

Desk Study and Ground Investigation Report

**Land at Reading Road
Arborfield
Wokingham
Berkshire**

Client Dandara Southern Ltd and Elstree Land

J2429

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EXECUTIVE SUMMARY

This executive summary contains an overview of the key findings and conclusions. No reliance should be placed on any part of the executive summary until the whole of the report has been read. Other sections of the report may contain information that puts into context the findings that are summarised in the executive summary.

BRIEF

This report describes the findings of a desk study and initial phase of ground investigation carried out by the Wilson Bailey Partnership on the instructions of Dandara Southern Limited with respect to the proposed residential development of this site. The purpose of the investigation has been to research the history and environmental setting of the site, to investigate the ground conditions and assess the implications of the findings with regards to geotechnical design and land contamination as part of the proposed residential development of this land parcel.

DESK STUDY AND SITE WALKOVER SUMMARY

Desk study research has been carried out with reference to publicly available historical mapping and environmental database records together with local knowledge and anecdotal information.

Records indicate that the central part of this site has been previously developed as a recreational fishing lake during the early 2000s, with the lake subsequently infilled by 2015. The southeastern part of the site is also shown to have been developed through the construction of four chicken houses as part of the adjoining former farm. Some of these buildings still remain, whilst most have been demolished and the southeastern part of the site repurposed for caravan storage. Within the central southern part of the site are a series of single storey sheds, stables, field shelters and ancillary buildings that are in various states of dilapidation and associated with the former fishing lake and the housing of ponies that graze the paddocks within the southern part of the site. The eastern and northeastern parts of the site are currently grazed paddocks, with the remaining central and western parts of the site overgrown.

The western part of the site is bisected from north to south by a ditch and there are numerous mature and semi-mature trees within the boundary hedgerows and within the body of the site. Vehicular access to the main part of the site is from Reading Road to the south, with a secondary access to the caravan storage area in the east. The site is sensibly level and no indications of stressed vegetation were noted.

Desk study research has not indicated the presence of potential sources of potentially mobile ground contamination on or in the vicinity of the site.

GROUND CONDITIONS

The ground investigation indicates the presence of a generally nominal thickness of apparently natural topsoil and apparently localised made ground comprising reworked topsoil and natural soils associated with the backfilling of the former pond. No visual or olfactory indications of ground contamination were noted other than occasional extraneous materials within the former fishing lake backfill including metal, plastic, bricks and decayed wood.

Beneath these soils the River Terrae Deposits were found to be highly variable in depth and consistency across the site, with the variations suggestive of several possible former Quaternary channels bisecting the site. The underlying clay soils of the London Clay, where encountered, were found to comprise firm becoming stiff locally silty clay soils. No visual indications of the effects of trees was noted as part of the ground investigation works although the results of soil geotechnical testing are currently awaited.

Groundwater was encountered within a number of the exploratory holes and variable inflows and seepages from within the more granular layers of the River Terrace Deposits. A programme of winter groundwater monitoring is currently in hand together with a programme of soil gas monitoring, the results of which will be issued as an addendum to this report upon completion.

Laboratory soil contamination testing of 10 soil samples has not generally indicated raised or elevated concentrations of a wide range of potential chemicals of concern with regards to a proposed Residential with Plant Uptake end use scenario. Elevated concentrations of a range of potential chemicals of concern have been identified within the made ground present in the former chicken farm area in the southeastern part of the site.

PRELIMINARY GEOTECHNICAL CONCLUSIONS AND RECOMMENDATIONS

The near surface medium strength clay soils are considered suitable to support the light to moderate foundation loads anticipated to be associated with traditional two storey houses and to provide an assumed net allowable bearing capacity of 100 kPa. Floor slabs should be designed to be suspended over a naturally ventilated void and foundations in the vicinity of trees will require deepening in accordance with the NHBC guidelines and this will be confirmed upon receipt of the results of soil laboratory geotechnical testing that is currently in hand.

Groundwater inflows have been encountered that are likely to result in challenging conditions for the formation of excavations for foundations and drainage during winter months, with inflows and excavation side instability anticipated. Groundwater levels may reduce during the traditionally drier summer months, with a consequent improvement of the ground with respect to proposed groundworks.

Whilst soakage testing has not been carried out, soakaways are not considered to present a viable option for the disposal of surface waters due to the shallow nature of the winter groundwater levels. Attenuated discharge to the local surface water drainage network of ditches, swales and basins should be explored further by the Civil Engineers as part of the detailed drainage design.

GEOENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

The historical use of the majority of the site is not considered to present a potentially contaminative history, which has been essentially supported by the results of the soil contamination testing.

The backfilled former fishing lake is understood to have been backfilled with the original site won arisings from the pond formation and as such this is also not anticipated to present a source of potential contamination, which is supported by the results of the soil contamination testing, although there is always a risk that deliberately buried or contaminated soils could have been deposited as part of the backfilling. It is understood that the development proposals are such that this part of the site is to form part of an area of public open space and soft landscaping such that additional precautions over and above a contaminated land watching brief are not considered necessary for this part of the site.

The former use of the southeastern part of the site as part of a chicken farm could introduce a potentially contaminative history and testing carried out within this part of the site has identified locally raised concentration of potential chemicals of concern. Remediation is likely to be required in this part of the site once the proposed end use has been confirmed. It is likely that either localised removal of made ground together with validation testing may be appropriate, or provision of a topsoil capping system may be a viable approach, depending upon the findings of a focused phase of further ground investigation that will be required within this part of the site in due course.

Preliminary testing has suggested that site won topsoil recovered from the main central and northern parts of the site may well be chemically suitable for reuse on this site, although further testing should be carried out to confirm suitability once the topsoil strip has been completed and the topsoil is contained within stockpiles.

FURTHER WORK

The conclusions of this report will need to be reviewed once the design layout of the proposed development has been finalised.

Further ground investigation will be required in the area of the former chicken houses that are now used for caravan storage where apparently localised made ground with elevated concentrations of potential chemicals of concern has been identified. Following on from a phase of suitably targeted ground investigation in this part of the site a remediation option appraisal will be required to confirm whether localised removal of unacceptable soils will be required, or whether a topsoil and soil capping approach can be adopted.

In accordance with best practice for redevelopment of any brownfield site, a geo-environmental watching brief should be maintained during the course of the subsequent development in order that should any suspicious or contaminated soils be encountered, they may be investigated, assessed and remediated as necessary under the supervision of Wilson Bailey Partnership and in conjunction with the Local Authority.

As with any historically developed site there remains an albeit low potential for discarded, abandoned or deliberately buried materials to be present on site, although no indications of any such materials have been identified as part of the site works and these should be readily resolved as part of the above watching brief.

1.0 INTRODUCTION

The Wilson Bailey Partnership has been commissioned by Dandara Southern Limited to research the environmental setting and history of the site and to carry out a ground investigation of this land parcel.

1.1 Proposed Development

Consideration is currently being given to the development of the site through the construction of a residential housing development. Whilst details have not yet been formulated, it is anticipated that the development will comprise predominantly two storey houses together with areas of private gardens, communal access soft landscaping, access roads and areas of hard standing for car parking.

This report is specific to the proposed development and the advice herein should be reviewed once the development proposals have been finalised.

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 surroundings;
- 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:

- to provide advice and recommendations with respect to geotechnical design.
- a review of readily available geological maps and publicly 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 Envirocheck database; and
- a walkover survey of the site.

The physical ground investigation comprised, in summary, the following activities:

- a total of 24 small diameter boreholes drilled across the land parcel by means of a mini tracked open drive percussive soil sampling rig to allow an investigation of the shallow soils, recovery of soil samples and installation of groundwater monitoring standpipes;
- excavation of eight trial pits through areas indicated to have been historically excavated to form a fishing lake before being subsequently backfilled ;
- the installation and monitoring of combined groundwater and soil gas monitoring standpipes in eight of the boreholes;

- laboratory testing of selected soil samples for geotechnical properties;
- laboratory testing of selected soil samples for the presence of contamination; 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 forms an irregularly shaped area with maximum approximate dimensions of 525m by 130m, the boundaries of which are formed by a mix of mature hedges with semi-mature and mature trees, and a mix of predominantly timber constructed fences.

The site is sensibly level with a slight slope down towards the south and west, with the western part of the site bisected by a ditch measuring approximately 3m across and locally 1m deep, which locally contained water.

The western triangular portion of the site forms an area of rough grassland with various substantial areas of brambles and undergrowth and a few sapling trees. The central western part of the site comprises a further area of rough vegetation with occasional piles of decaying tree stumps and areas of scrub vegetation and sapling trees. The northern part of the site comprises a series of grass paddocks that appear to be regularly grazed by horses, with this area extending into a further paddock in the northeastern part of the site. The southeastern part of the site comprises an area of rough gravel dressed hardstanding with relic foundations and floor slabs to former buildings and a remaining concrete block building. It is understood that this building and the relic floor slabs to former buildings comprise the extent of a series of old chicken sheds when this part of the site formed part of a farm. This southeastern part of the site is not used for caravan, vehicle, boat and trailer storage.

The southern central part of the site is currently used as further paddocks with a series of dilapidated stables and field shelters presence within the central southern part of the site.

2.2 Site History

The site history has been researched by reference to historical Ordnance Survey (OS) maps sourced from the Envirocheck database and supplemented by local knowledge and anecdotal information.

Records indicate that the majority of the site is a greenfield site that has not been historically developed, although the central western part of the site is indicated to have been excavated out in the late 1990s to for a privately stocked fishing lake. It is understood that the arisings from this excavation were used to create a raised island in the centre of the lake and to raise and landscape the surrounding ground level. This fishing lake was subsequently infilled prior to 2015 and it is understood that the original arisings were used as backfill rather than imported soils.

Selected historical maps also indicate the presence of a pump close to the location of the fishing lake, although no detailed are provided.

Historical mapping indicates that the former buildings within the eastern part of the site formed part of a series of poultry sheds by 1968, with these buildings shown to have been predominantly demolished prior to 2001.

2.3 Other Information

Searches of information provided by the Environment Agency have not indicated the presence of any land uses of potential concern with regards to contaminated land, such as landfill sites, waste sites and fuel filling stations, within the vicinity of the site. No recorded incidents of fuel or oil leakage are known, on site or in the immediate vicinity.

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 superficial River Terrace Deposits in the west, together with superficial Head Deposits locally within the central part of the site. Underlying the superficial soils clay of the London Clay is shown to be present.

Information provided by the Environment Agency indicates the River Terrace Deposits to be a superficial Secondary Aquifer, with the Head Deposits and the London Clay indicated to be Non-Productive Strata.

The environmental data searches have confirmed the presence of the former water pump on the site but do not indicate that this has any associated groundwater source protection zone. It may be that any abstraction licence associated with this water pump has been surrendered, or it may only have pumped less than the daily threshold, beneath which a license is not required. It is not clear whether the borehole presumably associated with this pump has been decommissioned in accordance with the Environment Agency best practice guidance. No records of any borehole, or any decommissioning are held by the British Geological Survey.

No other indications of potentially significant ground contamination have been identified in the vicinity of the site.

2.4 Preliminary Risk Assessment

The historical use of the majority of this site as open agricultural land is not considered to be potentially contaminative, although the historical use of the eastern part of the site as part of a former poultry farm may present a risk of potential relic contamination. There is also the potential that materials used to backfill the former fishing lake could include potentially contaminated soils or imported materials.

The desk study has not identified any adjacent off site potential sources of potentially mobile contaminants.

The presence of assumed low to negligible permeability London Clay soils is also likely to mitigate the potential for any off site sources of ground contamination, groundwater contamination or soil gasses to impact upon this site. The apparently localised River Terrace Deposits and Head deposits may present more permeable strata, although these are not laterally continuous and therefore not likely to present a realistic migration pathway

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

3.0 EXPLORATORY WORK SAMPLING STRATEGY

In order to meet the objectives described in Section 1.2 a series of 24 small diameter boreholes were drilled in locations across the site to investigate the soils to a depth of up to 4.00 m and enable groundwater and soil gas monitoring standpipes to be installed in selected locations. The locations of boreholes and the installed monitoring standpipes were selected to obtain a general coverage and allow investigation of the prevailing ground conditions. The scope of ground investigation was limited by the presence of live services that have been identified across parts of the site.

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, predominantly clay Superficial Deposits were found to be underlain by firm rapidly becoming stiff dark bluish grey clay soils of the London Clay were encountered and proved to the full depth of investigation.

4.1 Made Ground and Reworked Topsoil

Across much of the site a generally nominal thickness of apparently natural topsoil was encountered to a depth of up to less than about 0.50 m below ground level and found to comprise a dark brown sandy clay.

Within the central eastern part, where the former fishing lake was located, trial pits excavated to specifically target this backfilled feature encountered made ground to depths of 1.90m, which was found to comprise reworked clay and silt with decayed organic matter and soft alluvial clay.

Locally brick fragments, decayed timber and pallet straps were identified in a number of the trial pits indicating that the backfill was not solely site won natural materials.

Within the eastern part of the site occupied by the remnants of the poultry buildings and now used for caravan storage, one of the two boreholes encountered a negligible depth of made ground comprising surfacing materials, whilst the other borehole encountered made ground comprising reworked brown sandy clay with bricks, concrete block fragments, concrete blocks and gravel to a depth of 1.50 m below ground level.

Other than the physical presence of construction related debris, no visual or olfactory indications of ground contamination were noted within the topsoil.

Representative samples of the topsoil, made ground and underlying natural soils were recovered from a number of the boreholes and analysed for a range of contaminants and the results are summarised in Section 4.4. Whilst not every soil sample has been tested it is considered that a suitable coverage of the site has been achieved.

4.2 River Terrace Deposits and Head Deposits

Within the central and western parts of the site that near surface natural soils were found to comprise a highly variable mixture of silty sand, clay and gravel to depths of up to in excess of 4.00m in selected locations within the central part of the site, decreasing to less than 1.00m across other areas and being locally absent.

No visual indications of the effects of trees was noted as part of the ground investigation works, with laboratory geotechnical testing has indicated these clay soils to be of medium volume change potential and medium plasticity and the samples tested do not suggest the presence of desiccated soils, although clearly in the immediate vicinity of trees and at different times of year, the clay soils may well be at least locally desiccated.

4.3 London Clay Formation

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

It was also the case that no visual indications of the effects of trees was noted within these soils as part of the ground investigation works, with laboratory geotechnical testing has indicated these clay soils to be of medium volume change potential and medium plasticity and the samples tested do not suggest the presence of desiccated soils, although clearly in the immediate vicinity of trees and at different times of year, the clay soils may well be at least locally desiccated.

4.4 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 use of a risk-based approach, which is presented in Part 2 of this report, means that it is not appropriate to determine the significance of contamination test results

by simply comparing individual contaminant concentrations to a single “trigger” or “target” concentration.

The table below presents a summary of the results of the laboratory testing carried out as part of the supplementary ground investigation works and are based upon the analyses of 9 of the 10 soil samples taken from across the site. From a review of the results, it is apparent that raised concentrations of potential chemical of concern have been identified in the sample of made ground recovered from Borehole No 17, with the results of the analyses carried out on the remaining samples generally indication low or less than detection concentrations. On this basis the results from Borehole No 17 have been excluded from the statistical assessment presented below.

Determinant	Maximum concentration recorded (mg/kg)	Minimum concentration recorded (mg/kg)	Number of samples below detection limit	Normalised upper bound US ₉₅
Arsenic	10	5.0	None	--
Boron	<1.0	<1.0	All	--
Cadmium	0.3	<0.3	6	--
Chromium	21	12	None	--
Hexavalent Chromium	<2.0	<2.0	All	--
Copper	57	6.0	None	--
Lead	40	12	None	--
Mercury	<1.0	<1.0	All	--
Nickel	11	6.0	None	--
Selenium	<3.0	<3.0	All	--
Zinc	122	23	None	--
Phenols	<2.0	<2.0	All	--
Benzo(a)pyrene	0.12	<0.1	1	--
Total Organic Carbon	1.6	0.7	None	--
<i>Note:</i> The use of the normalised upper bound for 95th percentile confidence aims to remove some of the uncertainty associated with calculation of an arithmetic sample mean of a relatively small number of samples. The US₉₅ value is the upper bound of the range within which it can be stated with 95% confidence that the true mean concentration of the data set will fall.				

In addition to the results presented above, all soil samples have been screened for the presence of detectable asbestos fibres and all results indicate that fibres have not been detected.

4.5 Groundwater

Groundwater seepages and inflows were encountered in a number of exploratory boreholes at depths of between about 0.50 m and 2.00 m below ground level.

Limited monitoring of the standpipes installed into the small diameter boreholes indicates groundwater to be present at a depth of about 1.00m to 1.50 m below ground level with the variation of the measured water levels suggestive of localised pockets of groundwater perched within the more granular soils, rather than being indicative of a single body of laterally consistent and hydraulic continuous groundwater.

4.6 Soil Gas

The results of a programme of soil gas monitoring are included within the appendix to this report. The results of the monitoring have not indicated elevated concentrations of soil gasses of concern and have not indicated any appreciable flow regime.

5.0 GROUND MODEL

On the basis of the fieldwork, the ground conditions at this site can be characterised as follows.

- A generally natural soil profile of topsoil and subsoil over variable River Terrace Deposits, Head Deposits and London Clay has been encountered across the majority of the site.
- Locally made ground has been encountered within the central western part of the site to a depth of up to 1.90m in the area of a backfilled formerly excavated artificial fishing lake. The made ground was found to comprise predominantly natural soils with localised inclusions of construction debris
- Locally within the southeastern part of the site an apparently localised pocket of locally contaminated made ground has been found in part of the site that was formerly occupied by poultry buildings
- No visual or olfactory evidence of ground contamination was noted within the near surface soils other than the occasional presence of brick and tile fragments within the backfilled former fishing lake, with subsequent laboratory soil contamination testing not indicating the presence of elevated concentrations of a wide range of potential contaminants across the site, and only a single locally raised concentration of lead within the made ground in the former poultry farm area.;
- groundwater was encountered within the superficial deposits at a range of depths that suggest localised pockets of perched groundwater are present within the sandier layers of these soils rather than hydraulically continuous; and
- soil gas monitoring carried out to date has not indicated elevated concentrations of potentially hazardous soils gasses.

5.1 Contaminants of Concern

The results of comprehensive laboratory analyses carried out by an MCERTS accredited laboratory on a soil samples recovered from this site are enclosed. A total of 10 soil samples were submitted for routine contamination testing including testing for a wide range of metallic contaminants, speciated hydrocarbons, speciated poly-aromatic hydrocarbons and asbestos the results of which are presented in Part 1 of this report.

The significance of the measured concentrations of any chemicals of concern has therefore 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. The acceptability criteria are presented as overleaf;

Determinant	Acceptability Criteria (residential with plant uptake) mg/kg	Number of exceedances	Location and value of exceedances
Asbestos	No asbestos	None	--
Arsenic (As)	37	None	--
Cadmium (Cd)	11	None	--
Chromium (hex)	6.0	None	--
Chromium (Cr)	910	None	--
Copper (Cu)	2400	None	--
Lead (Pb)	200	1	BH 17 at 1.00m – 271mg/kg
Mercury (Hg)	1.2	None	--
Nickel (Ni)	130	None	--
Selenium (Se)	250	None	--
Zinc (Zn)	3700	None	--
Benzo(a)pyrene	2.2	None	--
Total Phenols (mono)	420	None	--
Speciated Fuel Related Hydrocarbons	Various species specific	None	--

The single elevated result of lead detected within a sample of the made ground recovered from Borehole No 17 at a depth of 1.00m is considered to be consistent with the apparently localised pocket of increased depth of made ground that was identified as part of the ground investigation in the area of the former poultry farm that is now used for caravan storage..

6.0 ADVICE AND RECOMMENDATIONS

The low strength predominantly clayey superficial deposits are considered suitable for the support of only lightly loaded spread foundations, whilst the underlying firm becoming stiff clay soils of the London Clay should be suitable for supporting more heavily loaded spread foundations.

6.1 Spread Foundations

Moderate width pad or strip foundations are considered to be viable for the development at this site. Foundations may be designed to found within the medium strength brown variably sandy clay soils of the River Terrace Deposits, Head Deposits or 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 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, a check should however be made on the magnitude of settlement once the base sizes are known, as the design bearing pressure is settlement dependent.

In view of the variability of the near surface soils, strip foundations should be formed with mesh reinforcement to mitigate the potential risk of differential settlements.

Foundations will need to be deepened in the vicinity of existing and proposed trees and National House Building Council (NHBC) guidelines with respect to Medium Volume Change Potential clay soils.

Due to the presence of abundant trees along the various site boundaries, there is a risk that should any plots be constructed within the immediate vicinity of trees or groups of trees that foundations could locally need to extend to a depth such that they are no longer viable and piled foundations may be required, for which further ground investigation would be necessary.

Foundation excavation formed in winter when groundwater levels are anticipated to be higher may also encounter groundwater inflows and associated excavation instability, which may mean that foundations and deep excavations for drainage may only be readily formed within the traditionally drier months. Recourse to piled foundations may be required for foundations required to be formed in winter months, with the results of the ongoing programme of winter water level monitoring being used to inform future development strategies.

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 plot specific 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 all 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.

6.2 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 dry and broadly stable in the short term, other than during winter months or following any periods of prolonged rainfall when groundwater may be expected to be encountered with associated excavation instability.

Deeper excavations for foundation in the vicinity of trees or for deeper drainage may encounter groundwater even during the traditionally drier summer months and excavation instability should be anticipated for any such works.

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.

The areas of the site occupied by the backfilled former fishing lake is understood to be outside of the proposed development zone such that excavation into these soils is not anticipated to be required. Should this change, the anticipated instability of excavations within this deeper backfill should be considered further.

6.3 Ground Floor Slabs

In view of the presence of Medium Volume Change Potential clay soils and variable depth of made ground, 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.

6.4 Pavement Design

The formation level for hardstandings and access roads across the majority of the site is likely to be within the near surface clay soils.

Once the design levels and layout are finalised insitu CBR testing should be carried out. At this stage it is anticipated that CBRs in the region of 2% to 5% are anticipated within the near surface soils

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.

6.5 Buried Services

Precautions to ensure the protection of potentially sensitive underground services with regards to ground contamination are not envisaged as part of the development of this site, although discussions should be held with the statutory providers as they have a duty to ensure the appropriate protection of buried services from any deleterious ground conditions.

6.6 Effect of Sulphates

The results of laboratory geotechnical testing indicate low concentrations of soluble sulphate, corresponding to Class DS-1 AC-1s of Table 2 of BRE Special Digest 1: SD1 Part 1.

6.7 Surface Water Drainage

Soakage testing did not form part of the brief to this investigation, due to the presence of low permeability clay soils and localised areas of locally granular soils with shallow groundwater rendering the potential use of soakaways unviable as part of the design of surface water management at this site.

6.8 Contamination Risk Assessment

The historical use of the majority of this site as open agricultural land is not considered to present a potentially contaminative history and this has been borne out by the results of the soil contamination testing of samples recovered from the majority of the site.

The historical use of the southeastern part of the site as part of a former poultry farm does present a potential risk of ground contamination and an apparently localised pocket of locally deeper made ground has been identified within this site. Where tested, this made ground has been found to be locally contaminated with an elevated concentration of lead and raised concentrations of other potential chemicals of concern.

The presence of a backfilled formerly excavated fishing lake within the western central part of the site presents a potential source of contamination as is apparent that whilst the majority of the backfilled soils may be site won, at least some evidence of localised pockets of soil containing

construction debris have been identified, although no indications of any ground contamination have been identified.

The results of the ground investigation have not identified widespread visual or olfactory indications of contamination, although localised brick and tile have been locally encountered within the backfill to the former fishing lake. A single elevated concentration of lead has been detected in a single sample from an apparently localised pocket of the made ground recovered present within the southeastern part of the site.

The monitoring carried out to date has also not indicated the presence of elevated concentrations of soil gasses.

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.

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

Human Health

Potential risks posed to human health have been considered and the results of soil contamination testing of samples recovered from across the majority of the site do not indicate a requirement for ground remediation on the basis of an assumed residential with plant uptake end use. The results of soil gas monitoring have not indicated a requirement for soil gas protection to be incorporated in to the design of ground floor slabs.

The proposed formation level to areas of private domestic garden are likely to be formed within natural soils, where they may locally be formed in made ground, such as in the southeastern part of the site where apparently localised and locally contaminated made ground has been identified additional inspection and verification will be required to confirm the suitability of soils that remain at garden formation level. Depending upon finalised designs and levels, garden inspections will need to be documented and photographed, with further plot specific inspections and testing carried out as necessary.

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

The area of the backfilled former fishing lake is to form part of an area of public open space and is not considered to pose a risk to human health, although inspection of the formation level for this area of soft landscaping should be carried out following any site strip that may be carried out, subject to any ecological constraints.

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 and 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 whilst the final decision rests with the providing utility company, a requirement for protection is not anticipated.

Adjoining land,

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

It will be important to locate the former pump identified on historical mapping to ensure that it has been decommissioned in accordance with the Environment Agency best practice guidelines. If it has not been decommissioned, then as part of the development it will need to be decommissioned and documented by Wilson Bailey Partnership or others.

Ecological systems

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

Archaeological sites and ancient monuments

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

Whilst the results of the contamination testing have not indicated the widespread presence of elevated concentrations of a wide range of potential contaminants, as with the development of any site, site workers should be made aware of the potential for contamination to be present. The method of site working should be in accordance with guidelines set out by HSE¹ and CIRIA² and the requirements of the Local Authority Environmental Health Officer (EHO).

6.9 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.

1 HSE (1992) HS(G)66 *Protection of workers and the general public during the development of contaminated land* HMSO

2 CIRIA (1996) *A guide for safe working on contaminated sites* Report 132, Construction Industry Research and Information Association

Based upon the results of the analyses carried out and the technical guidance provided by the Environment Agency³ it is considered likely that near surface topsoil and subsoil are likely to be classified as Non-Hazardous waste by virtue of the presence of organic matter, should they require off site disposal. It is also considered that segregated arisings from excavations into the underlying natural soils may be classified as Inert waste, subject to further confirmatory WAC testing.

It is considered likely that the topsoil present across the site could be effectively stripped and segregated and subject to additional confirmatory stockpile testing, site won topsoil could potentially be viable for reuse as part of the completed development. Any site won topsoil intended for reuse should be appropriately stockpiled and managed in accordance with the guidance provided by DEFRA until required.

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.

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.

8.0 REQUIREMENT FOR REMEDIATION

On the basis of the ground investigation works and subsequently soil gas and groundwater monitoring presented within this report the following requirement for remediation has been identified;

Requirement for Soil Contamination Remediation

Elevated concentration of a wide range of potential soil contaminants have not generally been identified across the site such that there is not a requirement for site wide soil remediation, over and above a routine geo-environmental watching brief and topsoil materials management.

The proposed formation level to areas of private domestic garden are likely to be formed within natural soils, where they may locally be formed in made ground, additional inspection and verification will be required to confirm the suitability of soils that remain at garden formation level.

³ Environment Agency 2003. *Hazardous Waste: Interpretation of the definition and classification of hazardous waste*. Technical Guidance WM2

Garden inspections will need to be documented and photographed, with further plot specific inspections and testing carried out as necessary.

It is anticipated that as part of this approach, the extent of the apparently localised pocket of made ground present within the southeastern part of the site will be identified. These soils are likely to require localised removal and disposal to ensure that any proposed garden to be constructed in this part of the site will be formed within natural soils.

Requirement for Groundwater Remediation

The ground investigation works have not indicated the potential for on-site contamination of the groundwater. As noted previously it will be important to check that the historical well noted on selected historical maps is appropriately decommissioned in accordance with the Environment Agency best practice guidance.

Requirement for Soil Gas Remediation

The ground investigation has not identified the presence of elevated concentrations of soil gasses such that gas protection is not anticipated to be a requirement for the development at this site.

9.0 FURTHER WORK

The proposed formation level to areas of private domestic garden is likely to be formed within natural soils, where they may locally be formed in made ground, additional inspection and verification will be required to confirm the suitability of soils that remain at garden formation level. It is anticipated that this work will require the localised removal and disposal of the apparently localised pocket of locally contaminated made ground that has been identified within the southeastern part of the site.

Garden inspections will need to be documented and photographed, with further plot specific inspections and testing carried out as necessary.

As with the development of any site there is the risk of 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 in consultation with the Regulatory Authorities before agreeing the scope of any remedial actions as necessary.

It is conceivable that further geotechnical focused ground investigation, including CBR testing for road pavement design, may be required to inform the detailed design of the proposed roads, structures and site drainage infrastructure, once the design, layout, scale and nature of the development has been finalised.

APPENDIX

Borehole and Trial Pit Records

Geotechnical Laboratory Test Results (Soil)

Chemical Analyses (Soil)

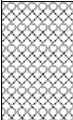
Soil Gas and Groundwater Monitoring Results

Groundsure Geological and Environmental Data Summaries

Selected Historical Ordnance Survey Maps

Constraints Site Plan

Site Plan

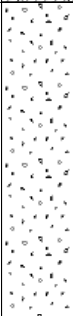
 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH1
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.80)	MADE GROUND (reworked soft brown and grey clay with occasional fine brick fragments)		
1.00-1.45 1.00	SPT N=10 D2		2,2/1,3,3,3		0.80 (1.00)	Firm yellowish brown silty sandy CLAY		
1.50	D3		Water strike(1) at 1.80m.		1.80	Pale orange-brown silty sandy fine GRAVEL		▽1
2.00-2.45 2.00	SPT N=12 D4		1,2/2,2,3,5		1.90 (1.00)	Firm yellowish brown and grey silty slightly sandy CLAY with occasional fine flint gravel		
2.50	D5				2.90	Firm brown and grey mottled CLAY		
3.00-3.45 3.00	SPT N=15 D6		1,2/2,3,5,5		(1.10)			
3.50	D7				4.00	Complete at 4.00m		
4.00-4.45 4.00	SPT N=19 D8		3,2/3,5,4,7					
Remarks Groundwater encountered at 1.80m. Standpipe installed with a response zone from 1.00m to 3.00m.							Scale (approx) 1:50	Logged By Figure No. J202429.BH1



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 30/09/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.40) 0.40	MADE GROUND (reworked topsoil)		
1.00	D2				(1.05)	Firm brown silty sandy CLAY		
1.50	D3		Water strike(1) at 1.50m.		1.45	Orange-brown silty sandy GRAVEL		▽1
2.00	D4				(0.95) 2.40	Firm brown and grey mottled silty CLAY		
2.50	D5				(1.60)			
3.00	D6							
3.50	D7							
4.00	D8				4.00	Complete at 4.00m		

Remarks Groundwater encountered at 1.50m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH10	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH11	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				(0.30) 0.30	TOPSOIL			
1.00-1.41 1.00	SPT 50/260 D2		7,10/13,15,14,8		(2.10)	Pale yellowish brown and pale grey mottled silty sandy locally very siltyb fine to medium flint GRAVEL		Σ1	
1.50	D3								
2.00 2.00-2.33	D4 SPT 50/180		Water strike(1) at 2.00m. 16,10/21,21,8		2.40				
2.40	D5					Complete at 2.40m			
Remarks Groundwater encountered at 2.00m. Standpipe installed with a response zone from 1.00m to 2.00m.							Scale (approx) 1:50	Logged By	
							Figure No. J202429.BH11		

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH12	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1		Water strike(1) at 1.80m.		(0.15) 0.15	TOPSOIL		▽1	
						Firm pale yellowish rbrown and greyish brown very silty CLAY locally gradig into slightly sandy silt below 1.30m			
1.00	D2				(1.65)				
1.50	D3								
1.80					1.80	Orange-brown silty sandy fine to medium flint GRAVEL			
2.00	D4				(1.00)				
2.50	D5				2.80	Firm dark grey slightly silty CLAY			
3.00	D6				(1.20)				
3.50	D7								
4.00	D8				4.00	Complete at 4.00m			
Remarks Groundwater encountered at 1.80m.							Scale (approx) 1:50	Logged By	
							Figure No. J202429.BH12		



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 08/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.30)	MADE GROUND (reworked topsoil)		
					0.30	MADE GROUND (reworked topsoil and clay with gravel and tile fragments)		
					(0.40)			
					0.70	Firm pale grey very silty CLAY		
1.00-1.45	SPT N=16		2,3/3,3,4,6		(0.70)			
1.00	D2							
					1.40	Pale orange-brown silty slightly clayey fine to medium SAND		
1.50	D3				(0.40)			
					1.80	Firm brown mottled orange-brown and pale grey CLAY		
2.00-2.45	SPT N=11		2,1/2,3,2,4					
2.00	D4				(1.30)			
2.50	D5							
3.00-3.45	SPT N=11		1,2/2,3,3,3		3.10	Firm dark bluish grey CLAY		
3.00	D6							
					(1.35)			
3.50	D7							
4.00-4.45	SPT N=14		2,3/3,3,3,5		4.45	Complete at 4.45m		
4.00	D8							
4.45	D9							

Remarks Groundwater not encountered. Standpipe installed with a response zone from 1.00m to 4.00m.	Scale (approx)	Logged By
	1:50	
	Figure No. J202429.BH13	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 08/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.30) 0.30	TOPSOIL		
					0.60	Firm orange-brown and pale grey very silty very sandy CLAY		
1.00	D2				0.90 (0.40)	Reddish orange-brown silty sandy fine to medium flint GRAVEL		
1.50	D3				1.30	Soft pale orange-brown and pale grey very clayey SILT with orange-brown sand partings		
2.00	D4		Water strike(1) at 2.00m.		(0.80) 2.10	Pale yellowish browbn silty fine to medium SAND with scattered fine to medium flint gravel		Σ1
2.50	D5							
3.00	D6				(1.90)			
3.50	D7							
4.00	D8				4.00	Complete at 4.00m		

Remarks Groundwater encountered at 2.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH14	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 08/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.25) 0.25	TOPSOIL		
						Soft locally fine to medium pale grey very silty very sandy CLAY		
1.00-1.45 1.00	SPT N=11 D2		1,1/2,2,2,5		(1.25)			
1.50	D3		Water strike(1) at 1.60m.		1.50 1.60 1.70	Pale grey SILT		▽1
						Dark orange-brown silty SAND		
2.00-2.45 2.00	SPT N=4 D4		2,1/1,1,1,1		(0.80)	Orange-brown silty sandy fine to medium flint GRAVEL		
2.50	D5				2.50 (0.30) 2.80	Soft orange-brown very silty veru sandy CLAY		
						Stiff dakr bluish grey CLAY		
3.00-3.45 3.00	SPT N=24 D6		2,3/5,5,6,8		(0.65)			
3.45	D7				3.45	Complete at 3.45m		

Remarks Groundwater encountered at 1.60m. Standpipe installed with a response zone from 1.00m to 3.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH15	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 08/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1		Water strike(1) at 1.70m.		(0.20) 0.20	TOPSOIL		
						Firm locally soft silty CLAY		
1.00	D2				(0.90)			
					1.10	Firm locally soft very clayey sandy SILT		
1.50	D3				(0.60)			
					1.70	Pale grey sandy fine to medium flint GRAVEL		▽1
2.00	D4				(0.90)			
2.50	D5				2.60 (0.20) 2.80	Orange-brown silty clayey fine to medium flint GRAVEL		
3.00	D6				(0.60)	Firm dark orange-brown silty sandy CLAY with abundant fine to medium flint gravel		
3.50	D7				3.40 (0.60)	Firm becoming stiff CLAY		
4.00	D8				4.00	Complete at 4.00m		

Remarks Groundwater encountered at 1.70m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH16	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 08/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1		Water strike(1) at 0.80m.		0.10	MADE GROUND (reworked topsoil)		▽1
1.00-1.45 1.00	SPT N=15 D2		2,4/4,3,4,4		(1.40)	MADE GROUND (reworked brown sandy clay with bricks, block fragments, concrete blocks and gravel)		
1.50	D3				1.50	Pale yellowish orange-brown silty fine to medium SAND with scattered fine to medium flint gravel		
2.00-2.45 2.00	SPT N=10 D4		2,1/2,2,3,3					
2.50	D5				(2.30)			
3.00-3.45 3.00	SPT N=11 D6		2,1/2,2,3,4					
3.50	D7							
4.00-4.45 4.00	SPT N=12 D8		2,2/2,3,3,4		3.80 (0.20) 4.00	Firm dark brown and dark grey mottled slightly silty CLAY		
						Complete at 4.00m		

Remarks Groundwater encountered at 0.80m.	Scale (approx)	Logged By
	1:50	
	Figure No. J202429.BH17	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH18	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 09/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.50	D1				0.05 0.15	MADE GROUND (reworked topsoil) MADE GROUND (aggregate and gravel) Firm pale brown, pale grey silty sandy CLAY		 	
1.00	D2				(1.85)			    	
1.50	D3							    	
2.00	D4				2.00	Firm brown with grey mottled slightly silty CLAY		    	
2.50	D5				(1.00)			    	
3.00	D6				3.00	Complete at 3.00m		    	
Remarks Groundwater not encountered.								Scale (approx) 1:50	Logged By
								Figure No. J202429.BH18	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH19	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 09/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				(0.30) 0.30	TOPSOIL			
1.00-1.45 1.00	SPT N=10 D2		2,1/2,2,3,3			Firm reddish orange-brown and pale grey silty sandy CLAY with occasional partings of orange-brown silty sand with scattered fine to medium flint gravel			
1.50	D3				(2.50)				
2.00-2.45 2.00	SPT N=10 D4		2,1/2,3,2,3						
2.50	D5								
3.00-3.45 3.00	SPT N=12 D6		2,2/3,2,3,4		2.80	Firm beconing stiff brown with pale grey becoming dark grey mottled slightly sitly CLAY			
3.50	D7				(1.20)				
4.00-4.45 4.00	SPT N=15 D8		3,3/3,3,4,5		4.00	Complete at 4.00m			
Remarks							Scale (approx)	Logged By	
							1:50		
							Figure No. J202429.BH19		

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH2	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1		Water strike(1) at 0.80m.		(0.30)	TOPSOIL		▽1	
					0.30	Firm brown silty sandy CLAY with scattered fine to medium flint gravel and bands of sand			
1.00-1.45	SPT N=7		1,1/1,1,2,3		(0.80)	Firm pale grey silty CLAY			
1.00	D2				1.10				
1.50	D3		3,2/2,1,1,1		(0.80)	Orange-brown silty sandy fine to medium flint GRAVEL			
2.00-2.45	SPT N=5				1.90				
2.00	D4		1,1/2,2,3,4		(0.80)	Firmdark grey silty sandy locally very sandy CLAY			
2.50	D5				2.70				
3.00-3.45	SPT N=11		2,2/3,3,4,5		(1.30)	Complete at 4.00m			
3.00	D6				4.00				
3.50	D7								
4.00-4.45	SPT N=15								
4.00	D8								
Remarks Groundwater encountered at 0.80m in sand layer.							Scale (approx) 1:50	Logged By	
							Figure No. J202429.BH2		

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH20	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 09/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				(0.20) 0.20	TOPSOIL			
						Firm pale grey and brown silty sandy CLAY			
1.00	D2				(1.50)				
1.50	D3								
			Water strike(1) at 1.70m.		1.70	Firm yellowish orange-brown and brown silty sandy CLAY with fine to medium flint gravel			▽1
2.00	D4				(0.30) 2.00	Firm brown and pale grey mottled sitly CLAY with occasional orange-brown sand partings			
2.50	D5				(0.80)				
					2.80	Firm brown and grey mottled slightly silty CLAY			
3.00	D6				(1.20)				
3.50	D7								
4.00	D8				4.00	Complete at 4.00m			
Remarks Groundwater encountered at 1.70m.								Scale (approx) 1:50	Logged By
								Figure No. J202429.BH20	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 09/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.25) 0.25	TOPSOIL		
1.00-1.45 1.00	SPT N=9 D2		1,1/1,3,2,3		(1.15)	Firm orange-brown, brown and pale grey silty sandy CLAY with occasional partigns of yellowish brown silty sand		
1.50	D3				1.40	Firm brown with pale grey mottled slightly silty CLAY with occasional partings of orange-brown silty sand		
2.00-2.45 2.00	SPT N=10 D4		1,1/2,2,3,3		(2.20)			
2.50	D5							
3.00-3.45 3.00	SPT N=11 D6		2,1/2,3,3,3					
3.50	D7				3.60 (0.40)	Stiff dark bluish grey CLAY		
4.00-4.45 4.00	SPT N=12 D8		2,2/3,2,3,4		4.00	Complete at 4.00m		

Remarks Groundwater not encountered.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH21	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 09/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1		Water strike(1) at 0.80m.		(0.30) 0.30	TOPSOIL		▽1
1.00	D2					Firm pale grey and pale brown very silty very sandy CLAY with layers and partings of orange-brown and yellowish brown silty fine to medium sand and scattered fine to medium flint grave;		
1.50	D3				(2.20)			
2.00	D4							
2.50	D5				2.50	Firm becoming stiff brown and pale grey mottled slightly silty CLAY		
3.00	D6				(1.50)			
3.50	D7							
4.00	D8				4.00	Complete at 4.00m		

Remarks Groundwater encountered at 0.80m in sand layer.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH22	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 09/10/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.35) 0.35	TOPSOIL		
					(0.55) 0.90	Firm pale yellowish orange-brown and pale grey silty sandy CLAY		
1.00-1.45 1.00	SPT N=13 D2		1,2/2,3,4,4			Firm brown with pale grey mottled slightly silty CLAY		
1.50	D3							
2.00-2.45 2.00	SPT N=12 D4		1,2/3,2,3,4		(2.20)			
2.50	D5							
3.00-3.45 3.00	SPT N=11 D6		1,2/2,3,2,4		3.10	Firm becoming stiff dark bluish grey CLAY		
3.50	D7				(0.90)			
4.00-4.45 4.00	SPT N=14 D8		2,2/3,3,3,5		4.00	Complete at 4.00m		

Remarks	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH23	



Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.50)	MADE GROUND (reworked topsoil)		
1.00	D2		Water strike(1) at 1.00m. 3,4/4,5,5,4		0.50 (0.20)	MADE GROUND (reworked brick rubble and brown sand)		
1.00-1.45	SPT N=18				0.70	Pale yellowish brown silty fine to medium SAND		V1
1.50	D3				(1.10)			
2.00-2.45	SPT N=6		2,2/1,2,1,2		1.80	Firm dark brown and grey mottled CLAY		
2.00	D4				(1.20)			
2.50	D5							
3.00-3.45	SPT N=16		3,3/3,4,4,5		3.00	Complete at 3.00m		
3.00	D6							

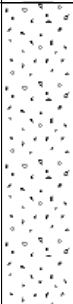
Remarks Groundwater encountered at 1.00m. Standpipe installed with a response zone from 1.00m to 3.00m.							Scale (approx) 1:50	Logged By
							Figure No. J202429.BH24	



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 30/09/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.30) 0.30	TOPSOIL		
					0.30	Soft pale brown and pale grey very silty very sandy CLAY		
1.00	D2				(0.60) 0.90	Firm pale orange-brown, yellowish brown and pale grey silty sandy locally very sandy CLAY with scattered fine to medium flint gravel		
1.50	D3				(1.00)			
2.00	D4		Water strike(1) at 1.90m.		1.90	Orange-brown silty sandy fine to medium flint GRAVEL		▽1
2.50	D5				(1.90)			
3.00	D6							
3.50	D7				3.80	Stiff dark grey and brown slightly silty CLAY		
4.00	D8				(0.65)			
4.45	D9				4.45	Complete at 4.45m		

Remarks Groundwater encountered at 1.90m. Standpipe installed with a response zone from 1.00m to 3.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH3	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH4
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				0.50	MADE GROUND (with fine brick fragments)		
1.00-1.45 1.00	SPT N=15 D2		1,2/3,4,4,4		(1.50)	Firm pale yellowish brown and pale grey silty very sandy CLAY		
1.50	D3		Water strike(1) at 1.80m.		2.00			▽1
2.00-2.45 2.00	SPT N=30 D4		5,4/6,8,8,8		(2.00)	Dense orange-brown silty sandy fine to medium flint GRAVEL		
2.50	D5							
3.00-3.45 3.00	SPT N=41 D6		4,8/9,10,11,11		4.00			
3.50	D7							
4.00	D8					Complete at 4.00m		
Remarks Groundwater encountered at 1.80m. Standpipe installed with a response zone from 1.00m to 3.00m.							Scale (approx) 1:50	Logged By
							Figure No. J202429.BH4	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH5	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				(0.20)	MADE GROUND (reworked topsoil)			
					0.20	Firm brown silty sandy CLAY with occasional fine flint gravel			
					(0.30)	Firm orange-brown,pale grey and yellowish brown silty sandy CLAY			
1.00	D2				0.50				
					(1.00)				
1.50	D3		Water strike(1) at 1.50m.		1.50	Orange-brown silty locally clayey fine to medium SAND with occasional fine flint gravel		▽1	
2.00	D4			(0.40)					
				1.90	Firm pale grey very silty sandy CLAY				
					2.00	Complete at 2.00m			
Remarks Groundwater encountered at 1.50m.							Scale (approx) 1:50	Logged By	
							Figure No. J202429.BH5		



Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 30/09/2024	Engineer DPB	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.20) 0.20	MADE GROUND (reworked topsoil)		
1.00	D2				(1.30)	MADE GROUND (reworked brown, pale brown and pale grey silty sandy clay with scattered gravel)		
1.50	D3		Water strike(1) at 1.50m.		1.50 (0.40)	Firm orange-brown, pale brown, pale grey silty sandy CLAY		▽1
2.00	D4				1.90	Orange-brown silty sandy locally clayey fine to medium flint GRAVEL		
2.50	D5				(1.10)			
3.00	D6				3.00	Complete at 3.00m		

Remarks Groundwater encountered at 1.50m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH6	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH7		
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429		
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.50	D1	Water strike(1) at 1.60m.			(0.20) 0.20	TOPSOIL		▽1		
									Firm pale brown silty sandy CLAY	
1.00	D2				(1.10)					
										
1.50	D3				1.30 (0.30)				Firm pale grey siltuy slightly sandy CLAY with scattered fine flint gravel	
					1.60 (0.30)				Pale grey silty fine to medium SAND with scattered fine to medium flint gravel	
2.00	D4				1.90				Firm pale brown silty CLAY	
										
2.50	D5				(0.90)					
										
3.00	D6				2.80	Stiff dark bluish grey CLAY				
										
3.50	D7				(1.20)					
										
4.00	D8				4.00	Complete at 4.00m				
Remarks Groundwater encountered at 1.60m.							Scale (approx)	Logged By		
							1:50			
							Figure No. J202429.BH7			

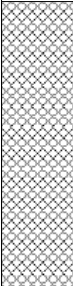


Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Dandara Southern Ltd	Job Number J202429
	Location	Dates 30/09/2024	Engineer DPB	Sheet 1/1

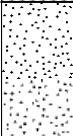
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				(0.20) 0.20	TOPSOIL		
1.00	D2				(1.20)	Firm brown silty sandy locally very silty very sand CLAY		
1.50	D3		Water strike(1) at 1.40m.		1.40	Pale yellowish brown silty fine to medium SAND		▽1
2.00	D4							
2.50	D5				(2.60)			
3.00	D6							
3.50	D7							
4.00	D8				4.00	Complete at 4.00m		

Remarks Groundwater encountered at 1.40m. Standpipe installed with a resoponse zone from 1.00m to 4.00m.	Scale (approx) 1:50	Logged By
	Figure No. J202429.BH8	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Number BH9	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 30/09/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1		Water strike(1) at 2.00m.		(0.20) 0.20	TOPSOIL		▽1	
					(0.60)	Firm brown silty CLAY			
1.00	D2				0.80	Firm orange-brown silty sandy CLAY with layers of orange-brown silty sand			
1.50	D3				(1.40)				
2.00	D4				2.20	Pale brown silty SAND with scattered fine flint gravel			
2.50	D5				(1.60)				
3.00	D6				3.80 (0.20) 4.00	Stiff dark bluish grey slightly silty CLAY			
3.50	D7					Complete at 4.00m			
4.00	D8								
Remarks Groundwater encountered at 2.00m rising to ground level.							Scale (approx)	Logged By	
							1:50		
							Figure No. J202429.BH9		

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Trial Pit Number TP1																																																								
Excavation Method Trial Pit		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429																																																								
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1																																																								
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water																																																								
0.50	D1					MADE GROUND (reworked topsoil with clay and gravel and occasional bricks)																																																										
1.00	D2				(1.90)																																																											
1.50	D3																																																															
2.00	D4				1.90 (0.20)	Soft dark grey silty CLAY with decayedd roots and rootlets	—																																																									
					2.10 (0.30)	Pale grey silty SAND with occasional gravel																																																										
2.40	D5				2.40	Complete at 2.40m																																																										
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Scale (approx) 1:50				Logged By		Figure No. J202429.TP1																																																										

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Trial Pit Number TP2		
Excavation Method Trial Pit		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429		
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.50	D1		Water strike(1) at 1.10m.		(1.90) 1.90 (0.20) 2.10 (0.20) 2.30 (0.20) 2.50	MADE GROUND (reworked topsoil with brown clay, bricks, rope, decayed branches and pockets of decayed organic matter)		V1		
1.00	D2					Soft dark grey and grey very silty CLAY with occasional decayed organic matter				
1.50	D3					Pale grey silty sandy fine to medium SAND with occasional fine to medium flint gravel				
2.00	D4					Firm brown and grey mottled CLAY				
2.50	D5					Complete at 2.50m				
Plan					Remarks					
					Groundwater encountered at 1.10m. Trial pit collapsing					
					Scale (approx)		Logged By		Figure No.	
					1:50				J202429.TP2	

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Trial Pit Number TP4	
Excavation Method Trial Pit		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1		Water strike(1) at 1.10m.		(0.30) 0.30	MADE GROUND (reworked topsoil)		V1	
1.00	D2			(0.90)		Firm pale yellowish brown and orange-brown very silty sandy clay with scattered fine to medium flint gravel and partings and layers of pale yellowish brown silty SAND			
1.20	D3			1.20		Complete at 1.20m			
Plan						Remarks			
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.									
Scale (approx)				Logged By		Figure No.			
1:50						J202429.TP4			



Reading Road, Arborfield

**Trial Pit
Number**
TP5

Trial Pit

Dimensions

Dates	08/10/2024
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Dandara Southern Ltd

Job Number
J202429

Location

DPB

Sheet
1/1

Depth
(m)

Sample / Tests

Water
Depth
(m)

Field Records

Level
(mOD)Depth
(m)
(Thickness)

Description

Legend

Water	
-------	--

0.50

D1

strike(1) at 1.00m.

(1.80)

MADE GROUND (reworked topsoil, clay, glass, bricks, decayed timber and hard metal with plastic)

1.00

D2

Complete at 1.80m

Plan

Remarks

Abundant groundwater encountered at 1.00m. Trial pit collapsing & abandoned.

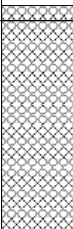
Scale (approx)

1:50

Logged By

Figure No.

J202429.TP5

 WILSON BAILEY GEOTECHNICAL & ENVIROMENTAL						Site Reading Road, Arborfield		Trial Pit Number TP6	
Excavation Method Trial Pit		Dimensions		Ground Level (mOD)		Client Dandara Southern Ltd		Job Number J202429	
		Location		Dates 08/10/2024		Engineer DPB		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1		Water strike(1) at 1.20m.		0.10	MADE GROUND (reworked topsoil)		V1	
					(1.40)	MADE GROUND (reworked clay with occasional bricks and decayed wood)			
1.00	D2								
1.50	D3				1.50	Pale grey silty SAND with scattered fine to medium flint gravel			
2.00	D4				2.00	Firm pale brown and grey mottled CLAY			
2.10	D5				2.10	Complete at 2.10m			
Plan					Remarks				
.					Groundwater seepage at 1.20m. Trial pit collapsing.				
.									
.									
.									
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.									
Scale (approx)			Logged By		Figure No.				
1:50					J202429.TP6				



Reading Road, Arborfield

**Trial Pit
Number**
TP7

Trial Pit

Dimensions

Dates	08/10/2024
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Dandara Southern Ltd

Job Number
J202429

DPB

Sheet
1/1

Dept
(m)

Sample / Tests

Water
Depth
(m)

Field Records

Level
(mOD)Depth
(m)
(Thickness)

Description

Legend

Water

0.50

D1

1.00

D2

1.50

D3

2 00

D4

0.10

(0.90)

1.00

(1.00)

2 00

MADE GROUND (reworked topsoil)

Pale grey and pale grey very silty locally very clayey fine to medium SAND with scattered fine to medium flint gravel

Firm pale grey and pale brown very silty CLAY

Complete at 2.00m

Plan

Remarks

Groundwater not encountered.

Scale (approx)

1:50

Logged By

Figure No.

J202429.TP7

					Summary of Water Content, Liquid Limit (1 point) and Plastic Limit Results									
Job No. 36298					Project Name Arborfield Dandara					Programme Samples received 31/10/2024 Schedule received 06/11/2024 Project started 07/11/2024 Testing Started 20/11/2024				
Project No. -					Client Wilson Bailey									
Hole No.	Sample				Soil Description	Water content %	Passing 425µm %	Preparation	LL %	PL %	PI %	Remarks		
	Ref	Top m	Base m	Type										
BH1	-	1.50	-	D	Orangish brown slightly mottled light grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	17.4	70	Tested after >425um removed by hand	35	15	20			
BH1	-	2.50	-	D	Light brown slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-angular)	21.1								
BH1	-	5.50	-	D	Dark grey silty CLAY	28.6	100	Tested in natural condition	61	29	32			
BH2	-	1.00	-	D	Light greyish brown slightly sandy slightly gravelly silty CLAY (gravel is fmc and sub-angular)	20.9								
BH2	-	1.50	-	D	Orangish brown slightly mottled bluish grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	19.6	90	Tested after >425um removed by hand	40	18	22			
BH3	-	1.00	-	D	Light greyish brown sandy gravelly silty CLAY (gravel is fmc and sub-angular)	18.9								
BH4	-	1.50	-	D	Orangish brown slightly mottled bluish grey sandy silty CLAY with rare fine gravel	13.9	99	Tested after >425um removed by hand	33	16	17			
BH7	-	1.00	-	D	Brown slightly sandy slightly gravelly silty CLAY with rare rootlets (gravel is fmc and sub-angular to sub-rounded)	22.1								
BH7	-	2.50	-	D	Orangish brown slightly mottled bluish grey silty CLAY	25.4	100	Tested in natural condition	62	26	36			
BH13	-	1.00	1.50	D	Grey slightly mottled light orangish brown slightly gravelly silty CLAY with traces of fine rootlets (gravel is fine and sub-angular to rounded)	15.3	96	Tested after >425um removed by hand	48	19	29			
BH13	-	2.00	-	D	Brown and bluish grey mottled silty CLAY with rare fmc sub-angular gravel	27.2								
BH13	-	3.00	-	D	Dark grey slightly mottled brown silty CLAY	29.6	100	Tested in natural condition	66	29	37			
80g/300 cone used unless otherwise stated, Corretation factor for 1 point method carried out using Table 1 (BS1377: 1990, Part 2)														
 Test Methods: BS EN ISO 17892 Part 1: 2014+A1:2022 Water content Part 12: 2018 +A2:2022 Liquid & plastic limit 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: 21/11/2024				
2519					Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)					MSF-5-R1(b)				

					Summary of Water Content, Liquid Limit (1 point) and Plastic Limit Results							
Job No. 36298					Project Name Arborfield Dandara					Programme Samples received 31/10/2024 Schedule received 06/11/2024		
Project No. -					Client Wilson Bailey					Project started 07/11/2024 Testing Started 20/11/2024		
Hole No.	Sample				Soil Description	Water content %	Passing 425µm %	Preparation	LL %	PL %	PI %	Remarks
	Ref	Top m	Base m	Type								
BH16	-	1.00	-	D	Brown and bluish grey mottled slightly gravelly sandy silty CLAY with rare rootlets (gravel is fmc and sub-angular)	18.8						
BH18	-	1.00	-	D	Orangish brown slightly mottled light grey silty CLAY	26.0	100	Tested in natural condition	60	27	33	
BH19	-	1.50	-	D	Brown slightly mottled bluish grey and orangish brown silty CLAY	26.6						
BH20	-	1.00	-	D	Orangish brown slightly mottled grey silty CLAY with rare fine gravel	24.4	99	Tested after >425µm removed by hand	57	22	35	
BH20	-	2.50	-	D	Dark brown slightly mottled bluish grey silty CLAY	30.4						
BH21	-	1.50	-	D	Orangish brown slightly mottled grey silty CLAY	26.7	100	Tested in natural condition	65	28	37	
80g/300 cone used unless otherwise stated, Corretation factor for 1 point method carried out using Table 1 (BS1377: 1990, Part 2)												
 Test Methods: BS EN ISO 17892 Part 1: 2014+A1:2022 Water content Part 12: 2018 +A2:2022 Liquid & plastic limit <i>These results only apply to the items tested</i> 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: 21/11/2024		
2519					Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)					MSF-5-R1(b)		



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH1

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 1.50

Soil Description Orangish brown slightly mottled light grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)

Depth Base m -

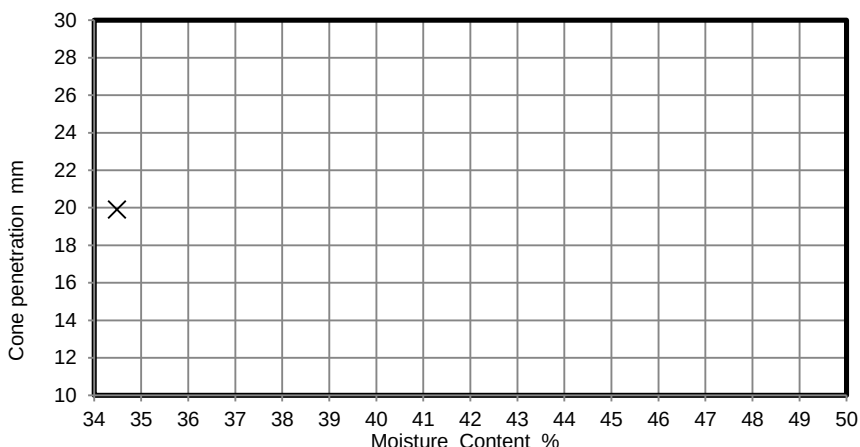
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 17.4 %

% PASSING 425µm SIEVE 70 %

LIQUID LIMIT 35 %

PLASTIC LIMIT 15 %

PLASTICITY INDEX 20 %

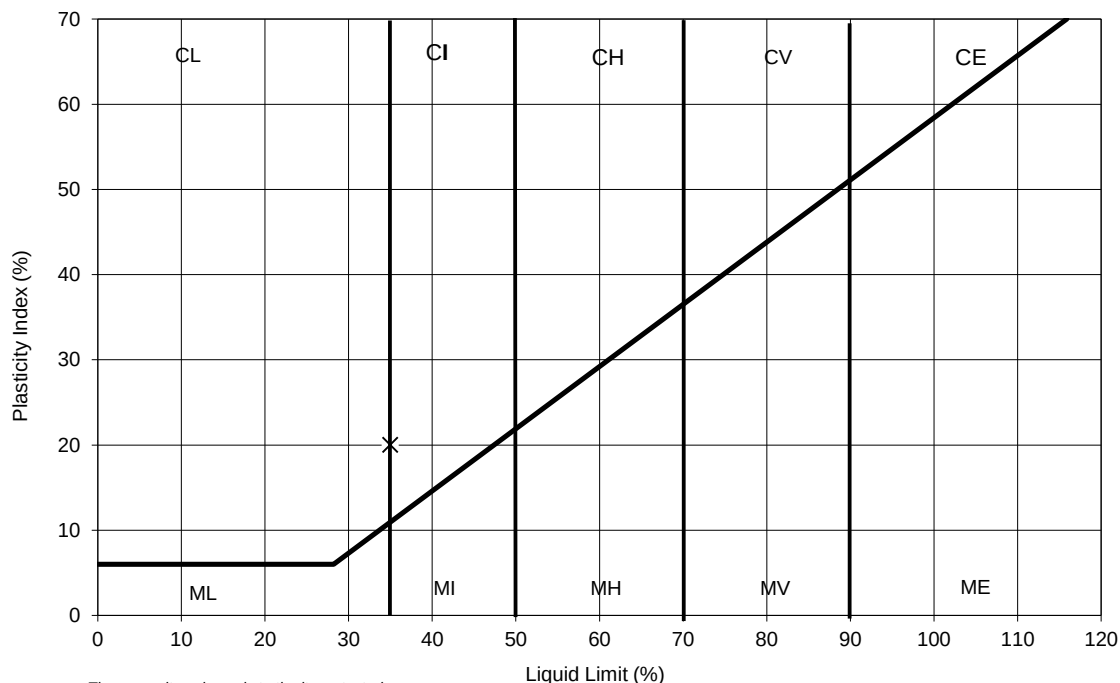
Preparation Method

Tested after >425µm removed by hand

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Checked and Approved

Initials: J.P

Date: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH1

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 5.50

Soil Description Dark grey silty CLAY

Depth Base m -

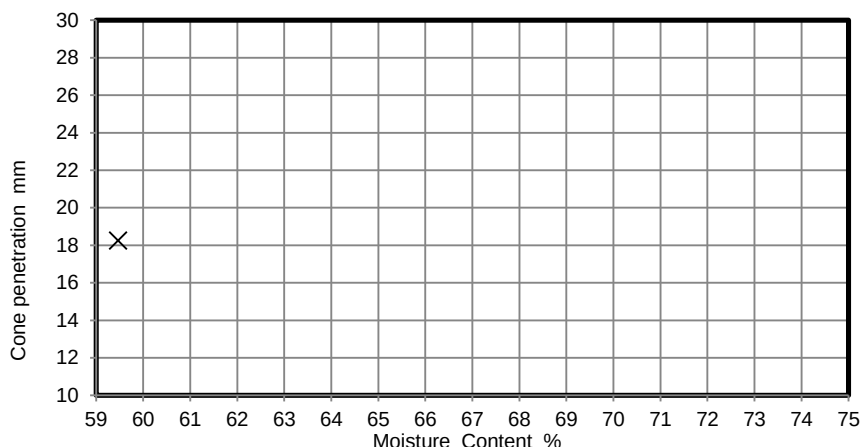
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 28.6 %

% PASSING 425µm SIEVE 100 %

LIQUID LIMIT 61 %

PLASTIC LIMIT 29 %

PLASTICITY INDEX 32 %

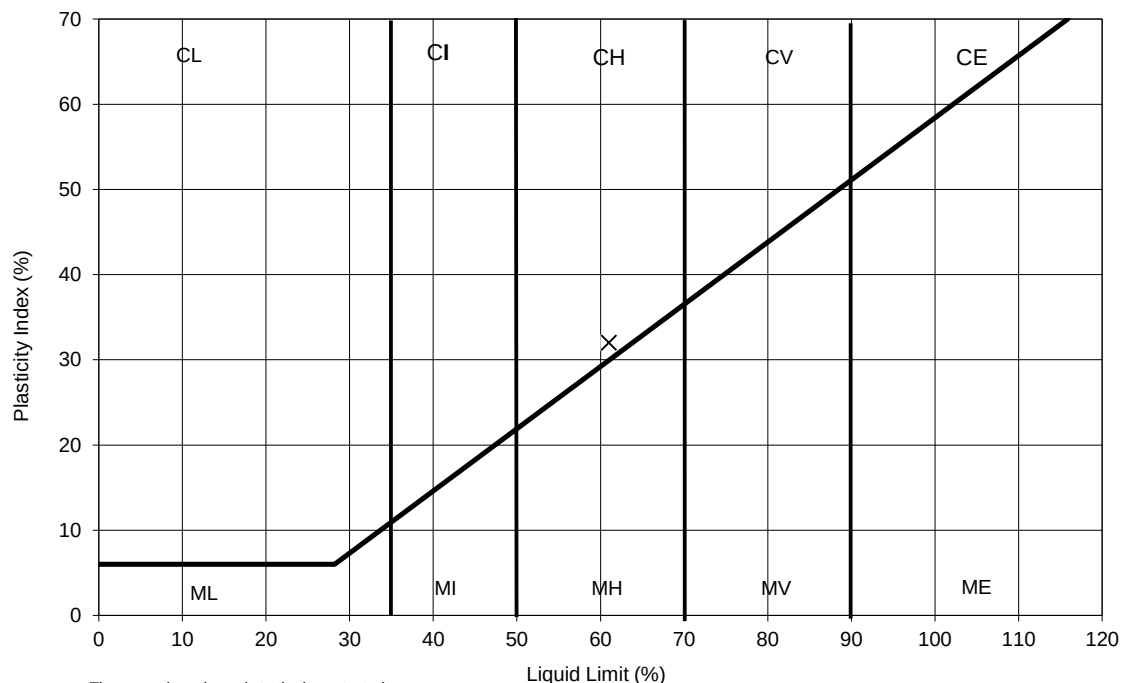
Preparation Method

Tested in natural condition

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH2

Site Name Arborfield Dandara

Sample No. -

Project No. -

Client

Wilson Bailey

Depth Top m 1.50

Soil Description

Orangish brown slightly mottled bluish grey slightly gravelly silty CLAY
(gravel is fm and sub-angular to rounded)

Depth Base m -

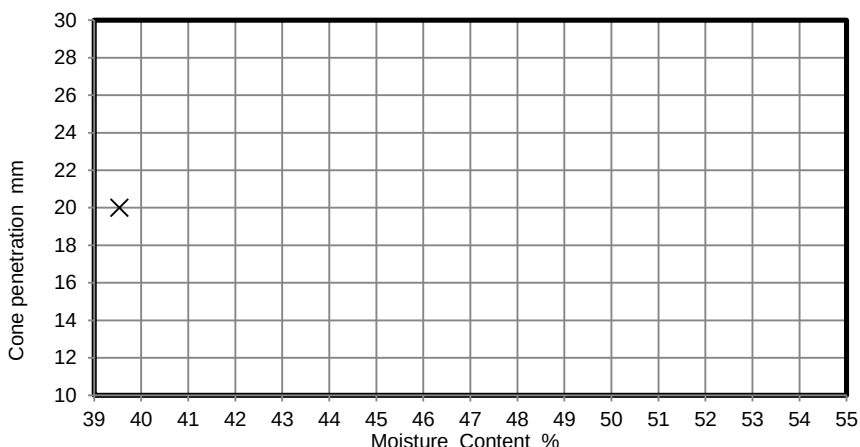
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT

19.6

%

% PASSING 425µm SIEVE

90

%

LIQUID LIMIT

40

%

PLASTIC LIMIT

18

%

PLASTICITY INDEX

22

%

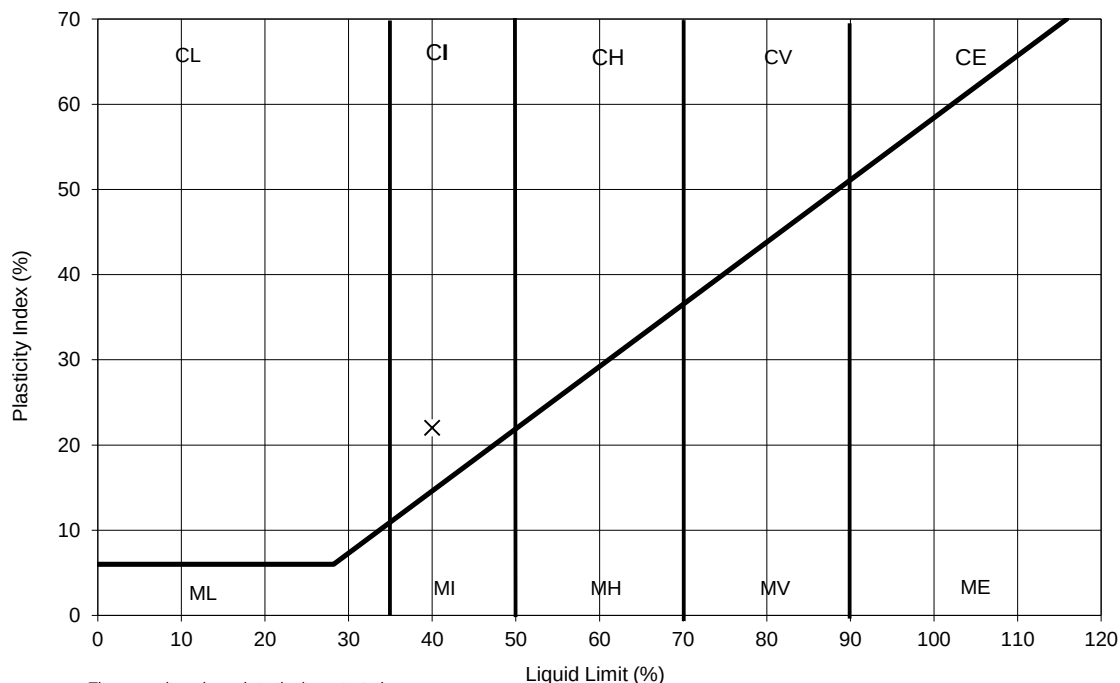
Preparation Method

Tested after >425µm removed by hand

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

Checked and Approved

Initials: J.P

Date: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH4

Site Name Arborfield Dandara

Sample No. -

Project No. -

Client

Wilson Bailey

Depth Top m 1.50

Soil Description

Orangish brown slightly mottled bluish grey sandy silty CLAY with rare fine gravel

Depth Base m -

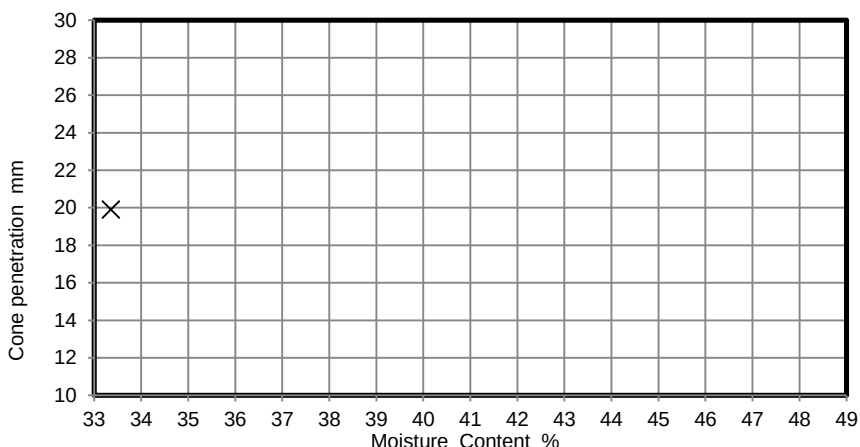
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT

13.9

%

% PASSING 425µm SIEVE

99

%

LIQUID LIMIT

33

%

PLASTIC LIMIT

16

%

PLASTICITY INDEX

17

%

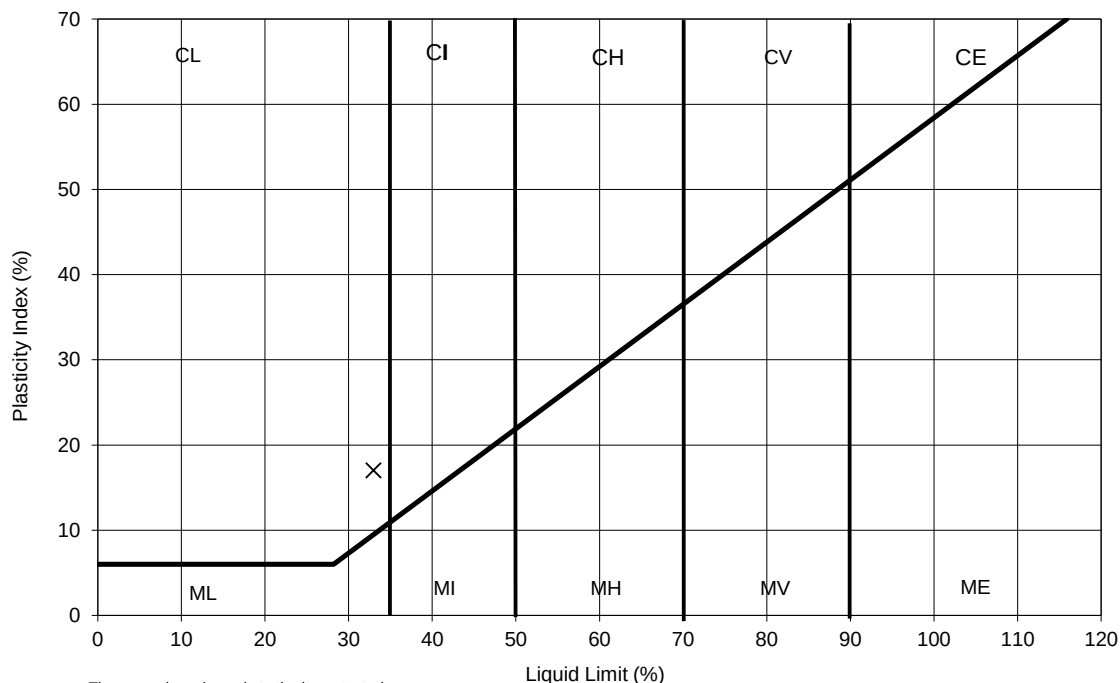
Preparation Method

Tested after >425µm removed by hand

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

Checked and Approved

Initials: J.P

Date: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH7

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 2.50

Soil Description Orangish brown slightly mottled bluish grey silty CLAY

Depth Base m -

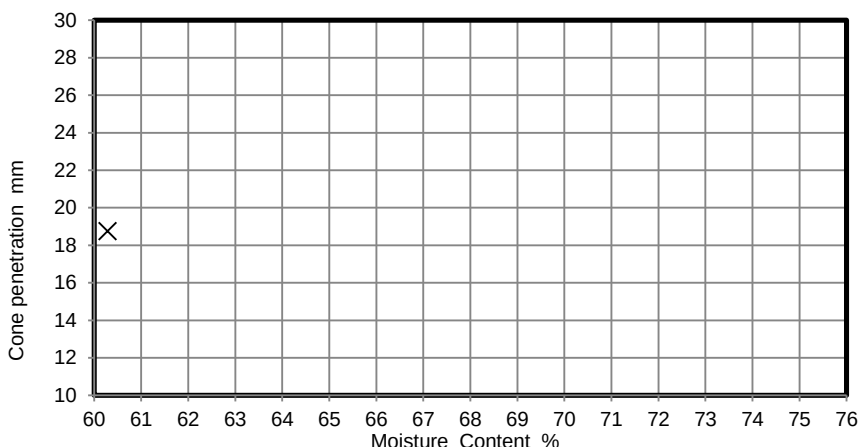
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 25.4 %

% PASSING 425µm SIEVE 100 %

LIQUID LIMIT 62 %

PLASTIC LIMIT 26 %

PLASTICITY INDEX 36 %

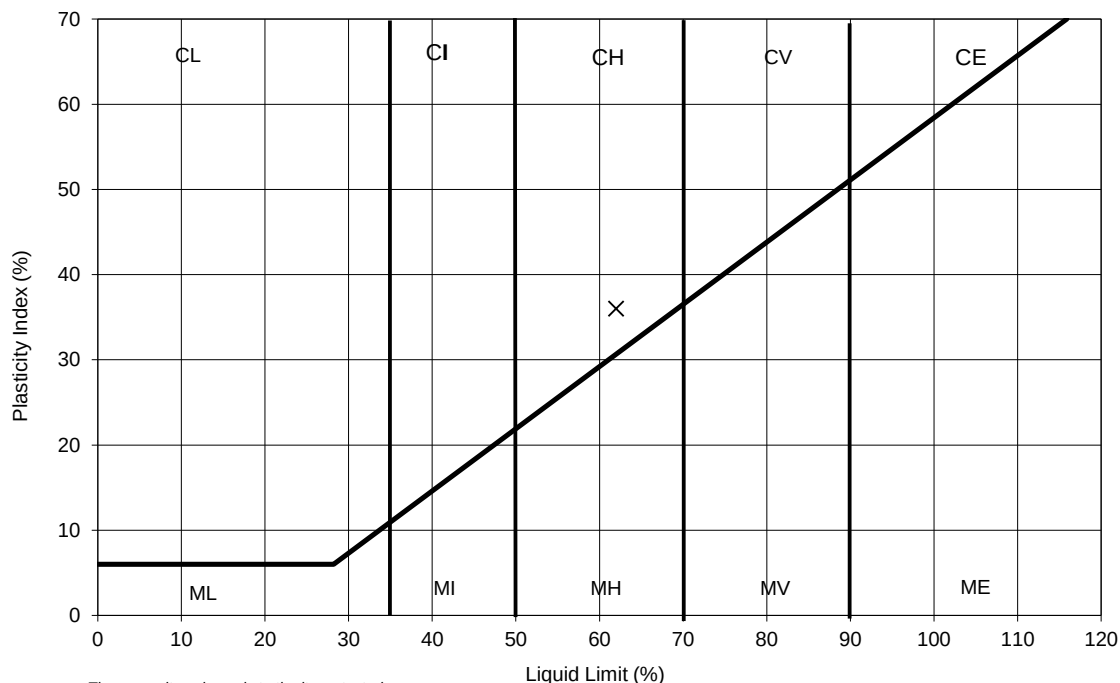
Preparation Method

Tested in natural condition

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Checked and Approved

Initials: J.P

Date: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH13

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 1.00

Soil Description Grey slightly mottled light orangish brown slightly gravelly silty CLAY with traces of fine rootlets (gravel is fine and sub-angular to rounded)

Depth Base m 1.50

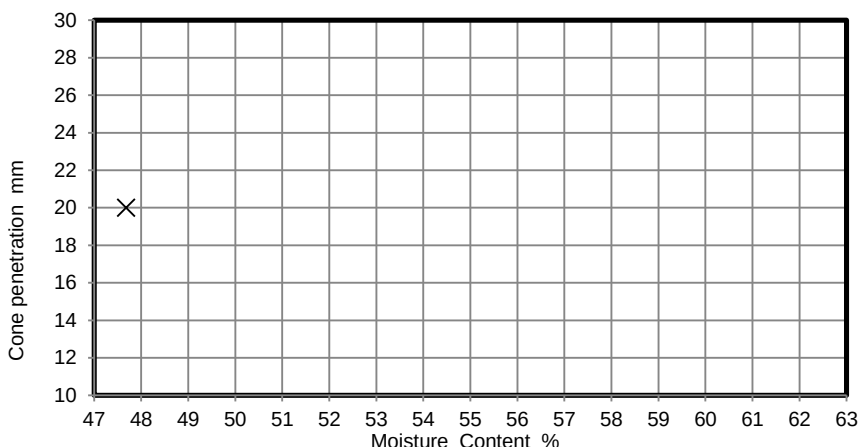
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 15.3 %

% PASSING 425µm SIEVE 96 %

LIQUID LIMIT 48 %

PLASTIC LIMIT 19 %

PLASTICITY INDEX 29 %

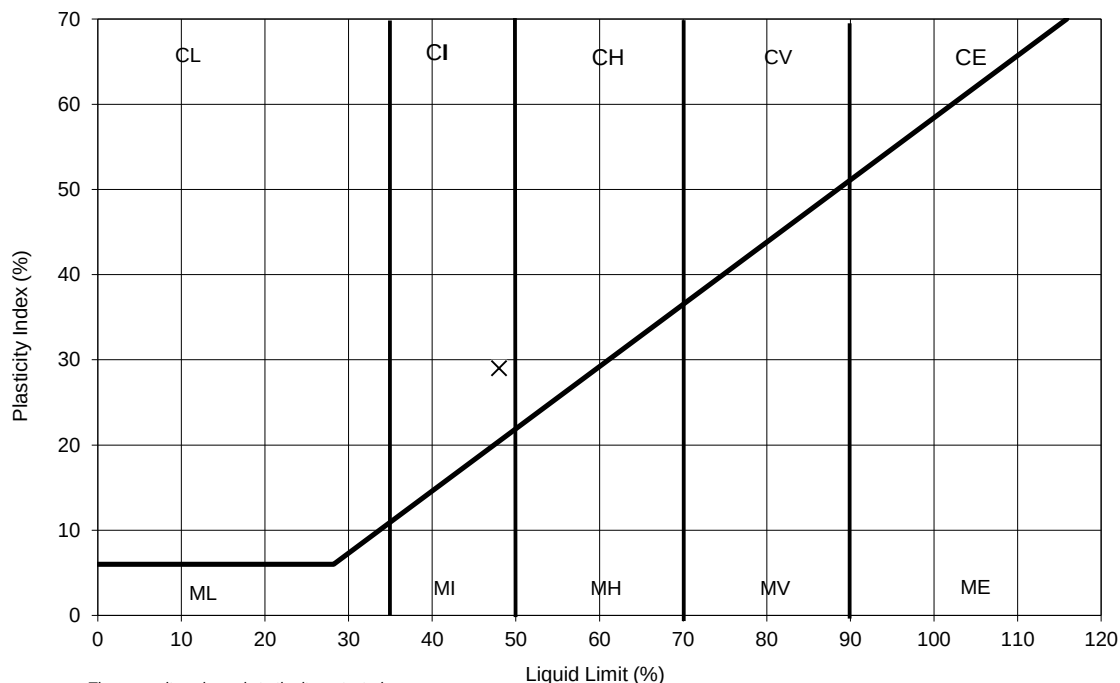
Preparation Method

Tested after >425µm removed by hand

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH13

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 3.00

Soil Description Dark grey slightly mottled brown silty CLAY

Depth Base m -

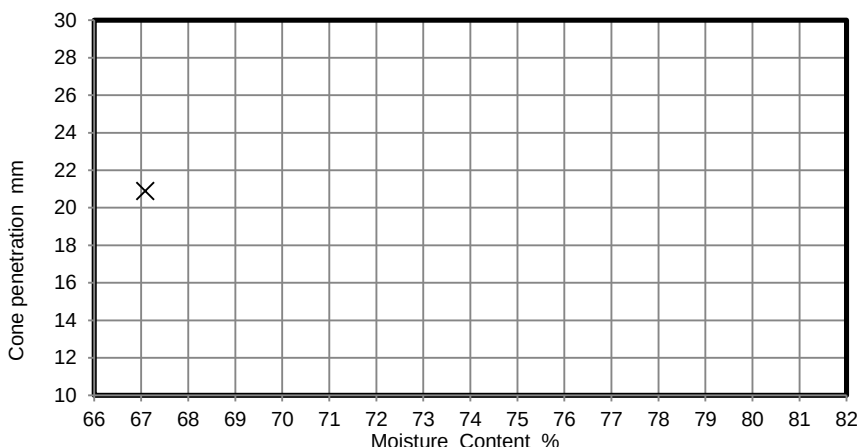
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 29.6 %

% PASSING 425µm SIEVE 100 %

LIQUID LIMIT 66 %

PLASTIC LIMIT 29 %

PLASTICITY INDEX 37 %

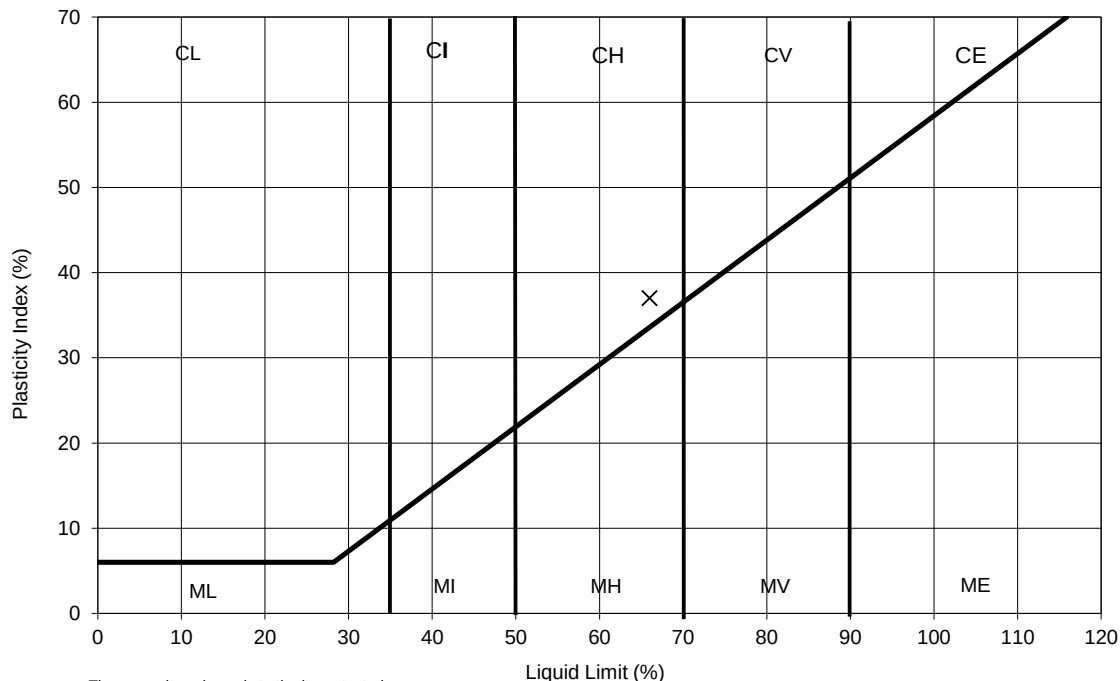
Preparation Method

Tested in natural condition

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Date: 21/11/2024

MSF-5 R2



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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH18

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 1.00

Soil Description Orangish brown slightly mottled light grey silty CLAY

Depth Base m -

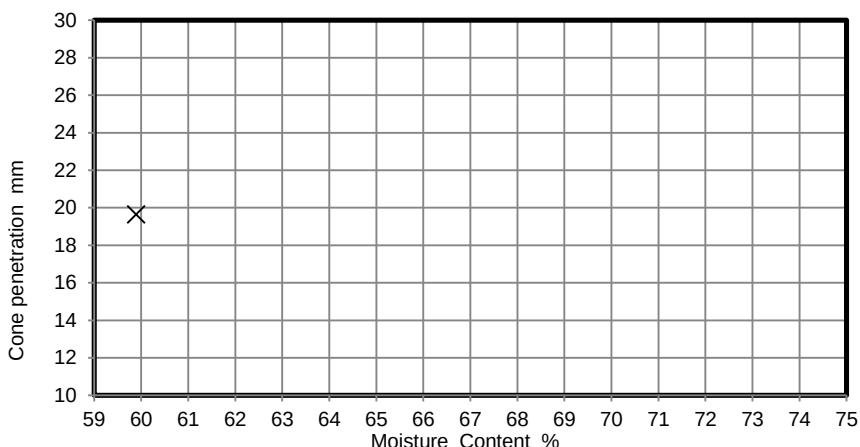
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 26.0 %

% PASSING 425µm SIEVE 100 %

LIQUID LIMIT 60 %

PLASTIC LIMIT 27 %

PLASTICITY INDEX 33 %

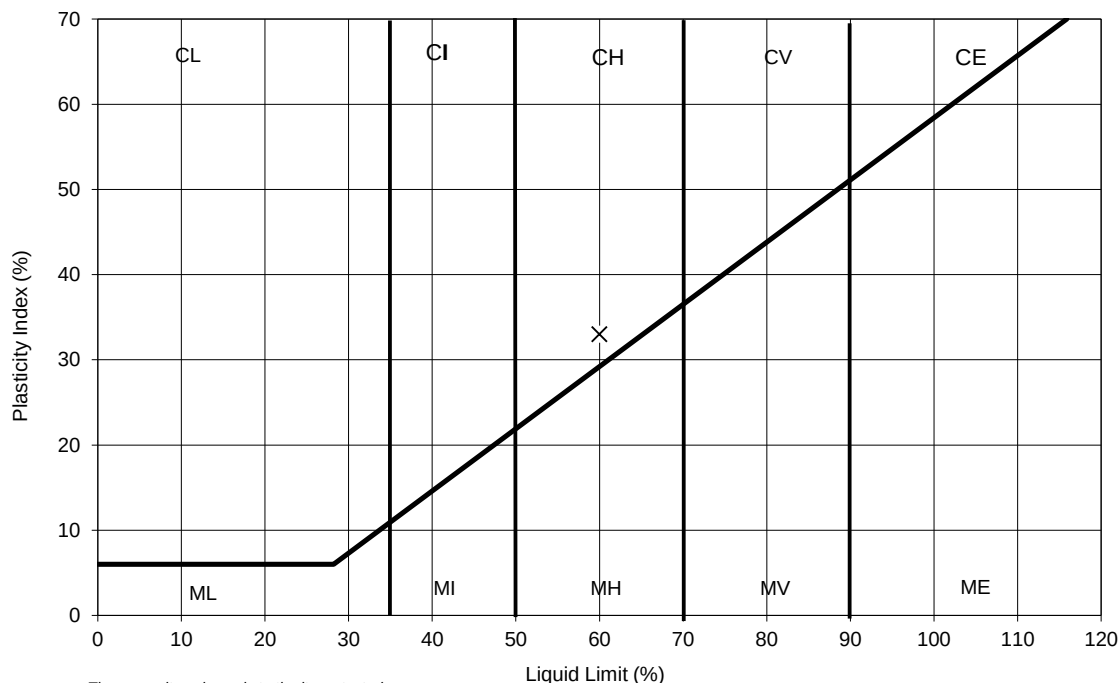
Preparation Method

Tested in natural condition

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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

TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Checked and Approved

Initials: J.P

Date: 21/11/2024

MSF-5 R2



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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH20

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 1.00

Soil Description Orangish brown slightly mottled grey silty CLAY with rare fine gravel

Depth Base m -

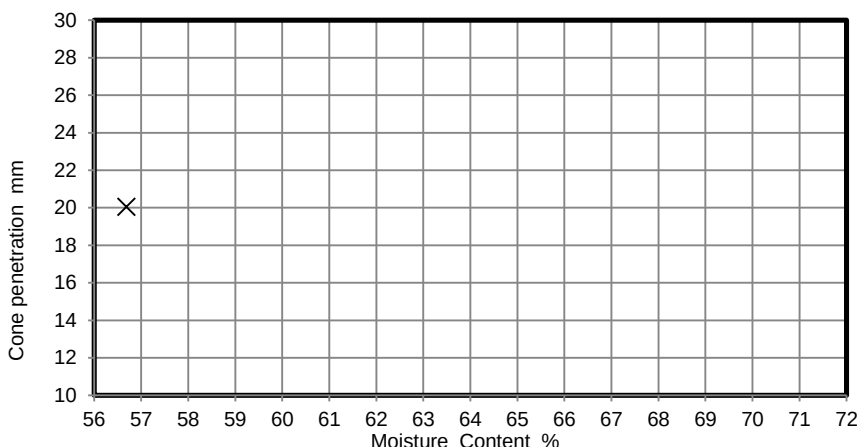
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 24.4 %

% PASSING 425µm SIEVE 99 %

LIQUID LIMIT 57 %

PLASTIC LIMIT 22 %

PLASTICITY INDEX 35 %

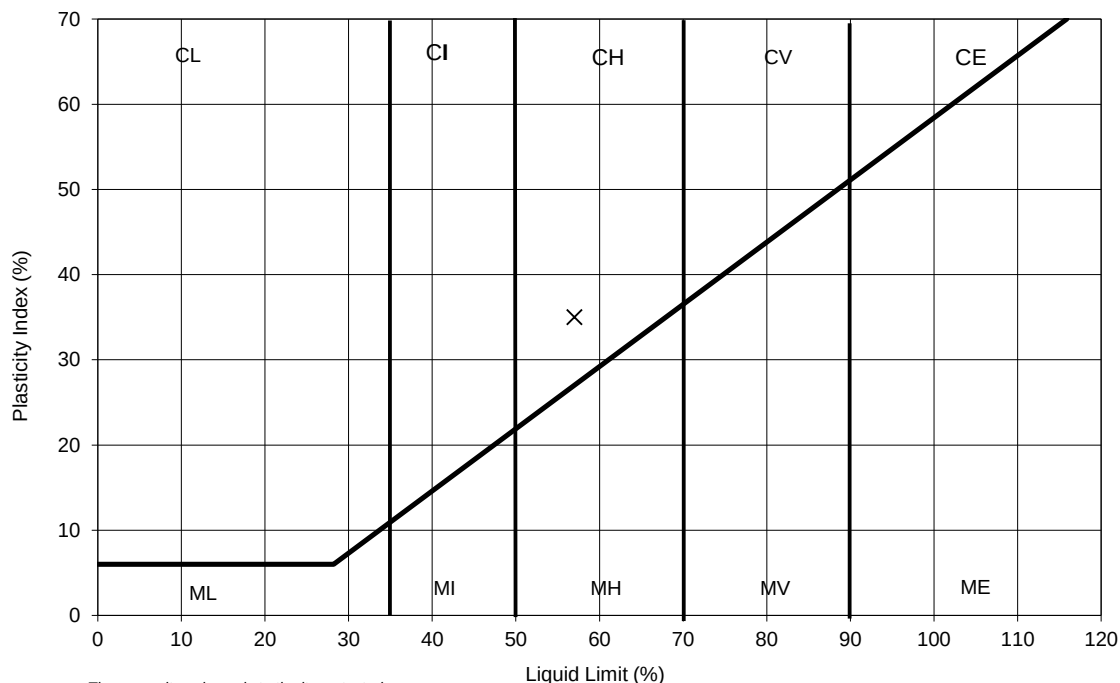
Preparation Method

Tested after >425µm removed by hand

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Checked and Approved

Initials: J.P

Date: 21/11/2024

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LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 36298

Borehole/Pit No. BH21

Site Name Arborfield Dandara

Sample No. -

Project No. - Client Wilson Bailey

Depth Top m 1.50

Soil Description Orangish brown slightly mottled grey silty CLAY

Depth Base m -

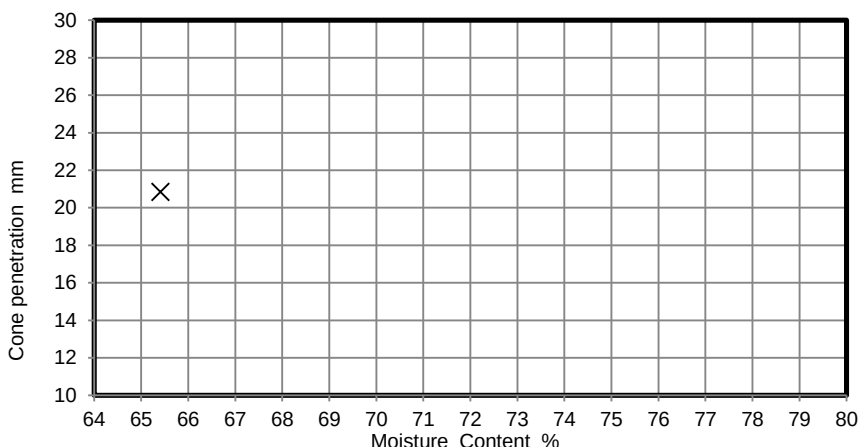
Sample Type D

Samples received 31/10/2024

Schedules received 06/11/2024

Project Started 07/11/2024

Date Tested 20/11/2024



WATER CONTENT 26.7 %

% PASSING 425µm SIEVE 100 %

LIQUID LIMIT 65 %

PLASTIC LIMIT 28 %

PLASTICITY INDEX 37 %

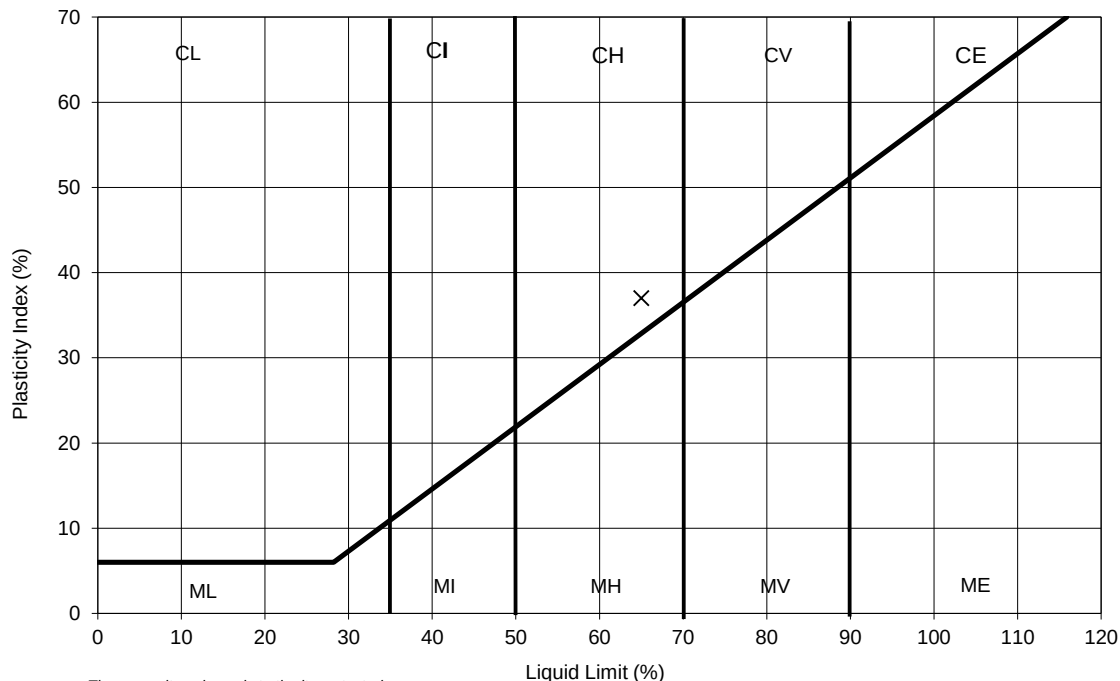
Preparation Method

Tested in natural condition

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS EN ISO17892: Part 1:2014+A1:2022 Water Content

BS EN ISO 17892: Part 12:2018+A2:2022 Liquid Limit & Plastic Limit

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Initials: J.P

Date: 21/11/2024

MSF-5 R2



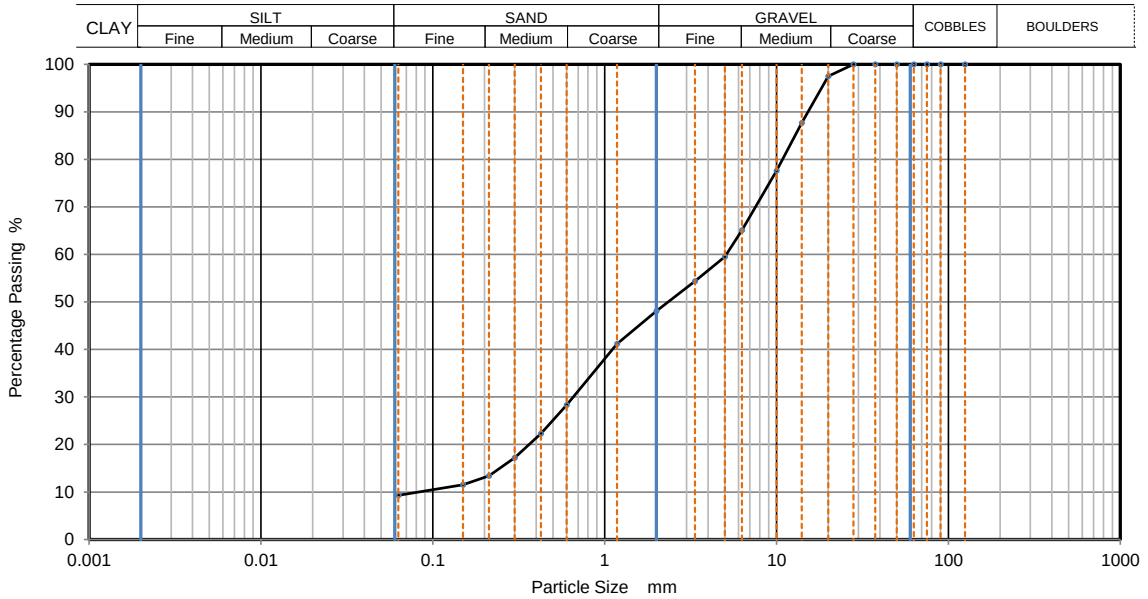
2519



PARTICLE SIZE DISTRIBUTION

	PARTICLE SIZE DISTRIBUTION			Job Ref	36298
				Borehole/Pit No.	BH11
Site Name	Arborfield Dandara			Sample No.	-
Project No.	-	Client	Wilson Bailey	Depth Top	1.50 m
Soil Description	Orangish brown clayey very sandy GRAVEL (gravel is fmc and sub-angular to sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	31/10/2024
				Schedules received	06/11/2024
Test Method	BS EN ISO 17892 Part 4: 2016			Project started	07/11/2024
These results only apply to the items tested				Date tested	11/11/2024

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	88		
10	78		
6.3	65		
5	60		
3.35	54		
2	48		
1.18	41		
0.6	28		
0.425	22		
0.3	17		
0.212	13		
0.15	12		
0.063	9		

Sample Proportions	% dry mass
Very coarse	0
Gravel	52
Sand	39
Fines <0.063mm	9

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	61
Curvature Coefficient	1

Remarks

Preparation and testing in accordance with ISO17892 Part 4 unless noted below

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K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 21/11/2024

2519

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

MSF-5-R3

		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. 36298						Project Name Arborfield Dandara		Programme Samples received 31/10/2024 Schedule received 06/11/2024 Project started 07/11/2024 Testing Started 11/11/2024
Project No. -		Client Wilson Bailey								
Hole No.	Sample				Soil description	Dry Mass passing 2mm %	SO4 Content mg/l	pH	Remarks	
	Ref	Top m	Base m	Type						
BH1	-	1.50	-	D	Orangish brown slightly mottled light grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	90	80	7.7		
BH2	-	1.00	-	D	Light greyish brown slightly sandy slightly gravelly silty CLAY (gravel is fmc and sub-angular)	80	100	7.8		
BH4	-	1.50	-	D	Orangish brown slightly mottled bluish grey sandy silty CLAY with rare fine gravel	99	50	7.7		
BH11	-	1.50	-	D	Orangish brown clayey very sandy GRAVEL (gravel is fmc and sub-angular to sub-rounded)	48	70	7.8		
BH13	-	2.00	-	D	Brown and bluish grey mottled silty CLAY with rare fmc sub-angular gravel	98	180	7.8		
BH19	-	1.50	-	D	Brown slightly mottled bluish grey and orangish brown silty CLAY	100	130	7.8		
BH20	-	2.50	-	D	Dark brown slightly mottled bluish grey silty CLAY	100	170	7.8		
		Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: James@k4soils.com These results only apply to the items tested NOTE: The report shall not be reproduced except in full without authority of the laboratory							Checked and Approved Initials J.P Date: 21/11/2024	
		Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)							MSF-5-R29	
2519										

Quote No:
Visit No: 1 of 3
Operator: P Philpott Project Manager:

METEOROLOGICAL AND SITE INFORMATION:				(Select correct box with X or enter data, as applicable)			
State of ground:		Dry	X	Moist		Wet	
Wind:	X	Calm		Light		Moderate	
Cloud cover:		None	X	Slight		Cloudy	
Precipitation:	X	None		Slight		Moderate	
Time monitoring performed:				15.18 Start			16.05 End
Barometric pressure (mbar):				1003 Start			1002 End
Pressure trend (Daily):			X	Falling		Steady	Rising
Air Temperature (Deg. C):				17 Before			17 After
Date of last calibration:							
Date of next calibration:	27/04/2024						

Quote No: _____
Visit No: 2 of 3
Operator: P Philpott Project Manager: _____

METEOROLOGICAL AND SITE INFORMATION:		(Select correct box with X or enter data, as applicable)					
State of ground:	Dry		Moist	X	Wet		Snow
Wind:	Calm	X	Light		Moderate		Strong
Cloud cover:	None		Slight	X	Cloudy		Overcast
Precipitation:	None		Slight	X	Moderate		Heavy
Time monitoring performed:		7.33	Start			9.45	End
Barometric pressure (mbar):		1000	Start			1001	End
Pressure trend (Daily):			Falling		Steady	X	Rising
Air Temperature (Deg. C):		14	Before			14	After
Date of last calibration:							
Date of next calibration:	01/03/2025						

Client: Wilson Bailey
Site: Reading Rd, Arborfield
Date: 02/11/2024

Quote No:
Visit No: 3 of 3
Operator: P Philpott
Project Manager:

GAS CONCENTRATIONS														VOLATILES		FLOW DATA		WELL AND WATER DATA				Comments	
Monitoring	Methane (%v/v)		%LEL		Carbon dioxide (%v/v)		Carbon monoxide (ppmv)		Hydrogen sulphide (ppmv)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)			
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady			Peak	Steady							
BH1		0	0	0	0	0.2	0.2	0	0	0	0	19.9	19.8	NR	NR		0	-30	-20	156	0.385	3.375	Hole drilled but no pipe in the ground
BH3		0	0	0	0	0.2	0.1	0	0	0	0	20.4	20.1	NR	NR		0	-42	-38	146	0.42	2.36	
BH4		0	0	0	0	0.2	0.1	10	0	0	0	20.8	20.1	NR	NR	26.3	0.4	2	38	0.25	2.1		
BH8		0	0	0	0	0.2	0.2	0	0	0	0	20.2	20	NR	NR		0	0	0	0	0.9	1.925	
BH10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
BH13		0	0	0	0	0.2	0.1	0	0	0	0	20.6	20	NR	NR		0	0	0	0	1.03	3.47	
BH11		0	0	0	0	0.2	0.1	17	0	40	0	20.7	20	NR	NR		0	0	0	0	0.6	1.47	
BH24		0	0	0	0	0.2	0.2	0	0	0	0	20.5	20.1	NR	NR		0	0	0	0	0.54	2.16	
BH17		0	0	0	0	0.2	0.1	0	0	0	0	20.3	20.1	NR	NR		0	0	0	0	0.885	1.81	
Max		0	0	0	0	0.2	0.2	17	0	40	0	20.8	20.1	NR	NR	26.3	0.4	2					
Min		0	0	0	0	0.2	0.1	0	0	0	0	19.9	19.8	NR	NR		0	-42	-38				
ND -	Not detected																						
NR -	Not recorded																						
NA -	Non applicable																						

METEOROLOGICAL AND SITE INFORMATION:

METEOROLOGICAL AND SITE INFORMATION:				(Select correct box with X or enter data, as applicable)						
State of ground:		Dry		Moist	X		Wet		Snow	Frozen
Wind:	X	Calm		Light			Moderate		Strong	
Cloud cover:		None		Slight	X		Cloudy		Overcast	
Precipitation:		None	X	Slight			Moderate		Heavy	
Time monitoring performed:				9.41 Start					10.48 End	
Barometric pressure (mbar):				1024 Start					1021 End	
Pressure trend (Daily):			X	Falling			Steady		Rising	
Air Temperature (Deg. C):				12 Before					12 After	

Date of last calibration:
Date of next calibration: 01/03/2025



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

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-12321

Site Reference: Reading Road Arborfield

Project / Job Ref: None Supplied

Order No: None Supplied

Sample Receipt Date: 16/10/2024

Sample Scheduled Date: 16/10/2024

Report Issue Number: 1

Reporting Date: 22/10/2024

Authorised by:

Steve Knight
Customer Support Manager

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

Opinions and interpretations are outside the laboratory's scope or 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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Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH1	BH6	BH12	BH13	BH16
~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	1.00	0.25	0.50	0.25
Reporting Date: 22/10/2024	DETS Sample No	744220	744221	744222	744223	744224

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.3	7.2	6.9	6.1	6.3
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.7	0.8	1	1.6	1.1
Arsenic (As)	mg/kg	< 2	MCERTS	6	7	5	6	5
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	16	21	14	13	12
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	6	6	6	8	9
Lead (Pb)	mg/kg	< 3	MCERTS	12	12	17	40	28
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	8	10	7	7	6
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	26	26	25	30	23
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)

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate						
DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH17	TP1	TP2	TP5	TP5
~Project / Job Ref: None Supplied	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	1.00	0.50	1.00	0.50	1.50
Reporting Date: 22/10/2024	DETS Sample No	744225	744226	744227	744228	744229

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.6	7.0	7.7	7.7	7.3
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	2	1.4	1.1	1.5	1.6
Arsenic (As)	mg/kg	< 2	MCERTS	35	8	8	10	10
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	3.3	0.3	< 0.2	0.3	0.3
Chromium (Cr)	mg/kg	< 2	MCERTS	34	17	16	15	16
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	382	17	10	57	18
Lead (Pb)	mg/kg	< 3	MCERTS	271	23	15	31	35
Mercury (Hg)	mg/kg	< 1	MCERTS	1.4	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	34	11	11	10	11
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	2980	99	52	102	122
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)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH1	BH6	BH12	BH13	BH16
~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	1.00	0.25	0.50	0.25
Reporting Date: 22/10/2024	DETS Sample No	744220	744221	744222	744223	744224

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	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.25	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.22	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.15	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.12	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH17	TP1	TP2	TP5	TP5
~Project / Job Ref: None Supplied	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	1.00	0.50	1.00	0.50	1.50
Reporting Date: 22/10/2024	DETS Sample No	744225	744226	744227	744228	744229

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	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.39	< 0.1	< 0.1	0.20	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.37	< 0.1	< 0.1	0.17	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.20	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.16	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	1.9	< 1.6	< 1.6	< 1.6	< 1.6

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH1	BH6	BH12	BH13	BH16
~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	1.00	0.25	0.50	0.25
Reporting Date: 22/10/2024	DETS Sample No	744220	744221	744222	744223	744224

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	< 3	< 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

~Sample details provided by customer and can affect the validity of results



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Maidstone
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Tel : 01622 850410



Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH17	TP1	TP2	TP5	TP5
~Project / Job Ref: None Supplied	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	1.00	0.50	1.00	0.50	1.50
Reporting Date: 22/10/2024	DETS Sample No	744225	744226	744227	744228	744229

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	< 3	< 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

~Sample details provided by customer and can affect the validity of results



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



Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH1	BH6	BH12	BH13	BH16
~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	1.00	0.25	0.50	0.25
Reporting Date: 22/10/2024	DETS Sample No	744220	744221	744222	744223	744224

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: 24-12321	~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: Reading Road Arborfield	~TP / BH No	BH17	TP1	TP2	TP5	TP5
~Project / Job Ref: None Supplied	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	1.00	0.50	1.00	0.50	1.50
Reporting Date: 22/10/2024	DETS Sample No	744225	744226	744227	744228	744229

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

~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 24-12321	
Wilson Bailey Geotechnical & Environmental Ltd	
~Site Reference: Reading Road Arborfield	
~Project / Job Ref: None Supplied	
~Order No: None Supplied	
Reporting Date: 22/10/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 744220	BH1	None Supplied	0.50	15.9	Brown sandy clay
^ 744221	BH6	None Supplied	1.00	13.4	Brown sandy clay with stones
^ 744222	BH12	None Supplied	0.25	15.2	Brown sandy clay
^ 744223	BH13	None Supplied	0.50	15	Brown sandy clay with vegetation
^ 744224	BH16	None Supplied	0.25	16.2	Brown sandy clay
^ 744225	BH17	None Supplied	1.00	16.9	Brown sandy clay with stones
^ 744226	TP1	None Supplied	0.50	17.4	Brown sandy clay
^ 744227	TP2	None Supplied	1.00	12.5	Brown sandy clay
^ 744228	TP5	None Supplied	0.50	20	Brown sandy loam with vegetation
^ 744229	TP5	None Supplied	1.50	20.8	Brown sandy loam

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

Unsuitable Sample ^{U/5}

~Sample details provided by customer and can affect the validity of results

^ 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: 24-12321

Wilson Bailey Geotechnical & Environmental Ltd

~Site Reference: Reading Road Arborfield

~Project / Job Ref: None Supplied

~Order No: None Supplied

Reporting Date: 22/10/2024

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 diphénylcarbazide 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 @ 450°C	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 (all: 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 (all: 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

~Sample details provided by customer and can affect the validity of results

Site Details:

DEVELOPMENT LAND AT
READING ROAD, ARBORFIELD,
WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series

Map date: 1877

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised N/A
Edition 1877
Copyright N/A
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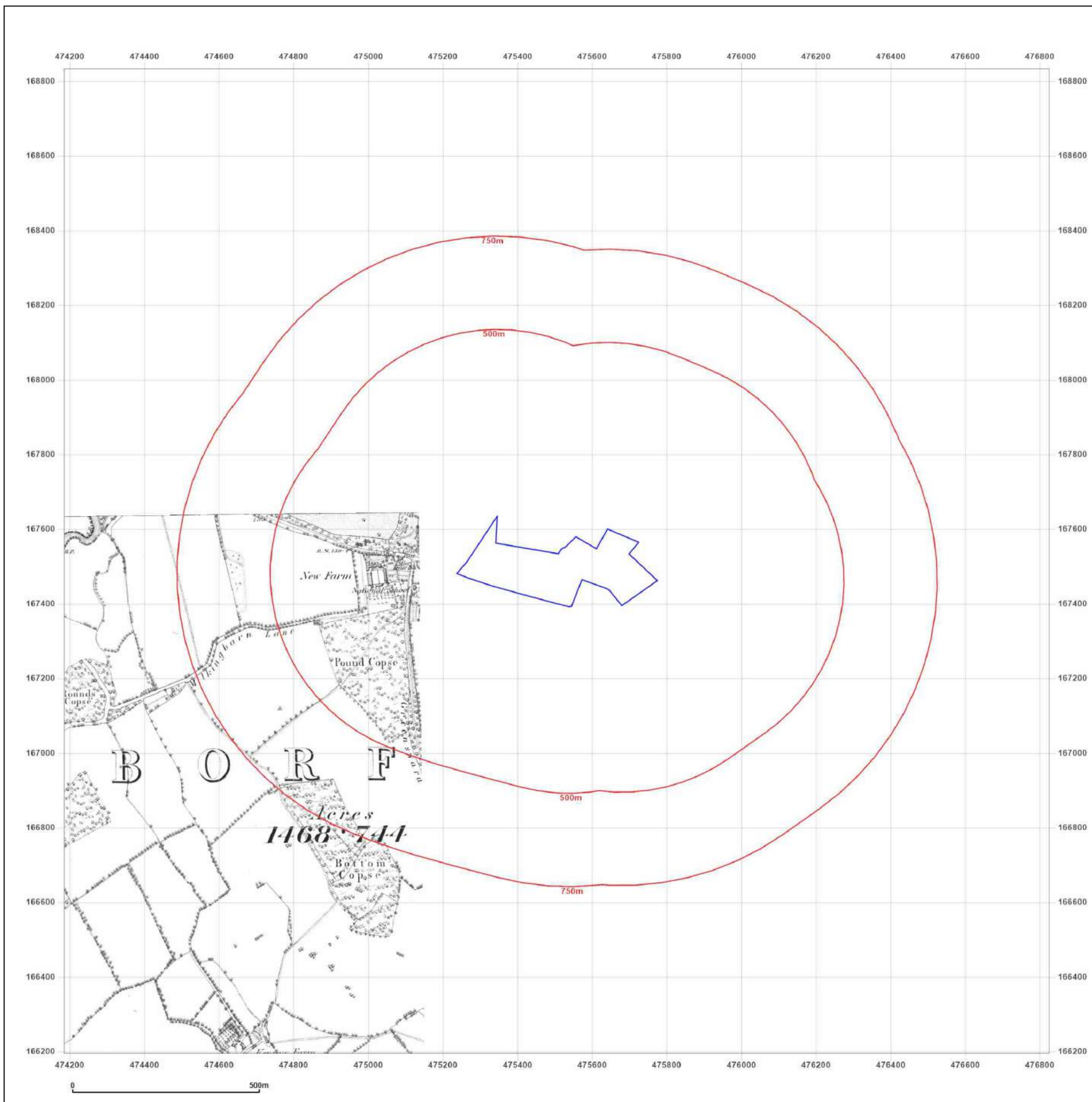


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series

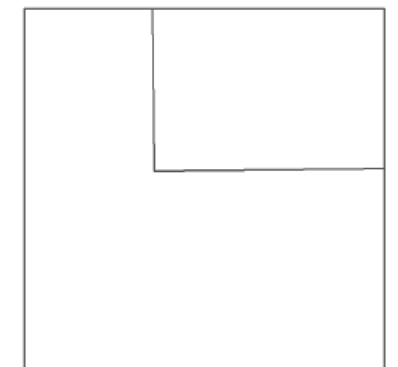
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Revised 1898
Edition N/A
Copyright N/A
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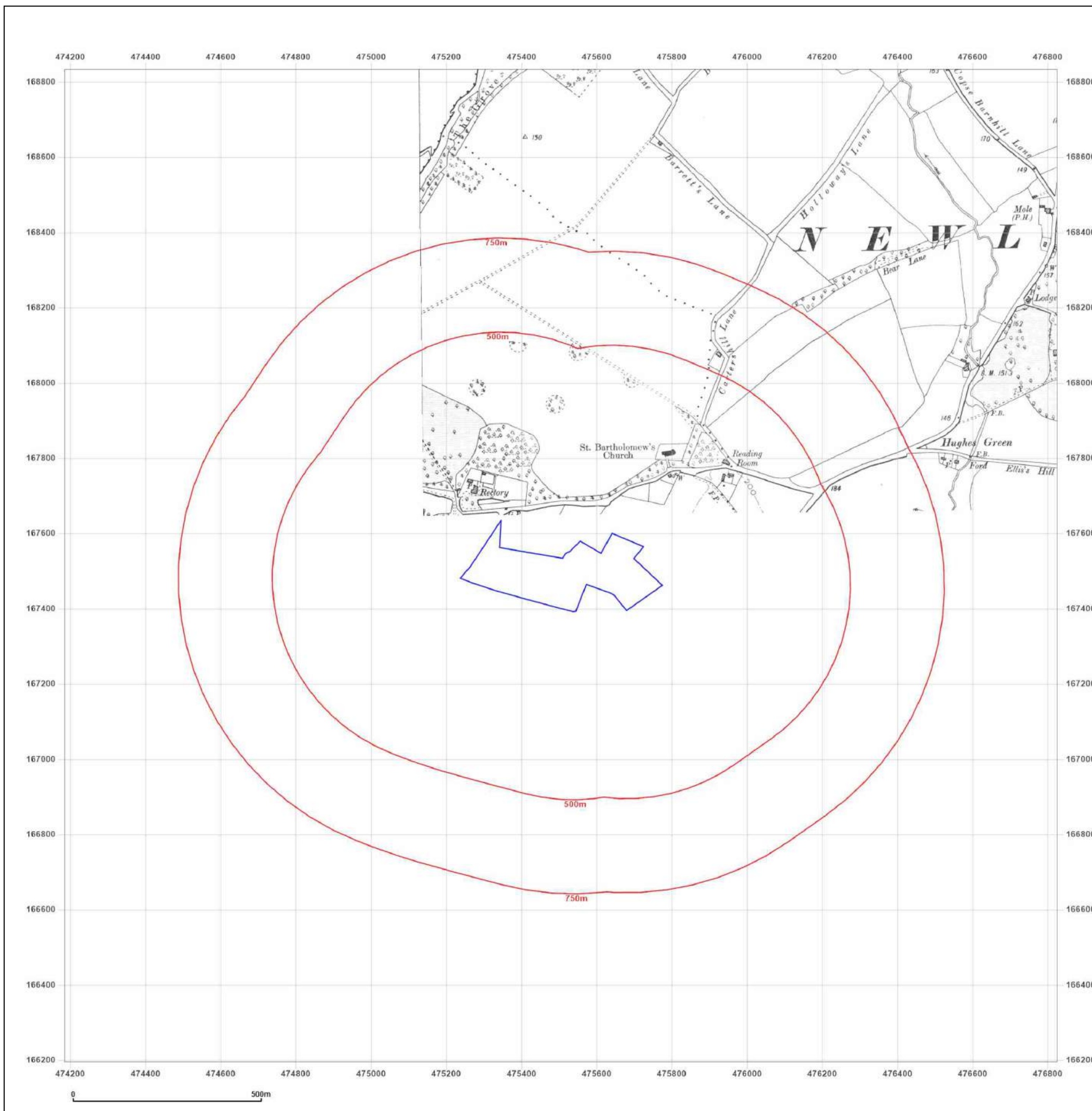


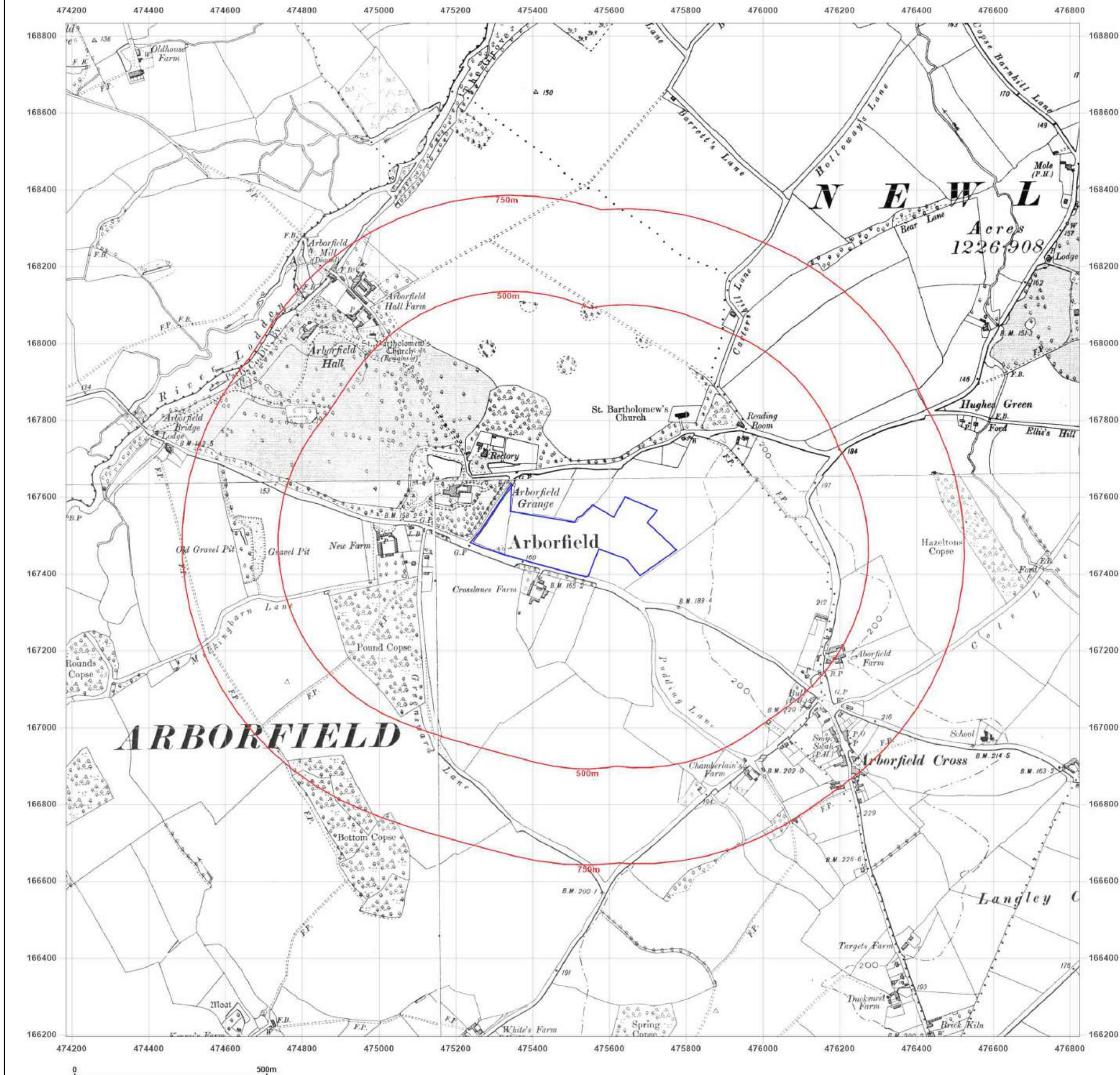
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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series

Map date: 1898-1900

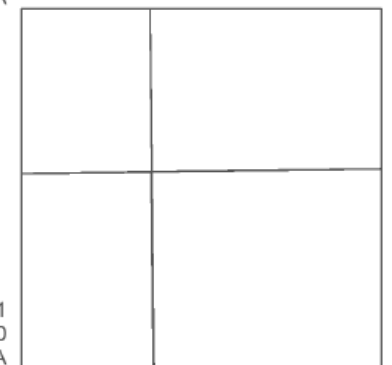
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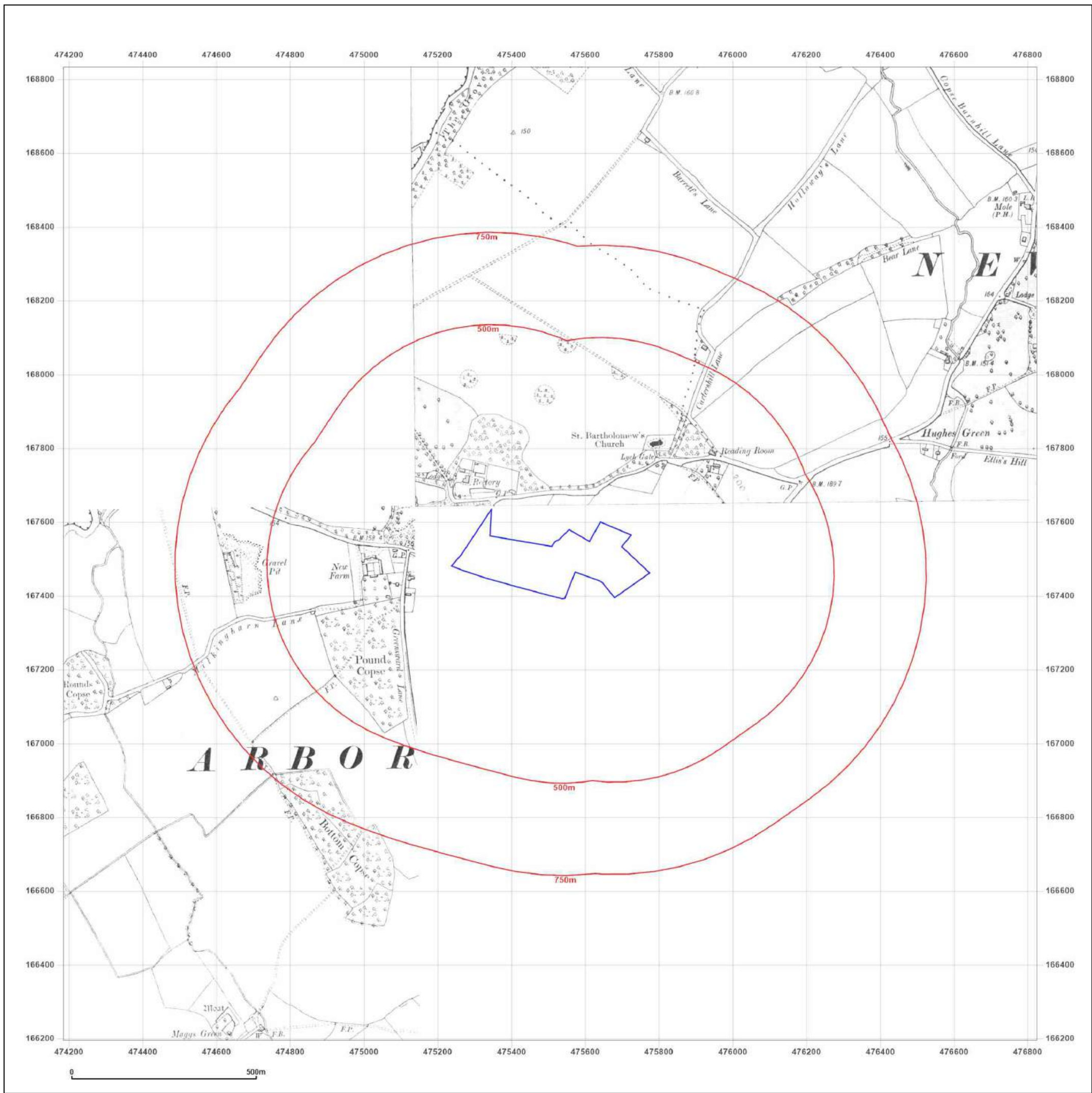


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series
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Map Legend:

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Map Legend:

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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

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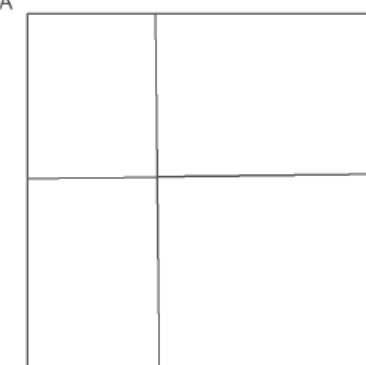
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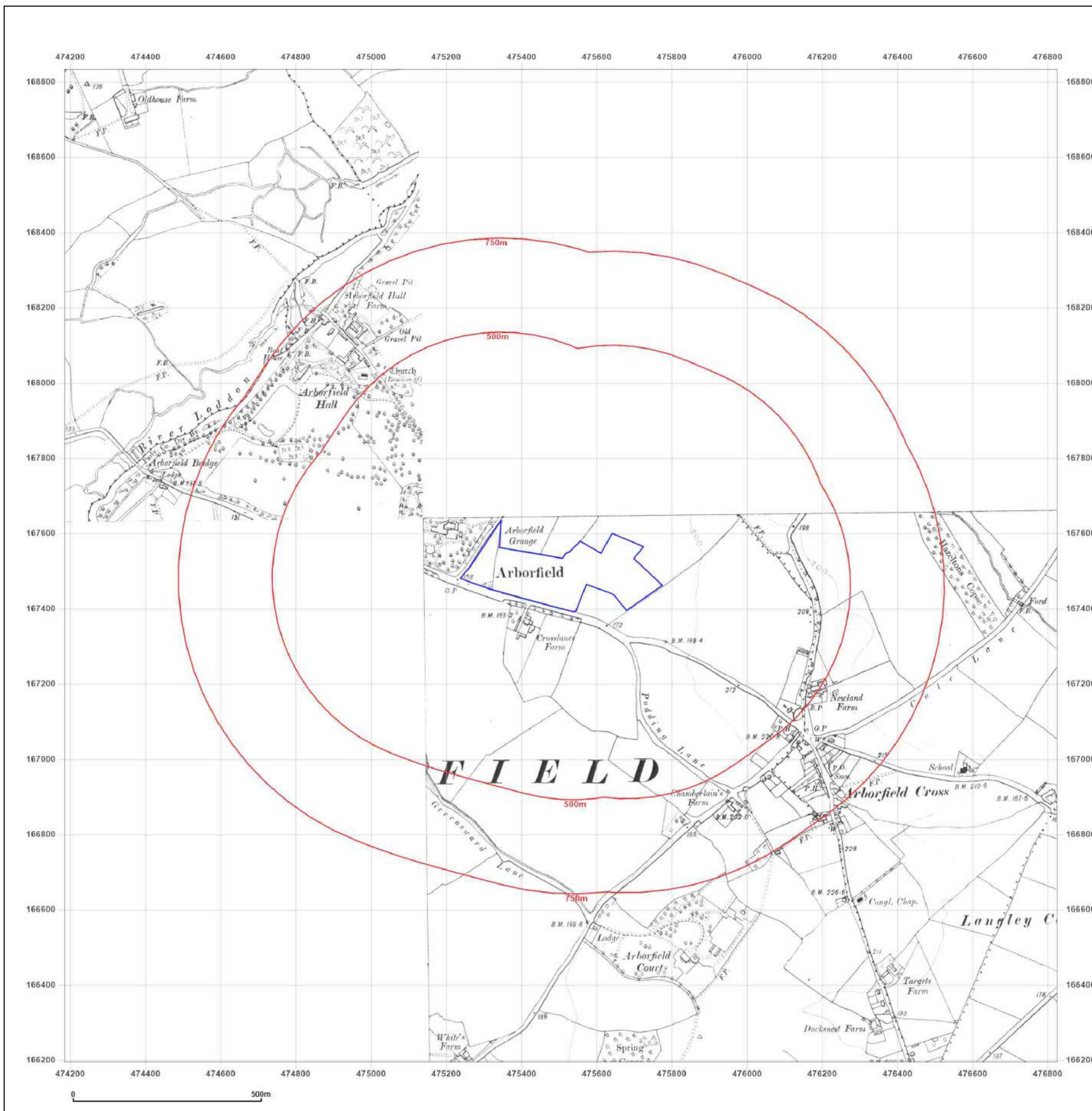


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Map Name: County Series

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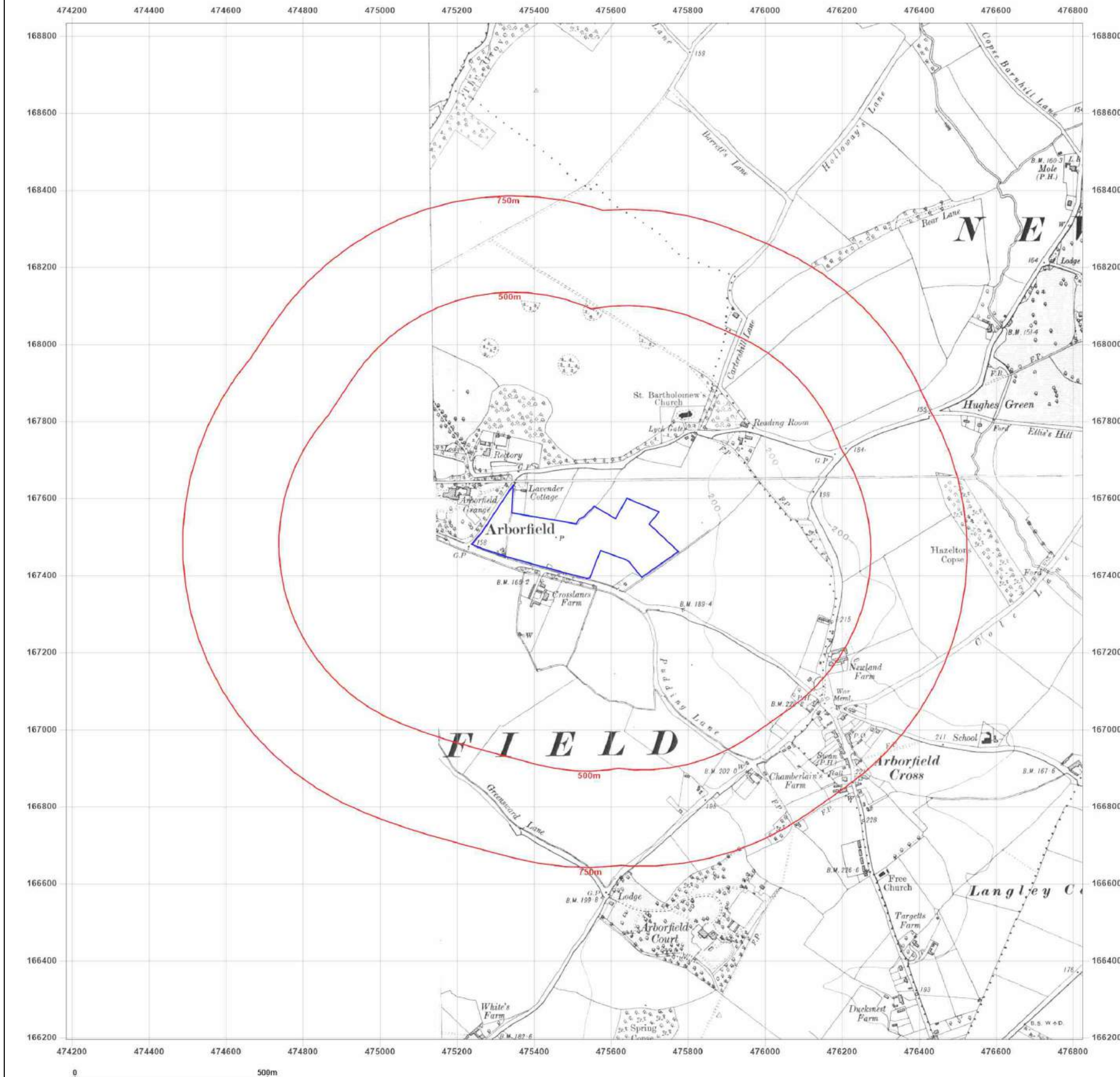


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series

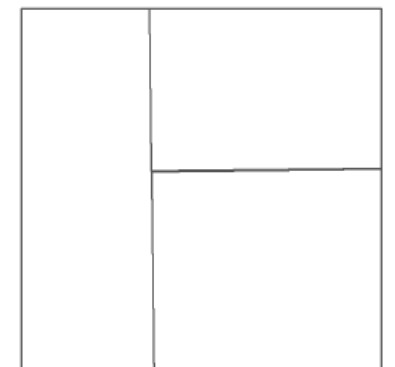
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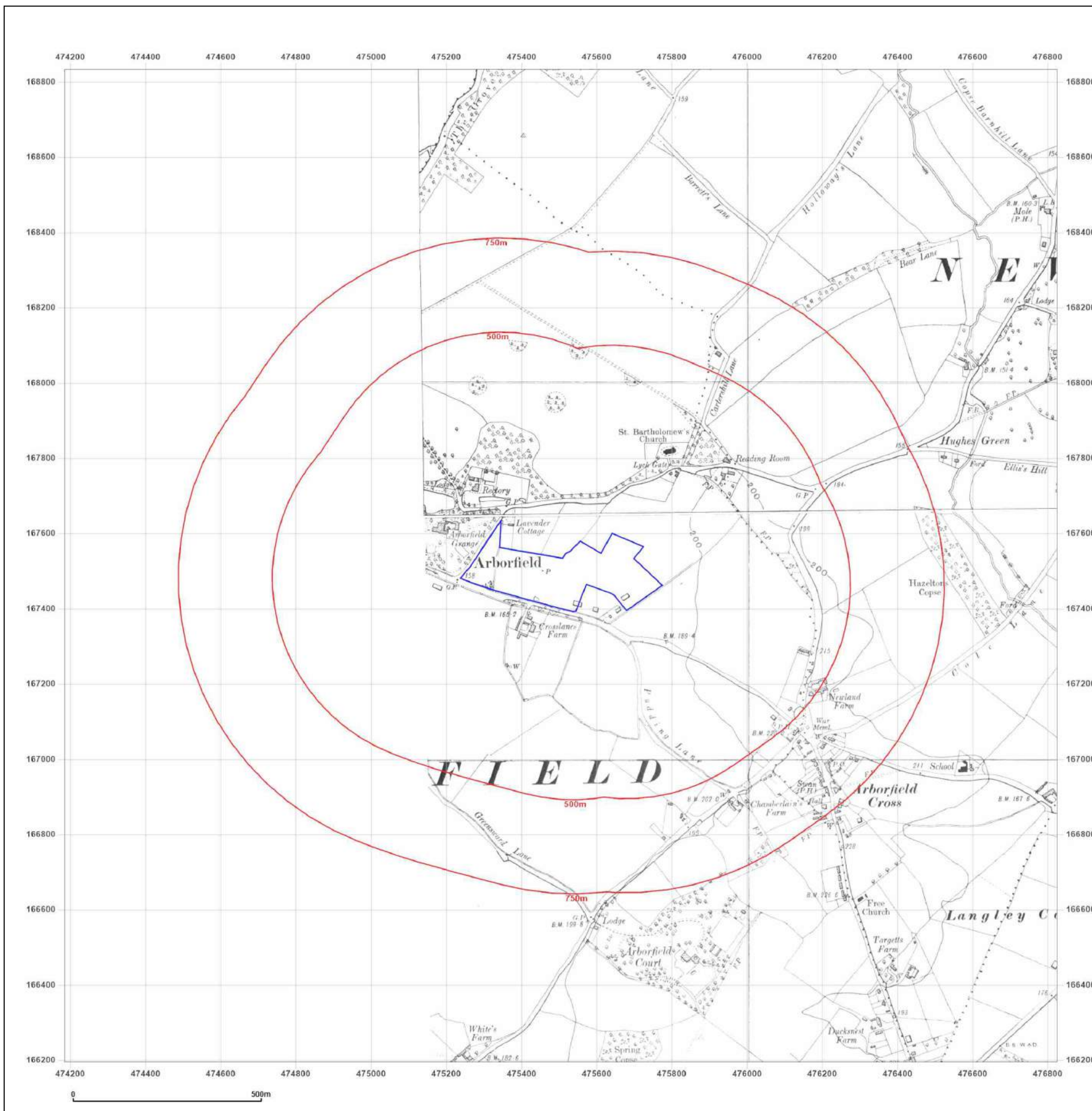


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

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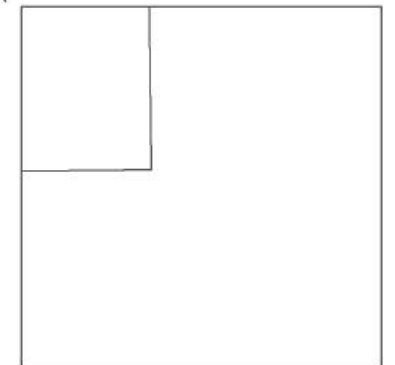
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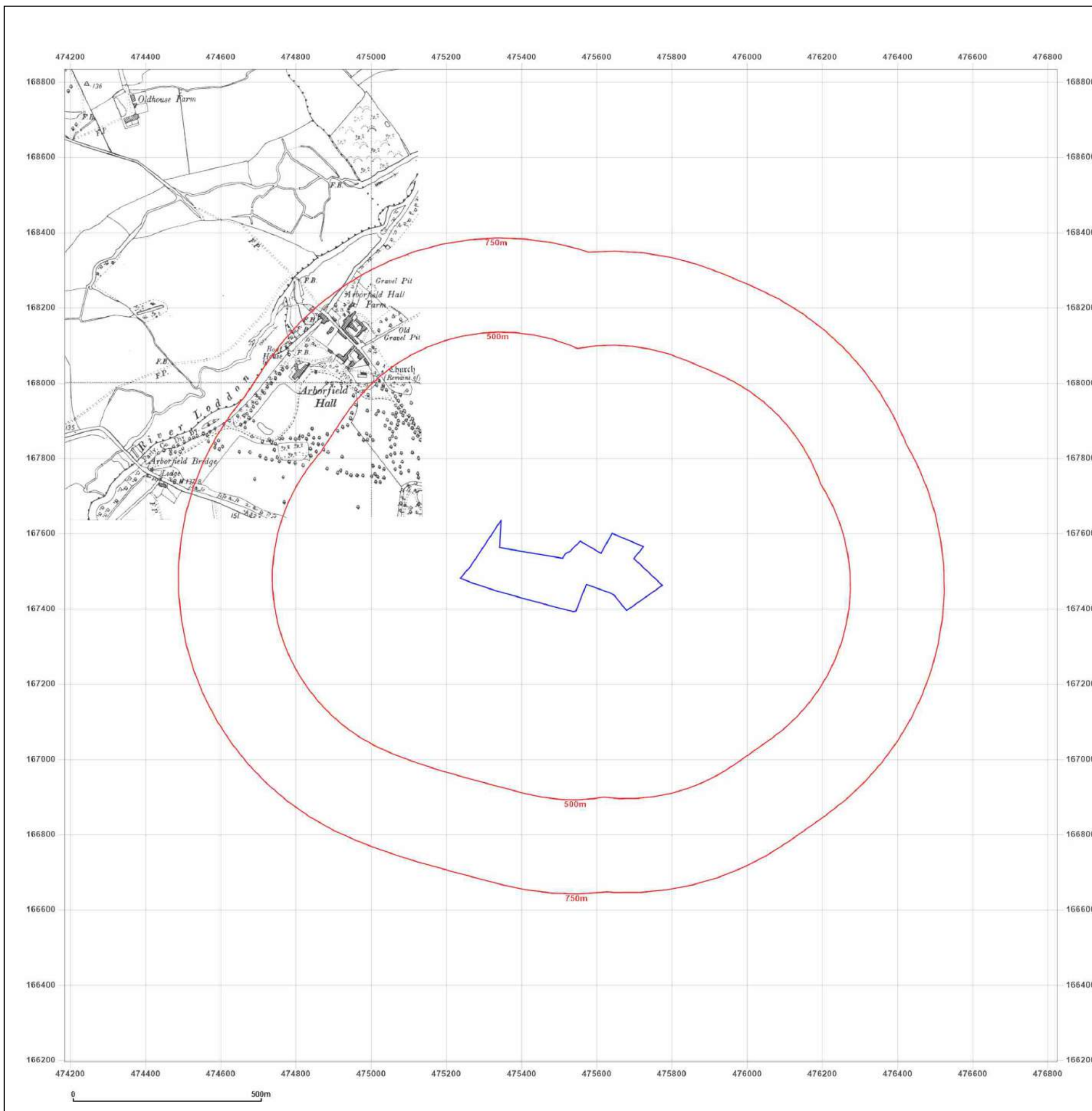


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: Provisional

Map date: 1961

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Edition N/A
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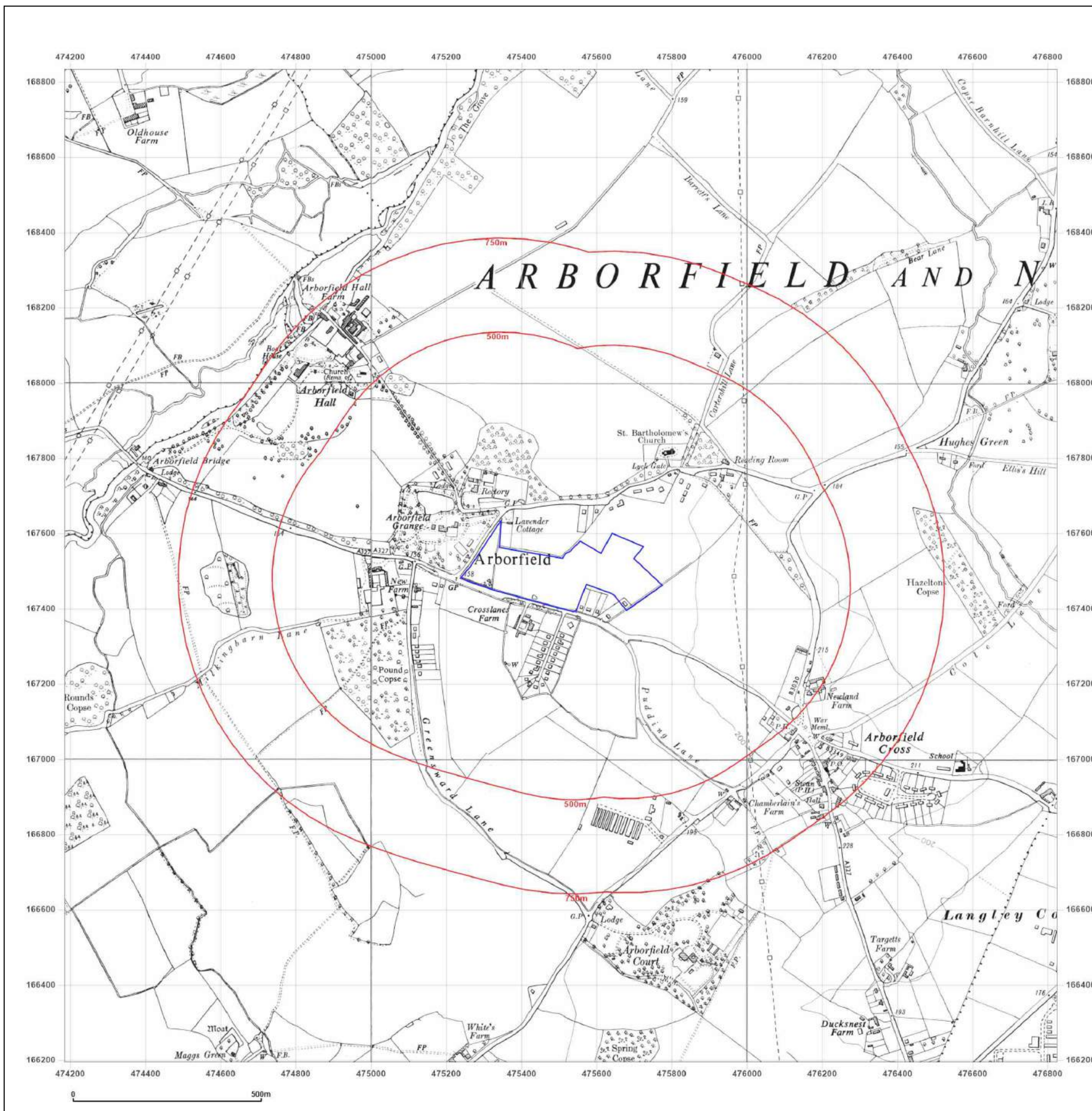


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: Provisional

Map date: 1961

Scale: 1:10,560

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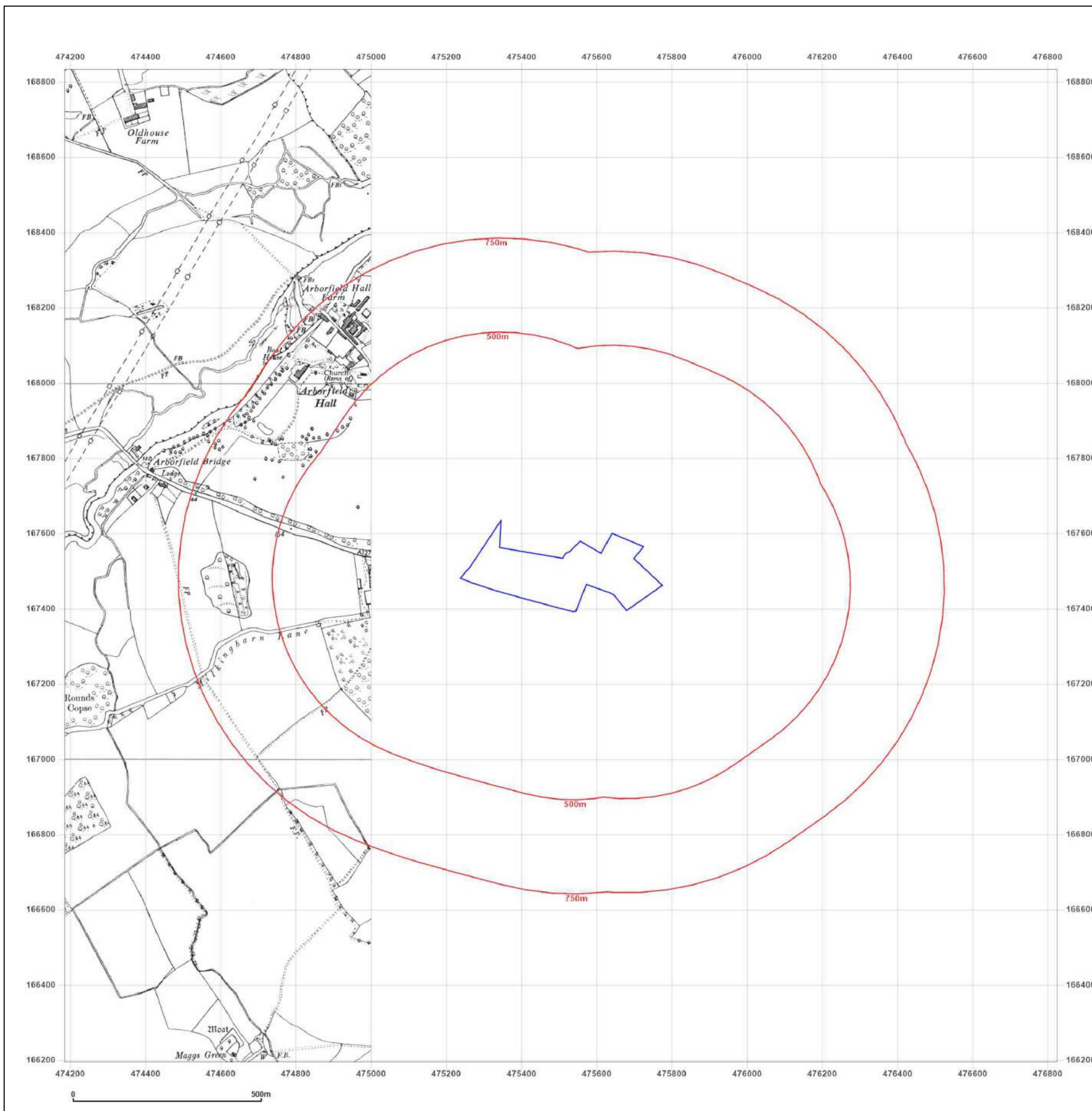


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Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 1969

Scale: 1:10,000

Printed at: 1:10,000



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

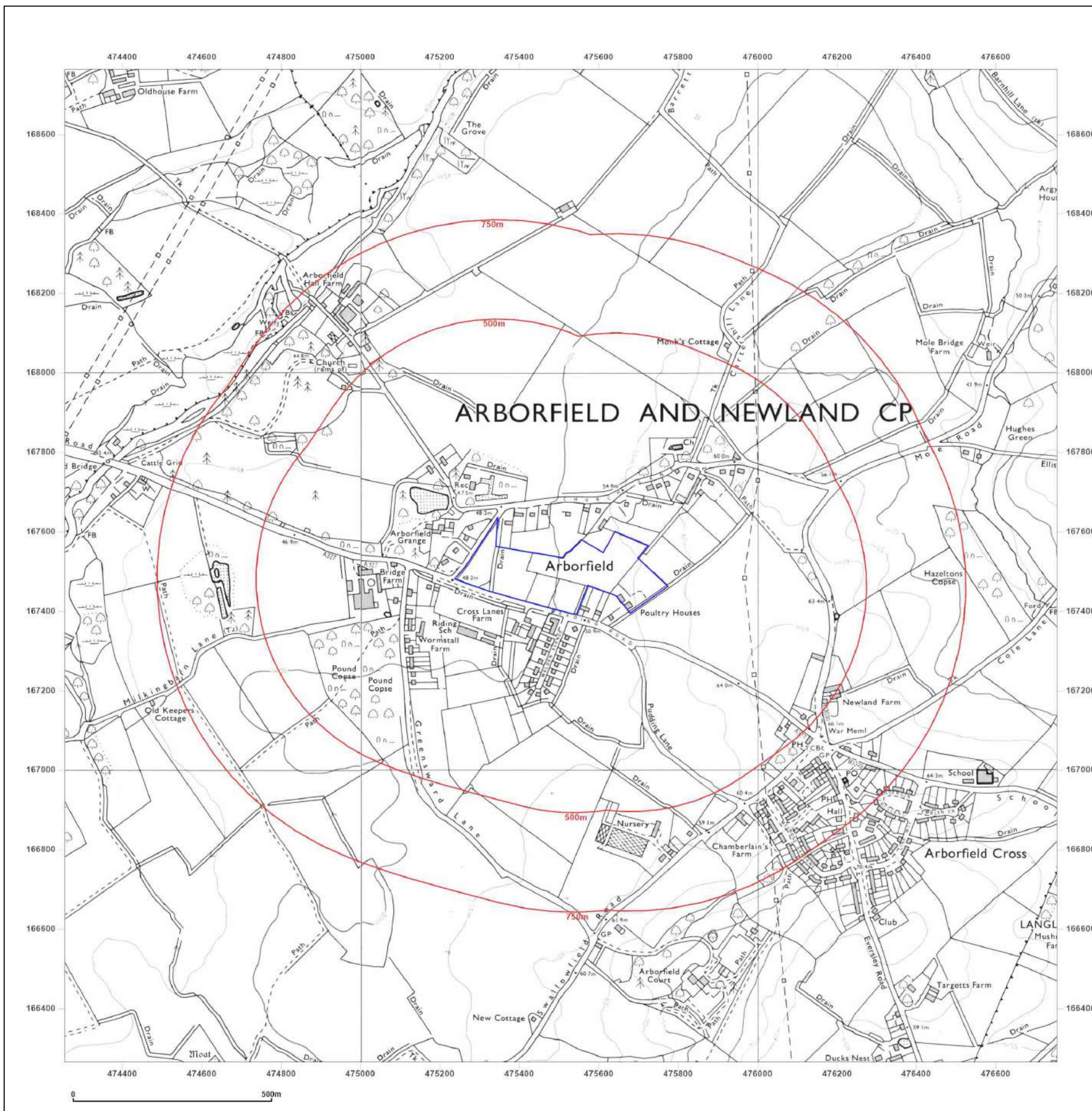


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WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: County Series

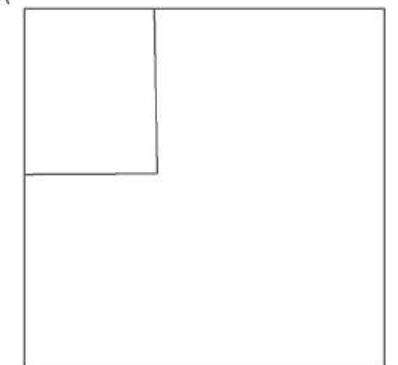
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1976
Revised 1898
Edition 1900
Copyright N/A
Levelled N/A

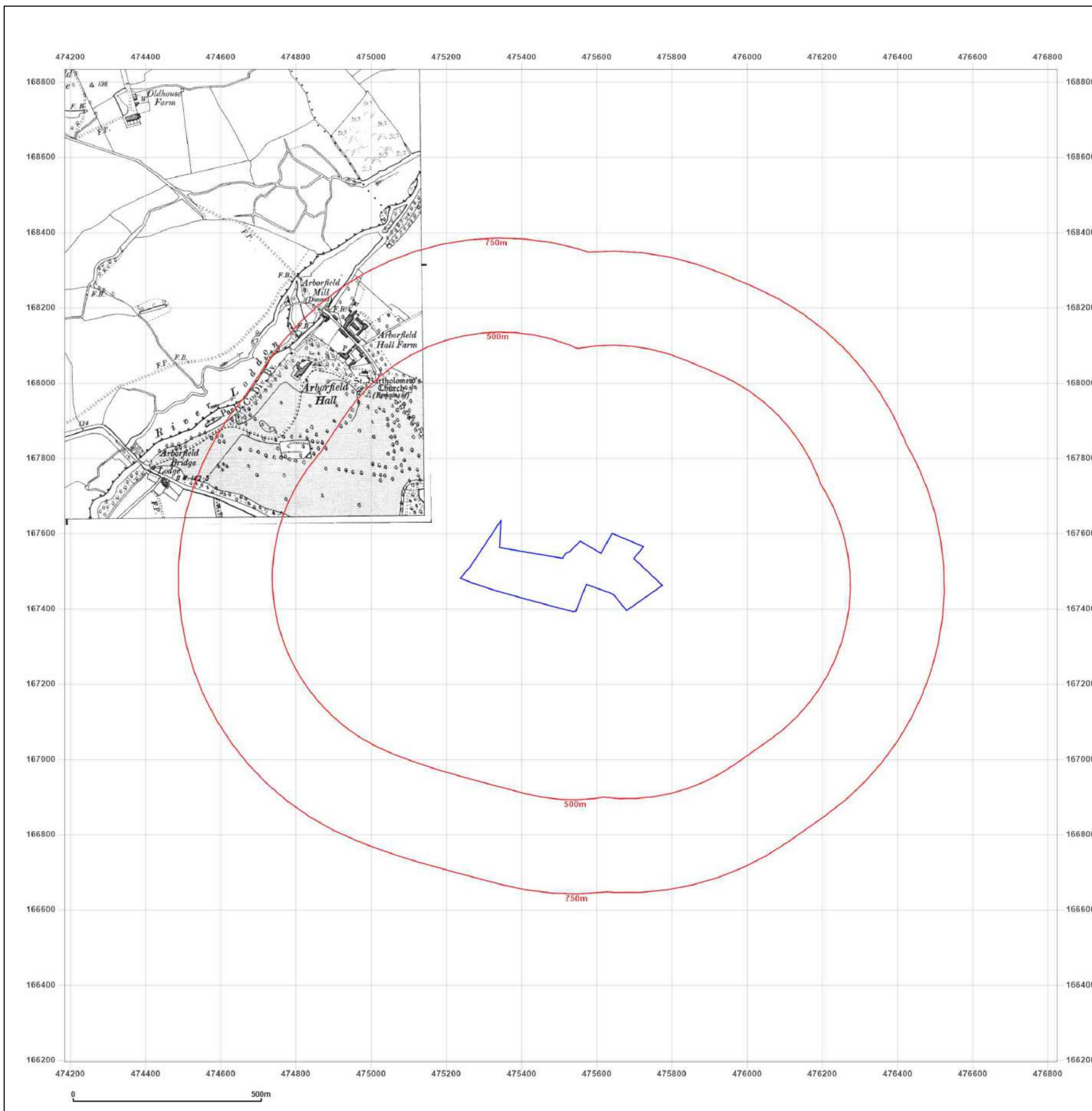


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Site Details:

DEVELOPMENT LAND AT
READING ROAD, ARBORFIELD,
WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 1976-1979

Scale: 1:10,000

Printed at: 1:10,000



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Surveyed 1976
Revised 1979
Edition N/A
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Levelled 1969

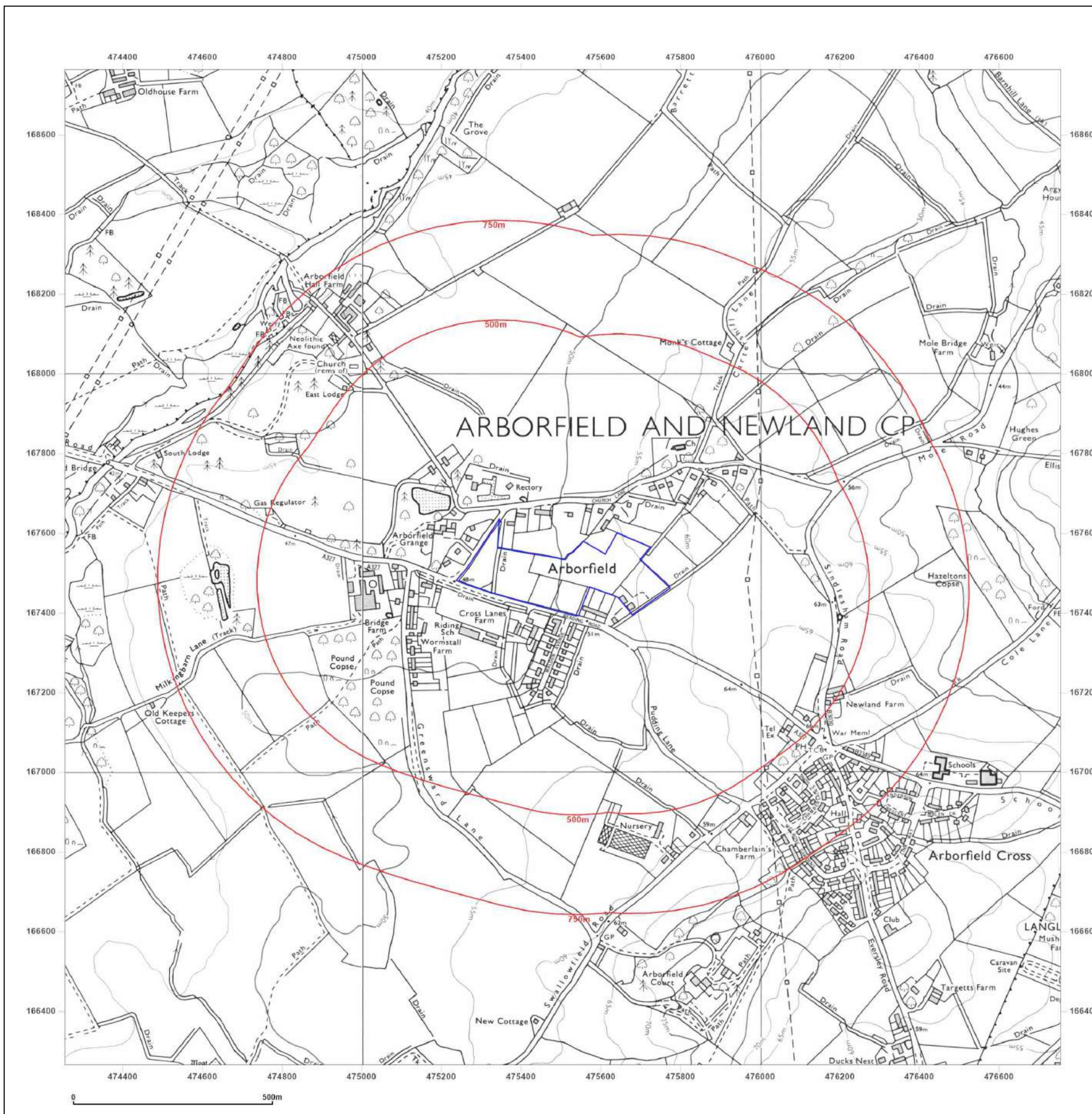


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Site Details:

DEVELOPMENT LAND AT
READING ROAD, ARBORFIELD,
WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 1983-1988

Scale: 1:10,000

Printed at: 1:10,000



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Edition N/A
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Revised 1988
Edition N/A
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Levelled N/A

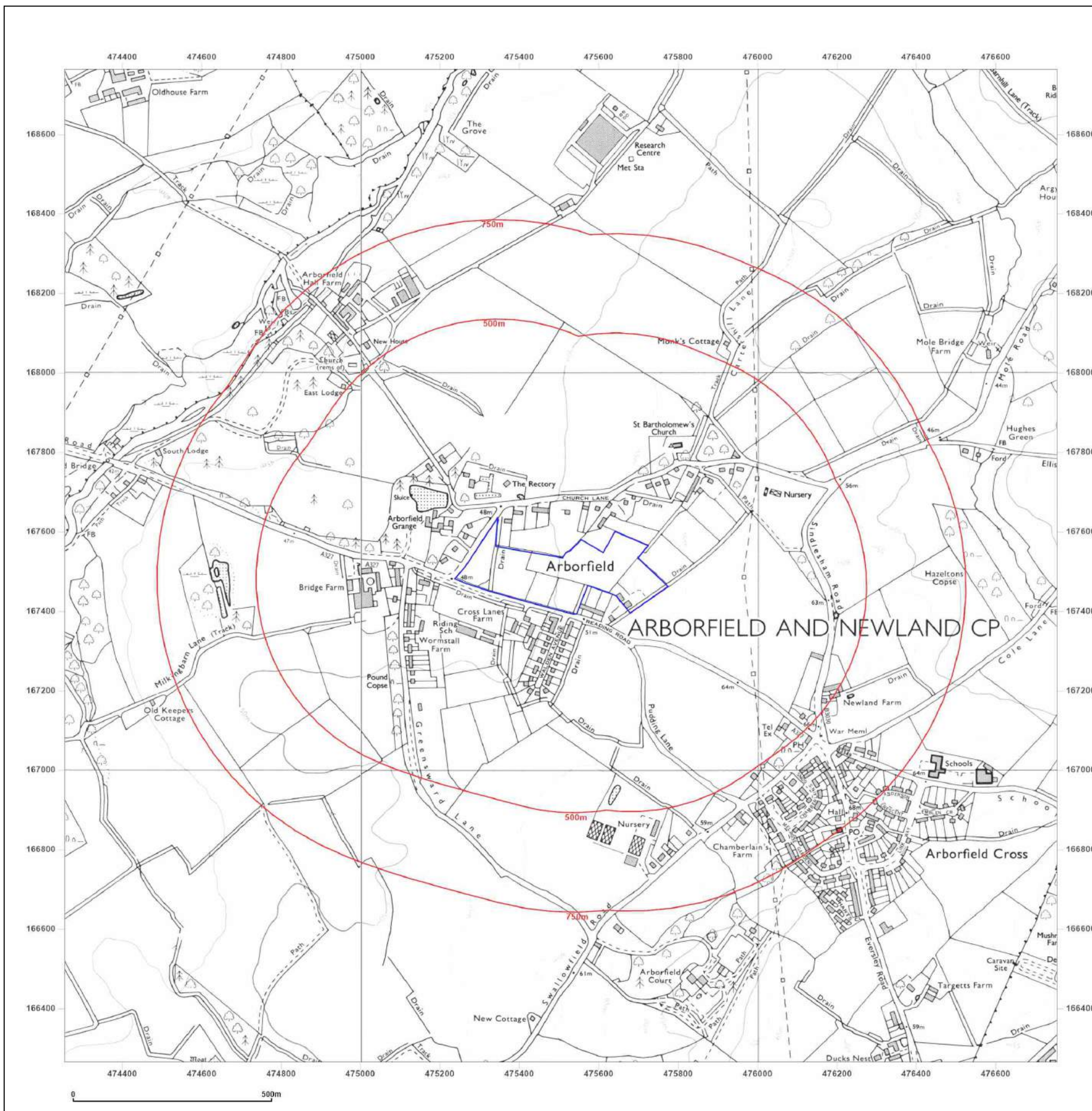


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Site Details:

DEVELOPMENT LAND AT
READING ROAD, ARBORFIELD,
WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1988
Edition N/A
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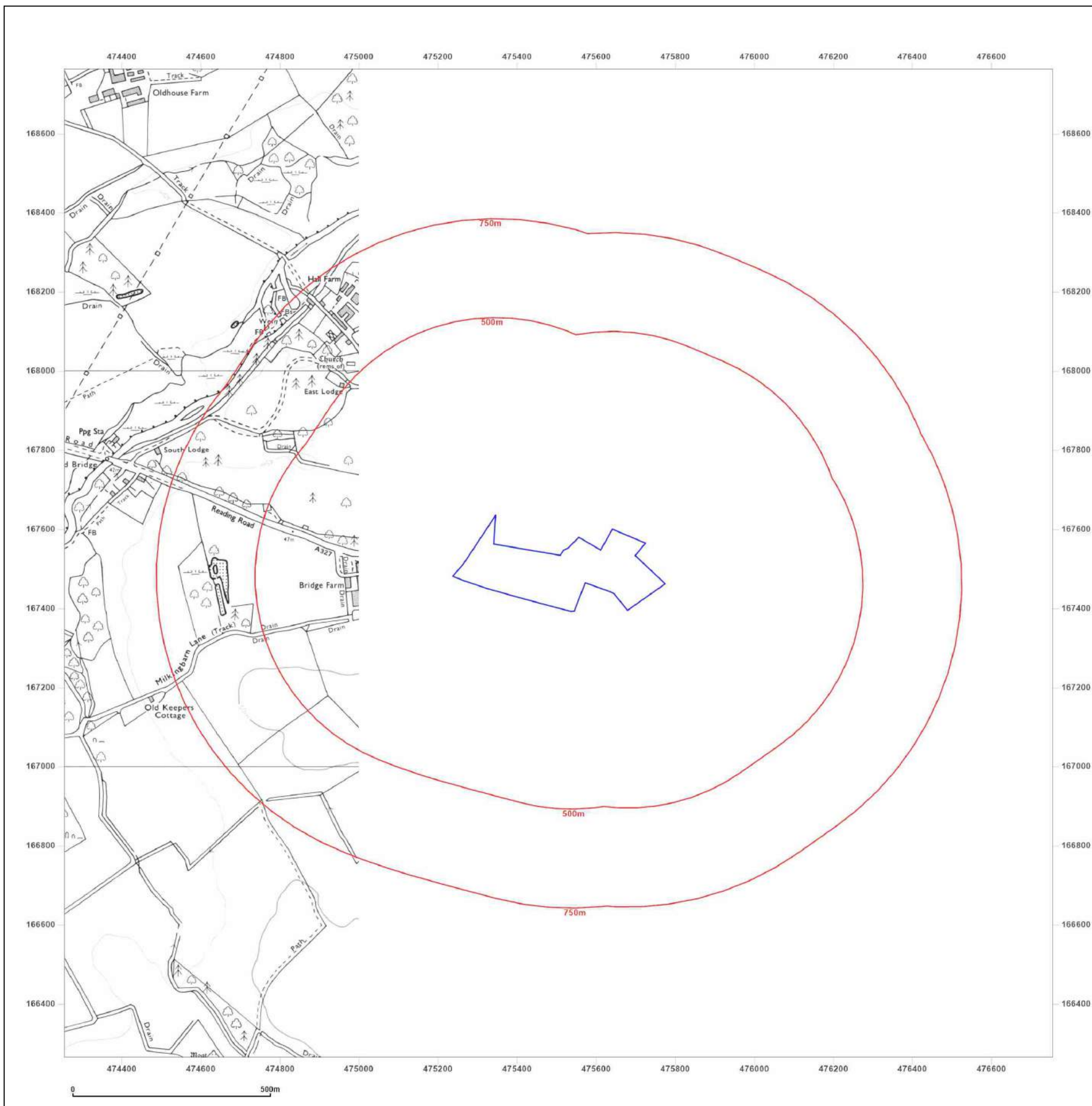


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Site Details:

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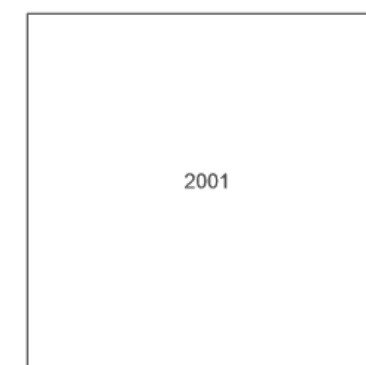
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Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

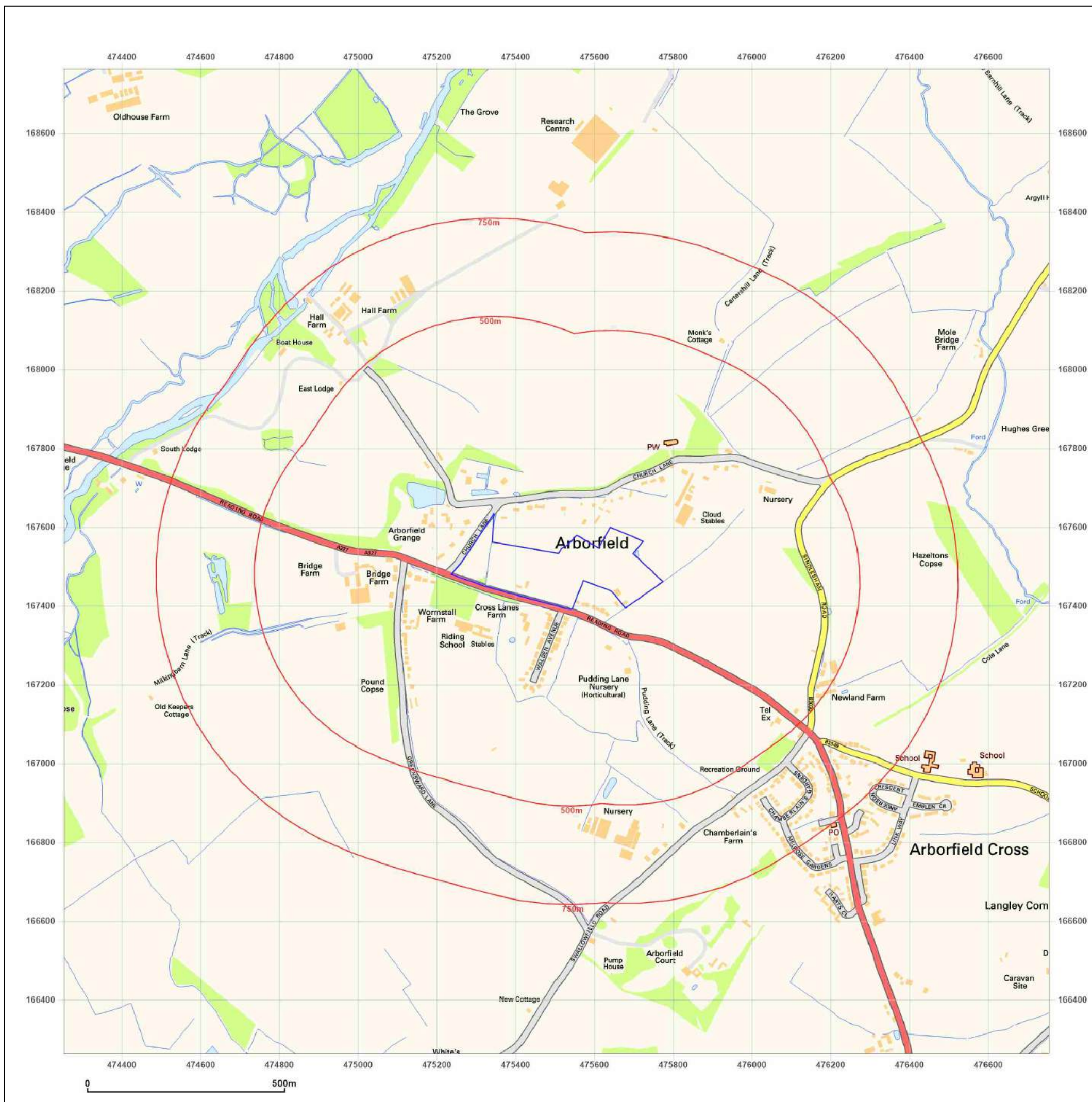


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Site Details:

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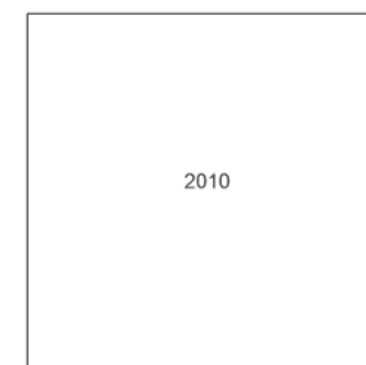
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Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

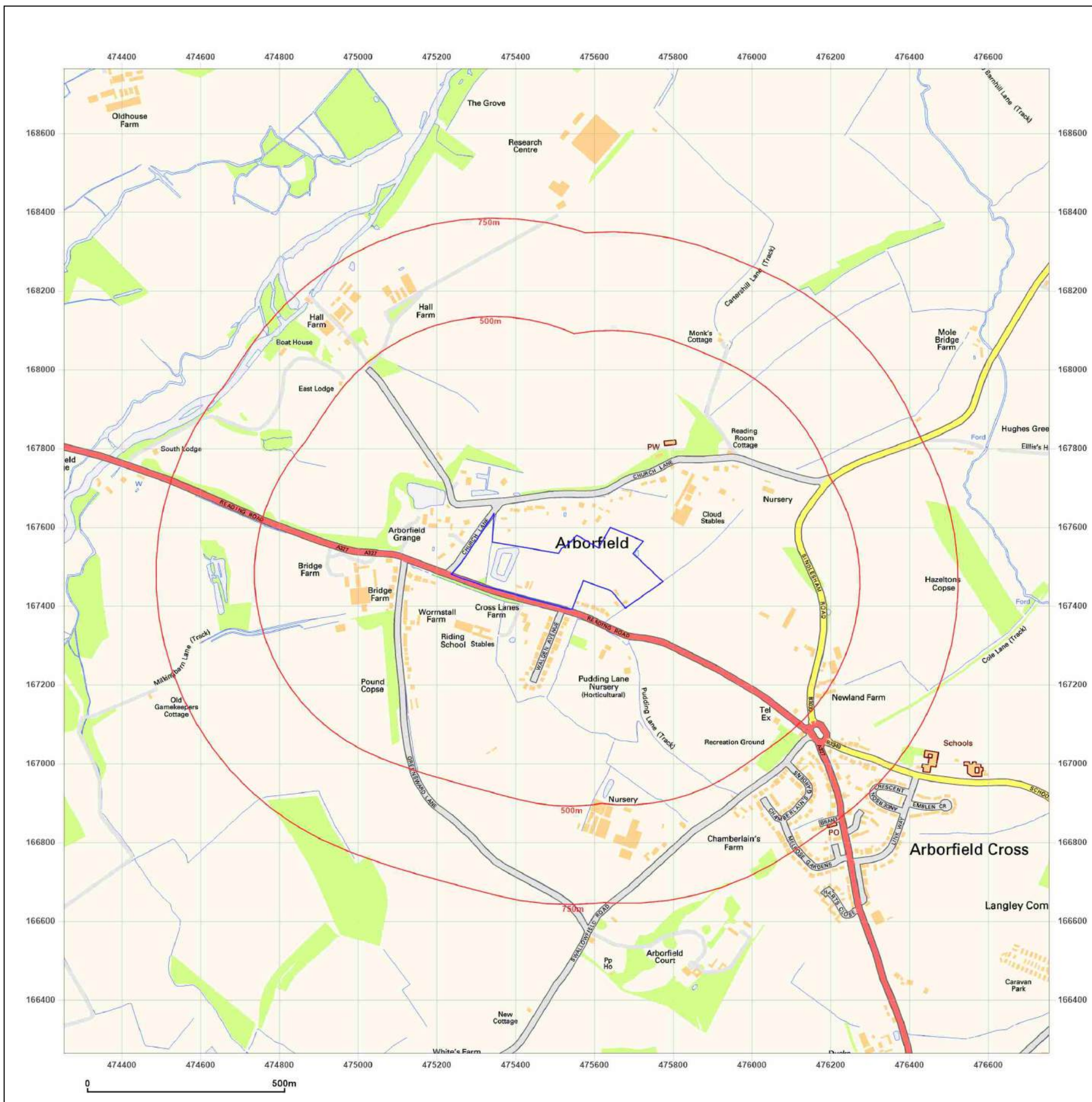


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Site Details:

DEVELOPMENT LAND AT
READING ROAD, ARBORFIELD,
WOKINGHAM, RG2 9HN

Client Ref: Dandara
Report Ref: GS-9IZ-3E2-BUJ-1FE
Grid Ref: 475504, 167514

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000



2024

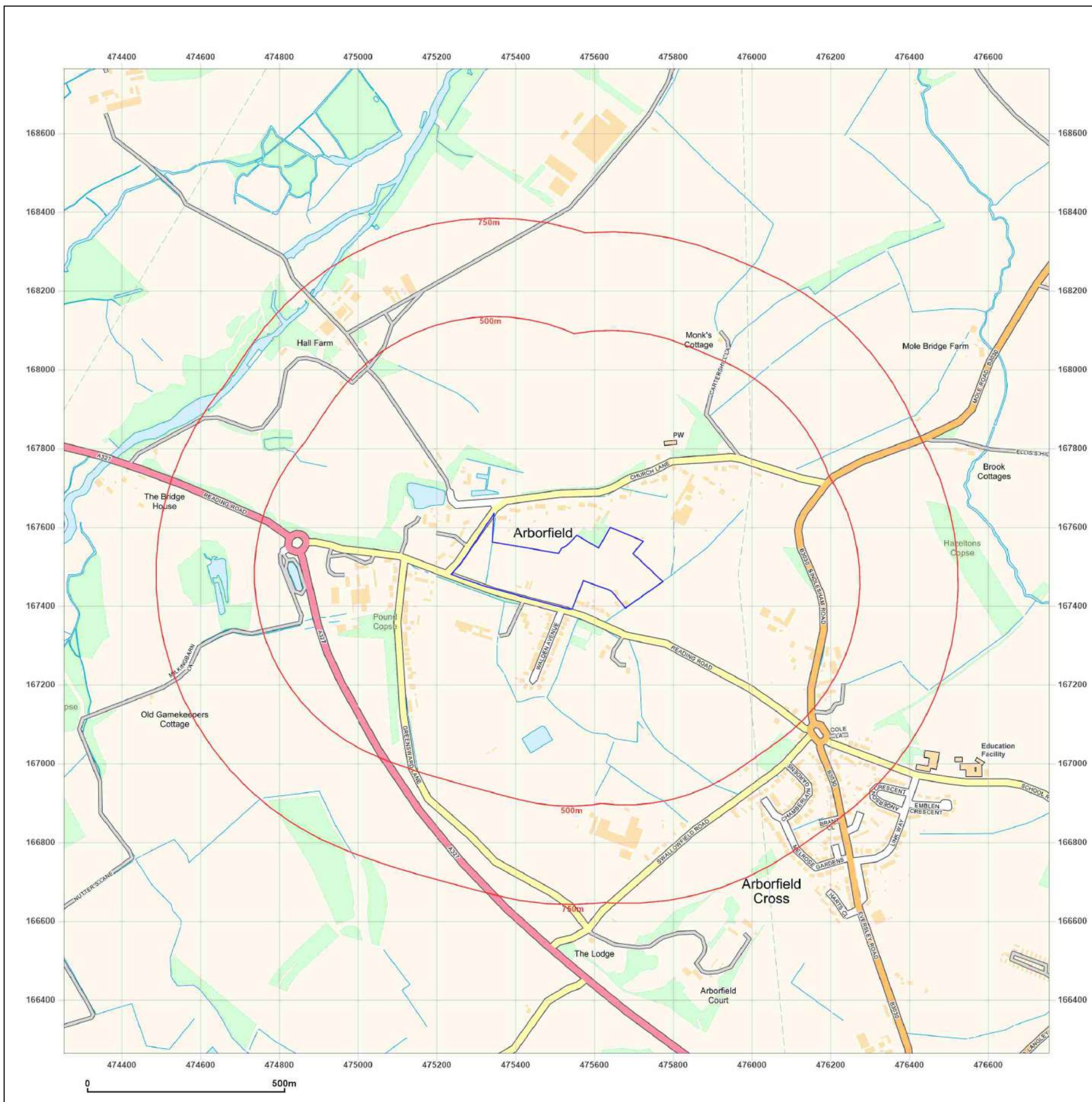


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Production date: 01 October 2024

Map legend available at:
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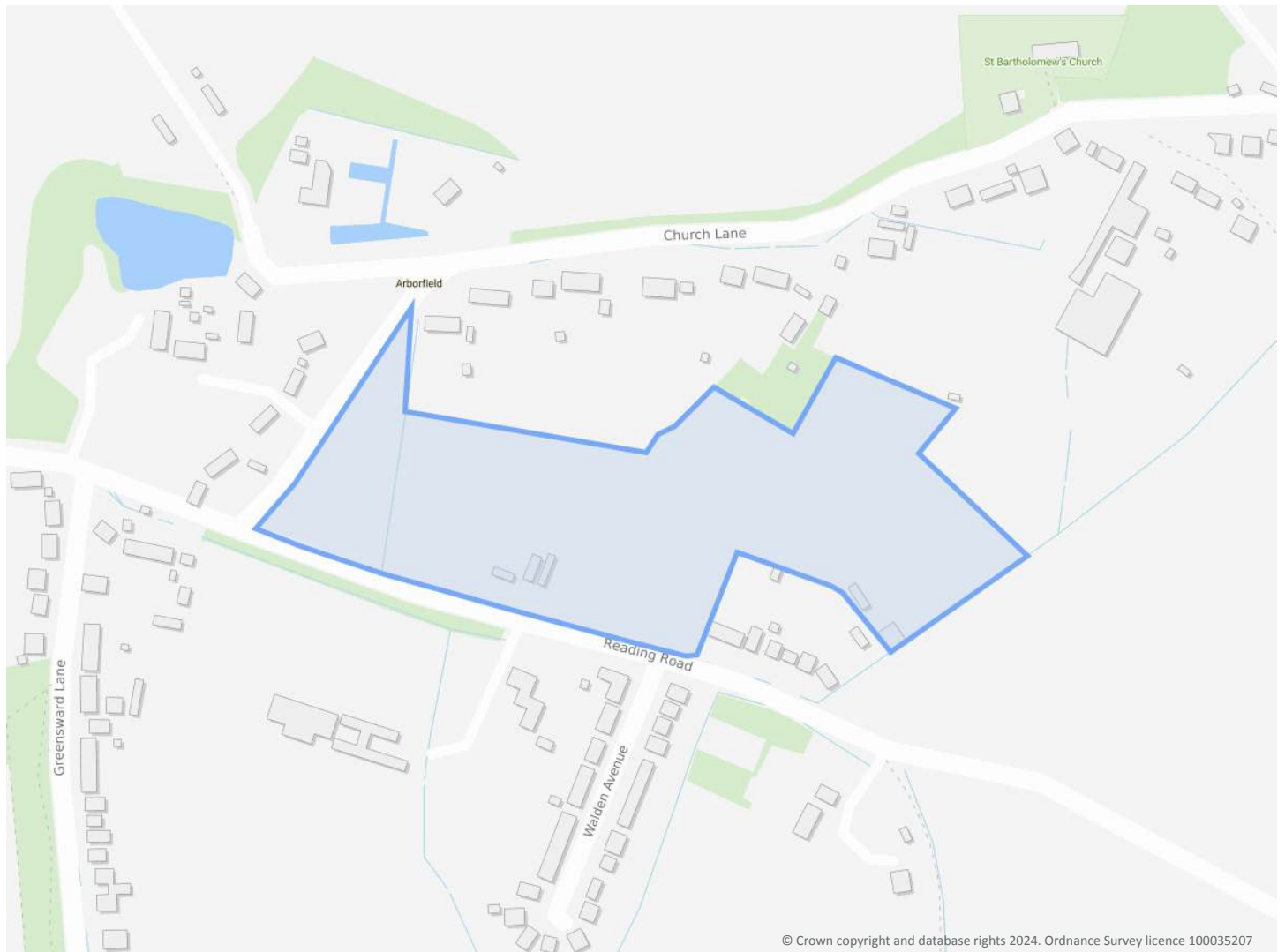
DEVELOPMENT LAND AT READING ROAD, ARBORFIELD, WOKINGHAM, RG2 9HN

Order Details

Date: 01/10/2024
Your ref: Dandara
Our Ref: GS-AMP-VNV-7PF-8SJ

Site Details

Location: 475511 167495
Area: 6.34 ha
Authority: [Wokingham Borough Council](#) ↗



Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) **[Insight User Guide](#)** ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	2	6	-
16 >	1.2 >	Historical tanks >	0	0	1	0	-
16 >	1.3 >	Historical energy features >	0	0	0	1	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	0	0	3	7	-
19 >	2.2 >	Historical tanks >	0	0	3	0	-
19 >	2.3 >	Historical energy features >	0	0	0	2	-
20	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
22	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
23 >	3.7 >	Waste exemptions >	0	0	30	37	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	4.1 >	Recent industrial land uses >	1	0	7	-	-
30	4.2	Current or recent petrol stations	0	0	0	0	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32 >	4.13 >	<u>Licensed Discharges to controlled waters ></u>	0	0	4	5	-
34	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
34	4.15	Pollutant release to public sewer	0	0	0	0	-
34	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	0	0	-
35 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	1	0	-
35	4.19	Pollution inventory substances	0	0	0	0	-
35	4.20	Pollution inventory waste transfers	0	0	0	0	-
35	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
36 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
38 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
39 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
40	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
40	5.5	Groundwater vulnerability- local information	None (within 0m)				
41 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	11
44 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	7
46 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	0	4
48 >	5.9 >	<u>Source Protection Zones ></u>	1	0	0	1	-
48	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
49 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	4	28	56	-	-



56 >	6.2 >	Surface water features >	1	11	24	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
57 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
58	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
59	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
59	7.2	Historical Flood Events	0	0	0	-	-
59	7.3	Flood Defences	0	0	0	-	-
60	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61	7.6	Flood Zone 2	None (within 50m)				
61	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
62 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
64 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
65	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
66	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
66	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
66	10.4	Special Protection Areas (SPA)	0	0	0	0	0
66	10.5	National Nature Reserves (NNR)	0	0	0	0	0
67	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
67 >	10.7 >	Designated Ancient Woodland >	0	0	3	0	40
69	10.8	Biosphere Reserves	0	0	0	0	0
70	10.9	Forest Parks	0	0	0	0	0
70	10.10	Marine Conservation Zones	0	0	0	0	0
70	10.11	Green Belt	0	0	0	0	0
70	10.12	Proposed Ramsar sites	0	0	0	0	0



70	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
71	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
71	10.15	Nitrate Sensitive Areas	0	0	0	0	0
71 >	10.16 >	Nitrate Vulnerable Zones >	0	0	1	0	1
72 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
73	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
74	11.1	World Heritage Sites	0	0	0	-	-
75	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
75	11.3	National Parks	0	0	0	-	-
75 >	11.4 >	Listed Buildings >	0	0	1	-	-
76	11.5	Conservation Areas	0	0	0	-	-
76	11.6	Scheduled Ancient Monuments	0	0	0	-	-
76	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	12.1 >	Agricultural Land Classification >	Grade 3a (within 250m)				
78	12.2	Open Access Land	0	0	0	-	-
78	12.3	Tree Felling Licences	0	0	0	-	-
78 >	12.4 >	Environmental Stewardship Schemes >	0	0	1	-	-
79	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
80 >	13.1 >	Priority Habitat Inventory >	0	2	13	-	-
81	13.2	Habitat Networks	0	0	0	-	-
81	13.3	Open Mosaic Habitat	0	0	0	-	-
82	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
83 >	14.1 >	10k Availability >	Identified (within 500m)				
84	14.2	Artificial and made ground (10k)	0	0	0	0	-
85 >	14.3 >	Superficial geology (10k) >	2	0	3	1	-

86	14.4	Landslip (10k)	0	0	0	0	-
87 >	14.5 >	Bedrock geology (10k) >	1	0	1	0	-
88	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
89 >	15.1 >	50k Availability >	Identified (within 500m)				
90	15.2	Artificial and made ground (50k)	0	0	0	0	-
90	15.3	Artificial ground permeability (50k)	0	0	-	-	-
91 >	15.4 >	Superficial geology (50k) >	2	0	2	0	-
92 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
92	15.6	Landslip (50k)	0	0	0	0	-
92	15.7	Landslip permeability (50k)	None (within 50m)				
93 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
94 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
94	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
95 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	Natural ground subsidence >					
96 >	17.1 >	Shrink swell clays >	Low (within 50m)				
97 >	17.2 >	Running sands >	Very low (within 50m)				
98 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
99 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
100 >	17.5 >	Landslides >	Very low (within 50m)				
101 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
103	18.1	BritPits	0	0	0	0	-
104 >	18.2 >	Surface ground workings >	0	8	8	-	-
104	18.3	Underground workings	0	0	0	0	0
105	18.4	Underground mining extents	0	0	0	0	-
105	18.5	Historical Mineral Planning Areas	0	0	0	0	-



105	18.6	Non-coal mining	0	0	0	0	0
105	18.7	JPB mining areas	None (within 0m)				
105	18.8	The Coal Authority non-coal mining	0	0	0	0	-
106	18.9	Researched mining	0	0	0	0	-
106	18.10	Mining record office plans	0	0	0	0	-
106	18.11	BGS mine plans	0	0	0	0	-
106	18.12	Coal mining	None (within 0m)				
107	18.13	Brine areas	None (within 0m)				
107	18.14	Gypsum areas	None (within 0m)				
107	18.15	Tin mining	None (within 0m)				
107	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
108	19.1	Natural cavities	0	0	0	0	-
108	19.2	Mining cavities	0	0	0	0	0
108	19.3	Reported recent incidents	0	0	0	0	-
108	19.4	Historical incidents	0	0	0	0	-
109	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
110 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
112 >	21.1 >	BGS Estimated Background Soil Chemistry >	8	0	-	-	-
113	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
113	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
114	22.1	Underground railways (London)	0	0	0	-	-
114	22.2	Underground railways (Non-London)	0	0	0	-	-
114	22.3	Railway tunnels	0	0	0	-	-
114	22.4	Historical railway and tunnel features	0	0	0	-	-
114	22.5	Royal Mail tunnels	0	0	0	-	-



115	22.6	Historical railways	0	0	0	-	-
115	22.7	Railways	0	0	0	-	-
115	22.8	Crossrail 1	0	0	0	0	-
115	22.9	Crossrail 2	0	0	0	0	-
115	22.10	HS2	0	0	0	0	-

Recent aerial photograph

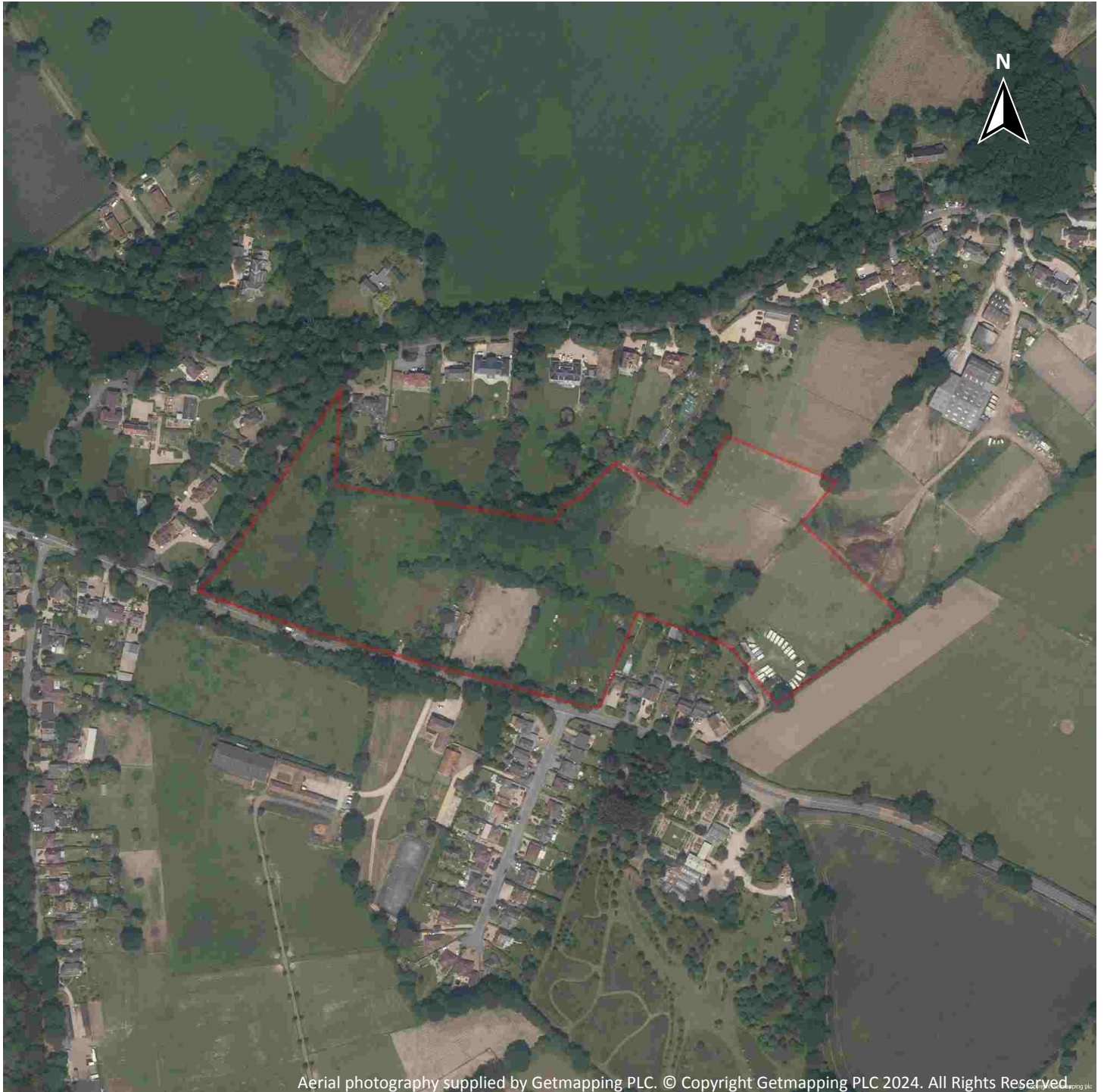


Capture Date: 30/04/2022

Site Area: 6.34ha



Recent site history - 2019 aerial photograph

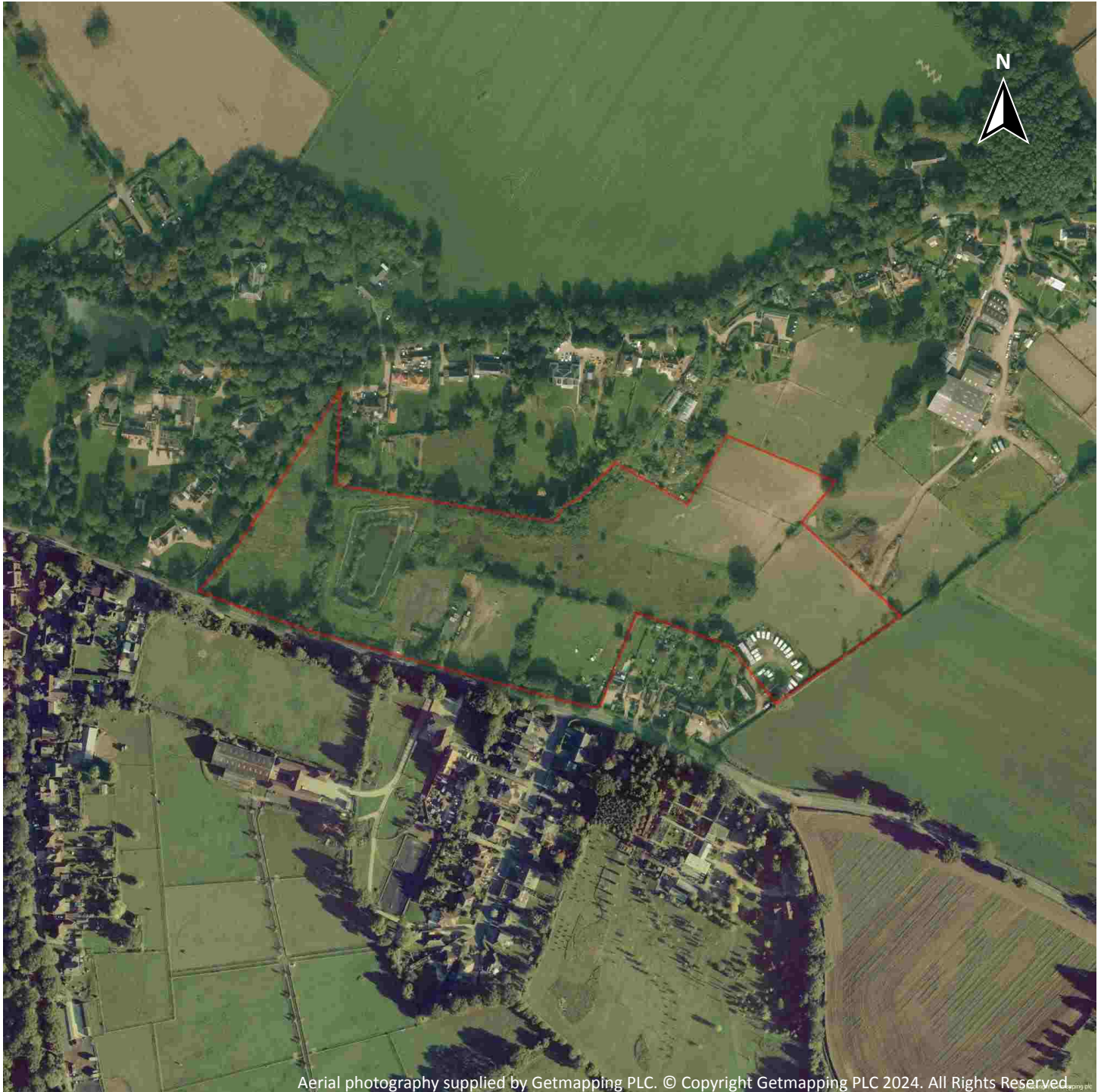


Capture Date: 29/06/2019

Site Area: 6.34ha



Recent site history - 2010 aerial photograph



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Capture Date: 25/09/2010

Site Area: 6.34ha



Recent site history - 2005 aerial photograph



Capture Date: 12/07/2005

Site Area: 6.34ha



Recent site history - 1999 aerial photograph



Capture Date: 04/09/1999

Site Area: 6.34ha



OS MasterMap site plan



Site Area: 6.34ha



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

8

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	203m W	Unspecified Tank	1988	1951364



ID	Location	Land use	Dates present	Group ID
A	203m W	Unspecified Tank	1969 - 1979	1987680
1	257m NE	Nursery	1988	1898025
B	399m S	Nursery	1969 - 1979	1927707
B	404m S	Nursery	1988	1986104
C	440m SE	Telephone Exchange	1988	1986265
C	440m SE	Telephone Exchange	1979	1991827
D	488m W	Gas Regulator	1976	1900753

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

1

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	204m W	Unspecified Tank	1968 - 1997	340865

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

1

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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)



ID	Location	Land use	Dates present	Group ID
D	459m W	Gas Regulator	1987 - 1997	218985

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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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 ungrouped 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
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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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

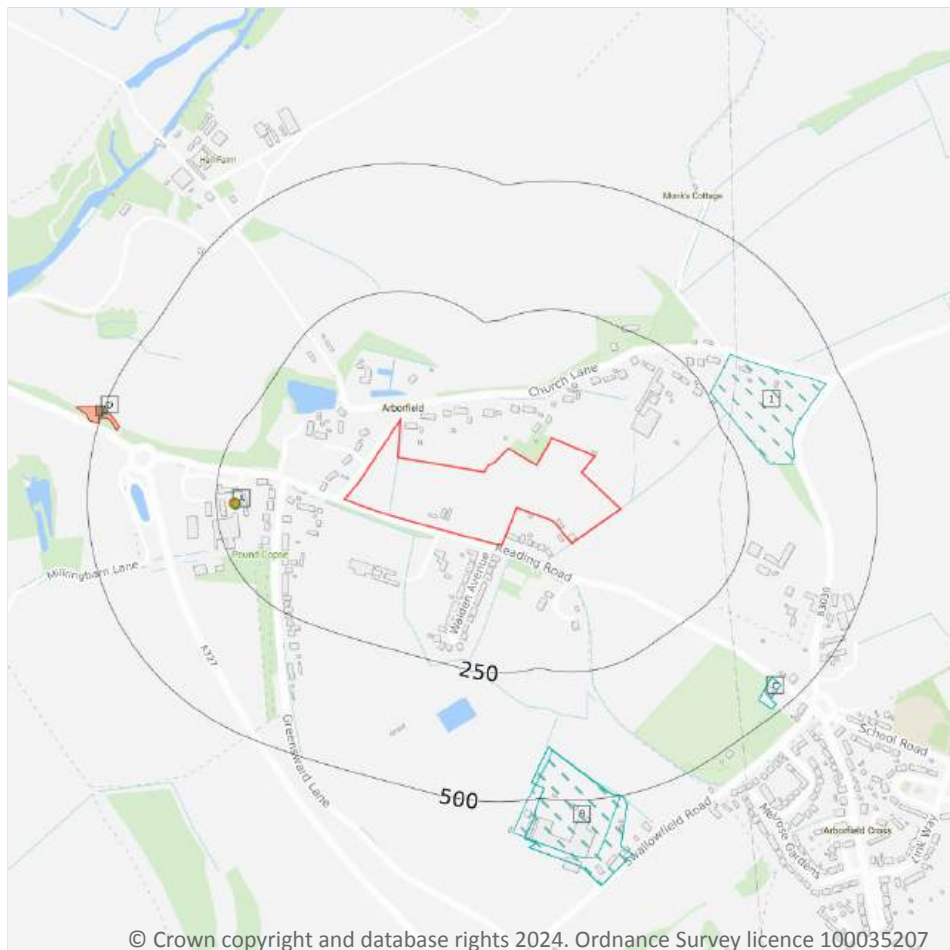
1.6 Historical military land

Records within 500m	0
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Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

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

2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

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2.1 Historical industrial land uses

Records within 500m

10

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 18](#) >

ID	Location	Land Use	Date	Group ID
A	203m W	Unspecified Tank	1988	1951364
A	203m W	Unspecified Tank	1969	1987680
A	203m W	Unspecified Tank	1979	1987680



ID	Location	Land Use	Date	Group ID
1	257m NE	Nursery	1988	1898025
B	399m S	Nursery	1969	1927707
B	399m S	Nursery	1979	1927707
B	404m S	Nursery	1988	1986104
C	440m SE	Telephone Exchange	1988	1986265
C	440m SE	Telephone Exchange	1979	1991827
D	488m W	Gas Regulator	1976	1900753

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

3

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 18 >](#)

ID	Location	Land Use	Date	Group ID
A	204m W	Unspecified Tank	1997	340865
A	204m W	Unspecified Tank	1993	340865
A	205m W	Unspecified Tank	1968	340865

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

2

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 18 >](#)

ID	Location	Land Use	Date	Group ID
D	459m W	Gas Regulator	1987	218985



ID	Location	Land Use	Date	Group ID
D	492m W	Gas Regulator	1997	218985

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

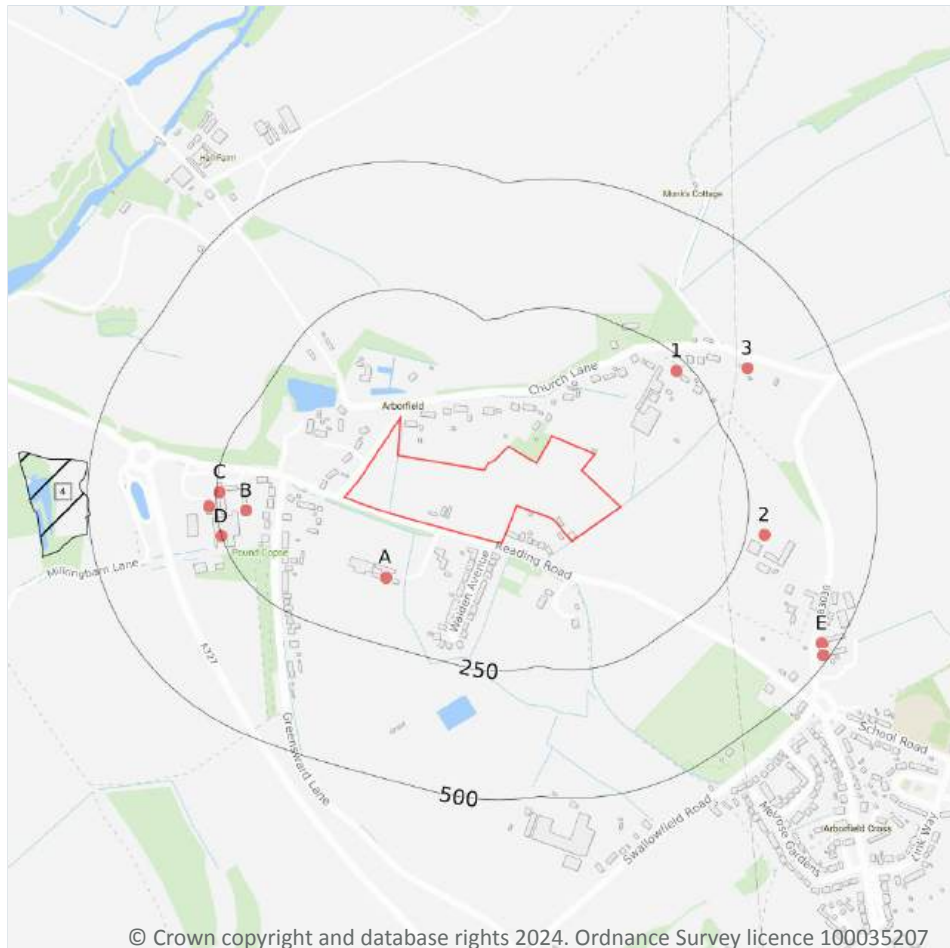
0

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)
- Waste exemptions

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3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

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 21 >](#)

ID	Location	Details		
4	496m W	Site Address: Milkingbarn Lane, Arborfield Licence Holder Address: -	Waste Licence: - Site Reference: WOK71 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

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	67
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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 21 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	123m SW	West Court Officers Mess Reading Road Reading Wokingham Rg2 9hp	EPR/FF0004HS /A001	Treating waste exemption	Non- agricultura l waste only	Aerobic composting and associated prior treatment
A	123m SW	West Court Officers Mess Reading Road Reading Wokingham Rg2 9hp	EPR/FF0004HS /A001	Using waste exemption	Non- agricultura l waste only	Use of mulch
A	124m SW	-	WEX402657	Using waste exemption	Not on a farm	Use of mulch
A	124m SW	-	WEX402657	Using waste exemption	Not on a farm	Spreading waste on non- agricultural land to confer benefit
A	124m SW	-	WEX402657	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
A	124m SW	-	WEX402657	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	124m SW	West Court Officers Mess, Reading Road, Arborfield, Rg2 9hp	WEX133898	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
A	124m SW	West Court Officers Mess, Reading Road, Arborfield, Rg2 9hp	WEX133898	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	124m SW	West Court Officers Mess, Reading Road, Arborfield, Rg2 9hp	WEX134563	Using waste exemption	Not on a farm	Spreading waste on non- agricultural land to confer benefit
A	124m SW	West Court Officers Mess, Reading Road, Arborfield, Rg2 9hp	WEX133898	Using waste exemption	Not on a farm	Use of mulch
A	124m SW	-	WEX273097	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment



ID	Location	Site	Reference	Category	Sub-Category	Description
A	124m SW	-	WEX273097	Using waste exemption	Not on a farm	Spreading waste on non-agricultural land to confer benefit
A	124m SW	-	WEX273097	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	124m SW	-	WEX273097	Using waste exemption	Not on a farm	Use of mulch
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Use of waste in construction
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Use of waste in the construction of entertainment or educational installations etc
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Use of waste for a specified purpose
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Disposing of waste exemption	On a farm	Disposal by incineration



ID	Location	Site	Reference	Category	Sub-Category	Description
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Disposing of waste exemption	On a farm	Burning waste in the open
B	194m W	Farley Farm, Reading Road, Arborfield, Reading, Rg2 9ht	WEX070711	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
1	226m NE	The Pightle, Church Lane, Arborfield, Reading, Rg2 9ja	WEX083924	Using waste exemption	On a farm	Use of waste in construction
C	243m W	Tech Recycle Ltd, Unit B Bridge Farm, Reading Road, Arborfield, Rg2 9ht	WEX296862	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	243m W	Tech Recycle Ltd, Unit B Bridge Farm, Reading Road, Arborfield, Rg2 9ht	WEX296862	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	253m W	Reading Road, Arborfield, Rg2 9ht	EXP/WP3045X V	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE
D	253m W	Unit B, Bridge Farm, Reading Road, Arborfield, Rg2 9ht	NC3/000014	Treating waste exemption	On a farm	Repair or refurbishment of WEEE
C	266m W	Exemption Is For Moving Material Between Construction Projects In Wokingham, All Being Completed On Behalf Of The Council	WEX269571	Using waste exemption	Not on a farm	Use of waste in construction
2	284m E	-	WEX402426	Using waste exemption	On a farm	Use of waste in construction
3	339m NE	Oaklands House, Church Lane, Arborfield, Reading, Rg2 9jd	WEX325977	Disposing of waste exemption	On a farm	Burning waste in the open
E	472m SE	Newlands Farm Sindlesham Road Reading Rg2 9jh	EPR/TH0410D W/A001	Using waste exemption	Agricultural waste only	Spreading waste on agricultural land to confer benefit
E	474m SE	Newlands Farm Sindlesham Road Reading Rg2 9jh	EPR/UF0105VF /A001	Using waste exemption	Agricultural waste only	Spreading waste on agricultural land to confer benefit



ID	Location	Site	Reference	Category	Sub-Category	Description
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Disposing of waste exemption	On a farm	Burning waste in the open
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX294086	Using waste exemption	On a farm	Use of waste for a specified purpose
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Using waste exemption	On a farm	Use of waste for a specified purpose
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising



ID	Location	Site	Reference	Category	Sub-Category	Description
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Disposing of waste exemption	On a farm	Burning waste in the open
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Using waste exemption	On a farm	Use of waste for a specified purpose
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Disposing of waste exemption	On a farm	Burning waste in the open
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX163734	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

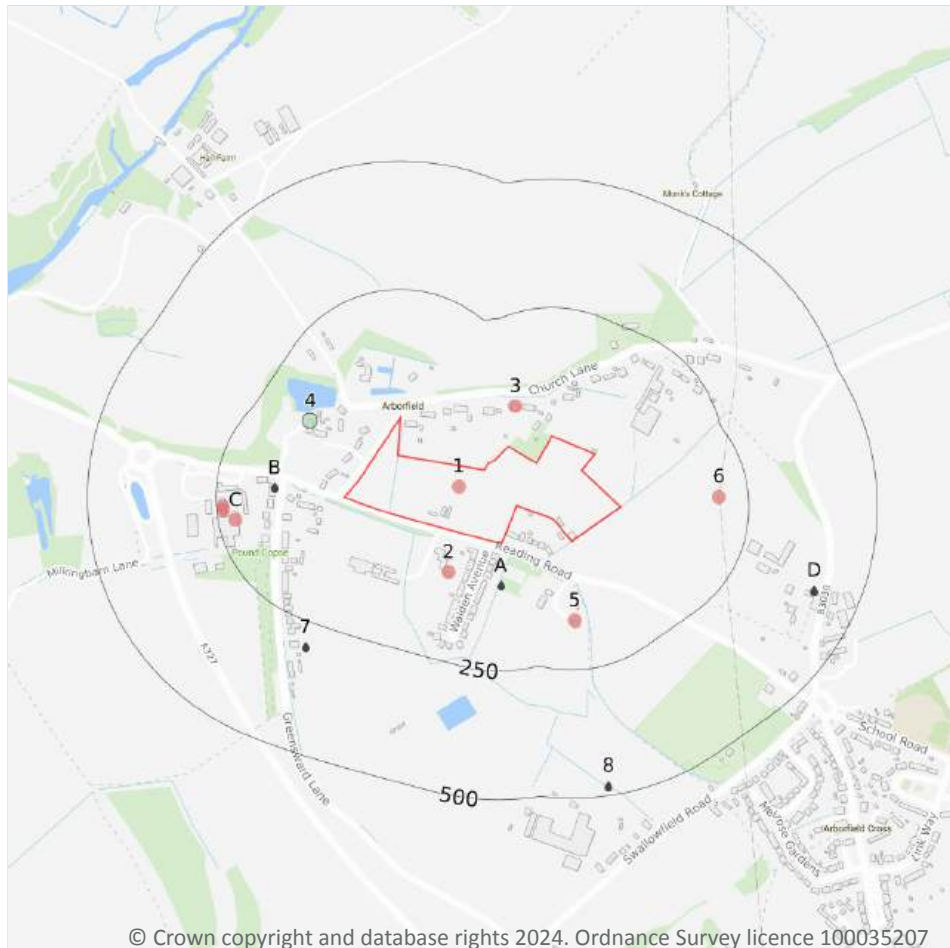


ID	Location	Site	Reference	Category	Sub-Category	Description
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Using waste exemption	On a farm	Use of waste for a specified purpose
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX155566	Using waste exemption	On a farm	Use of waste for a specified purpose
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Disposing of waste exemption	On a farm	Burning waste in the open
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX001583	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Disposing of waste exemption	On a farm	Burning waste in the open
E	489m SE	Newlands Farm, Sindlesham Road, Arborfield, Reading, Rg2 9jh	WEX002325	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

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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 29](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Pump	Berkshire, RG2	Water Pumping Stations	Industrial Features
2	80m SW	Works	Berkshire, RG2	Unspecified Works Or Factories	Industrial Features



ID	Location	Company	Address	Activity	Category
3	80m N	Dressmaking & Alterations by Maddrellini	Phyllena, Church Lane, Arborfield, Berkshire, RG2 9JA	Clothing, Components and Accessories	Consumer Products
5	154m SE	Amarestone	Church Lane, Arborfield, Reading, Berkshire, RG2 9JB	Stone Quarrying and Preparation	Extractive Industries
6	192m E	Pylon	Berkshire, RG2	Electrical Features	Infrastructure and Facilities
C	217m W	Divestyle	Unit A Bridge Farm, Reading Road, Arborfield, Berkshire, RG2 9HT	Hobby, Sports and Pastime Products	Consumer Products
C	237m W	Designbrook	Unit J2 The Granary Bridge Farm, Reading Road, Arborfield, Reading, Berkshire, RG2 9HT	Business Parks and Industrial Estates	Industrial Features
C	237m W	I F I S	The Granary, Reading Road, Arborfield, Reading, Berkshire, RG2 9HT	Published Goods	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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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

0

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.

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

9

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 29](#) >

ID	Location	Address	Details	
A	83m S	PUDDING LANE NURSERIES, ARBORFIELD, PUDDING LANE NURSERIES, ARBORFIE, LD CROSS, ARBORFIELD, BERKS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTWC.1830 Permit Version: 1 Receiving Water: LONDON CLAY	Status: REVOKED NEW CONSENT ISSUED (WATER ACT 1989 SECTION 113) Issue date: 24/08/1987 Effective Date: 24/08/1987 Revocation Date: 14/09/2006

ID	Location	Address	Details	
A	83m S	PUDDING LANE NURSERIES, PUDDING LANE NURSERIES, READING ROAD, ARBORFIELD, READING, RG2 9HP	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CASM.2235 Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/10/2006 Effective Date: 15/09/2006 Revocation Date: 14/09/2018
B	138m W	Arborfield Grange, Arborfield Grange	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.0340 Permit Version: 1 Receiving Water: RIVER LODDON	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 02/09/2010
B	138m W	Arborfield Grange, Arborfield Grange	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.0340 Permit Version: 2 Receiving Water: River Loddon	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 19/08/2014
7	300m SW	ADJ. TO LABURNUM, GREENSWARD LANE, ADJ. TO LABURNUM, GREENSWARD LANE, ARBORFIELD, BERKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTU.1470 Permit Version: 1 Receiving Water: LONDON CLAYSTRATA	Status: REVOKED - UNSPECIFIED Issue date: 05/08/1983 Effective Date: 05/08/1983 Revocation Date: 12/08/1996
D	410m E	LOCKEY FARM, LOCKEY FARM, SINDLESHAM ROAD, ARBORFIELD, READING, RG2 9JH	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CASM.1494 Permit Version: 3 Receiving Water: LAND(GRAVELS OVERLAYING CLAY)	Status: VARIED UNDER EPR 2010 Issue date: 10/11/2011 Effective Date: 10/11/2011 Revocation Date: -
D	410m E	LOCKEY FARM, LOCKEY FARM, SINDLESHAM ROAD, ARBORFIELD, READING, RG2 9JH	Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: CASM.1494 Permit Version: 2 Receiving Water: LAND(GRAVELS OVERLAYING CLAY)	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/09/2006 Effective Date: 08/04/2008 Revocation Date: 09/11/2011
D	410m E	LOCKEY FARM, LOCKEY FARM, SINDLESHAM ROAD, ARBORFIELD, READING, RG2 9JH	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CASM.1494 Permit Version: 1 Receiving Water: LAND(GRAVELS OVERLAYING CLAY)	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/09/2006 Effective Date: 01/10/2006 Revocation Date: 07/04/2008



ID	Location	Address	Details	
8	481m SE	HENRY STREET GARDEN CENTRE, HENRY STREET GARDEN CENTRE, ARBORFIELD, READING, BERKSHIRE	Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: CNTM.2197 Permit Version: 1 Receiving Water: TRIBUTARY OF THE RIVER LODDON	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 19/02/1996 Effective Date: 19/02/1996 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 29](#) >

ID	Location	Details	
4	142m W	Incident Date: 11/08/2002 Incident Identification: 99260 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) 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

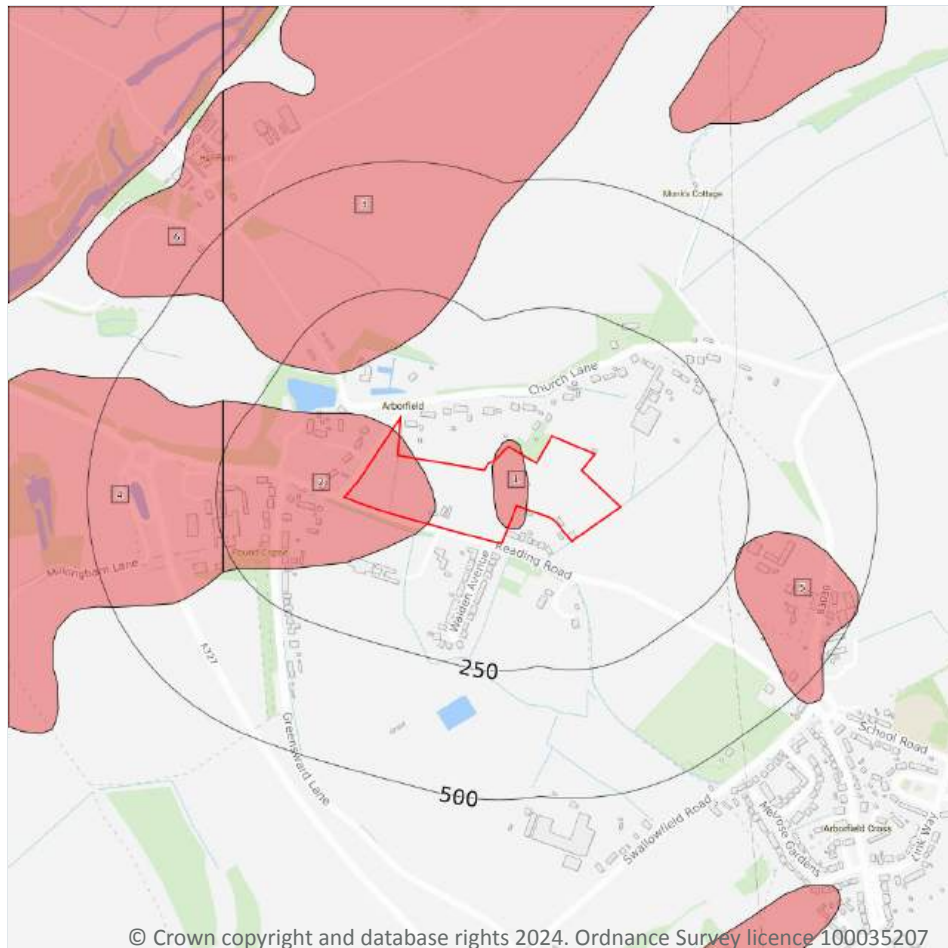
0

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



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

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5.1 Superficial aquifer

Records within 500m

6

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 36 >](#)

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

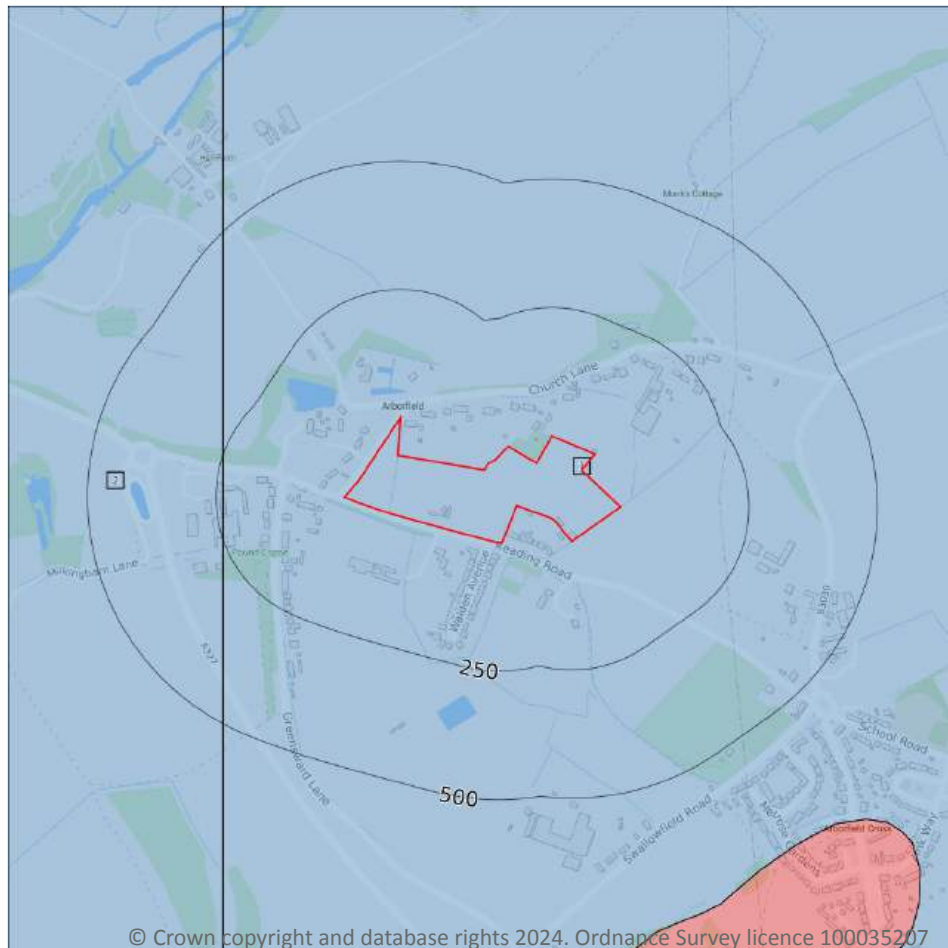


ID	Location	Designation	Description
3	126m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	236m W	Secondary 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
5	247m E	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
6	412m NW	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

2

Aquifer status of groundwater held within bedrock geology.

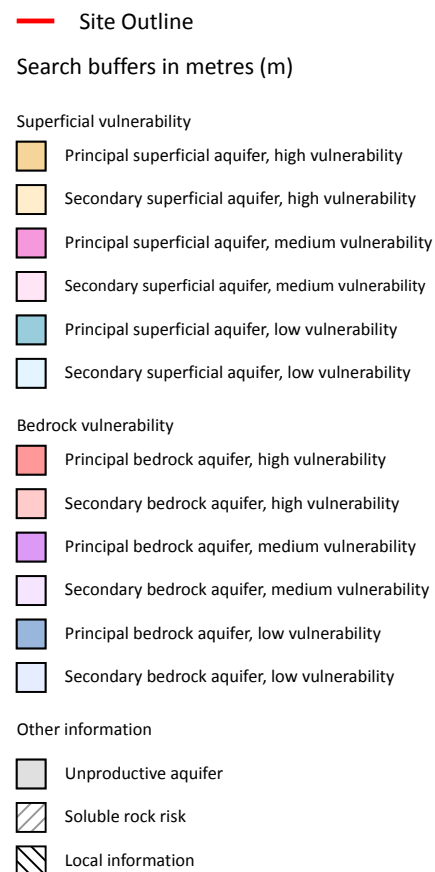
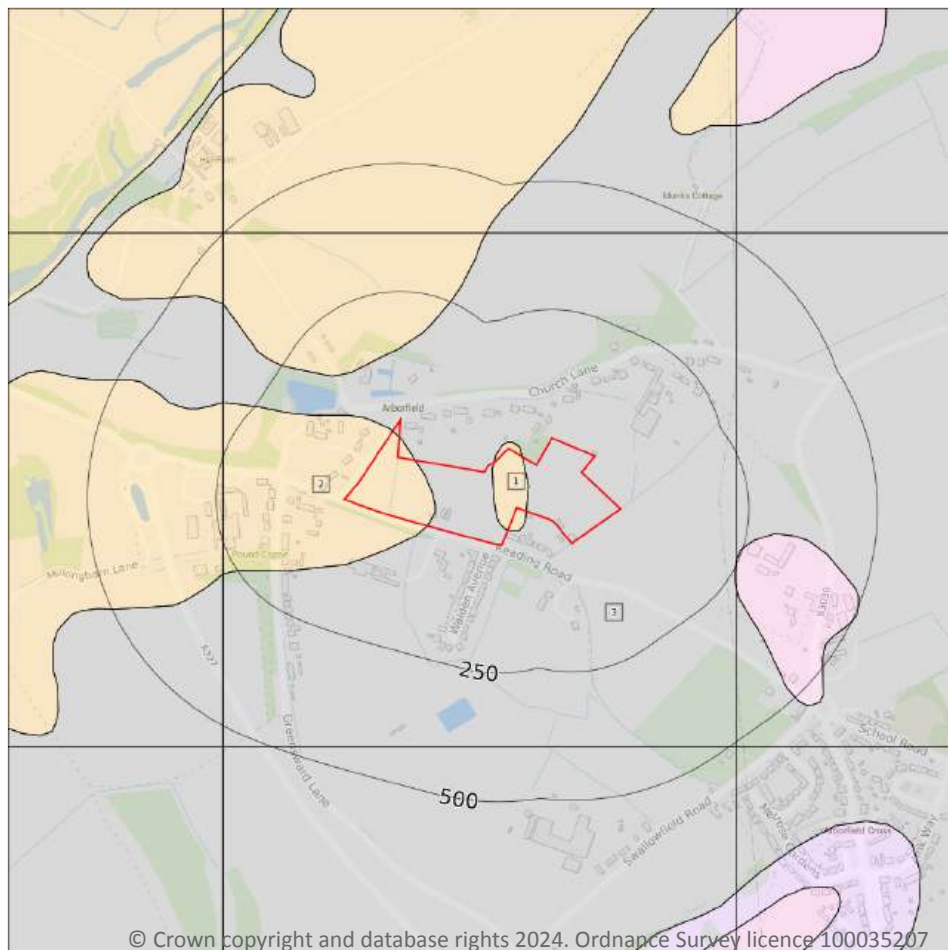
Features are displayed on the Bedrock aquifer map on [page 38](#) >

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	236m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

3

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 39](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	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: High Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

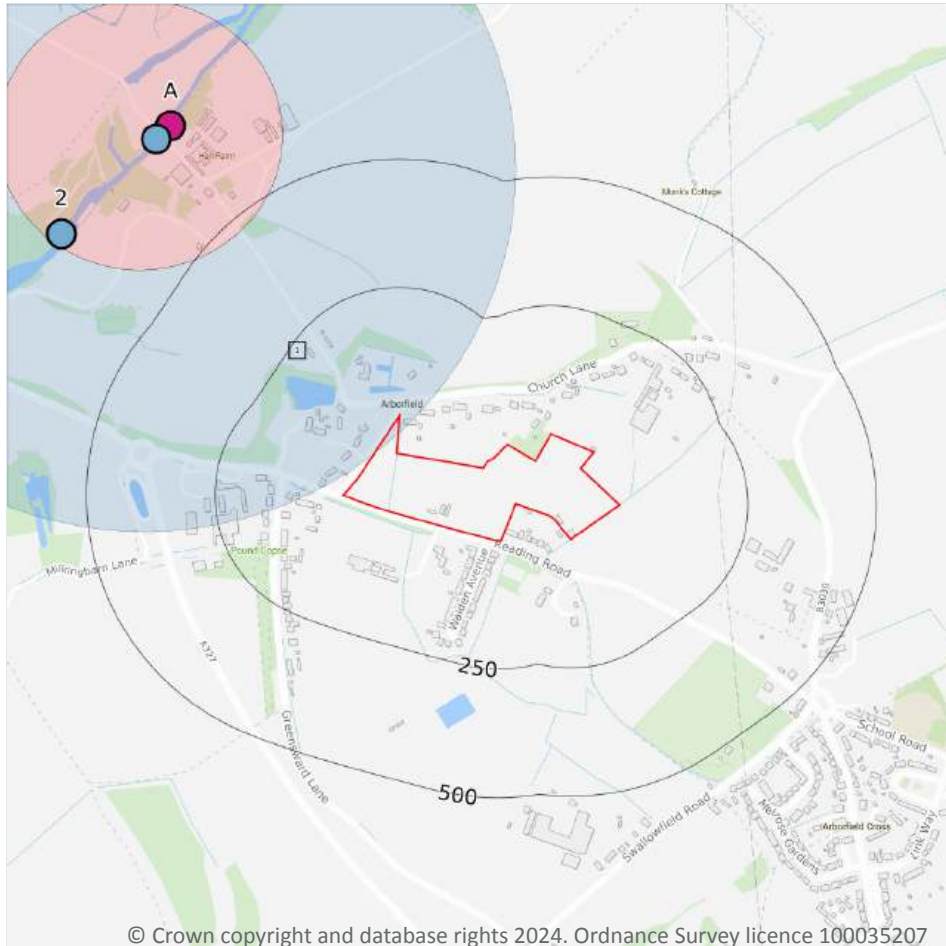
0

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

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



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
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)

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5.6 Groundwater abstractions

Records within 2000m

11

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >

ID	Location	Details	
A	718m NW	Status: Active Licence No: 28/39/24/0014 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ARBORFIELD PUMPING STATION POINT A Data Type: Point Name: Thames Water Utilities Ltd Easting: 474900 Northing: 168200	Annual Volume (m ³): 818298 Max Daily Volume (m ³): 2273.05 Original Application No: RG959 Original Start Date: 10/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/01/1966 Version End Date: -
-	878m N	Status: Active Licence No: 28/39/24/0255/R01 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 65700 Max Daily Volume (m ³): 180 Original Application No: NPS/WR/019295 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	878m N	Status: Active Licence No: 28/39/24/0255/R01 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 65700 Max Daily Volume (m ³): 180 Original Application No: NPS/WR/019295 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	878m N	Status: Historical Licence No: 28/39/24/0255 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -

ID	Location	Details	
-	878m N	Status: Historical Licence No: 28/39/24/0255 Details: General Washing/Process Washing Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -
-	878m N	Status: Historical Licence No: 28/39/24/0255 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -
-	1202m NE	Status: Historical Licence No: 28/39/24/0102 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WELL AT NEWLANDS, ARBORFIELD Data Type: Point Name: HATCH FARM DAIRIES LTD Easting: 476800 Northing: 168100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2001 Version End Date: -
-	1634m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'B' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476900 Northing: 168700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -



ID	Location	Details	
-	1761m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE, WINNERSH, WOKINGHAM - BOREHOLE Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 101 Version Start Date: 04/03/2005 Version End Date: -
-	1761m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE WINNERSH WOKINGHAM - BOREHOLE Data Type: Point Name: TRUSTEES FOR THE TIME BEING OF BEARWOOD COLLEGE Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 102 Version Start Date: 18/08/2006 Version End Date: -
-	1900m NE	Status: Active Licence No: TH/039/0024/036 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: ABSTRACTION POINT BEARWOOD PARK Data Type: Point Name: RFC Bearwood Limited Easting: 476984 Northing: 168987	Annual Volume (m ³): 35000 Max Daily Volume (m ³): 250 Original Application No: NPS/WR/027872 Original Start Date: 11/10/2019 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 11/10/2019 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

7

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >



ID	Location	Details	
A	717m NW	Status: Historical Licence No: TH/039/0024/026 Details: Dust Suppression Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDEN TRIBUTARY ADJACENT TO HALL FARM (POINT B) Data Type: Point Name: Hochtief (UK) Construction Limited Easting: 474872 Northing: 168175	Annual Volume (m ³): 12000 Max Daily Volume (m ³): 60 Original Application No: - Original Start Date: 17/08/2015 Expiry Date: 17/04/2016 Issue No: 1 Version Start Date: 17/08/2015 Version End Date: -
2	744m NW	Status: Historical Licence No: TH/039/0024/008 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES SURFACE WATER - NON TIDAL Point: ARBORFIELD OFF-TAKE STRUCTURE Data Type: Point Name: THE ENVIRONMENT AGENCY Easting: 474687 Northing: 167991	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/002619 Original Start Date: 28/05/2010 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/01/2012 Version End Date: -
-	1165m N	Status: Historical Licence No: 28/39/24/0198 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDON AT ARBORFIELD Data Type: Point Name: UNIVERSITY OF READING Easting: 475300 Northing: 168800	Annual Volume (m ³): 29094 Max Daily Volume (m ³): 430 Original Application No: - Original Start Date: 07/11/1988 Expiry Date: - Issue No: 100 Version Start Date: 20/08/1996 Version End Date: -
-	1168m W	Status: Historical Licence No: 28/39/24/0253 Details: Spray Irrigation - Storage Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDON AT ROUNDS COPSE, NEAR ARBORFIELD, BERKS Data Type: Point Name: FARLEY FARMS Easting: 474070 Northing: 167420	Annual Volume (m ³): 48000 Max Daily Volume (m ³): 1440 Original Application No: - Original Start Date: 27/03/2007 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 27/03/2007 Version End Date: -



ID	Location	Details	
-	1243m W	Status: Historical Licence No: TH/039/0024/026 Details: Dust Suppression Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDEN- RIVER LODDEN TRIBUTARY (POINT A) Data Type: Point Name: Hochtief (UK) Construction Limited Easting: 474051 Northing: 167856	Annual Volume (m ³): 12000 Max Daily Volume (m ³): 60 Original Application No: - Original Start Date: 17/08/2015 Expiry Date: 17/04/2016 Issue No: 1 Version Start Date: 17/08/2015 Version End Date: -
-	1787m NE	Status: Historical Licence No: 28/39/24/0200 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD GOLF COURSE, SINDLESHAM Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 477070 Northing: 168740	Annual Volume (m ³): 2273 Max Daily Volume (m ³): 33 Original Application No: - Original Start Date: 01/08/1989 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1787m NE	Status: Historical Licence No: 28/39/24/0200 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD GOLF COURSE, SINDLESHAM Data Type: Point Name: RFC Bearwood Limited Easting: 477071 Northing: 168740	Annual Volume (m ³): 2273 Max Daily Volume (m ³): 33 Original Application No: NPS/WR/025060 Original Start Date: 01/08/1989 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2016 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

4

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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >



ID	Location	Details	
A	718m NW	Status: Active Licence No: 28/39/24/0014 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ARBORFIELD PUMPING STATION POINT A Data Type: Point Name: Thames Water Utilities Ltd Easting: 474900 Northing: 168200	Annual Volume (m ³): 818298 Max Daily Volume (m ³): 2273.05 Original Application No: RG959 Original Start Date: 10/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/01/1966 Version End Date: -
-	1634m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'B' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476900 Northing: 168700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -
-	1761m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE, WINNERSH, WOKINGHAM - BOREHOLE Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 101 Version Start Date: 04/03/2005 Version End Date: -
-	1761m NE	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE WINNERSH WOKINGHAM - BOREHOLE Data Type: Point Name: TRUSTEES FOR THE TIME BEING OF BEARWOOD COLLEGE Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 102 Version Start Date: 18/08/2006 Version End Date: -

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



5.9 Source Protection Zones

Records within 500m**2**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >

ID	Location	Type	Description
1	On site	2	Outer catchment
A	474m NW	1	Inner catchment

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

5.10 Source Protection Zones (confined aquifer)

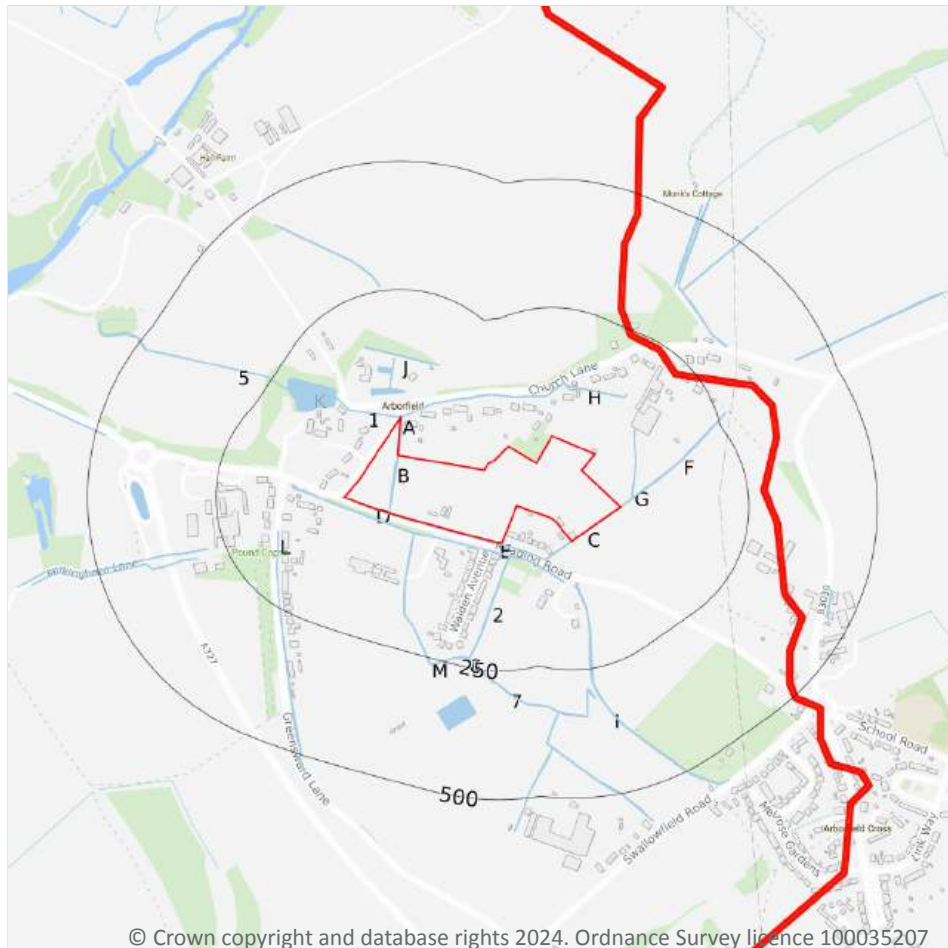
Records within 500m**0**

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

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



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

88

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 49 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	1m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
1	2m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
D	2m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	2m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	2m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	2m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	2m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	3m S	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
A	4m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	13m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	18m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	18m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	19m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	19m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	19m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	19m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	21m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	24m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	26m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	26m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	29m S	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
E	29m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	38m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	41m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	43m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	49m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	53m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	55m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	57m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	58m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	68m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	74m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	74m SE	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
A	78m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	78m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	78m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	79m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	80m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	81m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	81m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	83m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	83m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	83m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	88m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	90m NE	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
D	93m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	93m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	97m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	97m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	106m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	108m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	109m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	114m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	118m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	118m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	122m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	122m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
K	126m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
D	130m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	135m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	144m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	163m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	174m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	180m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	191m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	197m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	199m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	199m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	202m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	207m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
5	213m NW	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
L	214m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	218m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	221m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	231m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	231m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	232m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	235m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	242m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
L	243m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

36

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 49 >](#)

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on [page 49 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
D	On site	River	Loddon (Swallowfield to River Thames confluence)	GB106039023160	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 49 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	721m NW	River	Loddon (Swallowfield to River Thames confluence)	GB106039023160 ↗	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
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Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

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

7.7 Flood Zone 3

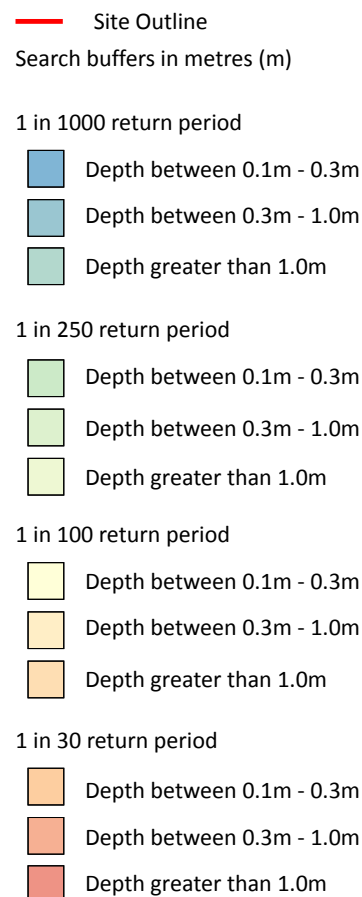
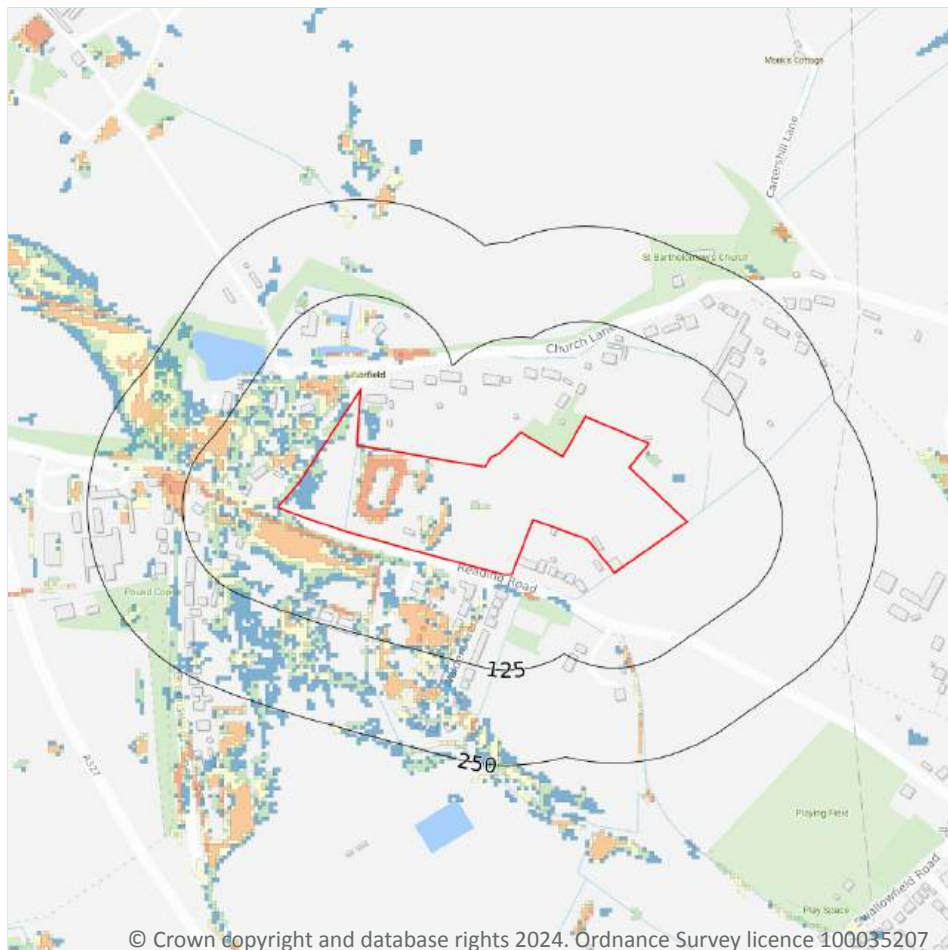
Records within 50m	0
--------------------	---

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 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 62 >](#)

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.

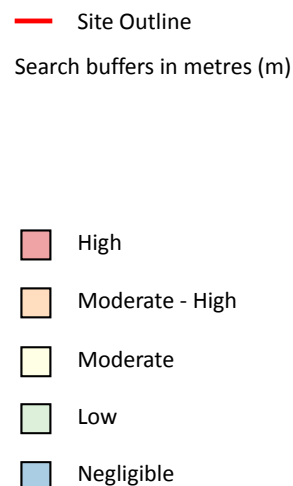
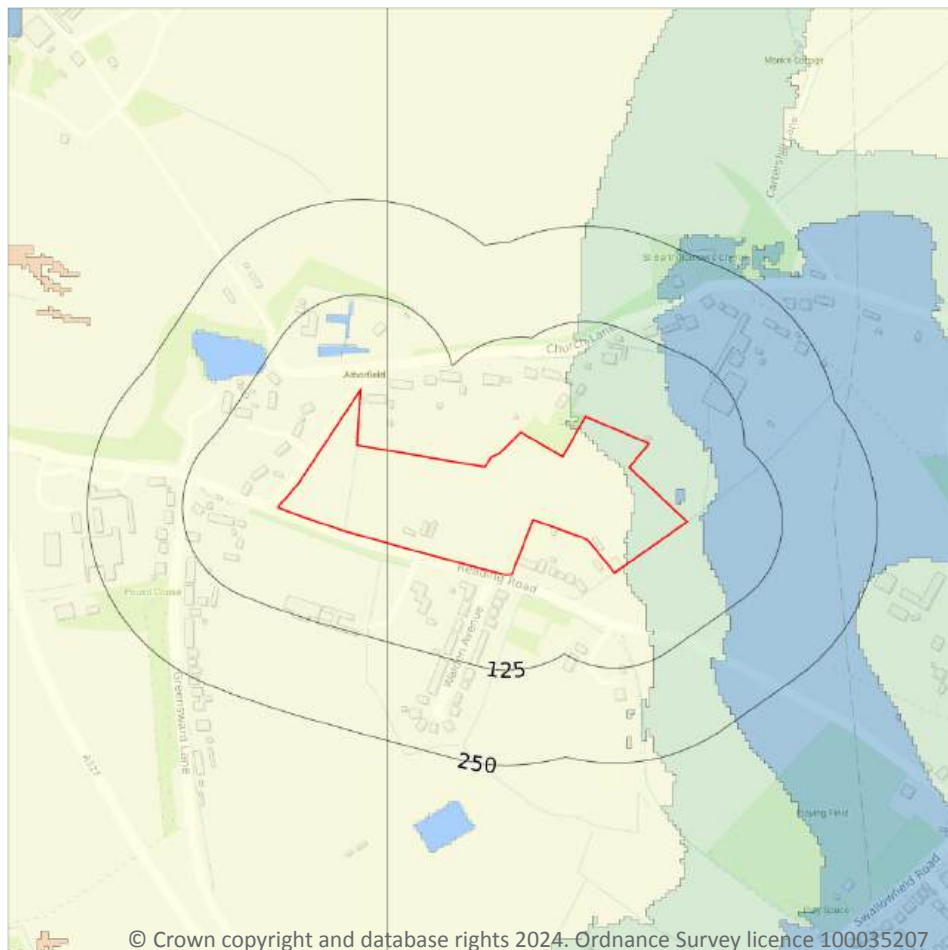
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

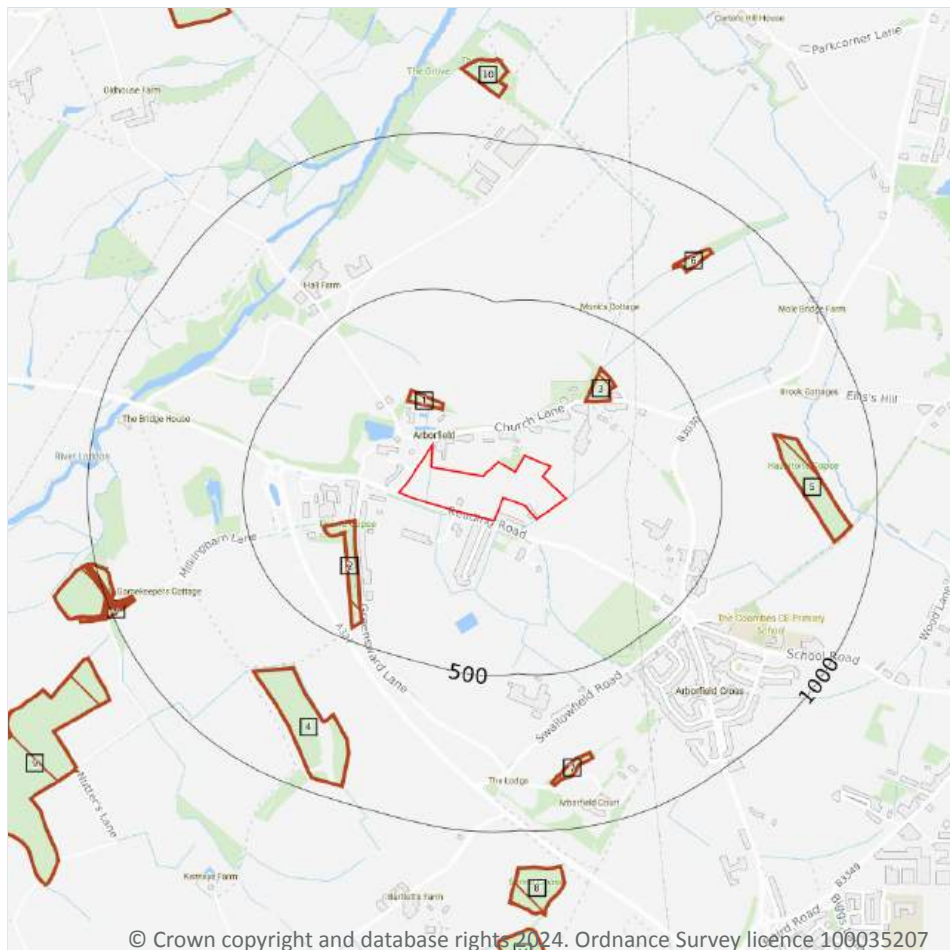
Moderate

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 64](#) >

This data is sourced from Ambienta Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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.

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

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

43

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 65 >](#)

ID	Location	Name	Woodland Type
1	118m NW	(Tithe Map: Furzen Coppice Parson's Coppice)(tithe:furzen Or Parsons Coppice)	Ancient & Semi-Natural Woodland
2	167m W	Pound Copse (Tithe Map: Pound Coppice Wellan's Coppice)(tithe:pond Or Willans Coppice)	Ancient & Semi-Natural Woodland
3	238m NE	(Tithe Map: Brick Kiln Coppice)(tithe:brickkiln Coppice)	Ancient & Semi-Natural Woodland
4	657m SW	Bottom Copse (Tithe Map: Bottoms Coppice)(tithe:bottom Coppice)	Ancient Replanted Woodland
5	698m E	(Epo2: Hazeltons Copse; Tithe:hazletons Copse)	Ancient & Semi-Natural Woodland
6	750m NE	(Tithe:dog Kennel Copse)	Ancient & Semi-Natural Woodland
7	769m S	Unknown	Ancient & Semi-Natural Woodland
A	917m W	Rounds Copse	Ancient & Semi-Natural Woodland
A	919m W	Rounds Copse(tithe:driftway Waste)	Ancient & Semi-Natural Woodland
A	967m W	Rounds Copse	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
A	987m W	Rounds Copse(tithe:driftway Waste)	Ancient & Semi-Natural Woodland
A	1000m W	Rounds Copse (Tithe Map: Round Coppice)(tithe:round Coppice)	Ancient & Semi-Natural Woodland
8	1117m S	(Epo2:spring Copse. Tithe Map: Spring Coppice)(tithe:spring Coppice)	Ancient & Semi-Natural Woodland
9	1131m SW	Moor Copse (Tithe Map: Moor Coppice)(tithe:moor Coppice)	Ancient & Semi-Natural Woodland
10	1137m N	(Epoch2: The Gorse; Tithe:newburys Copse)	Ancient & Semi-Natural Woodland
11	1316m S	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
-	1331m E	The Coombes	Ancient & Semi-Natural Woodland
-	1434m S	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
-	1463m S	(Tithe Map: Coppice)	Ancient & Semi-Natural Woodland
-	1497m S	Long Copse (Tithe Map: The Long Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
16	1534m NW	St. John's Copse (Tithe Map: St Johns Coppice)(tithe:saint Johns Coppice)	Ancient & Semi-Natural Woodland
-	1556m SW	Moor Copse (Tithe Map: Moor Coppice)(tithe:moor Coppice)	Ancient & Semi-Natural Woodland
-	1574m SW	(Tithe Map: Moor Coppice)(tithe:moor Coppice)	Ancient Replanted Woodland
-	1602m SW	Moor Copse (Tithe Map: Moor Coppice)(tithe:moor Coppice)	Ancient & Semi-Natural Woodland
-	1611m SW	(Tithe Map: Moor Coppice)(tithe:moor Coppice)	Ancient & Semi-Natural Woodland
-	1628m S	(Tithe Map: Hurdle Coppice)(tithe:long Coppice Hurdle Coppice)	Ancient & Semi-Natural Woodland
-	1638m SW	(Tithe Map: Moor Coppice)	Ancient & Semi-Natural Woodland
-	1764m S	Great Copse (Tithe Map: Horns Coppice)(tithe:horns Coppice)	Ancient & Semi-Natural Woodland
-	1764m S	Great Copse(tithe:mag Green Coppice)	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
-	1773m W	Tanner's Copse (Tithe Map: Tanners Coppice)(tithe:furgy Or Tanners Coppice)	Ancient & Semi-Natural Woodland
-	1779m S	Unknown	Ancient & Semi-Natural Woodland
-	1795m S	Robinhood Copse (Tithe Map: Robin Hood's Coppice)(tithe:robin Wood Coppice)	Ancient & Semi-Natural Woodland
-	1810m NE	(Epo3=gravelpit Wood)	Ancient & Semi-Natural Woodland
-	1848m SE	Kidgem Copse (Tithe:kitchen Coppice)(tithe:kitchen Coppice)(osd=kidghans (?) Coppice)	Ancient & Semi-Natural Woodland
-	1855m S	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1861m SW	Kiln Copse(tithe:lower Moss Coppice)	Ancient & Semi-Natural Woodland
-	1864m S	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1901m E	Bignell's Copse(tithe:bignolds Coppice)	Ancient & Semi-Natural Woodland
-	1910m S	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1914m S	Castle Copse (Tithe Map: Castle Coppice)	Ancient & Semi-Natural Woodland
-	1945m SW	New Plantation(tithe:rapleys Shaw)	Ancient & Semi-Natural Woodland
-	1963m SW	New Plantation(tithe:rapleys Shaw)	Ancient & Semi-Natural Woodland
-	1976m SW	New Plantation(tithe:rapleys Shaw)	Ancient Replanted 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**

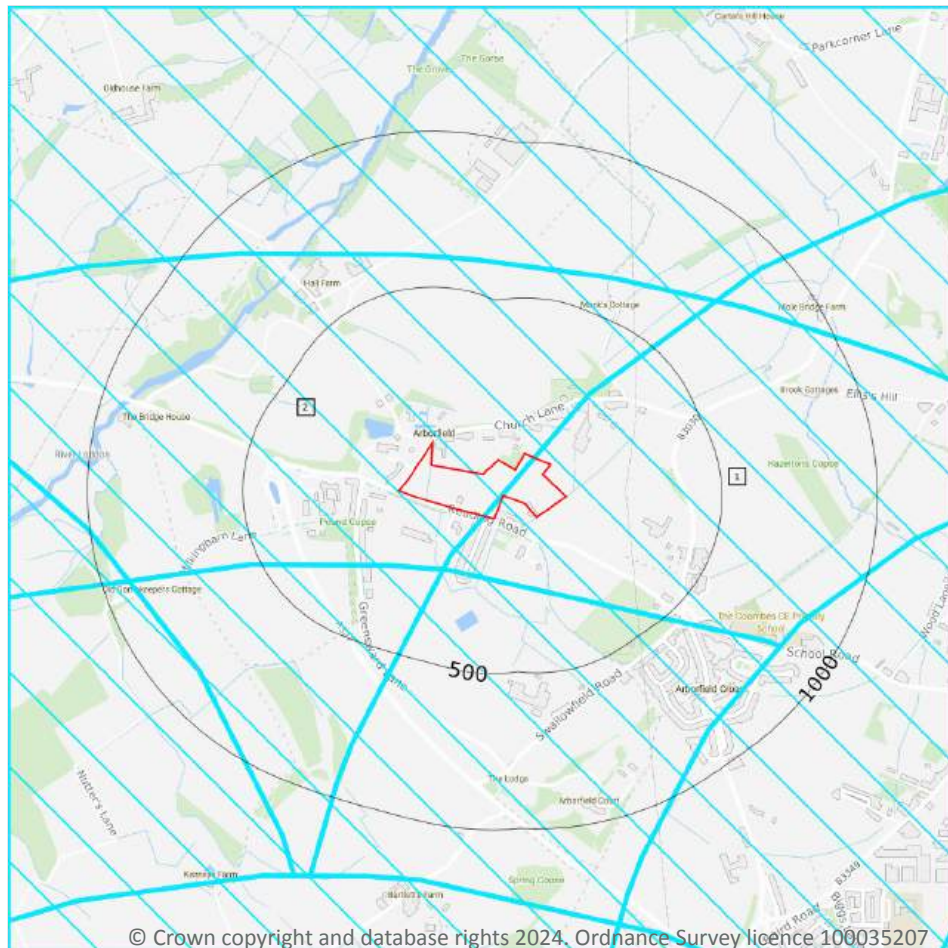
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
56m E	Barkham Brook NVZ	Surface Water	449	Existing
1434m S	Barkham Brook NVZ	Surface Water	449	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

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 72 >](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t). Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.
2	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t). Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
----------------------	---

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.

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**1**

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.

Features are displayed on the Visual and cultural designations map on [page 74 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	104m NW	The Old Rectory The Old Rectory Close	II	1319096	29/04/1987

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



11.5 Conservation Areas

Records within 250m**0**

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

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

11.6 Scheduled Ancient Monuments

Records within 250m**0**

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

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

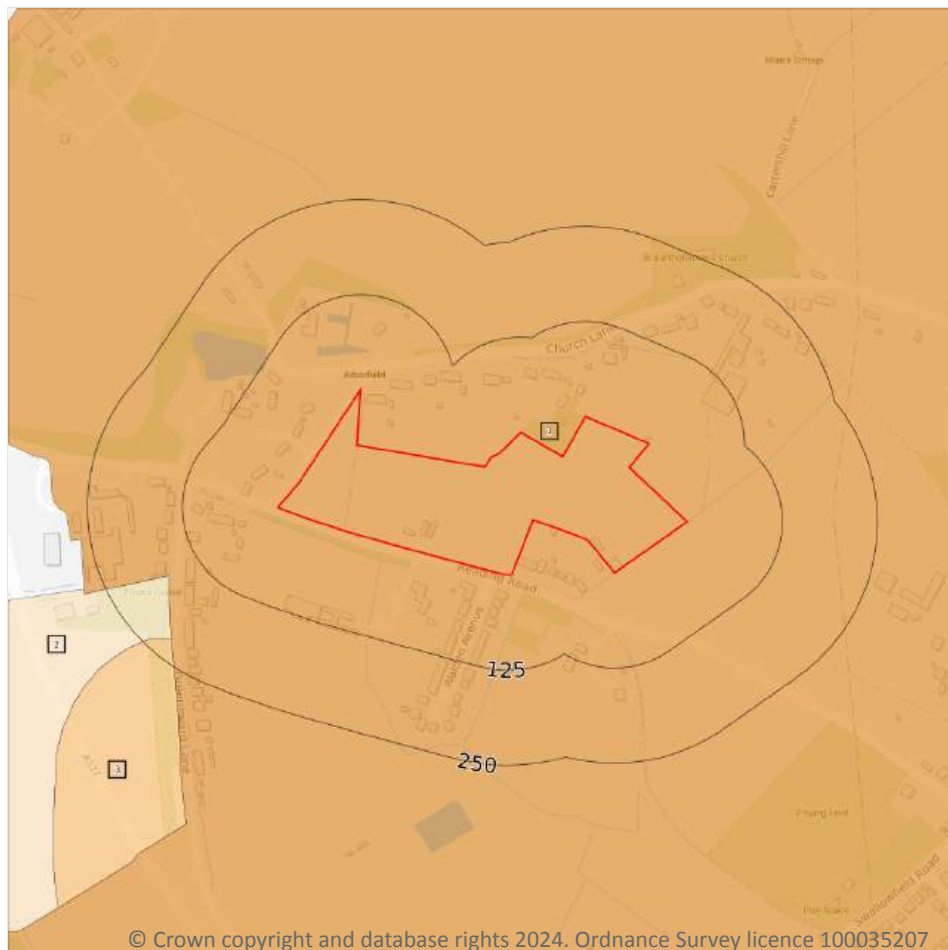
11.7 Registered Parks and Gardens

Records within 250m**0**

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

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

12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

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 77](#) >

ID	Location	Classification	Description
1	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

ID	Location	Classification	Description
2	168m W	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.
3	222m SW	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

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

1

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.

Location	Reference	Scheme	Start Date	End date
219m W	AG00471870	Entry Level plus Higher Level Stewardship	01/12/2013	30/11/2023

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

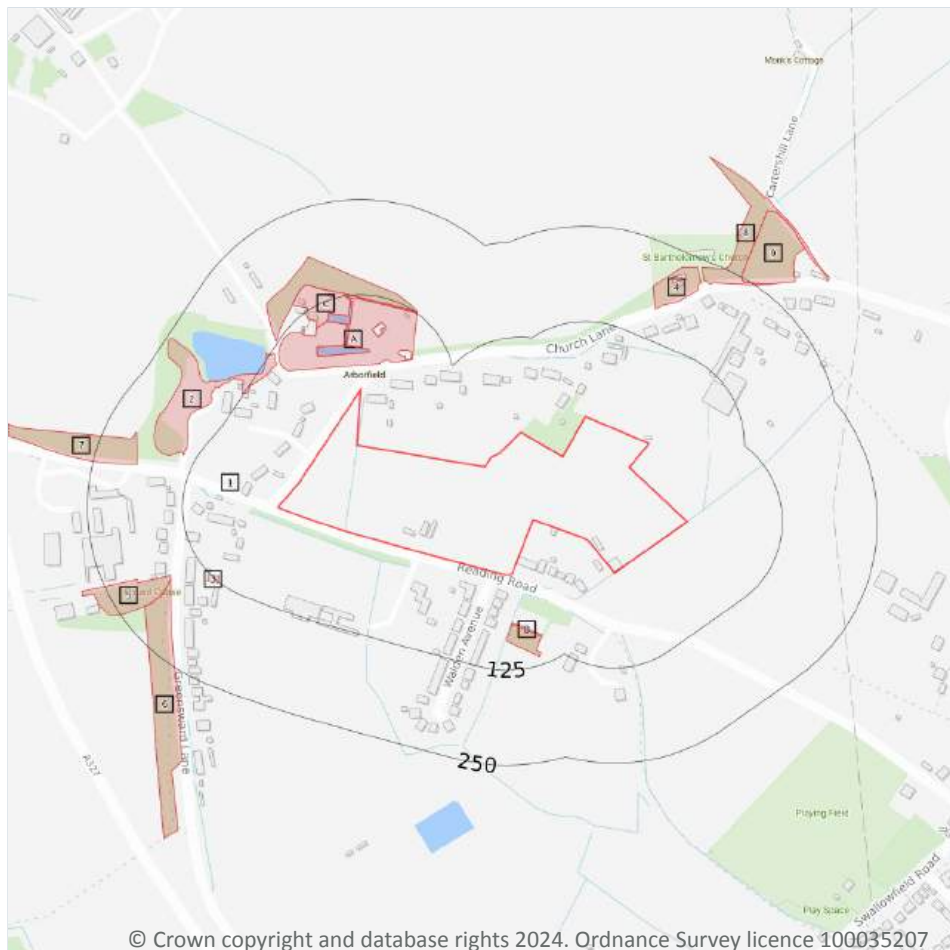
0

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



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- 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

15

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 80](#) >

ID	Location	Main Habitat	Other habitats
A	33m NW	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
A	49m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	63m S	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
B	65m S	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset



ID	Location	Main Habitat	Other habitats
1	69m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	99m NW	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)
2	111m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	118m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	119m W	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
4	166m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	167m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	170m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	193m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	224m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	246m NE	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

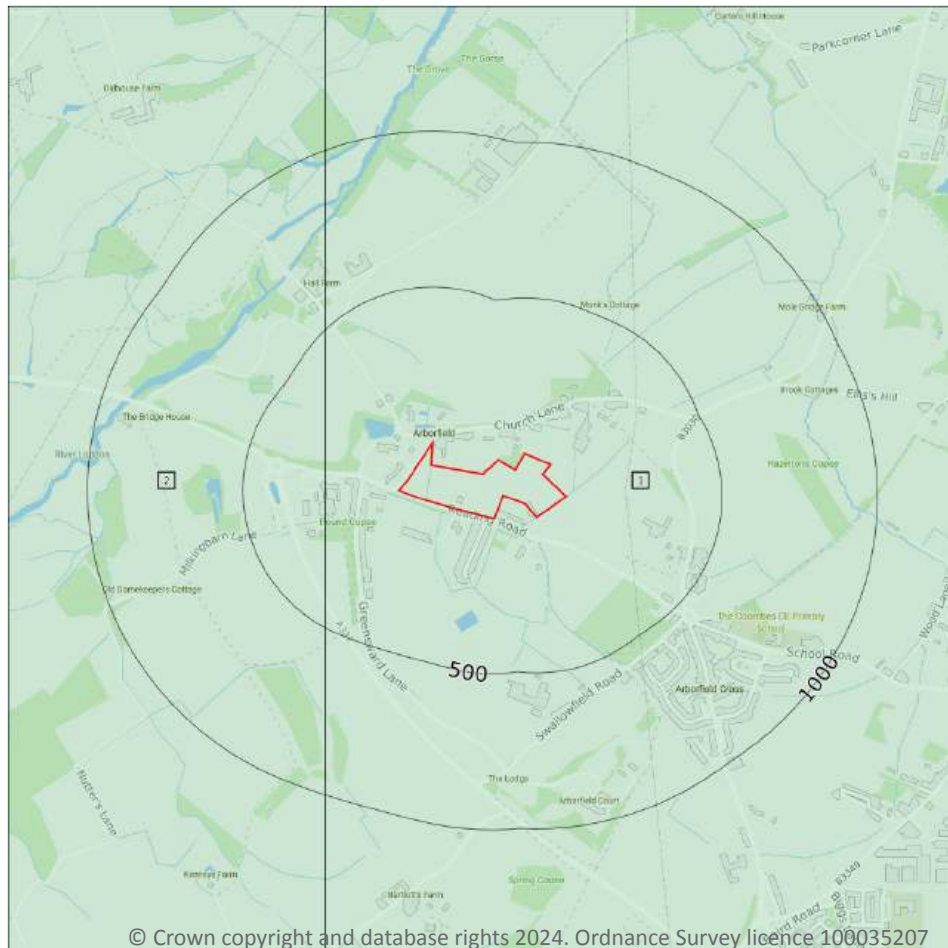
Records within 250m**0**

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 83](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SU76NE
2	236m W	Full	Full	Full	No coverage	SU76NW

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

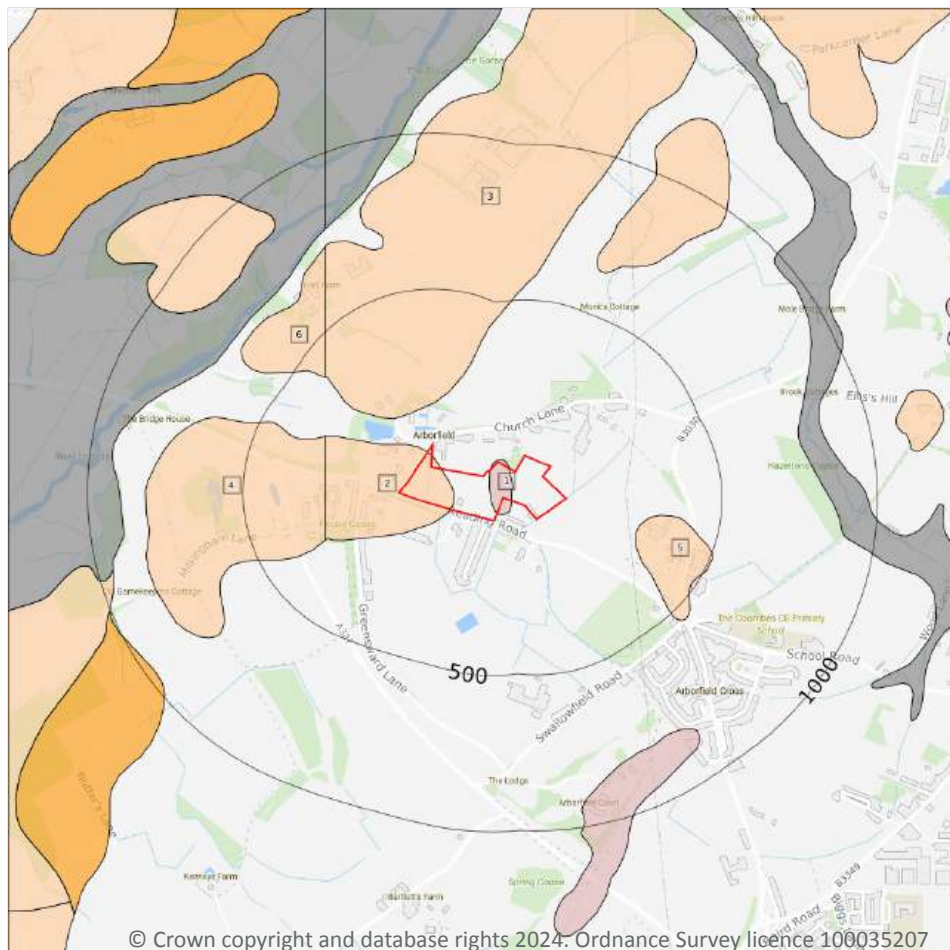
0

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.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

6

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 85](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-XVSZC	Head - Gravel, Sand, Silt And Clay	Gravel, Sand, Silt And Clay
2	On site	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
3	121m NW	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	236m W	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
5	250m E	RTD5-XSV	River Terrace Deposits, 5 - Sand And Gravel	Sand And Gravel
6	407m NW	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

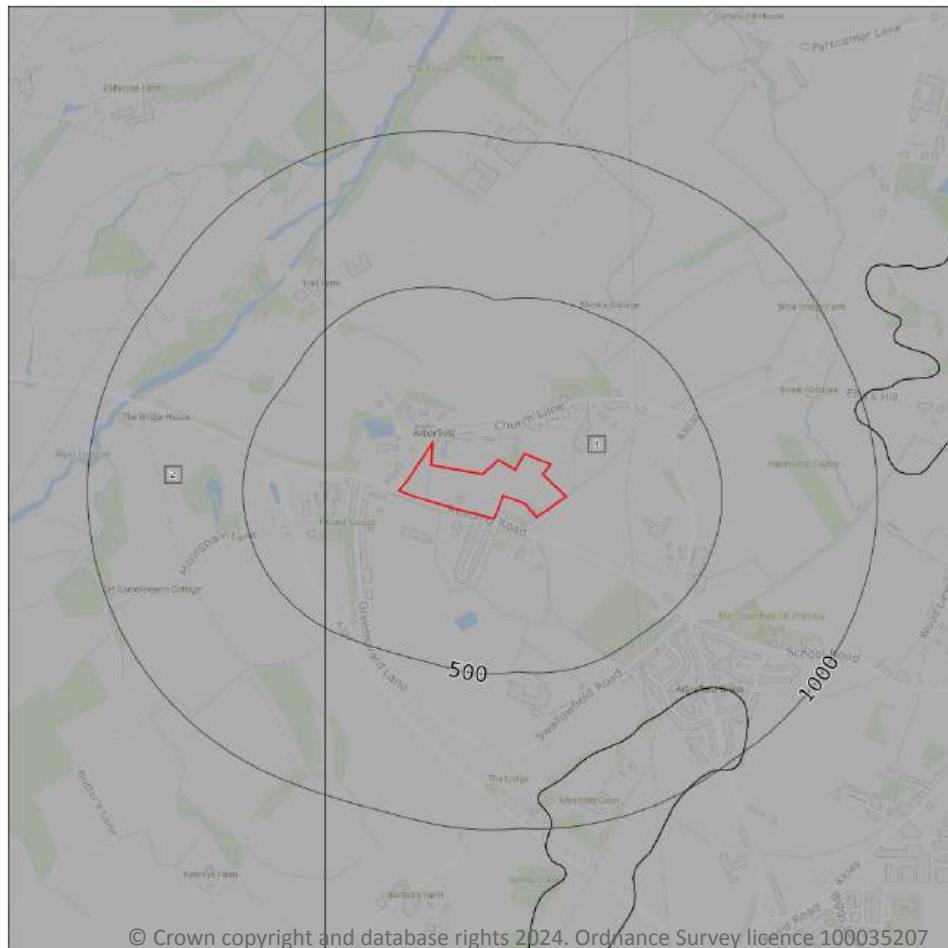
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 87 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch
2	236m W	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

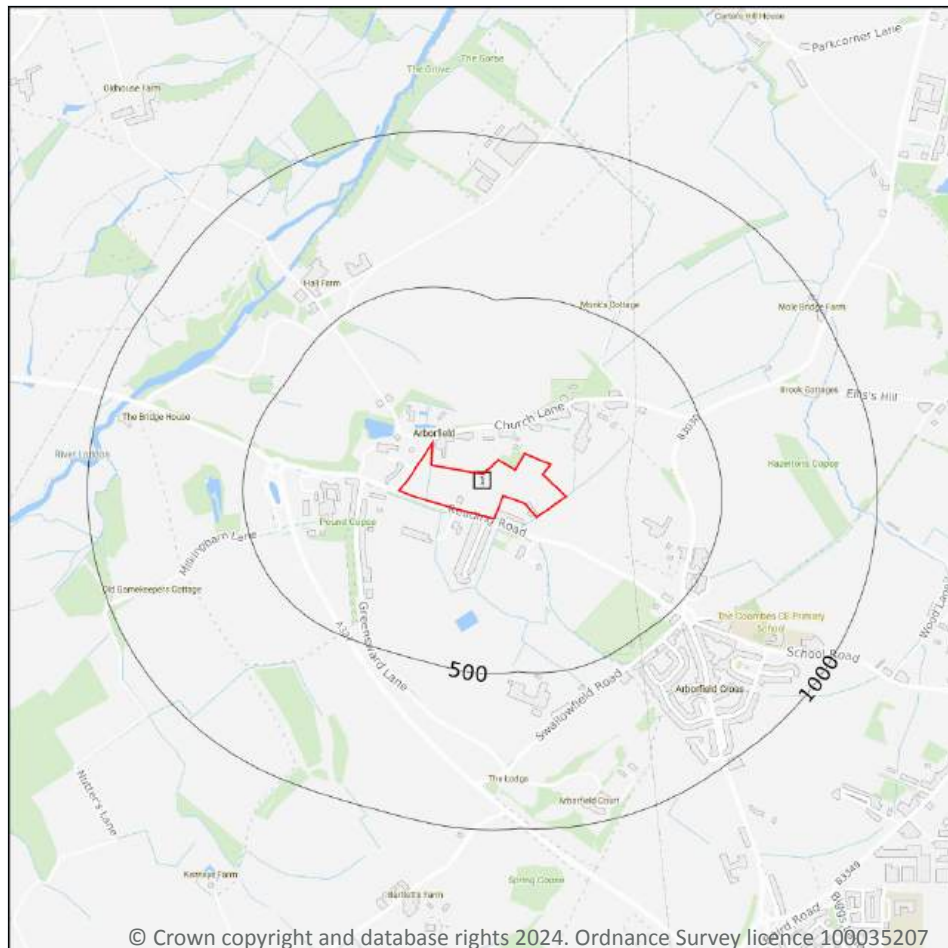
0

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



— 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 89](#) >

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

15.2 Artificial and made ground (50k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

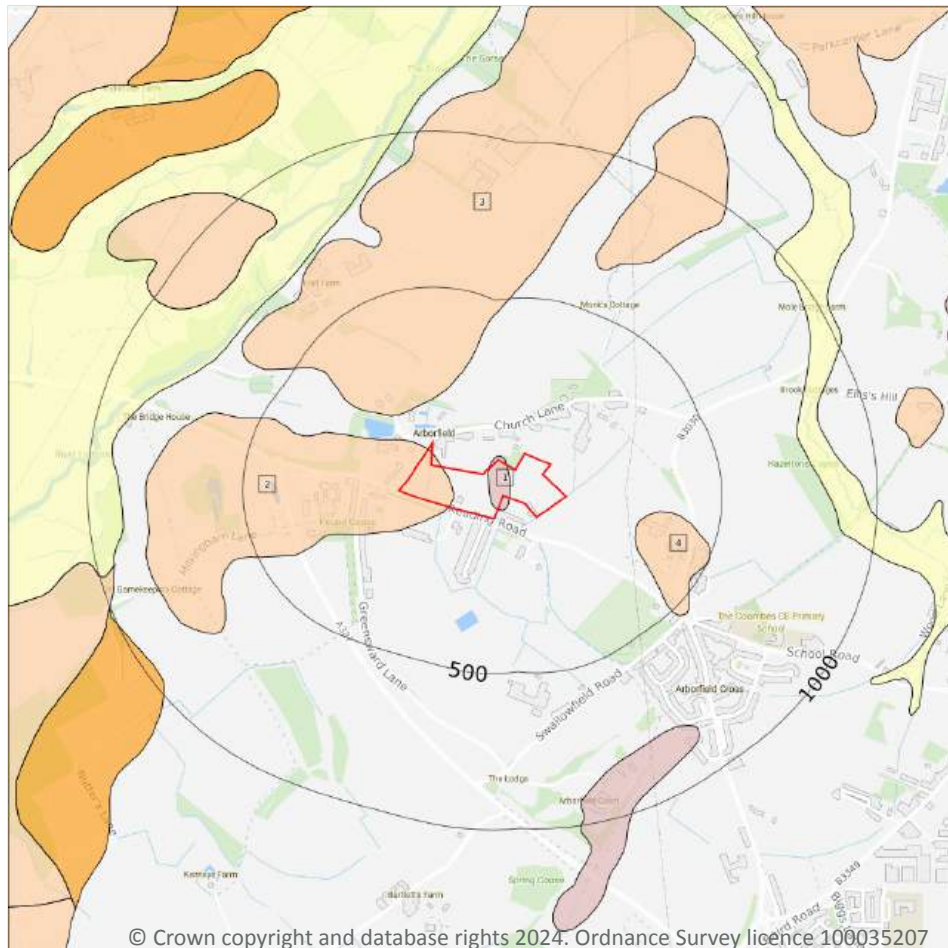
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

4

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 91](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-XVSZC	HEAD	GRAVEL, SAND, SILT AND CLAY
2	On site	RTD3-XSV	RIVER TERRACE DEPOSITS, 3	SAND AND GRAVEL
3	126m NW	RTD3-XSV	RIVER TERRACE DEPOSITS, 3	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	247m E	RTD5-XSV	RIVER TERRACE DEPOSITS, 5	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

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

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

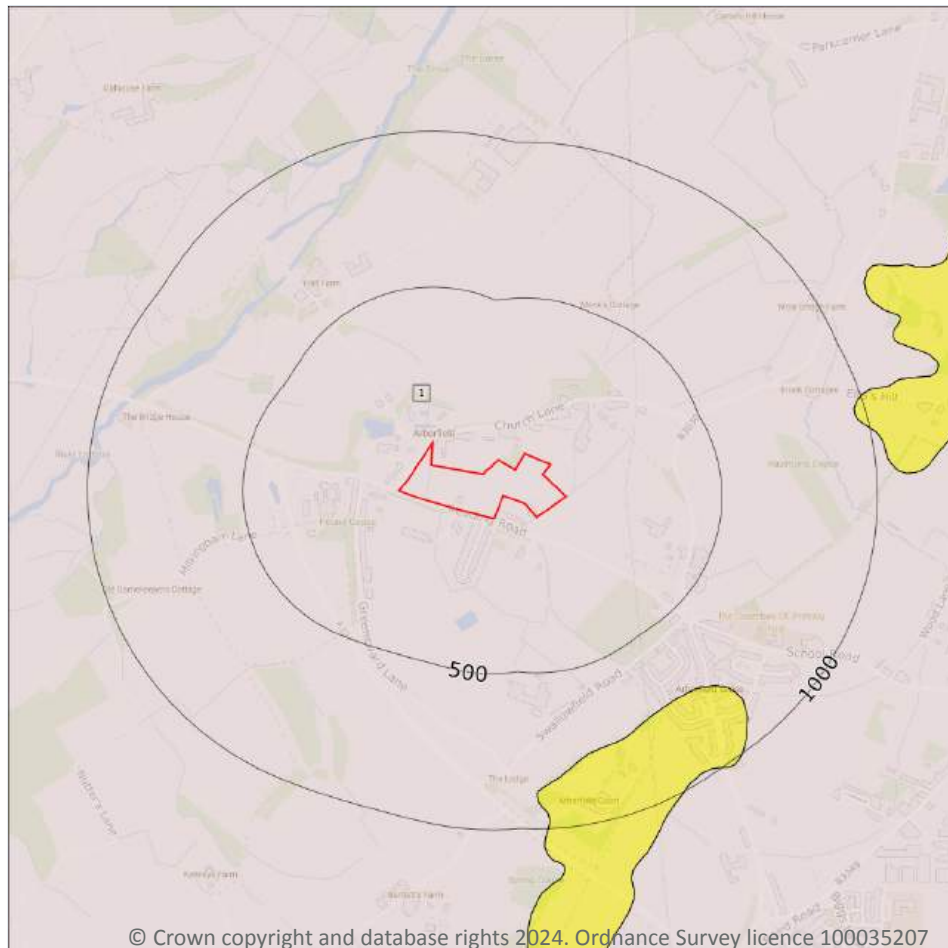
Records within 50m	0
---------------------------	----------

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

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 93](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	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

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16.1 BGS Boreholes

Records within 250m

1

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.

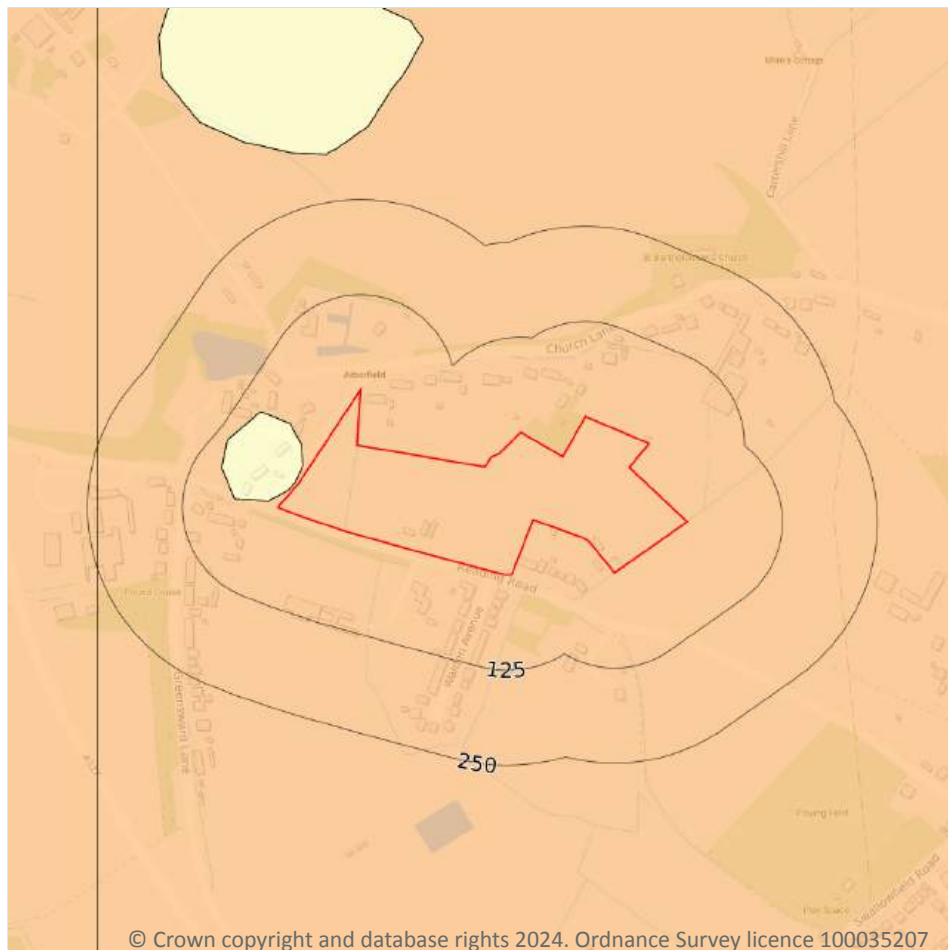
Features are displayed on the Boreholes map on [page 95 >](#)

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	87m W	475210 167590	ARBORFIELD NEAR READING	99.06	N	426980 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

2

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).

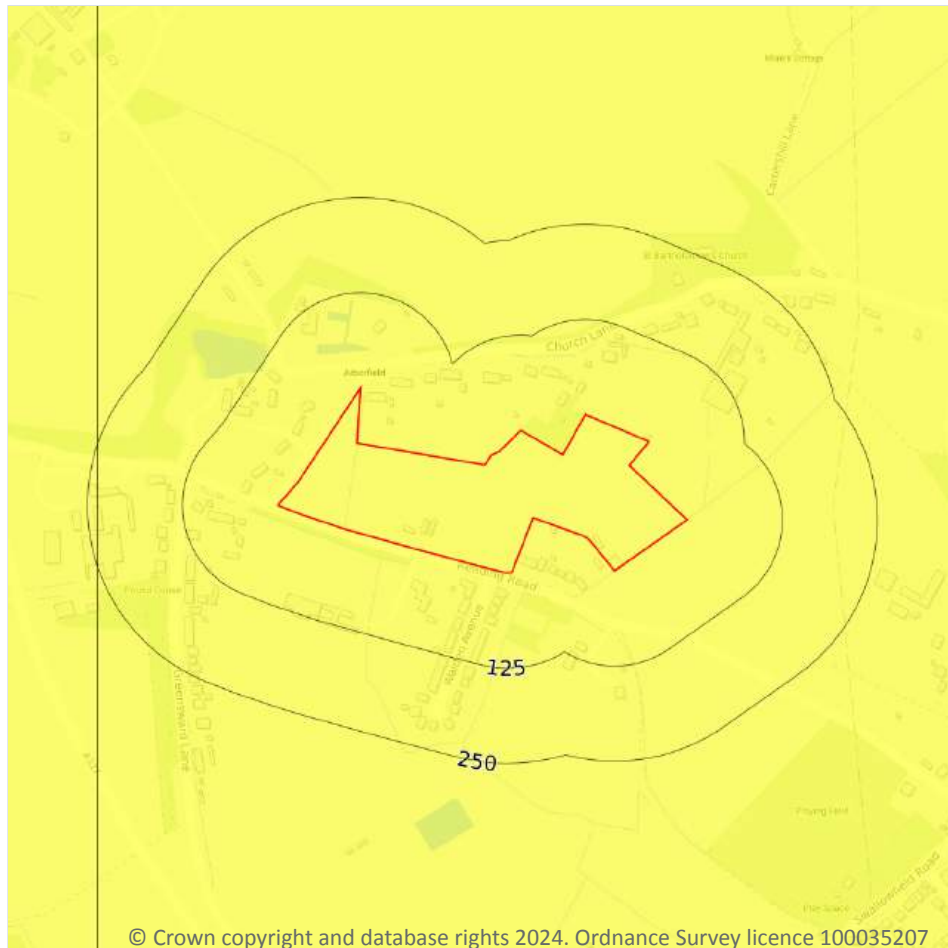
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 96 >](#)

Location	Hazard rating	Details
On site	Low	Ground conditions predominantly medium plasticity.
4m W	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

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

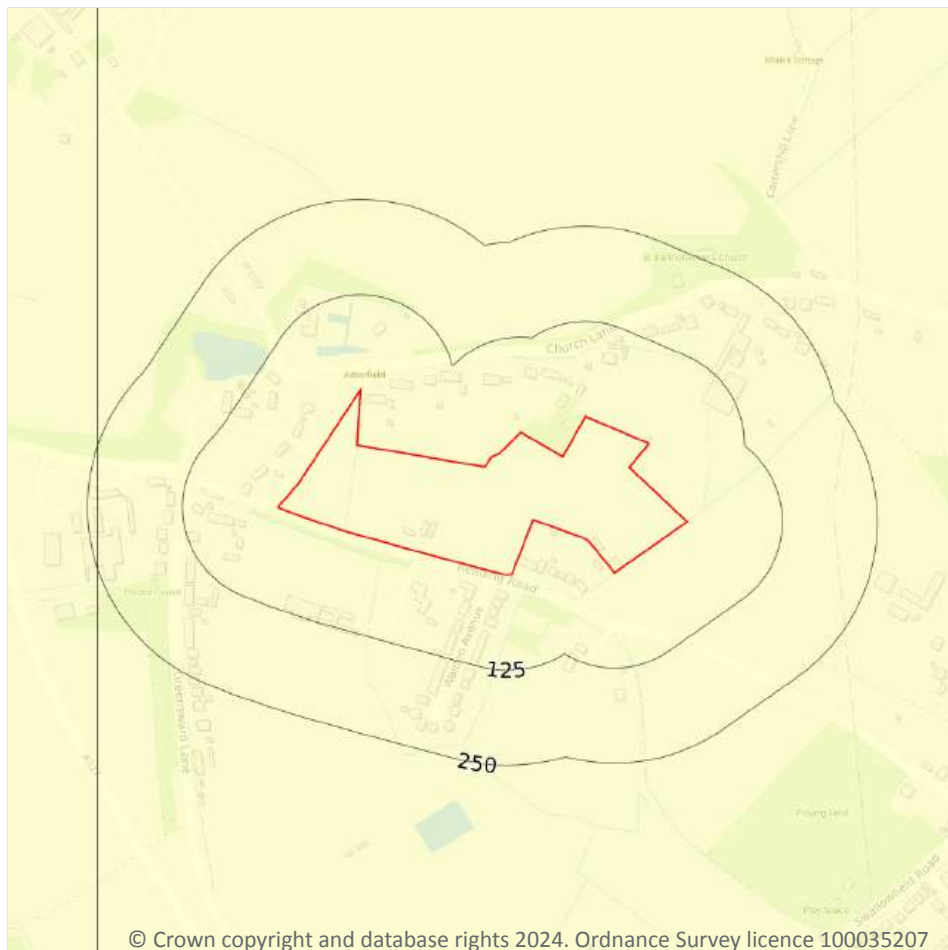
Features are displayed on the Natural ground subsidence - Running sands map on [page 97 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

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

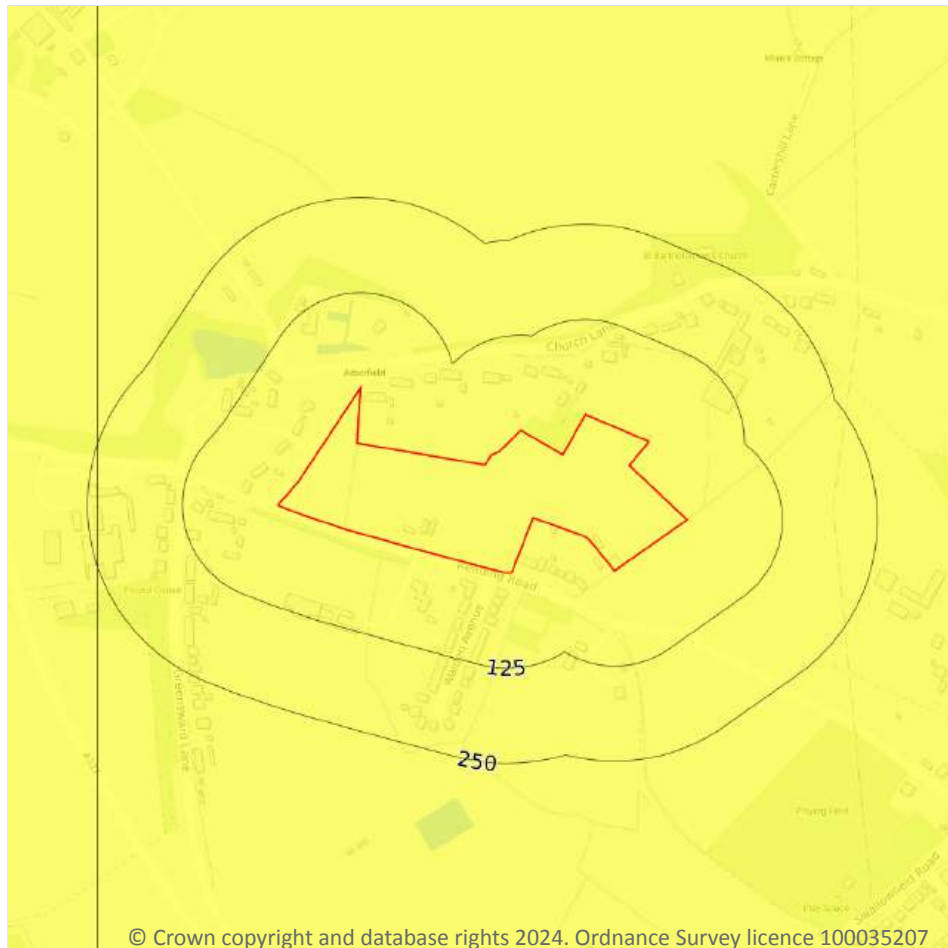
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 98](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

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

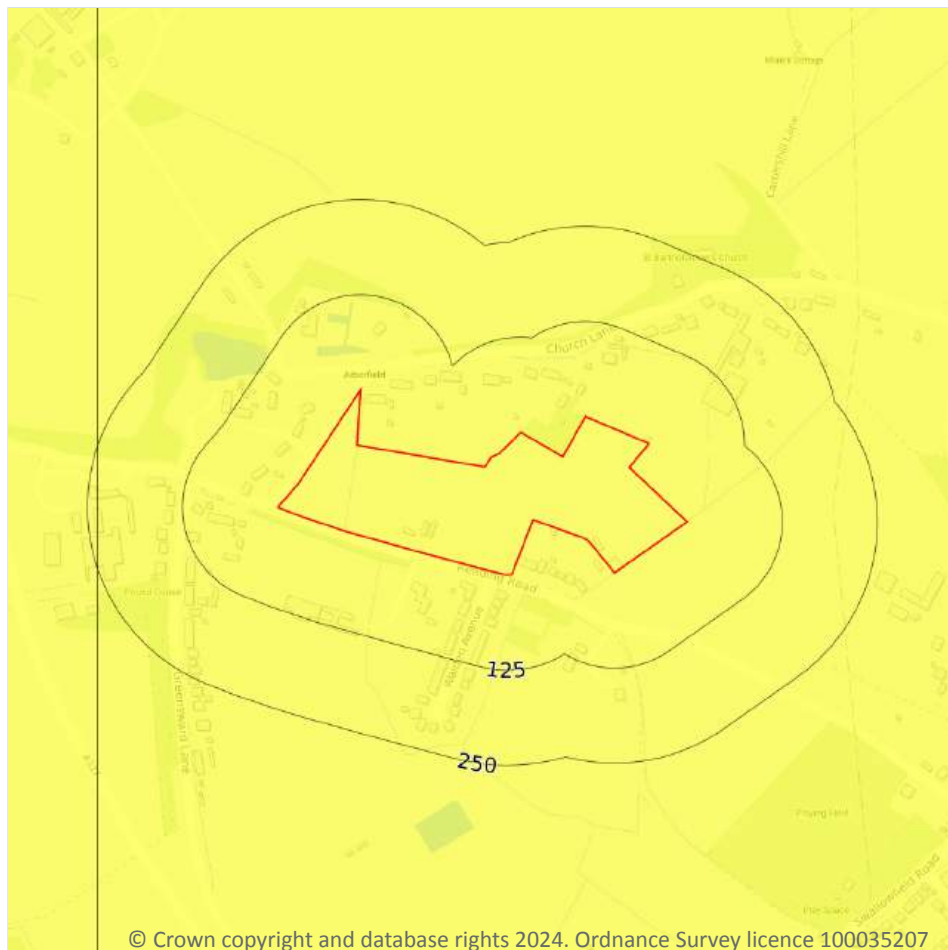
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 99](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

1

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

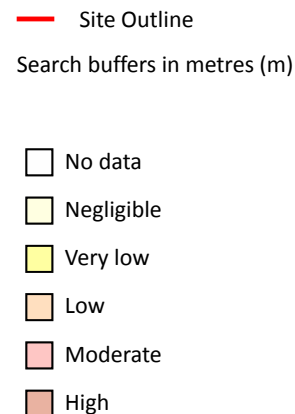
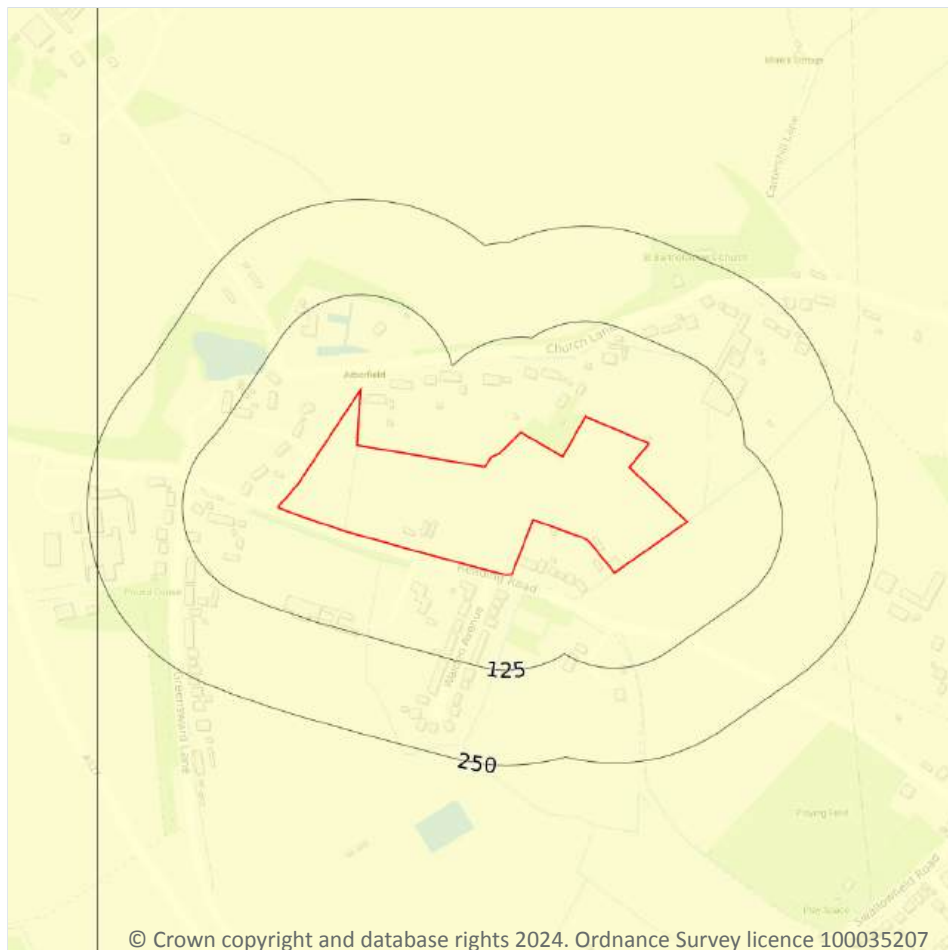
Features are displayed on the Natural ground subsidence - Landslides map on [page 100](#) >

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



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.

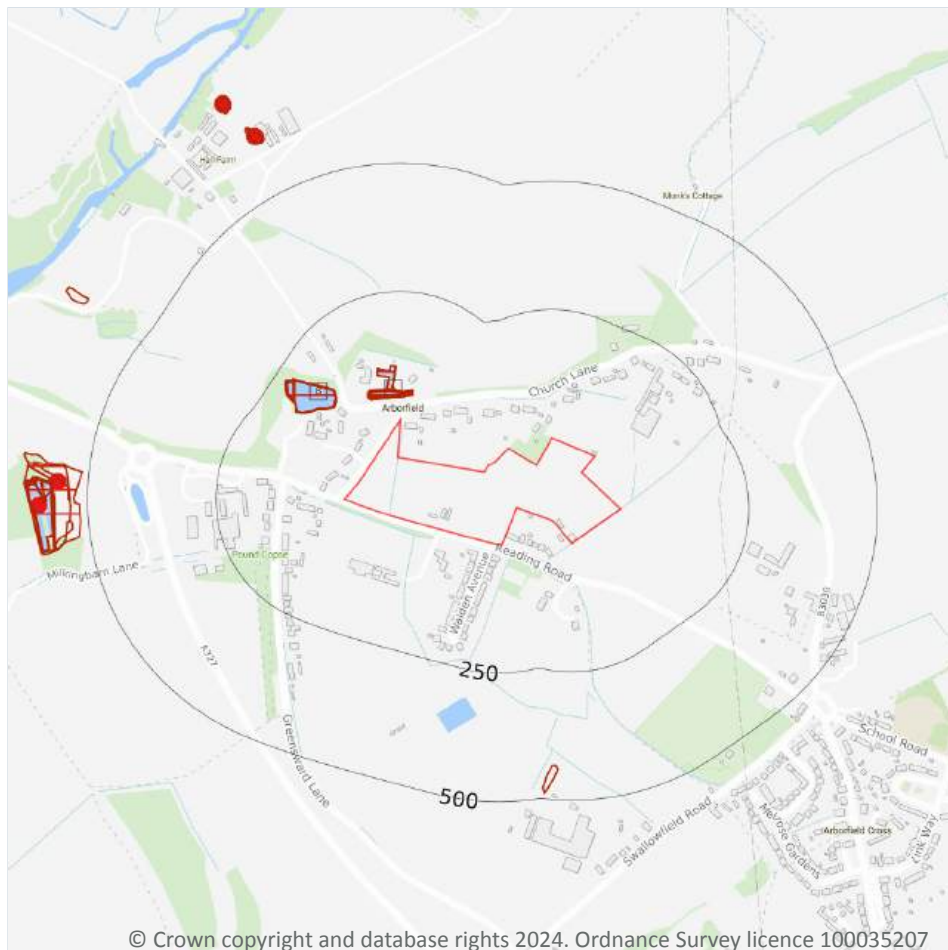
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 101](#) >

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- ▢ Surface ground workings
- ▢ Underground workings
- ▢ Underground mining extents
- ▢ Historical mineral planning areas
- ▢ TCA non-coal mining
- Non Coal Mining
 - ▢ Sporadic underground mining of restricted extent possible
 - ▢ Localised small scale underground mining possible
 - ▢ Small scale mining possible
 - ▢ Underground mining known or likely within or in close proximity
 - ▢ Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

16

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

Features are displayed on the Mining and ground workings map on [page 103 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	45m NW	Pond	1938	1:10560
A	45m NW	Pond	1909	1:10560
A	46m NW	Pond	1988	1:10000
A	46m NW	Pond	1969	1:10000
A	46m NW	Pond	1979	1:10000
A	46m NW	Pond	1898	1:10560
A	48m NW	Pond	1961	1:10560
A	48m NW	Pond	1932	1:10560
B	120m NW	Pond	1932	1:10560
B	122m NW	Pond	1961	1:10560
B	122m NW	Pond	1988	1:10000
B	122m NW	Pond	1969	1:10000
B	122m NW	Pond	1979	1:10000
B	190m NW	Pond	1913	1:10560
B	193m NW	Pond	1938	1:10560
B	193m NW	Pond	1898	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.



18.4 Underground mining extents

Records within 500m**0**

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m**0**

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site**0**

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m**0**

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



Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0
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The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

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

18.14 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

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

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

This data is sourced from the British Geological Survey.



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

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 km². 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 km²; 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 - 200 mg/kg	60 - 120 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 - 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 - 200 mg/kg	60 - 120 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 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m**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.

22.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0
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Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0
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Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0
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The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0
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Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0
---------------------	---

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

This data is sourced from HS2 Ltd.



Data providers

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

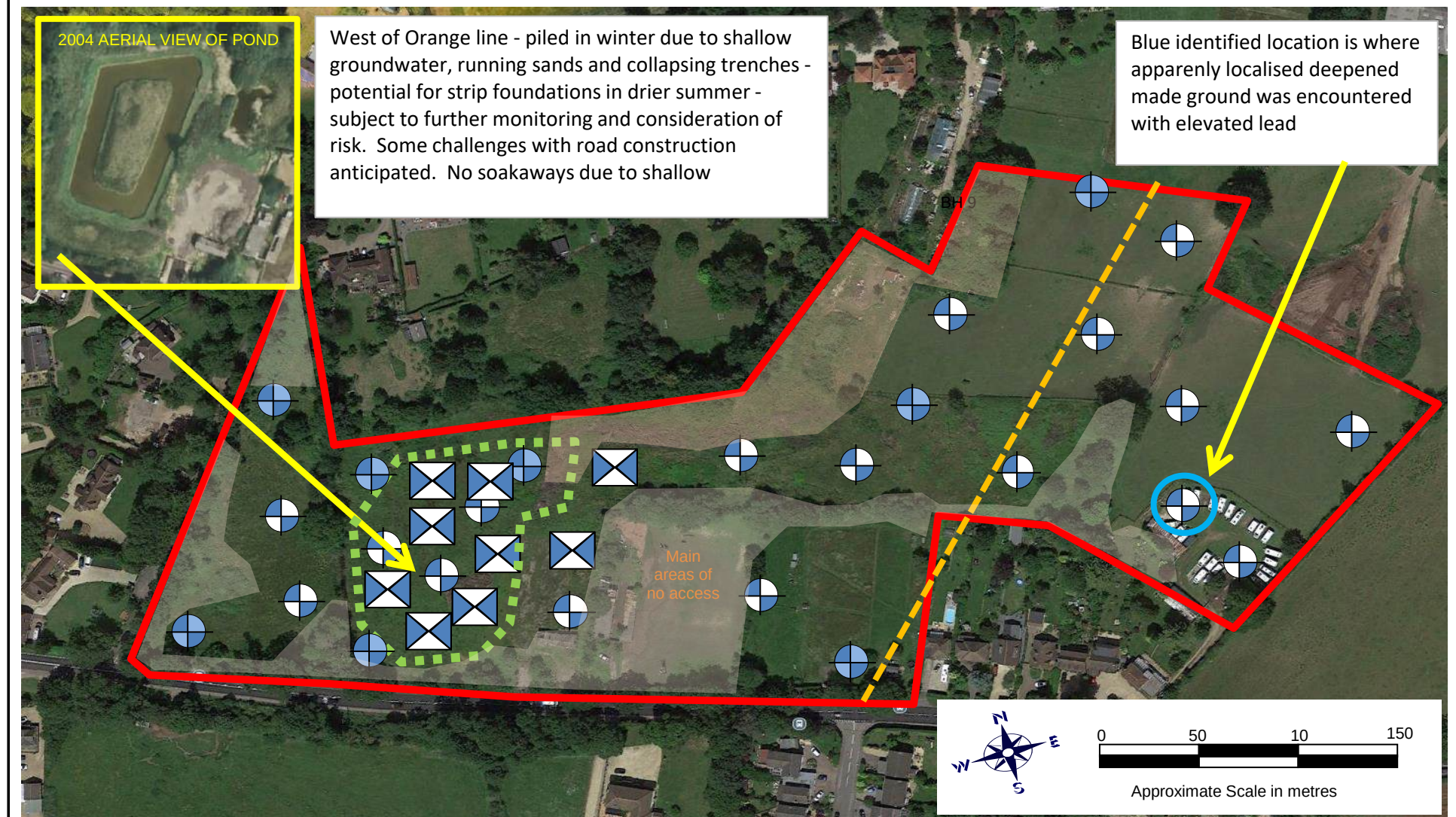
Terms and conditions

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



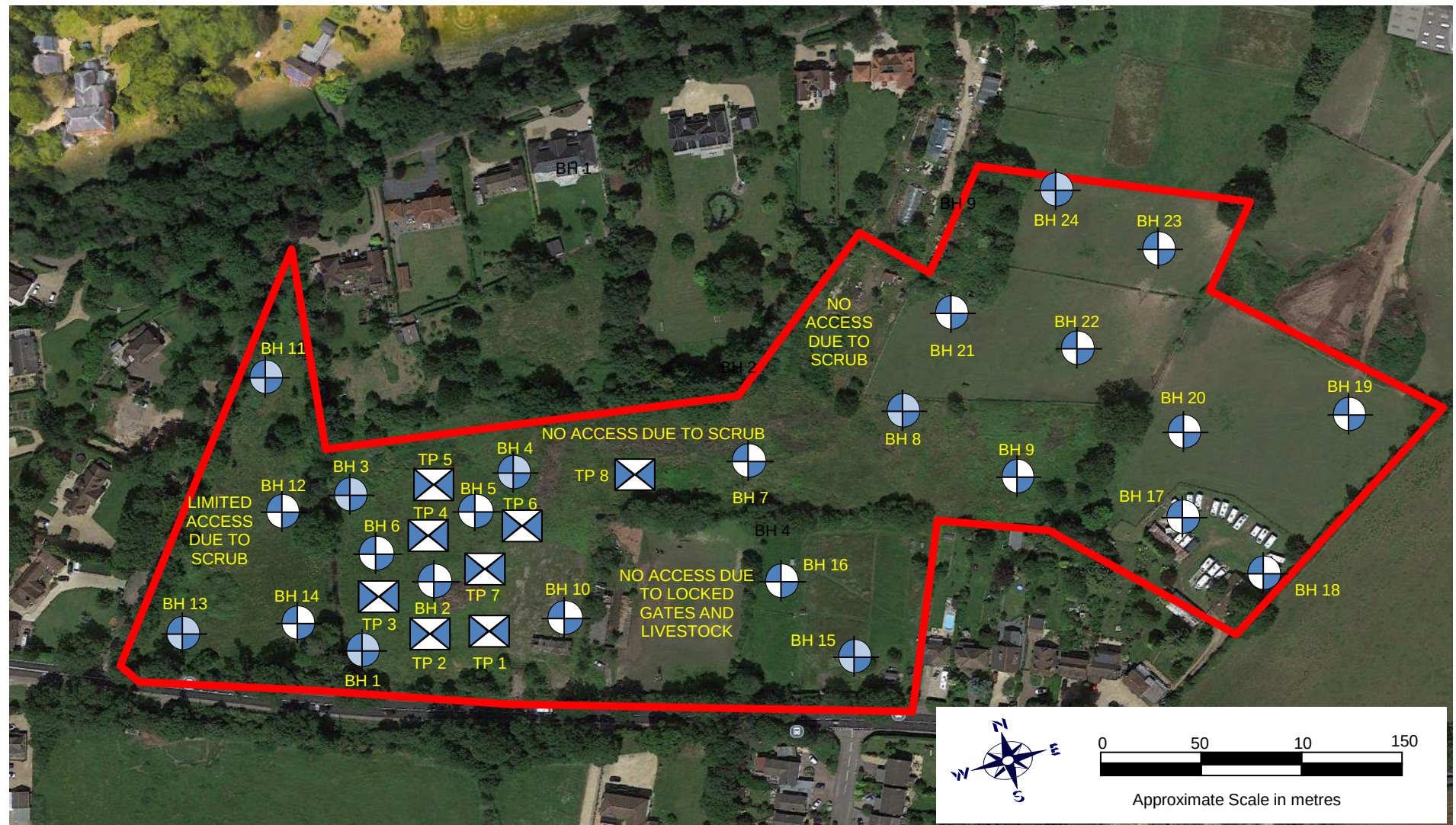
Site Reading Road Development Site, Arborfield

Client Dandara Southern Limited



Site Reading Road Development Site, Arborfield

Client Dandara Southern Limited



SITE PLAN (COMP)