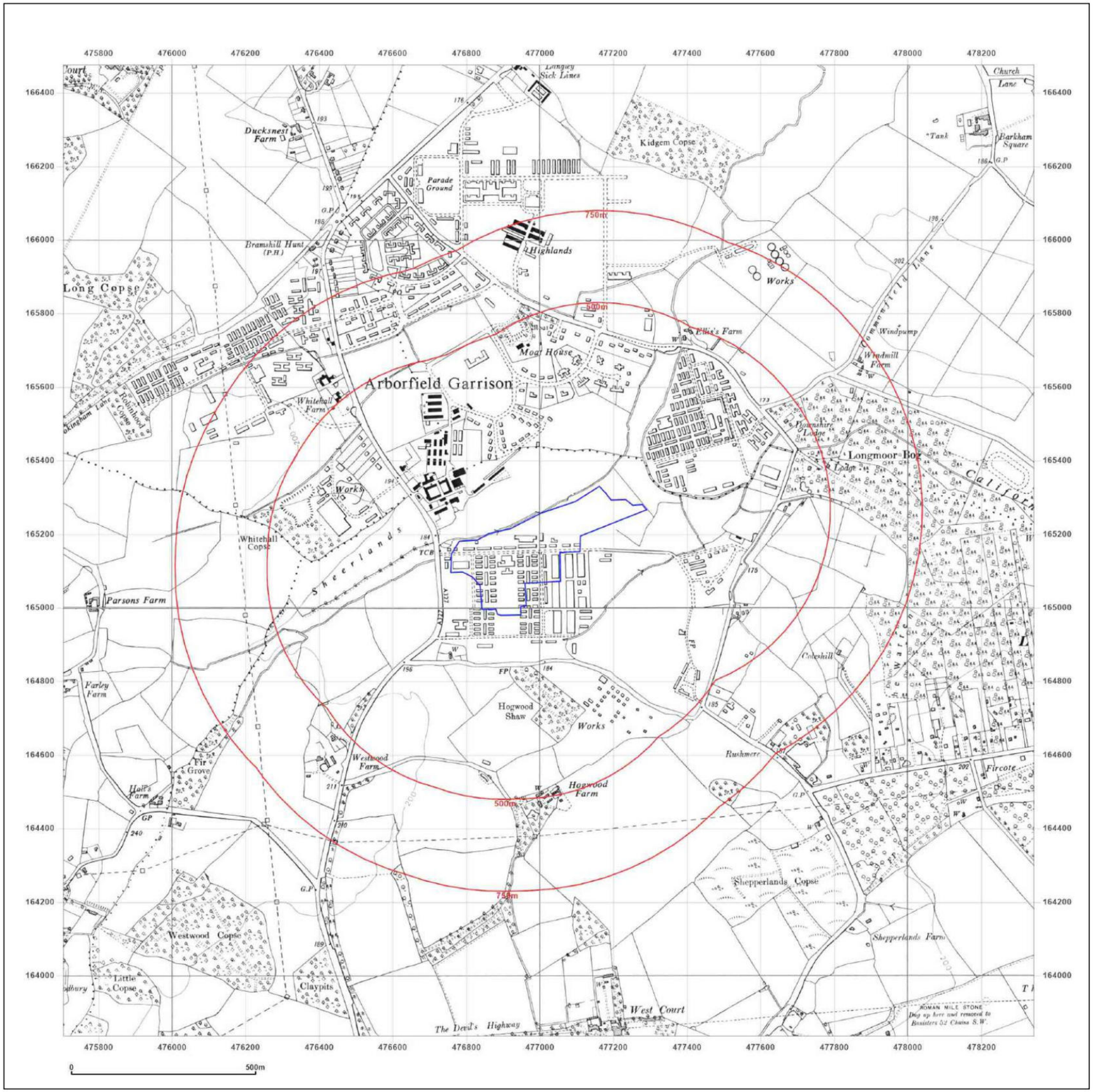

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: Provisional

Map date: **1960-1961**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1956
Revised 1956
Edition N/A
Copyright 1961
Levelled N/A

Surveyed 1956
Revised 1960
Edition N/A
Copyright N/A
Levelled N/A

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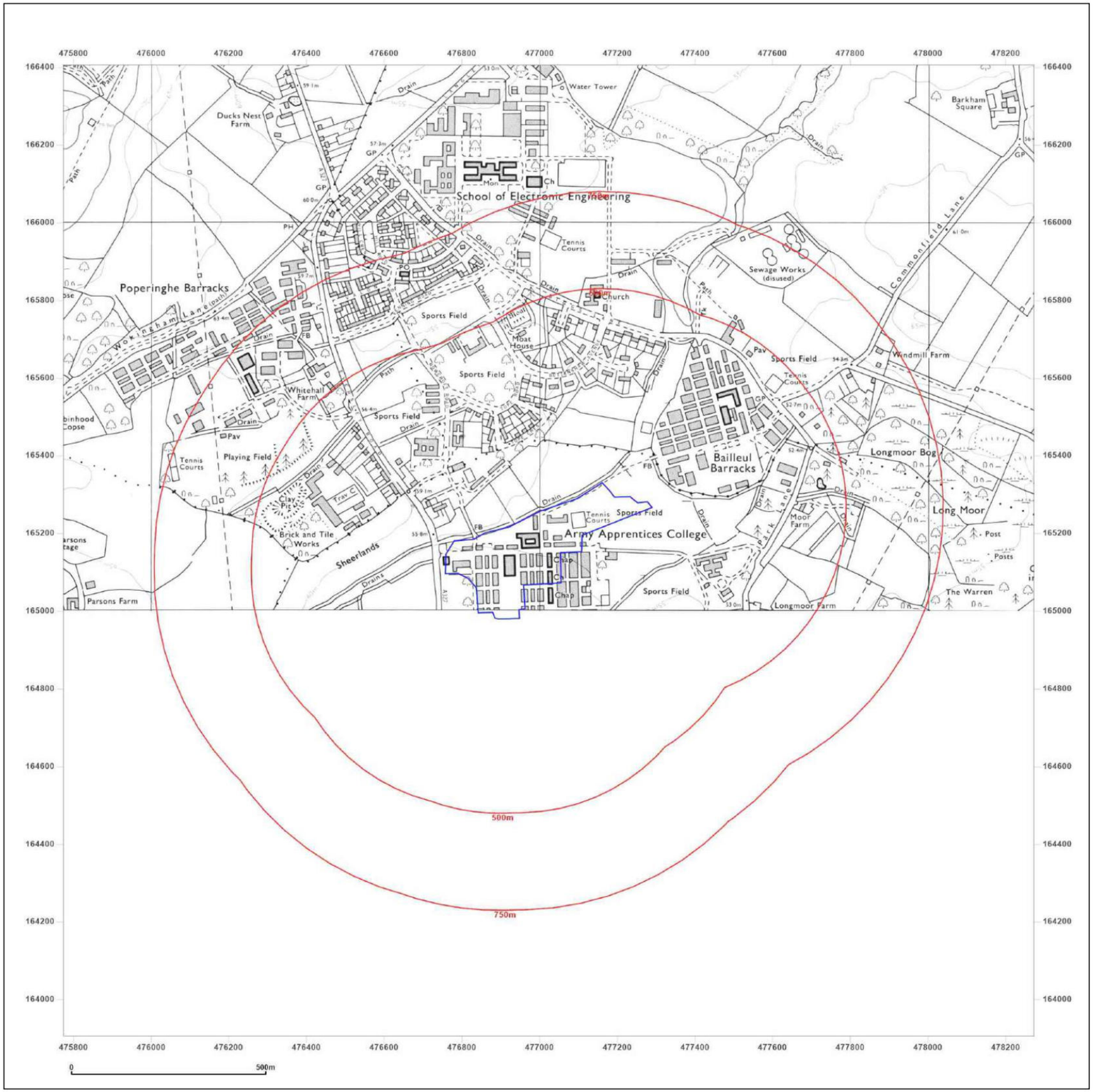

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: **1969**

Scale: 1:10,000

Printed at: 1:10,000

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

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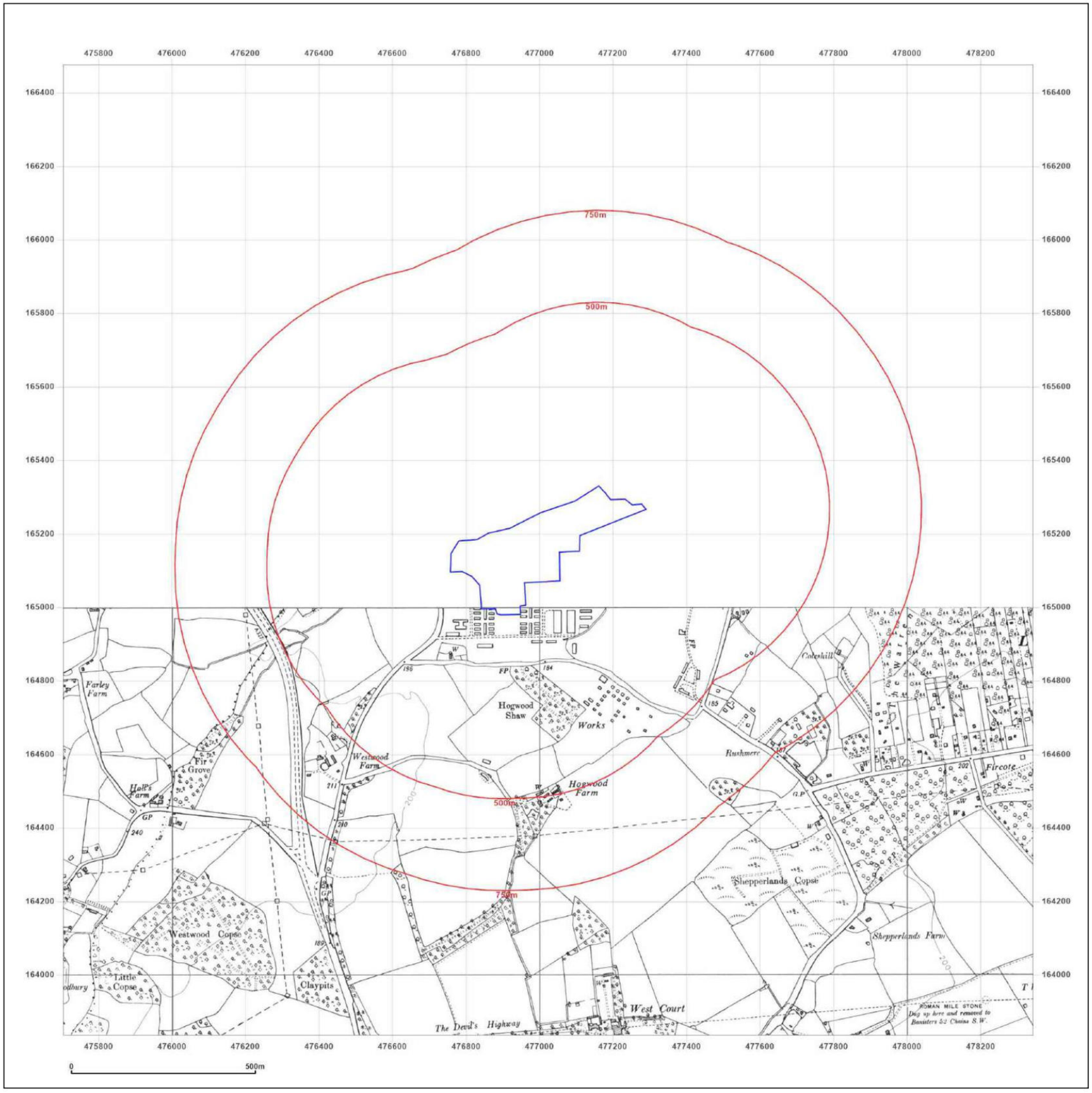

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: Provisional

Map date: **1975**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1956
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

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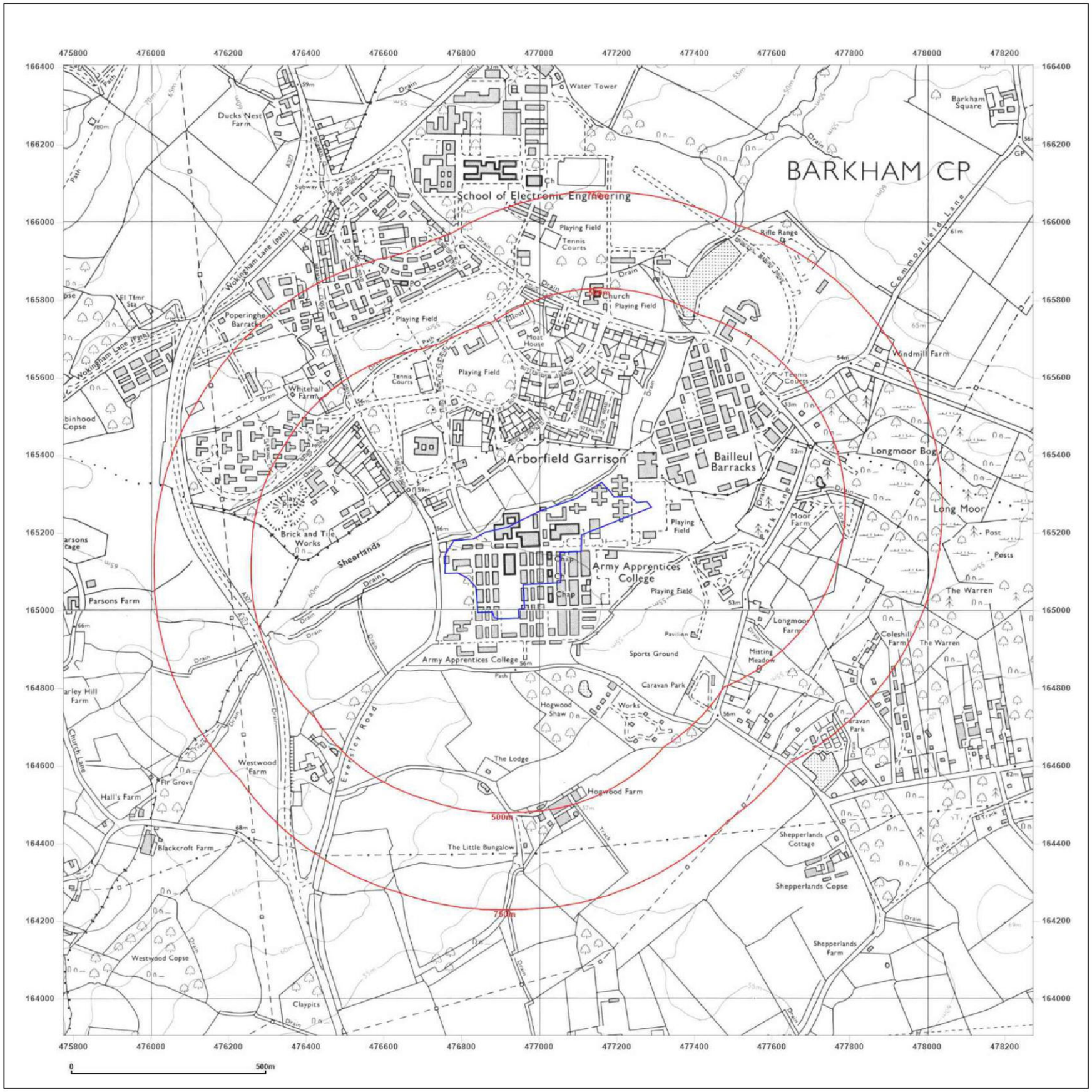

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: **1978-1979**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1976
Revised 1979
Edition N/A
Copyright 1979
Levelled 1969

Surveyed 1974
Revised 1978
Edition N/A
Copyright 1978
Levelled 1975

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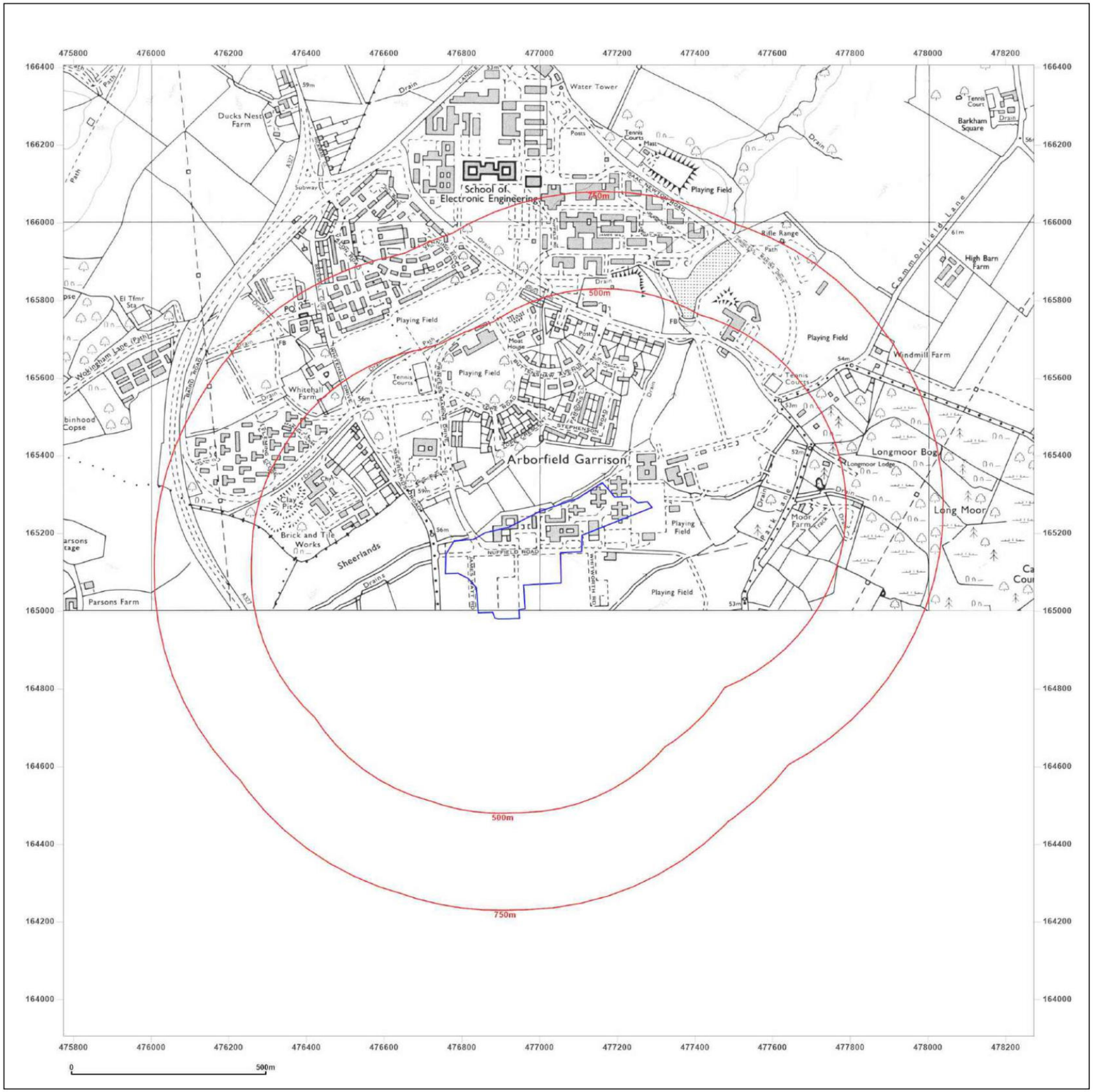

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: **1988**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1988
Revised 1988
Edition N/A
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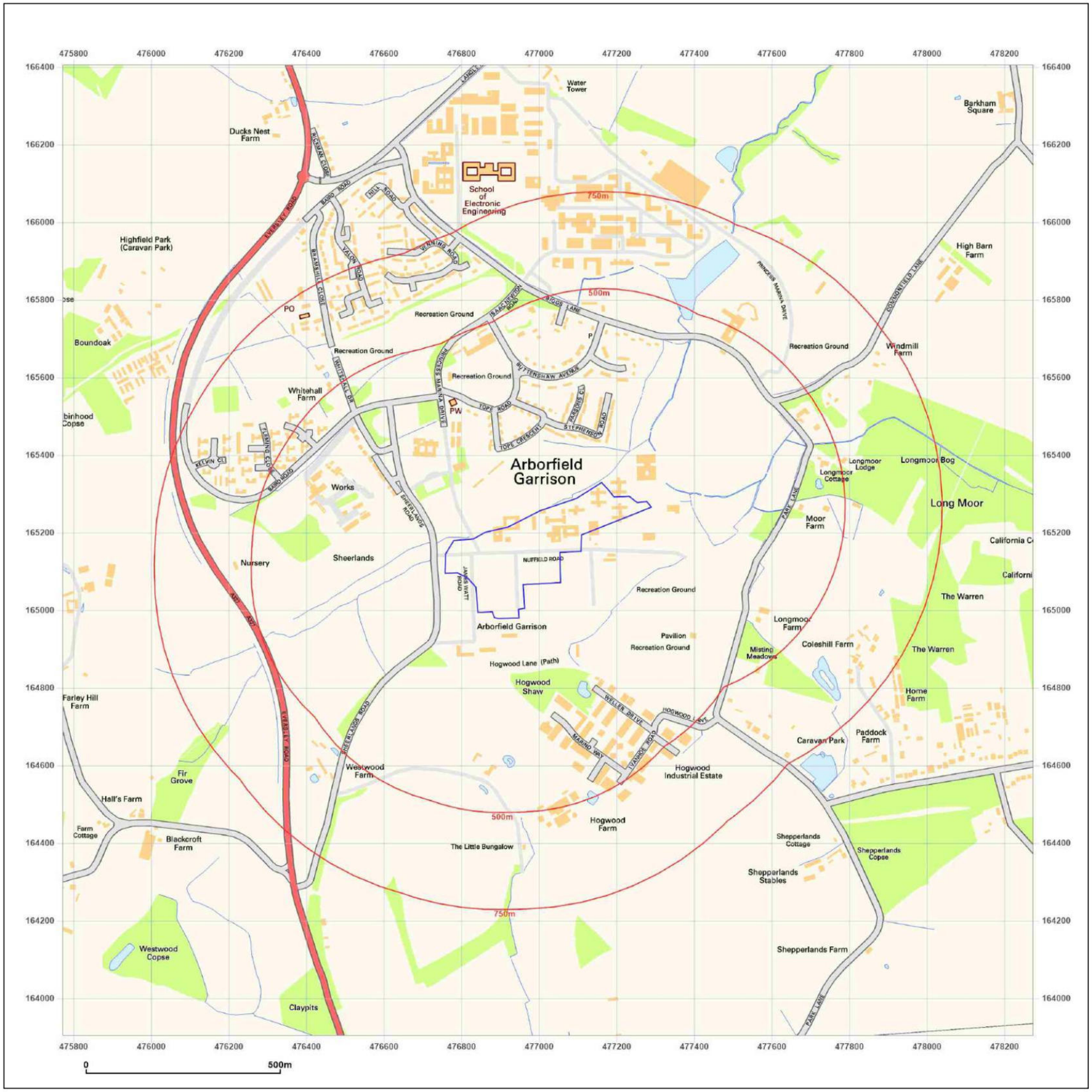

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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2001

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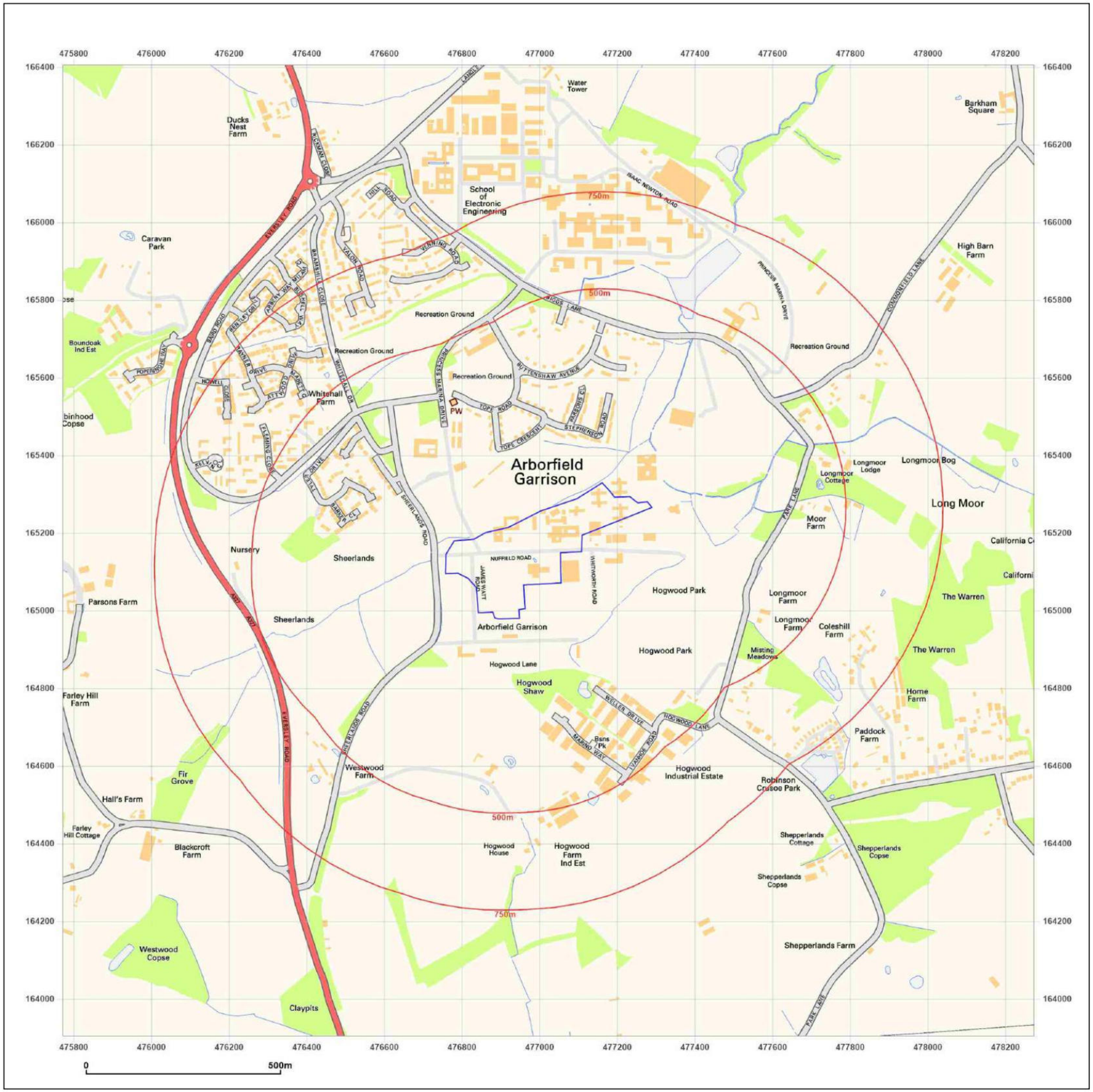

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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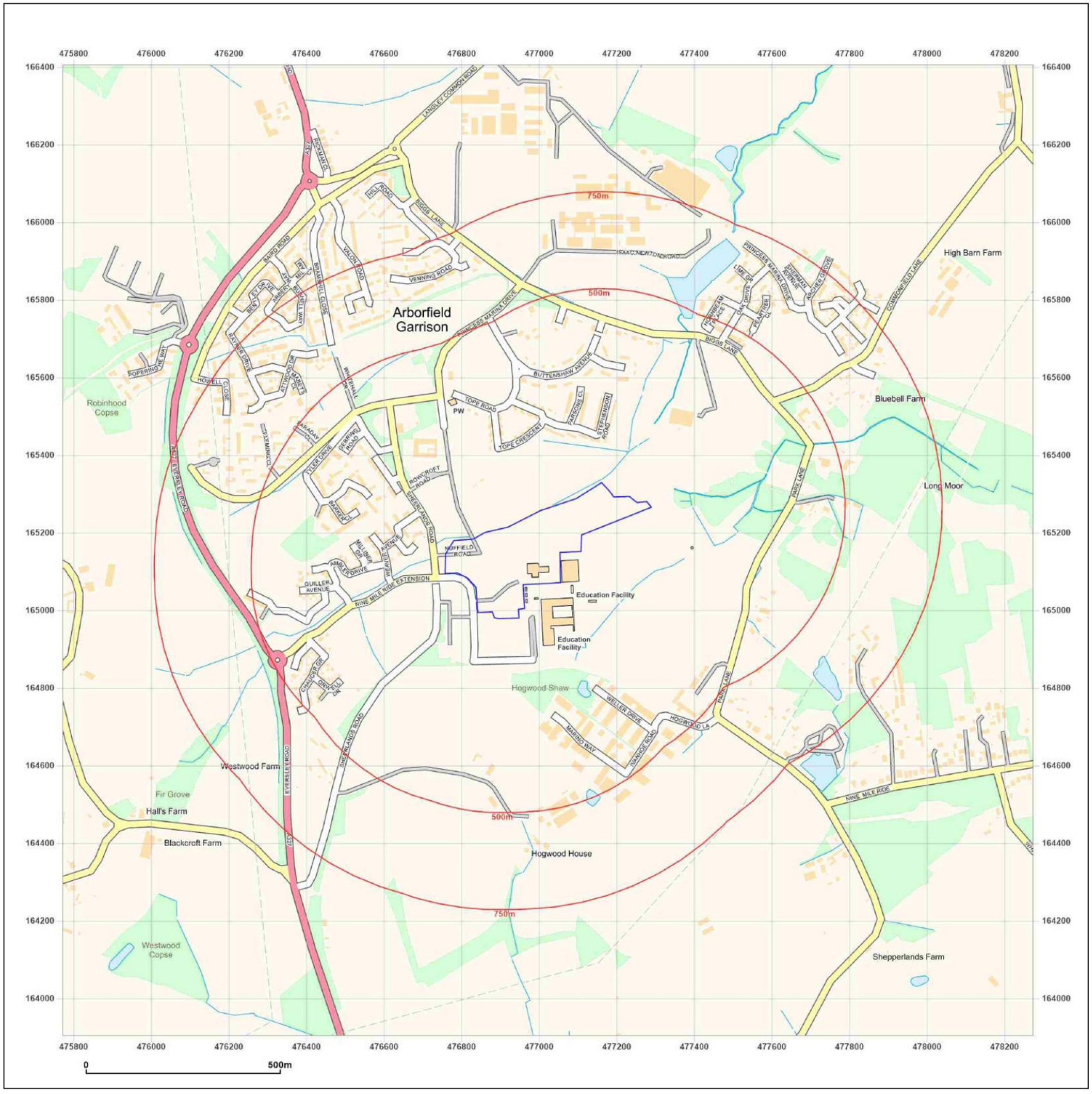

Groundsure INSIGHTS

Site Details:

ARBORFIELD DISTRICT
CENTRE, SHEERLANDS ROAD,
ARBORFIELD, RG2 9GB

Client Ref: db_CN
Report Ref: GS-9016312
Grid Ref: 477023, 165155

Map Name: National Grid

Map date: 2022

Scale: 1:10,000

Printed at: 1:10,000

N W E S

2022

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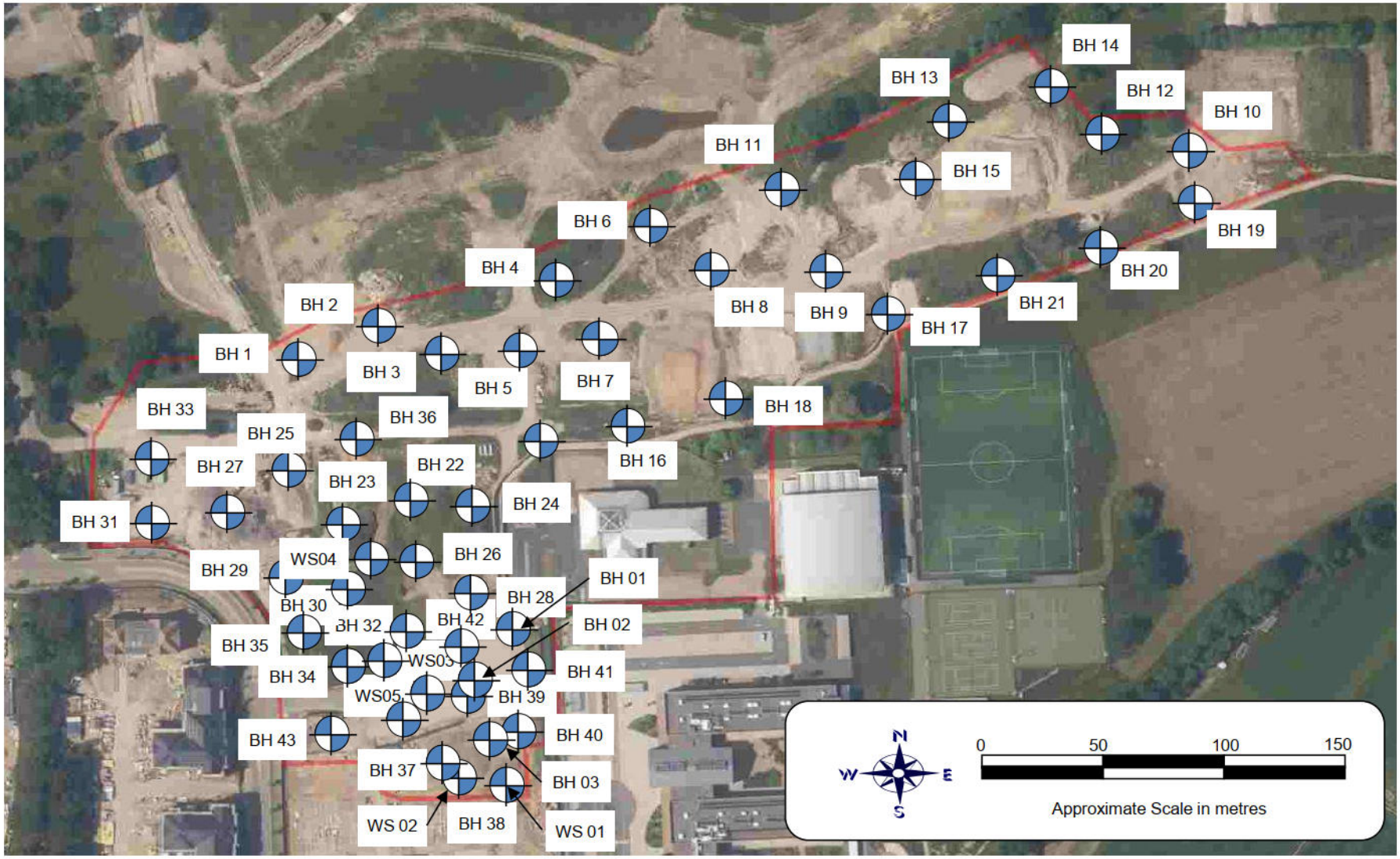
WILSON BAILEY
GEOTECHNICAL & ENVIRONMENTAL

Northdown Farmhouse
Donhead St Mary
Wiltshire
SP7 9DD

Site Plan

Site Arborfield District Centre Parcel, Arborfield Garrison

Client Crest Nicholson



J2252 Site Plan

WILSON BAILEY
GEOTECHNICAL & ENVIRONMENTAL

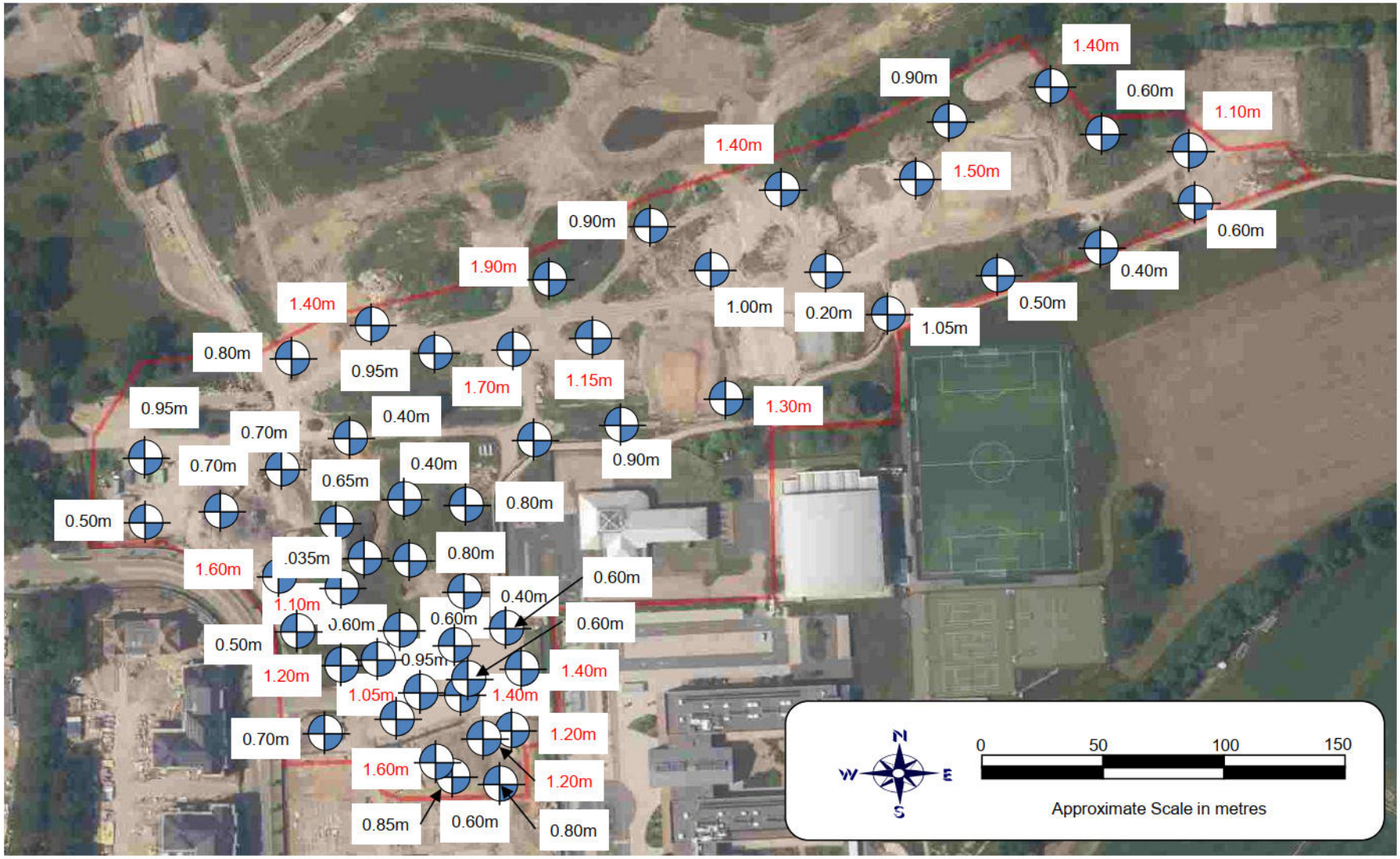
Northdown Farmhouse
Donhead St Mary
Wiltshire
SP7 9DD

Site Plan

Site Arborfield District Centre Parcel, Arborfield Garrison

Client Crest Nicholson

Annotated with depth to base of MADE GROUND

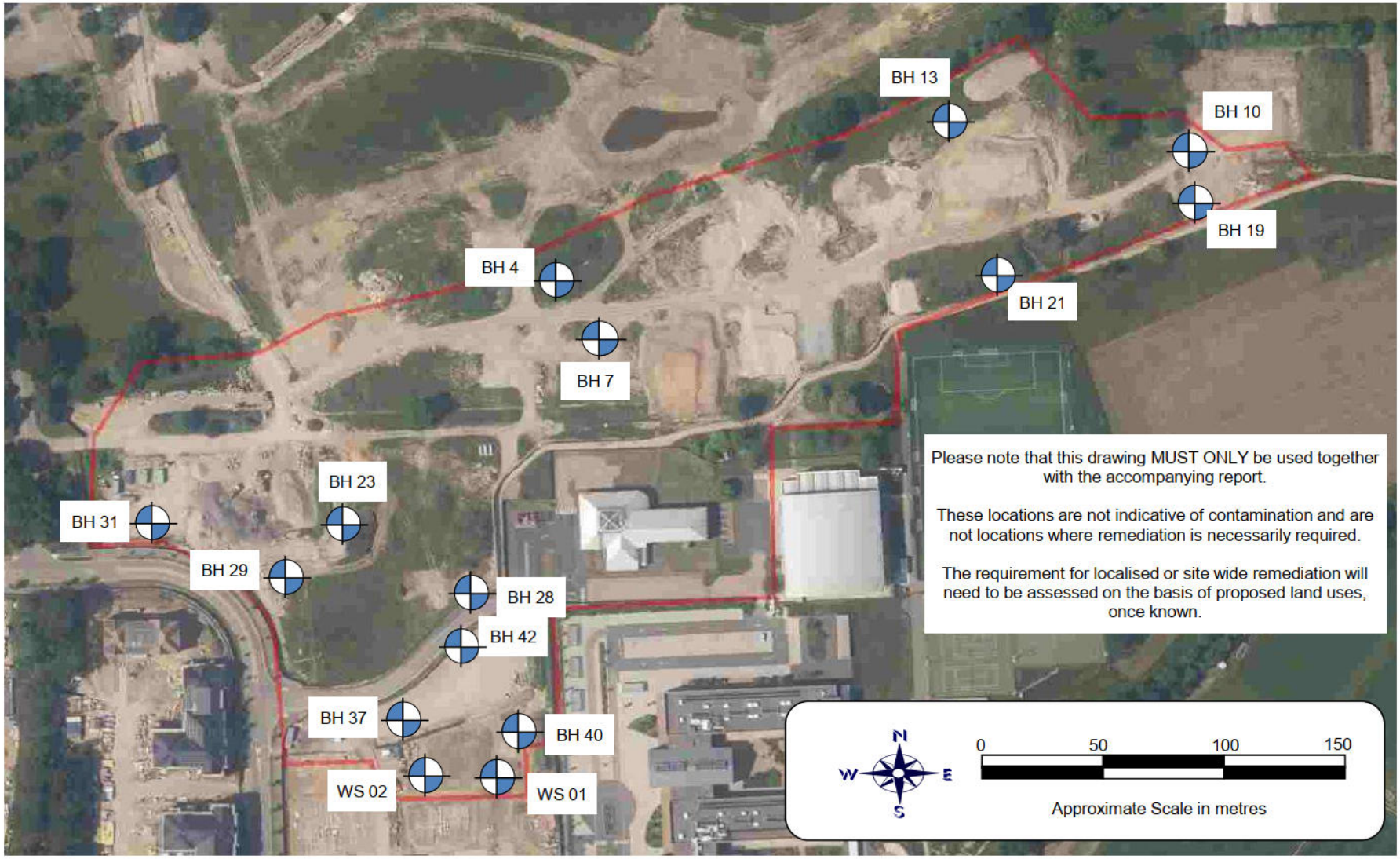


WILSON BAILEY
GEOTECHNICAL & ENVIRONMENTAL

Northdown Farmhouse
Donhead St Mary
Wiltshire
SP7 9DD

Site Plan

Site Arborfield District Centre Parcel, Arborfield Garrison

Client Crest Nicholson

Annotated with locations where raised concentrations of potnetial chemicals of concern have been identified