



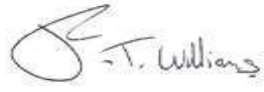
PHASE 1 DESK STUDY REPORT

for the site at

**LAND TO THE REAR OF 5 – 13 BRAMPTON ROAD, HILLINGDON, UXBRIDGE,
MIDDLESEX UB10 0DR**

on behalf of

BALWINDER GILL C/O GILL BUILDERS LIMITED

Report Reference: GWPR3961/DS/January 2021			Status: FINAL
Issue:	Prepared By:	Checked By:	Verified By:
V1.01 January 2021			
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File Reference: Ground and Water/Project Files/ GWPR3961 Land to rear of 5 – 13 Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR			

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Site Investigations

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CONTENTS

EXECUTIVE SUMMARY

1.0 INTRODUCTION

- 1.1 General
- 1.2 Aims of Investigation
- 1.3 Conditions and Limitations

2.0 SITE SETTING

- 2.1 Site Location
- 2.2 Site Description
- 2.3 Proposed Development
- 2.4 Geology
- 2.5 Hydrogeology and Hydrology
- 2.6 Radon

3.0 HISTORICAL REVIEW

- 3.1 Historical Map Review
- 3.2 Historical Aerial Photography Review

4.0 GROUNDSURE DATASHEETS AND SITE SENSITIVITY MAP REVIEW

- 4.1 Groundsure Datasheets

5.0 PLANNING DATABASE AND ONLINE REVIEW

- 5.1 Online Planning Database
- 5.2 Internet Search

6.0 SUMMARY OF FINDINGS

7.0 PHASE 1 RISK ASSESSMENT

- 7.1 Conceptual Site Model
- 7.2 Contaminant Source-Pathway-Receptor Model
- 7.3 Potential On-site Sources of Contamination
- 7.4 Potential Off-site Sources of Contamination
- 7.5 Potential Pathways for Contaminants to Migrate from Off-site Sources
- 7.6 Potential Receptors
- 7.7 Contaminant Absorption Pathways
- 7.8 Tabulated Conceptual Site Model
- 7.9 Recommendations and Phase 2 Objectives
- 7.10 Discovery Strategy
- 7.11 Geotechnical Considerations

FIGURES

Figure 1	Site Location Plan
Figure 2	Site Development Area
Figure 3	Site Aerial View
Figure 4	Proposed Development

APPENDICES

Appendix A	Conditions and Limitations
Appendix B	Groundsure EnviroInsight and GeoInsight Datasheets
Appendix C	Historical Maps

EXECUTIVE SUMMARY	
Site Location	The site comprised a 0.13ha irregular shaped plot of land orientated west to east and accessed via a narrow alleyway east of Brampton Road. The site was located in a residential setting in the central Hillingdon area at the approximate grid reference TQ 07628 83122. The A40 highway ran west to east ~1.5km north, Brunel University London ~1.4km west, Hillingdon Heath ~700m south and Swakeleys Girls High School ~300m east.
Site Description	At the time of reporting in January 2021, the site comprised a total of thirty-five single storey flat roof domestic garages arranged over three separate blocks along the northern, southern, and western boundaries. The site was accessible directly from Brampton Road at its north western corner via a narrow access road leading into the existing rear garage plaza of a number of surrounding properties. The site was almost entirely hard landscaped with only a small area of soft landscaping bordering the western garage block.
Proposed Development	Under planning reference 74993/APP/2019/2504 dated 13th February 2020, the proposed development comprised demolition of the existing garages and the construction of three, four-bedroom residential properties with provision for private gardens, parking, and associated areas of hard and soft landscaping.
Geology	The British Geological Survey (BGS) geological map of the Beaconsfield area (Beaconsfield Soil and Drift - Sheet 255) revealed that the site was located on superficial Black Park Gravel Member overlying bedrock deposits of the London Clay Formation. Areas of worked ground and infilled ground were recorded ~200m south of the site and approximately ~300m in areas to the north.
Hydrogeology	A study of the aquifer maps on the DEFRA website revealed the site to be located on a Secondary (A) Aquifer relating to superficial deposits of the Black Park Gravel Member and an Unproductive Aquifer relating to underlying bedrock deposits of the London Clay Formation. Examination of the DEFRA records indicate that the site did not fall within a Groundwater Source Protection Zone as classified in the Policy and Practice for the Protection of Groundwater.
Radon	The site was not located within an area where mandatory protection measures against the ingress of Radon are likely to be required.
Potential on-site sources of contamination	Made Ground - Given the historical development of the site from circa 1960s, the presence of limited Made Ground was anticipated to be present. The general risk of contaminants posing a risk to end users from the Made Ground at this stage was considered to be moderate, given the age of the existing on-site structures, potential ACM materials used in construction and the nature of the land use as domestic garages. The risk towards controlled water receptors was considered to be Low given the low permeability and unproductive aquifer of the underlying London Clay Formation. Asbestos - Given the age of the existing garage buildings, the potential for asbestos-containing materials (ACMs) contained within the building's fabric cannot be discounted. ACM contained within the building fabric could cross contaminate shallow Made Ground during proposed demolition and enabling works and measures to control exposure should be implemented. The risk of exposure to ACMs was therefore considered to be moderate for both construction workers and end users (residents) until its presence is disproven. Ground Gas - There are no on-site records relating to historical surface or ground workings that may attribute to the accumulation of ground gas. Given the limited development on site, Made Ground deposits are anticipated to be limited and relatively shallow. It is considered likely that any potential gas accumulation within the Made Ground has all but dissipated via passive ventilation therefore a low risk of ground-gas accumulation has been considered and further assessment is not considered necessary.
Potential off-site sources of contamination	Made Ground from Construction, Demolition and Infilling Activities - Substantial development has taken place within a 250m radius of the site including demolition and redevelopment of a large school campus ~150m east of the site, built in the 1960s and demolished within the last 5 years. An electrical substation was noted 49m north of the site (1980 - 1992) though discounted given its age, likely removal, and proximity to the site. Potential migration pathways for off-site contaminants are described in Section 7.5. Whilst it is anticipated that the current regulatory framework is likely to control and limit the potential for contamination associated with contemporary contaminant sources, the same cannot be said of historical sources. Given the variable permeability of anticipated artificially infilled and Made Ground, the risk to end-users & workers associated with off-site historical and contemporary ground workings are considered to be moderate at this stage. A low risk is considered for environmental receptors and controlled waters, due to the low permeability of underlying bedrock deposits of the London Clay Formation, limited presence of the Black Park Gravel Member and extent of hardstanding to the surrounding environs which are likely to restrict the mobilisation and migration of potential contamination onto site. Ground Gas from Historical Ground Workings - A single record relating to worked ground (undivided) was noted ~171m south of the site boundary and seven records of surface ground workings were recorded 146 - 153m west of the site and related to pond features. Infilling of these features associated with progressive development of the surrounding areas has likely taken place. Ground workings can be backfilled with Made Ground deposits and due to the variability in composition of Made Ground deposits, there is a potential risk for ground gas accumulation within void spaces. Given the age of the records, small scale and proximity to the site, it is likely any potential gas generation has peaked, and any biodegradable material broken down therefore a negligible risk is considered for all receptors.
Recommendations	To confirm the absence of risks to receptors and confirm the ground conditions on site, with respect to potential geo-environmental risks, consideration should be given to the testing of several soil samples recovered from shallow window sample boreholes and trial pits across the site, including areas of any proposed soft landscaping or private garden areas for chemical laboratory testing. The tests will be for a broad range of contaminants in accordance with DEFRA/CLEA methodologies, and recommendations of the CSM to confirm that they are suitable for re-use in private gardens and areas of communal soft landscaping within the proposed development. The desk study has identified a potential risk to construction workers associated with the proposed development, particularly those undertaking ground works. Appropriate Personal Protective Equipment (PPE) should be employed throughout the stripping out, demolition and construction phases, and a safe system of work established in accordance with Construction (Design & Management) Regulations (CDM) 2015.

This executive summary should be read in conjunction with the full Phase 1 Desk Study Report.

1.0 INTRODUCTION

1.1 General

Ground and Water Limited were instructed by Balwinder Gill c/o Gill Builders Limited on 5th November 2020 to conduct a Phase 1 Desk Study and Phase 2 Ground Investigation at land to the rear of Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR. The scope of the investigation was detailed within the Ground and Water Limited fee proposal (reference: GWQ5986, dated 4th November 2020).

1.2 Aims of the Investigation

This Phase 1 Desk Study has been undertaken to advise the client on risk factors pertaining to the site, with special reference to former and present day potential contaminative uses and their impact on sensitive receptors. These being human health, controlled waters, buildings, building materials and services.

1.3 Conditions and Limitations

This report has been prepared based on the terms, conditions and limitations outlined within Appendix A.

2.0 SITE SETTING

2.1 Site Location

The site comprised a 0.13ha irregular shaped plot of land orientated west to east and accessed via a narrow alleyway east of Brampton Road. The site was located in a residential setting in the central Hillingdon area at the approximate grid reference TQ 07628 83122. The A40 highway ran west to east ~1.5km north, Brunel University London ~1.4km west, Hillingdon Heath ~700m south and Swakeleys Girls High School ~300m east. A site location plan is provided as Figure 1 and the site development area as Figure 2.

2.2 Site Description

At the time of reporting in January 2021, the site comprised a total of thirty-five single storey flat roof domestic garages arranged over three separate blocks along the northern, southern, and western boundaries. The site was accessible directly from Brampton Road at its north western corner via a narrow access road leading into the existing rear garage plaza of a number of surrounding properties. The site was almost entirely hard landscaped with only a small area of soft landscaping bordering the western garage block. An aerial view of the site showing an approximate site boundary is presented as Figure 3.

2.3 Proposed Development

At the time of reporting in January 2021, under planning reference 74993/APP/2019/2504 dated 13th February 2020, the proposed development comprised demolition of the existing garages and the construction of three, four-bedroom residential properties with provision for private gardens, parking, and associated areas of hard and soft landscaping. The layout of the proposed development is presented in Figure 4.

2.4 Geology

The British Geological Survey (BGS) geological map of the Beaconsfield area (Beaconsfield Soil and Drift - Sheet 255) revealed that the site was located on superficial Black Park Gravel Member overlying bedrock deposits of the London Clay Formation. Areas of worked ground and infilled ground were recorded ~200m south of the site and approximately ~300m in areas to the north.

On-site Geology

Black Park Gravel Member

The Black Park Gravel Member is part of a complex series of River Terrace Deposits formed by the River Thames and its tributaries. Deposits generally consist of sand and gravel, with possible lenses of silt, clay and peat.

London Clay Formation

The London Clay Formation comprises stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of Gypsum (Selenite) are often found within the weathered part of the London Clay Formation, and precautions against sulphate attack to concrete are sometimes required. The lowest part of the formation is a sandy bed with black rounded gravel and occasional layers of sandstone and is known as the Basement Bed.

Off-site Geology

Worked Ground

Worked Ground is where natural materials are known to have been removed, for example in quarries and pits, excavations for roads and railways and in general landscaping. Areas of Worked Ground often have been either partially or wholly backfilled.

Infilled Ground

Infilled ground is an area where pre-existing land surface has been excavated (worked) and subsequently partially or wholly backfilled (Made Ground) and is typically highly variable in composition, e.g. a backfilled quarry or landfill.

BGS Borehole Records

A BGS borehole record (ref: TQ08SE228) some ~500m south of the site located at Hillingdon Fire Station identified a Tarmacadam and reinforced concrete hardstanding to proved depths of 0.20m bgl, underlain with yellowish grey clayey gravelly sand to a proved depth of 0.40m bgl underlain with a stiff greyish yellowish sandy silty clay with flint gravels to a proved depth of 1.00m bgl and becoming a firm to stiff grey fissured silty clay to the base of the borehole to a proved depth of 15.00m bgl. The clay became very stiff and closely fissured from 10.00m bgl with no record of a groundwater strike. Records of an adjacent trial pit (ref: TQ08SE233) noted similar geology of tarmacadam and reinforced concrete hardstanding to 0.25m bgl onto underlying dark greyish brown sandy gravelly clay to proved depths of 0.30m bgl onto underlying silty sand and gravel to the pit base at a proved depth of 1.50m bgl, no groundwater strike was recorded in the trial pit.

2.5 Hydrogeology and Hydrology

A study of the aquifer maps on the DEFRA website revealed the site to be located on a **Secondary (A) Aquifer** relating to superficial deposits of the Black Park Gravel Member and an **Unproductive Aquifer** relating to underlying bedrock deposits of the London Clay Formation.

Secondary (A) Aquifers consist of deposits with 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.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

Examination of the DEFRA records indicate that the site **did not** fall within a Groundwater Source Protection Zone as classified in the Policy and Practice for the Protection of Groundwater.

The nearest surface water feature relates to a land drainage trench ~400m east along the field boundary of Oak Wood School. Other nearby features relate to drainage trenches in recreational land ~700m northwest in Hillingdon Court Park and ~1.1km southwest in Brunel University Sports Park. The River Pinn was noted ~1.13km west and flowing north to south.

From analysis of hydrogeological and topographical maps, groundwater was anticipated to be encountered at moderate depth (<7m) below ground level (bgl) and likely perched water within granular Black Park Gravel Member deposits overlying impermeable bedrock deposits of the London Clay Formation. It was considered that the groundwater was flowing in an overall south-westerly direction towards the River Pinn and Grand Union Canal in line with regional geology and topography.

Examination of the Environment Agency records showed that the site fell within a **Flood Zone 1**, an area with less than 1 in 1,000 annual probability of river or sea flooding. The site is at **very low** risk of surface water flooding and **low risk** from groundwater flooding. 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.

2.6 Radon

BRE 211 (2015) Map 5 of the London, Sussex and West Kent area indicates that the site is located within an area where mandatory protection measures against the ingress of radon are **not** likely to be required. The site is in a lower probability radon area (where less than 1% of the homes are estimated to be at or above the Action Level) and a risk assessment is **not** required.

Further investigation using www.ukradon.org showed that the site was located within an area where less than 1% of the homes are estimated to be at or above the Action Level.

3.0 HISTORICAL REVIEW

3.1 Historical Map Review

The objective of this search was to report on the history of the site and its environs from available County Series and Ordnance Survey maps, dated from 1865 to 2020, and downloaded from Groundsure Environmental Insight. In the following sections, only features considered to have a potential contaminative impact on the site and usually within a notional 250m radius of the site boundaries are discussed. Any distances quoted for features remote from the site have been scaled from the maps and are only approximate. The historical maps referred to are given within Appendix C. The implications of the map search are discussed later within this report.

Environmental Significance of Data from Historical Maps		
Date	Site	Environs
1865	Mapping is incomplete.	Mapping is incomplete.
1866 - 1968	At the time of the earliest legible historical mapping in 1866, the site occupied the eastern side of a larger arable plot and remained devoid of any structures or features.	At the time of the earliest legible historical mapping in 1866, the surrounding environs were formed of arable land comprising a number of large field plots. Sparse, assumed residential, properties were located in the surrounding areas to the south and southwest. Hillingdon Place was located ~250m southwest and featured a number of orchards. Wilton Lodge was located ~300m southwest also featured a number of orchards. A road linked the sparse residential properties ~150m west of the site headed north to south. Two gravel pits were located ~750m southwest of the site. A small pond featured ~150m west, ~250m west and ~400m east. A large pond featured ~450m south.
1881	There were no discernible changes to the site.	In addition to the previously named Hillingdon Place and Wilton Lodge, The Larches ~280m south, Park Field ~350m south and Polehill Lodge ~500m east now feature all with associated orchards and arable land.
1895 - 1900	There were no discernible changes to the site.	The access road is now labelled Long Lane. A pond now featured in Park Field ~350m south.
1920	There were no discernible changes to the site.	A planted wooded area featured ~100m north, named Long Lane Covert. Limited residential development featured ~500m southwest of the site. One gravel pit remains ~750m southwest of the site.
1935	There were no discernible changes to the site.	A road now features leading from Long Lane ~100m west in a north-easterly direction and labelled Clifton Gardens onto Burleigh Road. A row of residential properties featured ~130m northwest and further residential development was noted ~700m to the southeast, labelled Hillingdon Heath.
1938	There were no discernible changes to the site.	Large scale residential development and associated local road infrastructure was noted ~50m north in areas north of Clifton Gardens Road and extending north into the newly labelled North Hillingdon area. Large scale residential development and associated local road infrastructure was also noted ~400m south and in areas ~500m to the southwest expanding the previously noted Hillingdon Heath area. The previously noted gravel pit and pond features were no longer observed. Allotment gardens were noted ~400m southeast.
1960	Neighbouring land immediately north, west and south of the site boundaries was developed into a number of residential properties. The structures overlap the site boundaries at the extreme north-western and south-eastern corners.	A large school campus comprising a number of detached block buildings was noted in developed arable land ~150m east. Further residential development had taken place west of Long Lane ~150m from the site boundary.
1964 - 1966	The site was developed and featured two long, assumed lock-up garage, block structures, a block of 17 garages along its southern boundary and block of	Surrounding areas to the north, west and south were now largely residential properties and previously noted lodges and named properties had be redeveloped. The school campus

	13 garages along its northern boundary. The end boundaries of the surround residential plots form the main rectangle plaza with a narrow access road leading from Brampton Road between residential properties (No.3 and No.5) in its north-western corner.	~150m east was labelled Abbotsfield County Secondary Modern School for Boys.
1970 - 1980	There were no discernible changes to the site from the previous mapping period.	Playing fields of the school now extend into remaining arable fields ~200m to the northeast. A second school now featured ~200m north
1990 - 1992	There were no discernible changes to the site from the previous mapping period.	There were no discernible changes to the surrounding environs from the previous mapping period.
2001 - 2003	There were no discernible changes to the site from the previous mapping period.	There were no discernible changes to the surrounding environs from the previous mapping period.
2010	There were no discernible changes to the site from the previous mapping period.	There were no discernible changes to the surrounding environs from the previous mapping period.
2020	The historical mapping record was of poor quality, and the presence of on-site features could not be distinguished.	The site of the previously noted school campus ~150m east (Abbotsfield County Secondary Modern School for Boys) had been demolished and the site redeveloped. Two separate education facilities. One ~350m east (Swakeleys 6 th Form) comprising two detached structures. One ~400m northeast comprising three detached structures (Oak Wood School). The previously noted school ~200m north had been extended.

3.2 Historical Aerial Photography Review

The objective of this search was to report on the history of the site and its environs from available aerial photography, dated from 1999 to 2019, and downloaded from Groundsure Enviro and Geo Insight, as well as accessed online through Google Earth imagery.

1999 – From the earliest aerial photographic record, the site was developed comprising three detached lock-up garage blocks positioned along the northern, southern, and western boundaries. An access road was visible from the north western corner, leading between residential properties onto Brampton Road. The surrounding environs to the north, west and south were largely residential comprising sub urban semi-detached properties. The school campus was notable ~150m east with open fields towards the extreme northeast. The main road (Long Lane) was noted in the east of the image orientated in a north – south direction.

2013 – Aerial photography showed more distinctly three detached lock-up garage blocks and access road. The ground was entirely hard landscaped (assumed concrete hardstanding based on the colour) with the exception of a small area of soft landscaping north of the western smaller garage block. There were no discernible changes to the surround environs.

2019 – There were no discernible changes to the current site configuration however the school campus ~150m east had been demolished and cleared, the site of the previous campus now occupied a single detached building (Innovation, Training and Development Centre) in its north-eastern corner and was surrounded by cleared fields.

There were no discernible changes to the current site configuration or the surrounding environs from the examination of the subsequent aerial photos between 2014 - 2018.

4.0 GROUNDSURE DATASHEETS AND SITE SENSITIVITY MAP REVIEW

4.1 GroundSure Datasheets

GroundSure Environmental and Geological Datasheets were obtained for the site. Unless the data indicates a significant risk, only information within a 250m buffer zone has been included. A copy of the GroundSure Datasheets is presented in Appendix B and a summary is given below.

Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Historical Industrial Sites	
Historical Potentially Contaminative Uses	No records on-site or within 250m of the site.
Historical Tanks	No records on-site or within 250m of the site
Historical Energy Features	6x records off-site within 250m relating to electrical substations: 3x 156m west (1980 – 1992) 3x 250m northwest (1980 – 1992)
Historical Petrol Stations	No records on-site or within 250m of the site
Historical Garage and Motor Vehicle Repair Features	No records on-site or within 250m of the site
Historical Military Land	No records on-site or within 250m of the site
Landfill Sites	
Active or Recent Landfill	No records on-site or within 250m of the site
Historical Landfill (BGS records)	No records on-site or within 250m of the site
Historic Landfill (LA/mapping records and EA/NRW records)	No records on-site or within 250m of the site
Historical Waste Sites	No records on-site or within 250m of the site
Licensed Waste Sites	No records on-site or within 250m of the site
Waste Exemptions	No records on-site or within 250m of the site
Current Land Uses	
Recent Industrial Land-Uses	Four off-site records relating to Electrical and Gas Infrastructure and Facilities: 1x 49m north relating to an electrical substation. 1x 144m northwest relating to a gas governor station 2x (1x 165m west and 1x 249m northwest) relating to electrical substations
Current or Recent Petrol Stations	No records on-site or within 250m of the site
Electricity Cables	No records on-site or within 250m of the site
Gas Pipelines	No records on-site or within 250m of the site
Sites determined as Contaminated Land	No records on-site or within 250m of the site
Control of Major Accident Hazards (COMAH)	No records on-site or within 250m of the site
Regulated Explosive Sites	No records on-site or within 250m of the site
Hazardous Substance Storage/Usage	No records on-site or within 250m of the site
Historical Licensed Industrial Activities (IPC)	No records on-site or within 250m of the site
Licensed Industrial Activities (Part A(1))	No records on-site or within 250m of the site
Licensed Industrial Activities (Part A(2)/B)	No records on-site or within 250m of the site
Radioactive Substance Authorisations	No records on-site or within 250m of the site
Licensed Discharges to Controlled Waters	No records on-site or within 250m of the site
Pollutant Release to Surface Waters (Red List)	No records on-site or within 250m of the site
Pollutant Release to Public Sewer	No records on-site or within 250m of the site
List 1 Dangerous Substances	No records on-site or within 250m of the site
List 2 Dangerous Substances	No records on-site or within 250m of the site
Pollution Incidents (EA/NRW)	No records on-site or within 250m of the site
Pollution Inventory Substances	No records on-site or within 250m of the site
Pollution Inventory Waste Transfers	No records on-site or within 250m of the site
Pollution Inventory Radioactive Waste	No records on-site or within 250m of the site

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Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Hydrogeology	
Superficial Aquifer	One on-site record: Secondary (A) Aquifer
Bedrock Aquifer	One on-site record: Unproductive Aquifer
Groundwater Vulnerability	One on-site record for a Superficial Aquifer with medium vulnerability.
Groundwater Vulnerability – Soluble Rock Risk	No records on-site or within 250m of the site
Groundwater Vulnerability – Local Information	No records on-site or within 250m of the site
Groundwater Abstractions	No records on-site or within 250m of the site
Surface Water Abstractions	No records on-site or within 250m of the site
Potable Abstractions	No records on-site or within 250m of the site
Source Protection Zones	No records on-site or within 250m of the site
Source Protection Zones (Confined Aquifer)	No records on-site or within 250m of the site
Hydrology	
Water Network (OS MasterMap)	No records on-site or within 250m of the site
Surface Water Features	No records on-site or within 250m of the site
WFD Surface Water Body Catchments	One on-site record relating to the Yeading Brook river water body catchment
WFD Surface Water Bodies	No records on-site or within 250m of the site
WFD Groundwater Bodies	One on-site record relating to the Lower Thames Gravels
River and Coastal Flooding	
Risk of Flooding from Rivers and Seas (RoFRaS)	No records on-site or within 250m of the site
Historical Flood Events	No records on-site or within 250m of the site
Flood Defences	No records on-site or within 250m of the site
Areas Benefitting from Flood Defences	No records on-site or within 250m of the site
Flood Storage Areas	No records on-site or within 250m of the site
Flood Zone 2	No records on-site or within 50m of the site
Flood Zone 3	No records on-site or within 50m of the site
Surface Water Flooding	
Highest Surface Water Flooding Risk On-site	Negligible
Highest Surface Water Flooding Risk within 50m of the Site	Negligible
Groundwater Flooding	
Highest Groundwater Flooding Risk On-site	Low
Highest Groundwater Flooding Risk within 50m of the Site	Low

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Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Environmental Designations	
Sites of Special Scientific Interest (SSSI)	No records on-site or within 250m of the site
Conserved Wetland Sites (Ramsar Sites)	No records on-site or within 250m of the site
Special Areas of Conservation (SACs)	No records on-site or within 250m of the site
Special Protection Areas (SPAs)	No records on-site or within 250m of the site
National Nature Reserves (NNR)	No records on-site or within 250m of the site
Local Nature Reserves (LNR)	No records on-site or within 250m of the site
Designated Ancient Woodland	No records on-site or within 250m of the site
Biosphere Reserves	No records on-site or within 250m of the site
Forest Parks	No records on-site or within 250m of the site
Marine Conservation Zones	No records on-site or within 250m of the site
Green Belt	One record 88m east relating to the London area under Hillingdon Local Authority. No other records within 250m of the site
Proposed Ramsar Sites	No records on-site or within 250m of the site
Possible Special Areas of Conservation (pSACs)	No records on-site or within 250m of the site
Potential Special Protection Areas (pSPA)	No records on-site or within 250m of the site
Nitrate sensitive Areas	No records on-site or within 250m of the site
Nitrate Vulnerable Zones	No records on-site or within 250m of the site
SSSI Impact Risk Zones	One on-site record relating to infrastructure (aviation proposals) and air pollution (livestock and poultry, slurry lagoons and manure stores)
SSSI Units	No records on-site or within 250m of the site

Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Visual and Cultural Designations	
World Heritage Sites	No records on-site or within 250m of the site
Areas of Outstanding Natural Beauty (AONB)	No records on-site or within 250m of the site
National Parks	No records on-site or within 250m of the site
Listed Buildings	No records on-site or within 250m of the site
Conservation Areas	No records on-site or within 250m of the site
Scheduled Ancient Monuments	No records on-site or within 250m of the site
Registered Parks and Gardens	No records on-site or within 250m of the site
Agricultural Designations	
Agricultural Land Classification	One on-site record: Urban One off-site record 187m east: Grade 3 good to moderate quality agricultural land
Open Access Land	No records on-site or within 250m of the site
Tree Felling Licences	No records on-site or within 250m of the site
Environmental Stewardship Schemes	No records on-site or within 250m of the site
Countryside Stewardship Schemes	No records on-site or within 250m of the site
Habitat Designations	
Priority Habitat Inventory	No records on-site or within 250m of the site
Habitat Networks	No records on-site or within 250m of the site
Open Mosaic Habitat	No records on-site or within 250m of the site
Limestone Pavement Orders	No records on-site or within 250m of the site

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Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Geology	
Artificial and Made Ground	No records on-site and one record off-site within 250m: 1x 171m south relating to worked ground (undivided)
Artificial Ground Permeability	No records on-site or within 250m of the site
Superficial Geology	One on-site record for Black Park Gravel Member (Sand and Gravel)
Superficial Permeability	One on-site record of high to very high permeability for an intergranular flow type.
Landslip	No records on-site or within 250m of the site
Landslip Permeability	No records on-site or within 250m of the site
Bedrock Geology	One on-site record for the London Clay Formation (Clay, Silt & Sand)
Bedrock Permeability	On-site record of very low to moderate permeability and mixed flow type
Bedrock Faults and Other Linear Features	No records on-site or within 250m of the site
Boreholes	
BGS Boreholes	No records on-site or within 250m of the site
Natural Ground Subsidence – Shrink Swell Clays	
Shrink Swell Clays	Low Risk on-site and within 250m of the site
Running Sands	Very Low Risk on-site and within 250m of the site
Compressible Soils	Negligible Risk on-site and within 250m of the site
Collapsible Deposits	Very Low Risk on-site and within 250m of the site
Landslides	Very Low Risk on-site and within 250m of the site
Ground Dissolution of Soluble Rocks	Negligible Risk on-site and within 250m of the site
Mining, Ground Workings and Natural Cavities	
Natural Cavities	No records on-site or within 250m of the site
BritPits	No records on-site or within 250m of the site
Surface Ground Workings	There are no on-site records and seven off-site records within 250m: All seven off-site records are 146 – 153m west and relate to pond features (1868 – 1932)
Underground Workings	No records on-site or within 250m of the site
Historical Mineral Planning Areas	No records on-site or within 250m of the site
Non-coal Mining	No records on-site or within 250m of the site
Mining Cavities	No records on-site or within 250m of the site
JPB Mining Areas	No records on-site or within 250m of the site
Coal Mining	No records on-site or within 250m of the site
Brine Areas	No records on-site or within 250m of the site
Gypsum Areas	No records on-site or within 250m of the site
Tin Mining	No records on-site or within 250m of the site
Clay Mining	No records on-site or within 250m of the site
Radon	
Radon	One on-site record: Less than 1% of properties affected and no radon measures required.

Continued overleaf

Continued from previous page

Environmental Significance of Data Search	
Source	Type/On site or nearest distance from site/date
Soil Chemistry	
BGS Estimated Background Soil Chemistry	Two records on-site and one record off-site 48m northwest, with no data available
BGS Estimated Urban Soil Chemistry	Four records on-site and one record off-site On-site 1x 11mg/kg Arsenic, 124mg/kg Lead, 0.7mg/kg Cadmium, 48mg/kg Chromium, 30mg/kg Copper, 18mg/kg Nickel and 12mg/kg Tin 1x 12mg/kg Arsenic, 142mg/kg Lead, 0.7mg/kg Cadmium, 49mg/kg Chromium, 31mg/kg Copper, 18mg/kg Nickel and 12mg/kg Tin 1x 12mg/kg Arsenic, 131mg/kg Lead, 0.7mg/kg Cadmium, 49mg/kg Chromium, 31mg/kg Copper, 18mg/kg Nickel and 12mg/kg Tin 1x 13mg/kg Arsenic, 146mg/kg Lead, 0.7mg/kg Cadmium, 50mg/kg Chromium, 31mg/kg Copper, 18mg/kg Nickel and 12mg/kg Tin Off-site 1x 48m west 14mg/kg Arsenic, 170mg/kg Lead, 0.7mg/kg Cadmium, 49mg/kg Chromium, 31mg/kg Copper, 18mg/kg Nickel and 12mg/kg Tin
BGS Measured Urban Soil Chemistry	No records on-site or within 250m of the site
Railway Infrastructure and Projects	
Underground Railways (London)	No records on-site or within 250m of the site
Underground Railways (Non-London)	No records on-site or within 250m of the site
Railway Tunnels	No records on-site or within 250m of the site
Historical Railway and Tunnel Features	No records on-site or within 250m of the site
Royal Mail Tunnels	No records on-site or within 250m of the site
Historical Railways	No records on-site or within 250m of the site
Railways	No records on-site or within 250m of the site
Crossrail 1	No records on-site or within 250m of the site
Crossrail 2	No records on-site or within 250m of the site
HS2	No records on-site or within 250m of the site

5.0 PLANNING DATABASE AND ONLINE REVIEW

5.1 Online Planning Database

A review of the Hillingdon Borough Council Planning Database revealed historic planning applications for the site and are considered to be relevant to this desk study.

74993/APP/2020/4160

Details pursuant to the discharge of Condition 12 (Contamination Levels and Remediation Scheme), Condition 15 (Parking Allocation) and Condition 18 (Waste Management Plan) of planning permission ref. 74993/APP/2019/2504 dated 09-04-2020.

74993/APP/2020/4045

Details pursuant to the discharge of Condition 6 (Sustainable Water Management) of planning permission ref. 74993/APP/2019/2504 dated 09-04-2020.

74993/APP/2020/3936

Details pursuant to Conditions 3 (Construction Logistics Plan), 5 (Demolition and Construction Management Plan) and 19 (Delivery and Servicing Plan) of planning permission Ref: 74993/APP/2019/2504 dated 09-04-2020.

74993/APP/2019/2504

Proposed demolition of the existing garages and construction of 3 x 4-bedroom houses with all parking spaces and external works – Approved 26-07-2019.

5.2 Internet Search

The site was located within the urban Hillingdon Borough of the Greater London area.

The existing garage blocks on site are confirmed to be domestic lock-up garages privately owned by residents of the surrounding properties and used for the storage of motor vehicles and general domestic storage. The site has historically over been a lock-up garage plaza soon after the estate was constructed in circa 1970s.

Records indicated that the site is in a low-risk area of UXO and UXB. No further information pertinent to the Desk Study was identified.

6.0 SUMMARY OF FINDINGS

The findings of the Phase 1 Desk Study are summarised in this section of the report:

Current Site Use and Use of Surrounding Area

At the time of reporting in January 2021, the site comprised a 0.13ha irregular shaped plot of land orientated west to east in the central Hillingdon area. The site comprised a total of thirty-five single storey flat roof domestic lock-up garages arranged over three separate blocks along the northern, southern, and western boundaries. The site was accessed from Brampton Road at its north western corner via a narrow road which led round into the main garage plaza. The site was almost entirely hard landscaped with only a small area of soft landscaping bordering the smallest garage block to the west.

At the time of reporting in January 2021, under planning reference 74993/APP/2019/2504 dated 13th February 2020, the proposed development comprised demolition of the existing garages and the constructions of three, four-bedroom residential properties with provision for private gardens, parking, and associated areas of hard and soft landscaping.

Geology and Radon

The British Geological Survey (BGS) geological map of the Beaconsfield area (Beaconsfield Soil and Drift - Sheet 255) revealed that the site was located on superficial Black Park Gravel Member overlying bedrock deposits of the London Clay Formation. Areas of worked ground and infilled ground were recorded ~200m south of the site and approximately ~300m in areas to the north.

The site was **not** located within an area where mandatory protection measures against the ingress of Radon are likely to be required. The site was in a lower probability radon area (where less than 1% of the homes were estimated to be at or above the Action Level).

Hydrogeology and Hydrology

The Desk Study has revealed the site to be located on a **Secondary (A) Aquifer** relating to superficial deposits of the Black Hill Gravel Member and underlying **Unproductive Aquifer** relating to bedrock deposits of the London Clay Formation.

The nearest surface water feature relates to a land drainage trench ~400m east along the field boundary of Oak Wood School. Other nearby features relate to drainage trenches in recreational land ~700m northwest in Hillingdon Court Park and ~1.1km southwest in Brunel University Sports Park. The River Pinn was noted ~1.13km west and flowing north to south.

Examination of the Environment Agency records showed that the site fell within a **Flood Zone 1**, an area with less than 1 in 1,000 annual probability of river or sea flooding. The site is at **very low** risk of surface water flooding and **low risk** from groundwater flooding.

The site **did not** fall within a Groundwater Source Protection Zone as classified in the Policy and Practice for the Protection of Groundwater. The site was not located within a DEFRA Nitrate Vulnerable Zone (NVZ).

From analysis of hydrogeological and topographical maps, groundwater was anticipated to be encountered at depth of less than 7m below ground level (bgl) and likely perched water within permeable superficial Black Hill Gravel Member deposits overlying impermeable bedrock deposits of the London Clay Formation. It was considered that the groundwater was flowing in an overall south-westerly direction towards the River Pinn and Grand Union Canal in line with regional geology and topography.

Historical Mapping and Historical Aerial Photography

A review of historical maps (presented in Appendix C) identified information that may be relevant to this Desk Study and is summarised below:

On-site:

From the earliest legible historical mapping records, circa 1866, the site formed the eastern side of a large arable field devoid of any structures or features. The site remained undeveloped until circa 1960s where a number of neighbouring structures appear to cross the site boundaries at its extreme north-western and south-eastern corners. Later in circa 1964, the site was fully developed comprising two detached lock-up garage blocks. The larger block, housing 17 garage units, occupied the southern boundary and the smaller block, housing 13 garage units, along its northern boundary. An access road headed west from the north-western corner of the site passing between residential properties No. 3 and No.5 and leading onto Brampton Road. Historical aerial photography circa 1999 noted a third lock-up garage block along the western boundary, this is thought to accommodate 3 – 5 garage units and had a small area of adjacent soft landscaping. The records show the current on-site configuration with no further indication of further historical redevelopment of the site.

Off-site:

From the earliest legible historical mapping in circa 1866, the surrounding environs were undeveloped comprising arable fields. Sparse residential properties were noted ~250m to the southwest and ~300m to the southwest comprising named lodges with associated orchards. Two gravel pits were recorded ~750m southwest and a total of four pond features were recorded ~150m & ~250m west, ~400m east and ~450m to the south; an additional pond later featured in circa 1895 mapping ~350m to the south. In circa 1920 mapping, further residential development had taken place in areas ~130m to the northwest and ~500m to the southeast. Only one gravel pit was noted ~750m to the southwest. Large scaled residential development and associated road infrastructure took place from circa 1938 in areas ~50m north, ~400m south and ~500m southwest; all previously noted pond and gravel pit features were no longer listed. Allotment gardens were noted ~400m to the southeast at the fringe of the residential development. In circa 1960, a large school campus was constructed on arable land ~150m east of the site which was labelled Abbotsfield County Secondary Modern School for Boys from 1964 mapping. Residential development continued to take place from circa 1964 to the surrounding areas to the north, west and south of the site boundaries. Previously recorded lodges were no longer noted and likely demolished as part of the development of the greater Hillingdon area. The Abbotsfield school campus ~150m east remained visible in historical aerial photography records up until and including 2015. In later records, circa 2019, the campus was demolished. An Innovation, Training and Development Centre was constructed in the north western corner of the site and two new education facilities were built ~350m east (Swakeleys 6th Form) and ~400m northeast (Oak Wood School) within the footprint of the previous school campus and now representative of the present-day configuration.

GroundSure Datasheets

Groundsure datasheets (presented in Appendix B) revealed information which may be pertinent to this Desk Study, this is summarised below:

A total of six records of historical industrial sites were recorded and related to electrical substations (1980 – 1992), the nearest was 156m west of the site boundary. A total of four records of recent industrial land-uses were recorded and related to electrical and gas infrastructure, the nearest was 49m north for an electrical substation and 144m northwest relating to a gas governor station.

One record of artificial Made Ground relating to worked ground (undivided) was noted 171m south.

There was a total of seven surface ground working records 146 – 153m west of the site and all relating to pond features.

Proposed Development

At the time of reporting in January 2021, under planning reference 74993/APP/2019/2504 dated 13th February 2020, the proposed development comprised demolition of the existing garages and the constructions of three, four-bedroom residential properties with provision for private gardens, parking, and associated areas of hard and soft landscaping. The layout of the proposed development is presented in Figure 4.

7.0 PHASE 1 RISK ASSESSMENT

7.1 Conceptual Site Model

A Conceptual Site Model (CSM) for the site is provided in Section 7.8 of this report.

7.2 Contaminant Source-Pathway-Receptor Model

In the UK, the assessment of risk from contamination follows the source-pathway-receptor approach. For an environmental risk to be present there must be a source of contamination, a receptor or receptors, and a pathway for contaminants to migrate or be absorbed. If one of these three elements are absent it is considered that there is no risk of harm. If, however, there is a linkage between any given source and any given receptor then a risk-based approach is used to assess the significance or impact of the pollutant linkage.

For ease of reference and understanding, the risks that have been assigned within this risk assessment against four possible levels / categories:

- **Negligible** - Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is no risk to environmental receptors. Therefore, there is no need to further assess this potential source of contamination.
- **Low risk** – Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is not considered to be a risk to environmental receptors. However, it is considered that further investigation to confirm this is recommended.
- **Moderate risk** – Regarding this potential SPR linkage, the site may not be suitable for the proposed end-use and there may be a risk to environmental receptors. Further investigation is required to confirm this.
- **High risk** – Regarding this potential SPR linkage, site probably or certainly not suitable for proposed end-use and there is likely to be a risk to environmental receptors. Contaminants probably or certainly present and very likely to have an unacceptable impact on key targets. Urgent action required in the short term.

7.3 Potential On-site Sources of Contaminants

The Phase 1 Desk Study has revealed the following potential on-site sources of contamination:

Made Ground

Given the historical development of the site from circa 1960s, the presence of limited Made Ground was anticipated to be present. Potential chemical contamination may reflect trace remains following landuse of domestic lock-up garage and may include heavy and semi-metals, poly-cyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPHs), BTEX compounds, asbestos/asbestos containing materials (ACMs), volatile and semi-volatile organic carbons (VOCs and SVOCs), cyanide and phenol, as well as a harmful pH level.

The general risk of contaminants posing a risk to end users from the Made Ground at this stage was considered to be **moderate**, given the age of the existing on-site structures, potential ACM materials used in construction and the nature of the landuse as domestic garages. The risk of asbestos within the building fabric, residual contamination from use as domestic garages cannot be discounted. The risk towards controlled water receptors was considered to be **Low** given the low permeability and unproductive aquifer of the underlying London Clay Formation, distance to off-site receptors and relatively flat topography of the site and surrounding environs. The Black Park Gravel Member is expected to be a more sensitive aquifer, however limited risk is anticipated due to the nature/history of the site.

The risk posed to building materials and services in contact with the Made Ground was considered

to be **moderate**, at this stage. The risk to on-site vegetation is considered to be **moderate** given that the proposed development will incorporate private and communal soft landscaping. Overall, a ground investigation is required to determine the chemical composition and variability of the Made Ground to inform any risk reduction.

Asbestos Containing Materials (ACMs)

Given the age of the existing garage buildings, the potential for asbestos-containing materials (ACMs) contained within the building's fabric cannot be discounted. ACM contained within the building fabric could cross contaminate shallow Made Ground during proposed demolition and enabling works and measures to control exposure should be implemented. The risk of exposure to ACMs was therefore considered to be **moderate** for both construction workers and end users (residents) until its presence is disproven.

Ground Gas

There are no on-site records relating to historical surface or ground workings that may attribute to the accumulation of ground gas. Given the limited development on site, Made Ground deposits are anticipated to be limited and relatively shallow. It is considered likely that any potential gas accumulation within the Made Ground has all but dissipated via passive ventilation therefore a **low** risk of ground-gas accumulation has been considered and further assessment is not considered necessary.

7.4 Potential Off-Site Sources of Contamination

The Phase 1 Desk Study has revealed the following off-site sources of contamination which are summarised in this section of the report. Additional potential sources of contamination, identified within the desk study and summarised in Section 6, have been discounted based on the absence of a realistic source-pathway-receptor linkage (i.e. the distance from the site or the nature or age of any potential contamination present).

Construction, Demolition, and Infilling Activities

Substantial development has taken place within a 250m radius of the site including demolition and redevelopment of a large school campus ~150m east of the site, built in the 1960s and demolished within the last 5 years. An electrical substation was noted 49m north of the site (1980 – 1992) though discounted given its age, likely removal, and proximity to the site. Potential migration pathways for off-site contaminants are described in Section 7.5. Whilst it is anticipated that the current regulatory framework is likely to control and limit the potential for contamination associated with contemporary contaminant sources, the same cannot be said of historical sources. Given the variable permeability of anticipated artificially infilled and Made Ground, the risk to end-users & workers associated with off-site historical and contemporary ground workings are considered to be **moderate** at this stage. A **low** risk is considered for environmental receptors and controlled waters, due to the low permeability of underlying bedrock deposits of the London Clay Formation, limited presence of the Black Park Gravel Member and extent of hardstanding to the surrounding environs which are likely to restrict the mobilisation and migration of potential contamination onto site.

Ground Gas from Historical Ground Workings

A single record relating to worked ground (undivided) was noted ~171m south of the site boundary and seven records of surface ground workings were recorded 146 – 153m west of the site and related to pond features. Infilling of these features associated with progressive development of the surrounding areas has likely taken place. Ground workings can be backfilled with Made Ground deposits and due to the variability in composition of Made Ground deposits, there is a potential risk for ground gas accumulation within void spaces. Given the age of the records, small scale and proximity to the site, it is likely any potential gas generation has peaked, and any biodegradable

material broken down therefore a **negligible** risk is considered for all receptors.

7.5 Potential Pathways for Contaminant Migration from Off-site Sources

Anthropogenic (man-made) pathways for contaminant migration can be present in the form of land drains, leaking sewage supply pipes and site drainage. Granular backfill to trenches for cables, gas pipes, water pipes etc. can also provide pathways for movement of mobile contaminants and contaminated groundwater.

Evidence obtained from the historical mapping for the site did not indicate the presence of such features on or beneath the site, though the presence of which, cannot be ruled out.

The British Geological Survey (BGS) geological map of the Beaconsfield area (Beaconsfield Soil and Drift - Sheet 255) revealed that the site was located on superficial Black Park Gravel Member overlying bedrock deposits of the London Clay Formation. Areas of worked ground and infilled ground were recorded ~200m south of the site and approximately ~300m in areas to the north.

The Desk Study has revealed the site to be located on a **Secondary (A) Aquifer** relating to superficial deposits of the Black Park Gravel Member and underlying **Unproductive Aquifer** relating to bedrock deposits of the London Clay Formation likely due to the impermeability. It was considered that the groundwater was flowing in an overall south-westerly direction towards the River Pinn and Grand Union Canal in line with regional geology and topography.

7.6 Potential Receptors

The potential receptors are presented below and comprise:

Human Health

- Site operatives during demolition of the garages and construction of the proposed residential properties and future maintenance works;
- End users of the site (residents, site users and visitors); and
- Neighbours/public.

Building Materials and Services

- Sub-surface concrete; and
- Sub-surface services.

Groundwater and Surface Water

- Surface water runoff;
- Surface water drainage; and
- Potential perched groundwater within Made Ground and superficial deposits overlying impermeable bedrock of the London Clay Formation.

Vegetation

- Vegetation within the proposed private gardens and areas of communal soft landscaping;
- Off-site vegetation in neighbouring properties; and
- Limited existing soft landscaping to the west of the site.

Ground Gas

- Site operatives during demolition of the lock-up garages and construction of the proposed residential properties and future maintenance works;
- End users of the site (residents, site users and visitors); and

- Neighbours/public

7.7 Contaminant Absorption Pathways

The potential pathways for contaminant absorption by receptors are as follows:

Human Health

- Direct ingestion of soil and soil derived dust;
- Dermal contact of soil and soil derived dust;
- Ingestion of soil with elevated concentration of determinands;
- Dermal contact with impacted soils;
- Ingestion of home-grown vegetables and soils attached;
- Inhalation of contaminated dust (indoor and outdoor) with elevated concentration of determinands; and,
- Inhalation of ground-gases or vapours (indoor and outdoor) with elevated concentration of determinands.

Building Materials and Sub-Surface Concrete

- Direct contact with aggressive ground conditions.

Sub-Surface Services

- Direct contact with hydrocarbons within soil; and,
- Direct contact with hydrocarbons within groundwater.

Groundwater and Surface Water

- Via surface water runoff;
- Via anthropogenic (man-made) pathways; and,
- Via permeable Made Ground/ Superficial deposits (if present).

Vegetation

- Direct uptake of impacted water.

Ground-Gas

- Migration through anthropogenic & natural pathways;
- Inhalation;
- Explosive risk (methane only); and,
- Asphyxiating gases.

7.8 Tabulated Conceptual Site Model

The tabulated Conceptual Site Model developed as part of this Desk Study is outlined overleaf.

Tabulated Conceptual Site Model – Pollutant Linkage Summary			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
On-site			
Anticipated Made Ground deposits associated with the historical development of the site. - Heavy metals and semi-metals; - Poly-cyclic aromatic hydrocarbons (PAHs); - Total petroleum hydrocarbons (TPHs); - Volatile and semi-volatile organic Carbons (VOCs and SVOCs); BTEX compounds as markers; - BTEX compounds - Asbestos/asbestos containing materials (ACMs) within the Made Ground; - Cyanide; - Phenol; and, - Harmful pH.	Human Health - Direct ingestion of soil and soil derived dust; - Dermal contact of soil and soil derived dust; - Ingestion of soil with elevated concentration of determinands; - Dermal contact with impacted soils; - Ingestion of home-grown vegetables and soils attached; - Inhalation of contaminated dust (indoor and outdoor) with elevated concentration of determinands; and, - Inhalation of ground-gases or vapours (indoor and outdoor) with elevated concentration of determinands.	Human Health - Site operatives during demolition of the lock-up garages and construction of the proposed residential properties and future maintenance works; - End users of the site (residents, site users and visitors); and - Neighbours/public	Moderate Risk (Moderate risk until the extent and chemical composition of the Made Ground is determined)
	Groundwater and Surface Water - Via surface water runoff; - Via anthropogenic (man-made) pathways; and, - Via permeable Made Ground and superficial deposits (if present).	Controlled Waters - Surface water runoff; - Surface water drainage; and - Potential perched groundwater within Made Ground/ superficial deposits overlying impermeable bedrock of the London Clay Formation.	Low Risk (Given the unproductive aquifer of the underlying London Clay, flat topography and absence of any viable nearby surface or groundwater receptors) The Black park Gravel Member is expected to be a more sensitive aquifer, however limited risk is anticipated.
	Vegetation Direct uptake of impacted water.	Vegetation - Vegetation within the proposed private gardens and areas of communal soft landscaping; - Off-site vegetation in neighbouring properties; and - Limited existing soft landscaping to the west of the site.	Low Risk (Given very limited existing and proposed soft landscaping)

Tabulated Conceptual Site Model – Pollutant Linkage Summary			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
On-site			
Aggressive ground conditions with Made Ground and natural ground; - Sulphates - Acidic pH - PAHs	Building Materials and Services - Direct contact with hydrocarbons within soil; and, - Direct contact with hydrocarbons within groundwater.	Building Materials and Services - Sub-surface concrete. - Sub-surface services (water supply pipes).	Moderate Risk (Moderate risk until the extent and chemical composition of the Made Ground is determined)
Potential Asbestos and Asbestos Containing Materials in the soils and existing buildings on-site. Risk of disturbance of ACMs during demolition, enabling and construction works.	Human Health - Direct ingestion of soil and soil derived dust; - Dermal contact of soil and soil derived dust; - Ingestion of soil with elevated concentration of determinands; - Dermal contact with impacted soils; - Ingestion of home-grown vegetables and soils attached; - Inhalation of contaminated dust (indoor and outdoor) with elevated concentration of determinands; and - Inhalation of ground-gases or vapours (indoor and outdoor) with elevated concentration of determinands.	Human Health - Site operatives during demolition of the lock-up garages and construction of the proposed residential properties and future maintenance works; - End users of the site (residents, site users and visitors); and - Neighbours/public	Moderate Risk (Can be reduced to Low Risk provided asbestos survey of existing structures implemented and H&S/ discovery procedures followed)
Potential Ground gas within limited Made Ground deposits. - Carbon dioxide; - Methane; - Hydrogen sulphide; and - Carbon monoxide.	Ground Gas - Migration through anthropogenic & natural pathways; - Inhalation of gases; - Explosive risk (methane only); and - Asphyxiating gases.	Ground gas - Site operatives during demolition of the lock-up garages and construction of the proposed residential properties and future maintenance works; - End users of the site (residents, site users and visitors); and - Neighbours/public	Low Risk (Low risk considered given the limited development on site and surrounding areas. Any potential gas accumulation within Made Ground has likely dissipated via passive ventilation)

Continued overleaf.

Tabulated Conceptual Site Model – Pollutant Linkage Summary			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Off-site			
Off Site Construction, Demolition/ Infilling Activities: Including the demolition and redevelopment of a school campus ~150m east of the site, infilling of a number of localised ponds 146 – 153m west and records of worked ground 171m south. • Heavy metals and semi-metals; • Poly-cyclic aromatic hydrocarbons (PAHs); • Total petroleum hydrocarbons (TPHs); • Volatile and semi-volatile organic Carbons (VOCs and SVOCs); • BTEX compounds; • Asbestos/asbestos containing materials (ACMs); • Cyanide; • Phenol; and. • Harmful pH.	Human Health • Direct ingestion of soil and soil derived dust; • Dermal contact of soil and soil derived dust; • Ingestion of soil with elevated concentration of determinands; • Dermal contact with impacted soils; • Inhalation of contaminated dust (indoor and outdoor) with elevated concentration of determinands; and • Inhalation of ground-gases or vapours (indoor and outdoor) with elevated concentration of determinands.	Human Health • Site operatives during demolition of the lock-up garages and construction of the proposed residential properties and future maintenance works; • End users of the site (residents, site users and visitors); and • Neighbours/public	Moderate Risk
	Groundwater and Surface Water • Via surface water runoff; • Via anthropogenic (man-made) pathways; and • Via permeable Made Ground/ superficial deposits (if present).	Controlled Waters • Surface water runoff; • Surface water drainage; and • Potential perched groundwater within Made Ground/ superficial deposits overlying impermeable bedrock of the London Clay Formation.	Low Risk (Given Unproductive Aquifer, impermeable bedrock, limited presence of the Black park Gravel Member and absence of any nearby surface water receptors)
	Vegetation Direct uptake of impacted water.	Vegetation • Vegetation within the proposed private gardens and areas of communal soft landscaping; • Off-site vegetation in neighbouring properties; and • Limited existing soft landscaping to the west of the site.	Low Risk (Given very limited existing on-site vegetation and limited proposed vegetation)

Ground Gas from Historical Ground Workings and presence of variable Made Ground related to redevelopment of a school campus ~150m east, worked ground 171m south and infilling of ponds 146 – 153m west. • Carbon dioxide; • Methane; • Hydrogen sulphide; and • Carbon monoxide.	Ground Gas • Migration through anthropogenic & natural pathways; • Inhalation of gases; • Explosive risk (methane only); and • Asphyxiating gases.	Ground gas • Site operatives during demolition of the commercial premises and construction of the proposed properties and future maintenance works; • End users of the site (residents, site users and visitors); and • Neighbours/public	Negligible Risk (Given limited historical records relating to worked or infilled ground, age of the records and distance from the site.
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7.9 Recommendations and Phase 2 Objectives

This section of the report will present recommendations for the further investigation of each plausible pollutant linkage identified by the Conceptual Site Model. It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.

Soils:

To confirm the absence of risks to receptors and confirm the ground conditions on site, with respect to potential geo-environmental risks, consideration should be given to the testing of several soil samples recovered from shallow window sample boreholes and trial pits across the site, including areas of any proposed soft landscaping or private garden areas for chemical laboratory testing. The tests will be for a broad range of contaminants in accordance with DEFRA/CLEA methodologies, and recommendations of the CSM to confirm that they are suitable for re-use in private gardens and areas of communal soft landscaping within the proposed development. Based on the findings of this report, the following contaminants of concern should be included in the chemical analysis suite for the ground investigation:

- Heavy metals and semi-metals;
- Speciated poly-cyclic aromatic hydrocarbons (PAHs);
- Speciated total petroleum hydrocarbons (TPHs) – CWG aromatic and aliphatic fractions;
- Volatile and semi-volatile organic compounds (VOCs and SVOCs) – BTEX Used as marker compounds;
- Asbestos (fibrous material screen and asbestos identification if suspected materials are identified);
- Cyanide;
- Phenols; and,
- pH.

The list above does not imply that these chemicals are present on-site or that they are likely to cause contamination issues at the site. The sampling and testing strategy must be in line with current standards.

The desk study has identified a potential risk to construction workers associated with the proposed development, particularly those undertaking ground works. Appropriate Personal Protective Equipment (PPE) should be employed throughout the stripping out, demolition and construction phases, and a safe system of work established in accordance with Construction (Design & Management) Regulations (CDM) 2015.

An Asbestos Management Strategy must be put in place in order to account for potential Asbestos Containing Materials within the lock-up garages and within any exposed Made Ground. An asbestos survey of the garages is recommended, prior to demolition and enabling works taking place.

Groundwater:

If analytical results show elevated concentrations of contaminants of concern in the soil samples then there might be a requirement to assess the potential risks of leachability of contaminants migrating into potential ground and surface water that is anticipated to perch within Made Ground/superficial deposits overlying low permeability bedrock of the London Clay Formation. This might mean leachate testing on soils samples is required or groundwater sampling and testing.

Ground Gas:

The Conceptual Site Model (CSM) has determined that there is a low potential risk from ground gas accumulation on-site. Historically, the site had been developed on only a single occasion reflecting its present-day configuration as domestic lock-up garages, therefore the extent and composition of the Made Ground is anticipated to be limited and pose a low ground-gas risk to the proposed development. Additionally, the site is almost entirely, and always has been, hard landscaped, which provides a physical barrier to any possible accumulation of residual or underlying contamination present. It is therefore considered that the potential gas risk on-site is low and the requirement to undertake ground gas monitoring is not considered necessary. Potential external sources have been examined and dismissed in Section 7.4.

Materials and services

Sub-surface concrete may be damaged due to being in contact with aggressive ground conditions. Sampling should be undertaken where the proposed foundations will be in contact with natural ground and Made Ground and tested for aggressive ground conditions (sulphates/pH). Classification should then be undertaken of the ground conditions in accordance with Building Research Establishment Special Digest 1, 2005, 'Concrete in Aggressive Ground'.

If hydrocarbon contamination, staining or odours are noted at the depth of proposed water pipes, testing of poly-cyclic aromatic hydrocarbons and total petroleum hydrocarbons should be undertaken.

7.10 Discovery Strategy

There is the potential for contamination to be encountered on site as identified as part of the Desk Study, an example may include asbestos containing materials (ACMs) within the anticipated Made Ground deposits. Equally, there is the potential in encountering contamination not identified as part of the Desk Study such as an underground storage tanks, for which there are no historical or contemporary evidence or records. Such occurrences may be discovered during the investigation for the development of the site. In the event of discovering unanticipated contamination, groundworkers should report any evidence of contamination to the Site Manager. This may comprise visual indicators, such as fibrous materials, discolouration, or olfactory indicators such as odours and emissions. Upon discovery, advice must be taken from a suitably qualified person before proceeding, such that appropriate remedial measures and health and safety protection may be applied. Should a new source of contamination be suspected or identified then the Local Authority will need to be informed.

7.11 Geotechnical Considerations

The depth and the extent of Made Ground on site will need to be adequately investigated in order to inform the type of foundations required. Any ground investigation will need to include geotechnical testing in order to classify the volume change potential of the underlying soils and define any moisture deficits to inform design. The roots of surrounding trees will need to be taken into account in final design, in combination with the volume change potential of the soils. The potential presence of groundwater/perched water will also need to be examined and chemical testing to inform the DS/ACEC class needed for subsurface concrete.

Although some surface ground workings were noted in the wider surrounding area, the site was generally considered to be at low risk from mining.

APPENDIX A

Conditions and Limitations

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly, any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions, and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report (“you” or “the Recipient”) are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must consider any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions, and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations of this report relate only to the site referred to as **land to the rear of 5 – 13 Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR.**

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred, or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

APPENDIX B
GroundSure EnviroInsight and GeoInsight Datasheets

5 GARAGE COURT REAR OF, BRAMPTON ROAD, UXBRIDGE, UB10 0DR

Order Details

Date: 30/11/2020
Your ref: GWPR3961
Our Ref: HMD-445-7323514
Client: Ground and Water Limited

Site Details

Location: 507582 183211
Area: 0.13 ha
Authority: [London Borough of Hillingdon](#)



Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.12 groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	0	0	0	-
14	1.2	Historical tanks	0	0	0	0	-
14	1.3	<u>Historical energy features</u>	0	0	2	13	-
15	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	<u>Historical garages</u>	0	0	0	3	-
15	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
16	2.1	Historical industrial land uses	0	0	0	0	-
17	2.2	Historical tanks	0	0	0	0	-
17	2.3	<u>Historical energy features</u>	0	0	3	23	-
18	2.4	Historical petrol stations	0	0	0	0	-
18	2.5	<u>Historical garages</u>	0	0	0	4	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
21	3.7	<u>Waste exemptions</u>	0	0	0	4	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
23	4.1	<u>Recent industrial land uses</u>	0	1	3	-	-
24	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



25	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
26	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	1	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
26	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
26	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
27	4.17	List 2 Dangerous Substances	0	0	0	0	-
27	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	1	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
28	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
29	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
30	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
31	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
32	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
32	5.5	Groundwater vulnerability- local information	None (within 0m)				
33	5.6	<u>Groundwater abstractions</u>	0	0	0	0	11
36	5.7	Surface water abstractions	0	0	0	0	0
37	5.8	<u>Potable abstractions</u>	0	0	0	0	5
38	5.9	Source Protection Zones	0	0	0	0	-
38	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
39	6.1	Water Network (OS MasterMap)	0	0	0	-	-

39	6.2	Surface water features	0	0	0	-	-
40	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
40	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
41	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
42	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
42	7.2	Historical Flood Events	0	0	0	-	-
42	7.3	Flood Defences	0	0	0	-	-
42	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
43	7.5	Flood Storage Areas	0	0	0	-	-
44	7.6	Flood Zone 2	None (within 50m)				
44	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
45	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
47	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
48	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
49	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
49	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
49	10.4	Special Protection Areas (SPA)	0	0	0	0	0
49	10.5	National Nature Reserves (NNR)	0	0	0	0	0
50	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	1
50	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	1
50	10.8	Biosphere Reserves	0	0	0	0	0
51	10.9	Forest Parks	0	0	0	0	0
51	10.10	Marine Conservation Zones	0	0	0	0	0
51	10.11	<u>Green Belt</u>	0	0	1	1	15
52	10.12	Proposed Ramsar sites	0	0	0	0	0

52	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
52	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
53	10.15	Nitrate Sensitive Areas	0	0	0	0	0
53	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
54	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
55	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
56	11.1	World Heritage Sites	0	0	0	-	-
56	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
56	11.3	National Parks	0	0	0	-	-
56	11.4	Listed Buildings	0	0	0	-	-
57	11.5	Conservation Areas	0	0	0	-	-
57	11.6	Scheduled Ancient Monuments	0	0	0	-	-
57	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
58	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 3 (within 250m)				
59	12.2	Open Access Land	0	0	0	-	-
59	12.3	Tree Felling Licences	0	0	0	-	-
59	12.4	Environmental Stewardship Schemes	0	0	0	-	-
59	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
60	13.1	Priority Habitat Inventory	0	0	0	-	-
60	13.2	Habitat Networks	0	0	0	-	-
60	13.3	Open Mosaic Habitat	0	0	0	-	-
60	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
61	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
62	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	1	2	-
63	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	0	0	-

64	14.4	Landslip (10k)	0	0	0	0	-
65	14.5	<u>Bedrock geology (10k)</u>	1	0	0	0	-
66	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
67	15.1	<u>50k Availability</u>	Identified (within 500m)				
68	15.2	<u>Artificial and made ground (50k)</u>	0	0	1	1	-
69	15.3	Artificial ground permeability (50k)	0	0	-	-	-
70	15.4	<u>Superficial geology (50k)</u>	1	0	0	0	-
71	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
71	15.6	Landslip (50k)	0	0	0	0	-
71	15.7	Landslip permeability (50k)	None (within 50m)				
72	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
73	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
73	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
74	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
75	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
76	17.2	<u>Running sands</u>	Very low (within 50m)				
77	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
78	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
79	17.5	<u>Landslides</u>	Very low (within 50m)				
80	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
81	18.1	Natural cavities	0	0	0	0	-
82	18.2	BritPits	0	0	0	0	-
82	18.3	<u>Surface ground workings</u>	0	0	7	-	-
82	18.4	Underground workings	0	0	0	0	0
83	18.5	Historical Mineral Planning Areas	0	0	0	0	-

83	18.6	Non-coal mining	0	0	0	0	0
83	18.7	Mining cavities	0	0	0	0	0
83	18.8	JPB mining areas	None (within 0m)				
83	18.9	Coal mining	None (within 0m)				
84	18.10	Brine areas	None (within 0m)				
84	18.11	Gypsum areas	None (within 0m)				
84	18.12	Tin mining	None (within 0m)				
84	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
85	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
86	20.1	<u>BGS Estimated Background Soil Chemistry</u>	2	1	-	-	-
86	20.2	<u>BGS Estimated Urban Soil Chemistry</u>	4	1	-	-	-
87	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
88	21.1	Underground railways (London)	0	0	0	-	-
88	21.2	Underground railways (Non-London)	0	0	0	-	-
88	21.3	Railway tunnels	0	0	0	-	-
88	21.4	Historical railway and tunnel features	0	0	0	-	-
88	21.5	Royal Mail tunnels	0	0	0	-	-
89	21.6	Historical railways	0	0	0	-	-
89	21.7	Railways	0	0	0	-	-
89	21.8	Crossrail 1	0	0	0	0	-
89	21.9	Crossrail 2	0	0	0	0	-
89	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 29/06/2019

Site Area: 0.13ha



Recent site history - 2015 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 07/06/2015

Site Area: 0.13ha



Recent site history - 2013 aerial photograph



Capture Date: 20/04/2013

Site Area: 0.13ha



Recent site history - 1999 aerial photograph



Capture Date: 13/10/1999

Site Area: 0.13ha

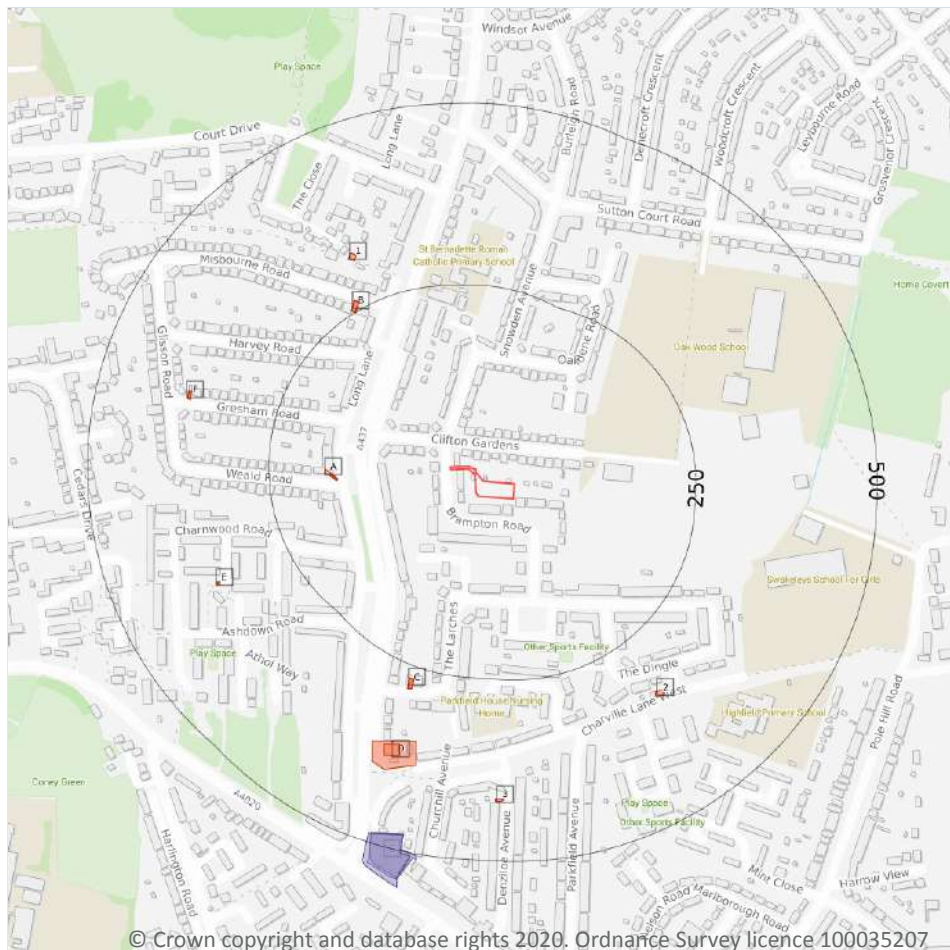
OS MasterMap site plan



Site Area: 0.13ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

15

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 13**

ID	Location	Land use	Dates present	Group ID
A	156m W	Electricity Substation	-	240817
A	156m W	Electricity Substation	1980 - 1992	285684
B	250m NW	Electricity Substation	-	240891
B	250m NW	Electricity Substation	1980 - 1992	265074
C	267m S	Electricity Substation	1992	277707
C	267m S	Electricity Substation	1975 - 1986	275745
1	313m NW	Electricity Substation	1984 - 1992	286914
2	330m SE	Electricity Substation	1971 - 1997	279478
D	348m S	Electricity Substation	1992	275451
E	354m SW	Electricity Substation	-	240460
E	354m SW	Electricity Substation	1980 - 1992	280848
D	358m S	Electricity Substation	1975 - 1986	276968
F	369m W	Electricity Substation	1980 - 1992	265022
F	370m W	Electricity Substation	-	240636



ID	Location	Land use	Dates present	Group ID
3	414m S	Electricity Substation	1971 - 1997	264495

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

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

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	3
----------------------------	----------

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 13**

ID	Location	Land use	Dates present	Group ID
G	477m S	Garage	1965 - 1975	80397
G	477m S	Garage	1983	75975
G	477m S	Garage	1964	75552

This data is sourced from Ordnance Survey / Groundsure.

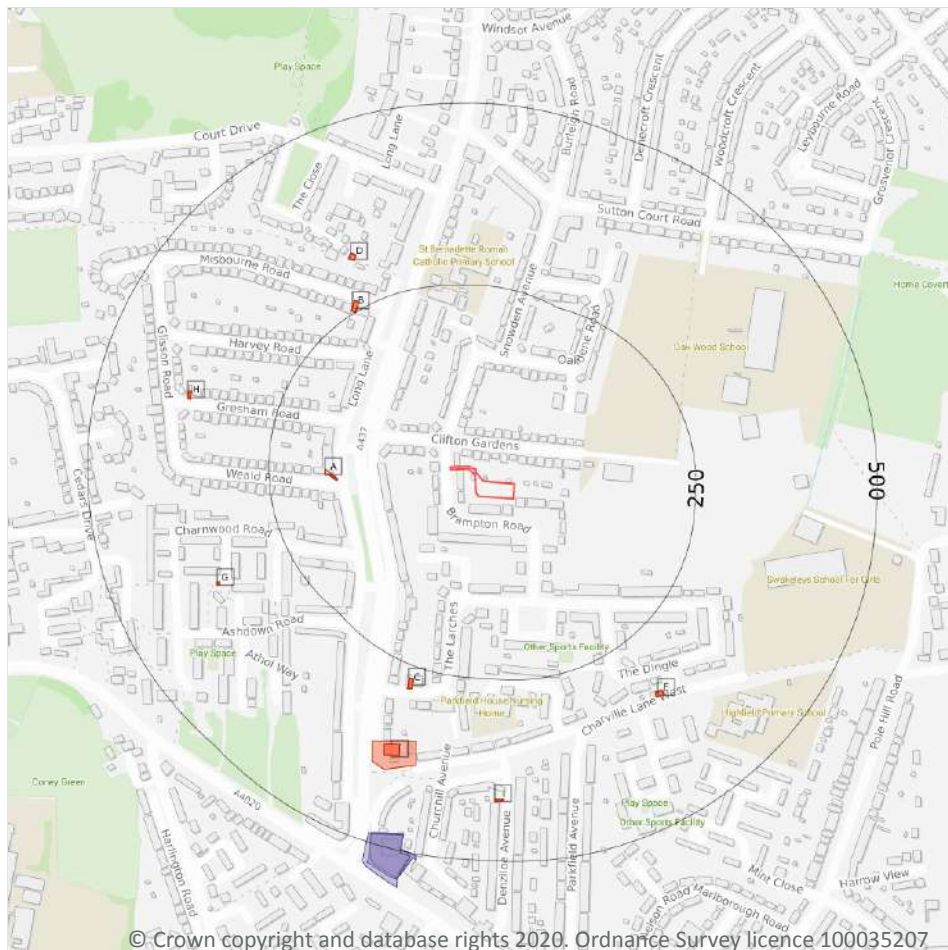
1.6 Historical military land

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 energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

26

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 16**

ID	Location	Land Use	Date	Group ID
A	156m W	Electricity Substation	-	240817
A	156m W	Electricity Substation	1980	285684
A	156m W	Electricity Substation	1992	285684
B	250m NW	Electricity Substation	1992	265074
B	250m NW	Electricity Substation	-	240891
B	250m NW	Electricity Substation	1980	265074
C	267m S	Electricity Substation	1992	277707
C	267m S	Electricity Substation	1975	275745
C	267m S	Electricity Substation	1986	275745
C	267m S	Electricity Substation	1983	275745
D	313m NW	Electricity Substation	1984	286914
D	314m NW	Electricity Substation	1992	286914
E	330m SE	Electricity Substation	1971	279478
E	332m SE	Electricity Substation	1997	279478
F	348m S	Electricity Substation	1992	275451
G	354m SW	Electricity Substation	1980	280848



ID	Location	Land Use	Date	Group ID
G	354m SW	Electricity Substation	1992	280848
G	354m SW	Electricity Substation	-	240460
F	358m S	Electricity Substation	1983	276968
F	359m S	Electricity Substation	1975	276968
F	359m S	Electricity Substation	1986	276968
H	369m W	Electricity Substation	1980	265022
H	370m W	Electricity Substation	-	240636
H	370m W	Electricity Substation	1992	265022
I	414m S	Electricity Substation	1971	264495
I	414m S	Electricity Substation	1997	264495

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	4
----------------------------	----------

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

Features are displayed on the Past land use - un-grouped map on **page 16**

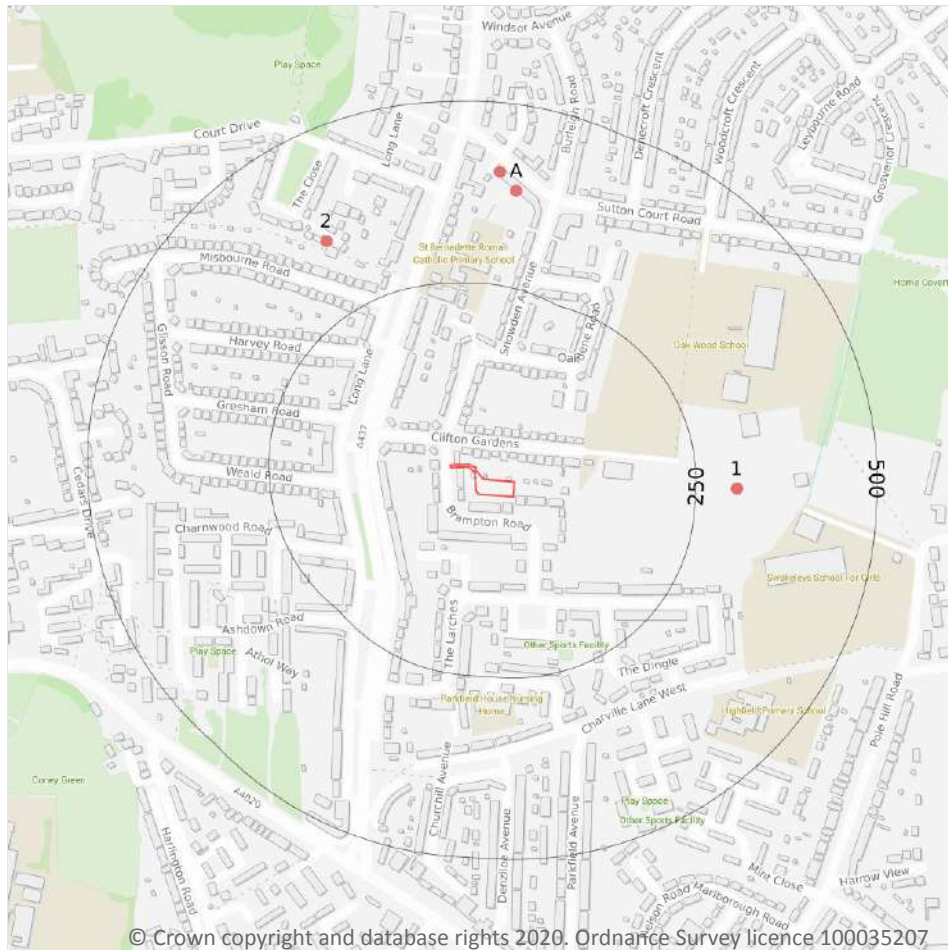
ID	Location	Land Use	Date	Group ID
J	477m S	Garage	1965	80397
J	477m S	Garage	1975	80397
J	477m S	Garage	1983	75975

ID	Location	Land Use	Date	Group ID
J	477m S	Garage	1964	75552

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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

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

3.5 Historical waste sites

Records within 500m**0**

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

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**4**

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 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	305m E	CLIFTON GARDENS, UXBRIDGE, UB10 0EJ	WEX136588	Using waste exemption	Not on a farm	Use of waste in construction

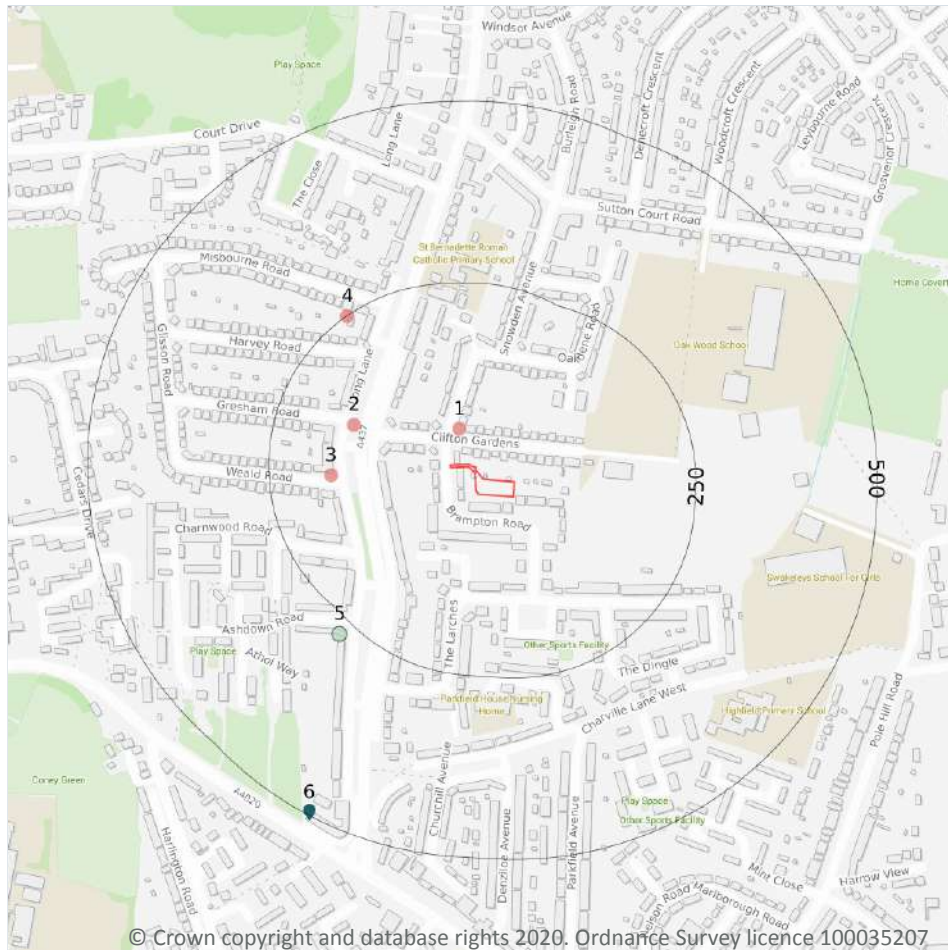


ID	Location	Site	Reference	Category	Sub-Category	Description
2	352m NW	165 Ryefield Avenue Uxbridge Middlesex UB10 9DA	EPR/MF0230N N/A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
A	381m N	Hillingdon Pharmacy 4 Sutton Court Road Hillingdon Middlesex UB10 9HP	EPR/LF0731AC /A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
A	404m N	4, SUTTON COURT ROAD, UXBRIDGE, UB10 9HP	WEX145182	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

4

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Company	Address	Activity	Category
1	49m N	Electricity Sub Station	Greater London, UB10	Electrical Features	Infrastructure and Facilities
2	144m NW	Gas Governor Station	Greater London, UB10	Gas Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
3	165m W	Electricity Sub Station	Greater London, UB10	Electrical Features	Infrastructure and Facilities
4	249m NW	Electricity Sub Station	Greater London, UB10	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m 0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m 0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m 0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m 0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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

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

Records within 500m**1**

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Address	Details	
6	496m SW	Duvals Dry Cleaners, 1 Crescent Parade, Uxbridge Road, Hillingdon, Middlesex, UB10 0LG	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m**0**

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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



4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**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 23**

ID	Location	Details	
5	271m SW	Incident Date: 11/12/2001 Incident Identification: 47701 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) 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.

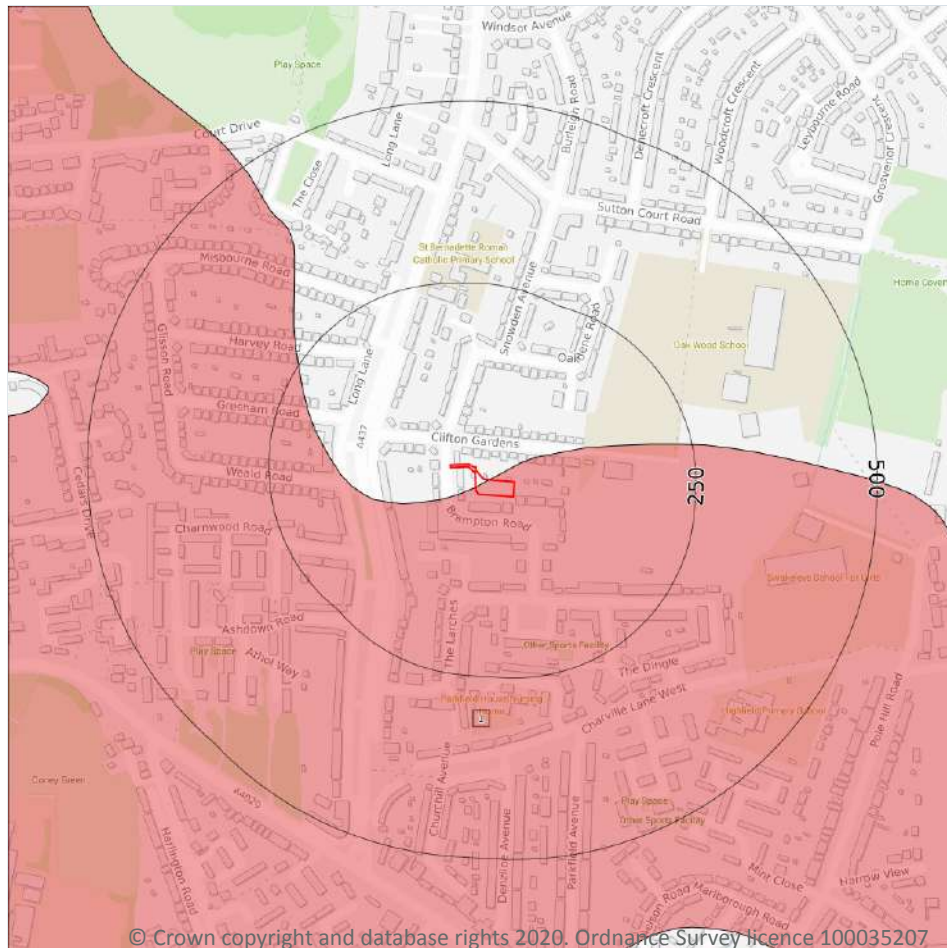
4.21 Pollution inventory radioactive waste

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

5.1 Superficial aquifer

Records within 500m

1

Aquifer status of groundwater held within superficial geology.

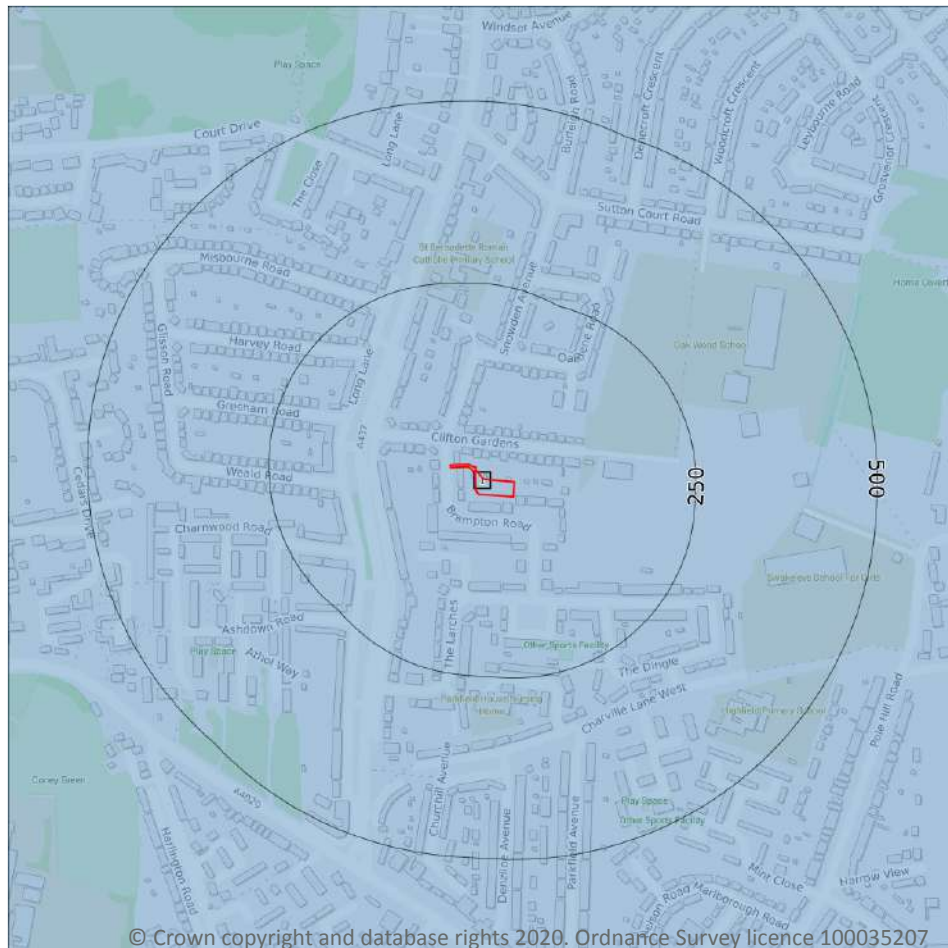
Features are displayed on the Hydrogeology map on **page 29**

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

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

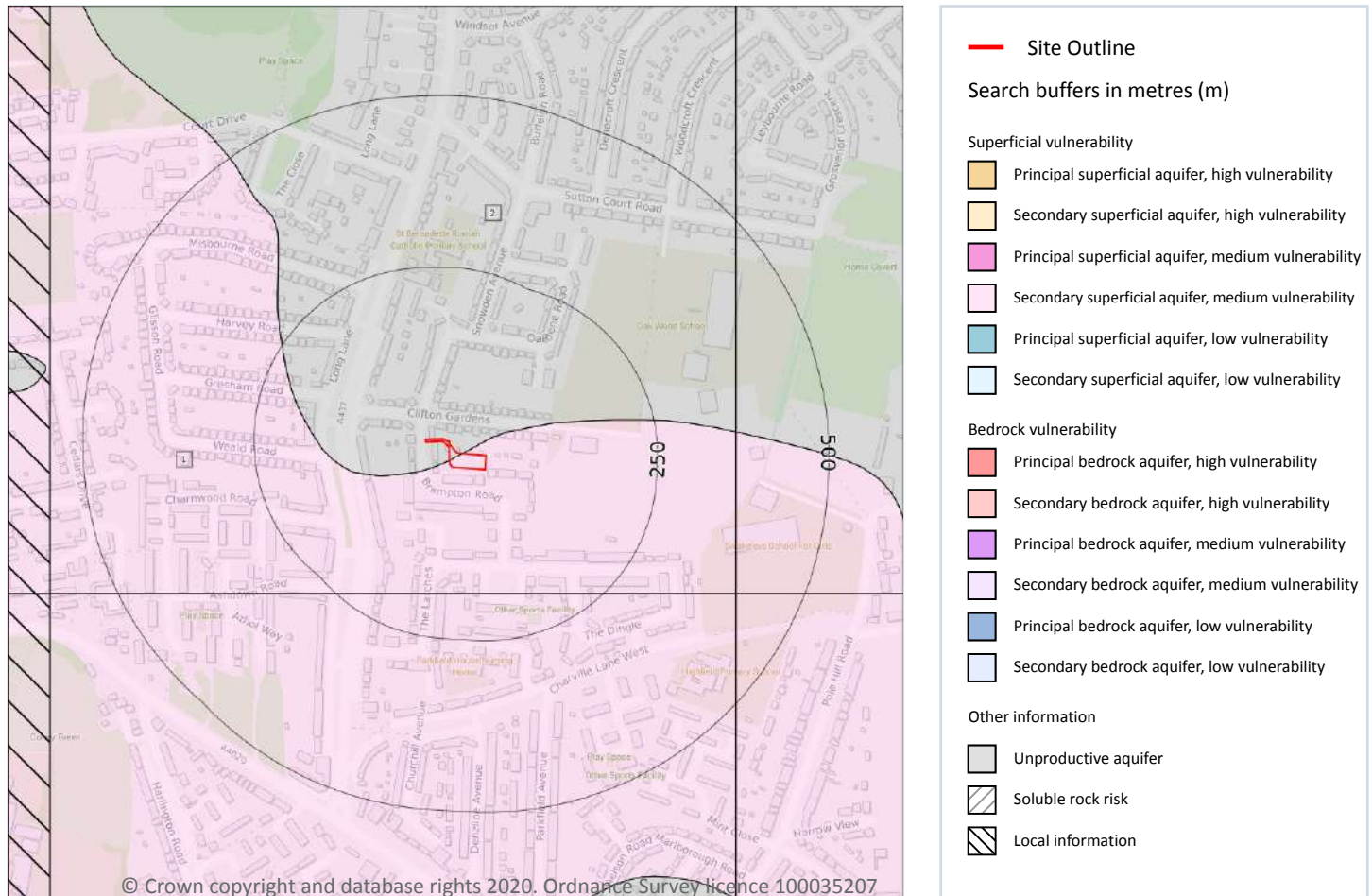
Features are displayed on the Bedrock aquifer map on **page 30**

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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 31**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
2	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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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.

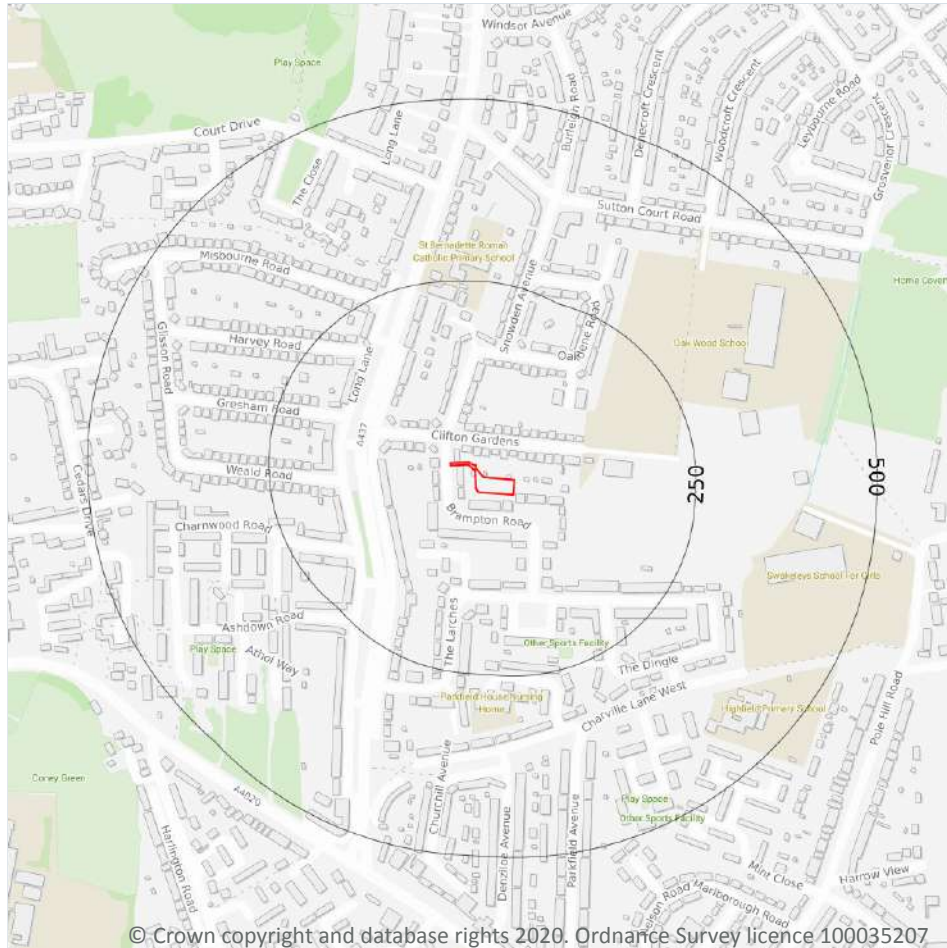
5.5 Groundwater vulnerability- local information

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)

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 33**

ID	Location	Details	
-	896m S	Status: Historical Licence No: 28/39/28/0008 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT WHITELYS PARADE Data Type: Point Name: BLUE DRAGON (HILLINGDON) LTD Easting: 507800 Northing: 182300	Annual Volume (m ³): 37669 Max Daily Volume (m ³): 181.84 Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 08/11/1965 Version End Date: -
-	900m S	Status: Active Licence No: 28/39/28/0008 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT WHITELYS PARADE Data Type: Point Name: BLUE DRAGON (HILLINGDON) LTD Easting: 507817 Northing: 182299	Annual Volume (m ³): 47,663 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 08/11/1965 Expiry Date: - Issue No: 101 Version Start Date: 07/02/2014 Version End Date: -
-	1205m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE A AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506950 Northing: 182160	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -
-	1205m SW	Status: Active Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HILLINGDON HOSPITAL - BOREHOLE Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506950 Northing: 182160	Annual Volume (m ³): 138,166 Max Daily Volume (m ³): 385.40 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 103 Version Start Date: 01/01/2010 Version End Date: -



ID	Location	Details	
-	1263m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE C AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506820 Northing: 182180	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -
-	1424m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506910 Northing: 181930	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -
-	1424m SW	Status: Active Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HILLINGDON HOSPITAL- BOREHOLE Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506910 Northing: 181930	Annual Volume (m ³): 138,166 Max Daily Volume (m ³): 385.40 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 103 Version Start Date: 01/01/2010 Version End Date: -
-	1490m S	Status: Historical Licence No: 28/39/28/0277 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: WELL AT LITTLE LONDON NURSERY, HARLINGTON ROAD, HILLINGDON Data Type: Point Name: BARWICK Easting: 507800 Northing: 181700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -



ID	Location	Details	
-	1490m S	Status: Historical Licence No: 28/39/28/0277 Details: Spray Irrigation - Spray Irrigation Definition Order Direct Source: THAMES GROUNDWATER Point: WELL AT LITTLE LONDON NURSERY, HARLINGTON ROAD, HILLINGDON Data Type: Point Name: BARWICK Easting: 507800 Northing: 181700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
-	1800m SE	Status: Historical Licence No: 28/39/36/0015 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: TWO WELLS AT SPRINGWELL NURSERY, HAYES END ROAD, HAYES Data Type: Point Name: GOODSON Easting: 508900 Northing: 181900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/07/1966 Expiry Date: - Issue No: 100 Version Start Date: 12/06/1997 Version End Date: -
-	1800m SE	Status: Historical Licence No: 28/39/36/0015 Details: Spray Irrigation - Spray Irrigation Definition Order Direct Source: THAMES GROUNDWATER Point: TWO WELLS AT SPRINGWELL NURSERY, HAYES END ROAD, HAYES Data Type: Point Name: GOODSON Easting: 508900 Northing: 181900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/07/1966 Expiry Date: - Issue No: 100 Version Start Date: 12/06/1997 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

0

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

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



5.8 Potable abstractions

Records within 2000m

5

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 33**

ID	Location	Details	
-	1205m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE A AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506950 Northing: 182160	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -
-	1205m SW	Status: Active Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HILLINGDON HOSPITAL - BOREHOLE Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506950 Northing: 182160	Annual Volume (m ³): 138,166 Max Daily Volume (m ³): 385.40 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 103 Version Start Date: 01/01/2010 Version End Date: -
-	1263m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE C AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506820 Northing: 182180	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -



ID	Location	Details	
-	1424m SW	Status: Historical Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BOREHOLE B AT HILLINGDON HOSPITAL, HILLINGDON Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506910 Northing: 181930	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2005 Version End Date: -
-	1424m SW	Status: Active Licence No: 28/39/28/0513 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HILLINGDON HOSPITAL- BOREHOLE Data Type: Point Name: HILLINGDON HOSPITAL NHS TRUST Easting: 506910 Northing: 181930	Annual Volume (m ³): 138,166 Max Daily Volume (m ³): 385.40 Original Application No: - Original Start Date: 05/10/1992 Expiry Date: - Issue No: 103 Version Start Date: 01/01/2010 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

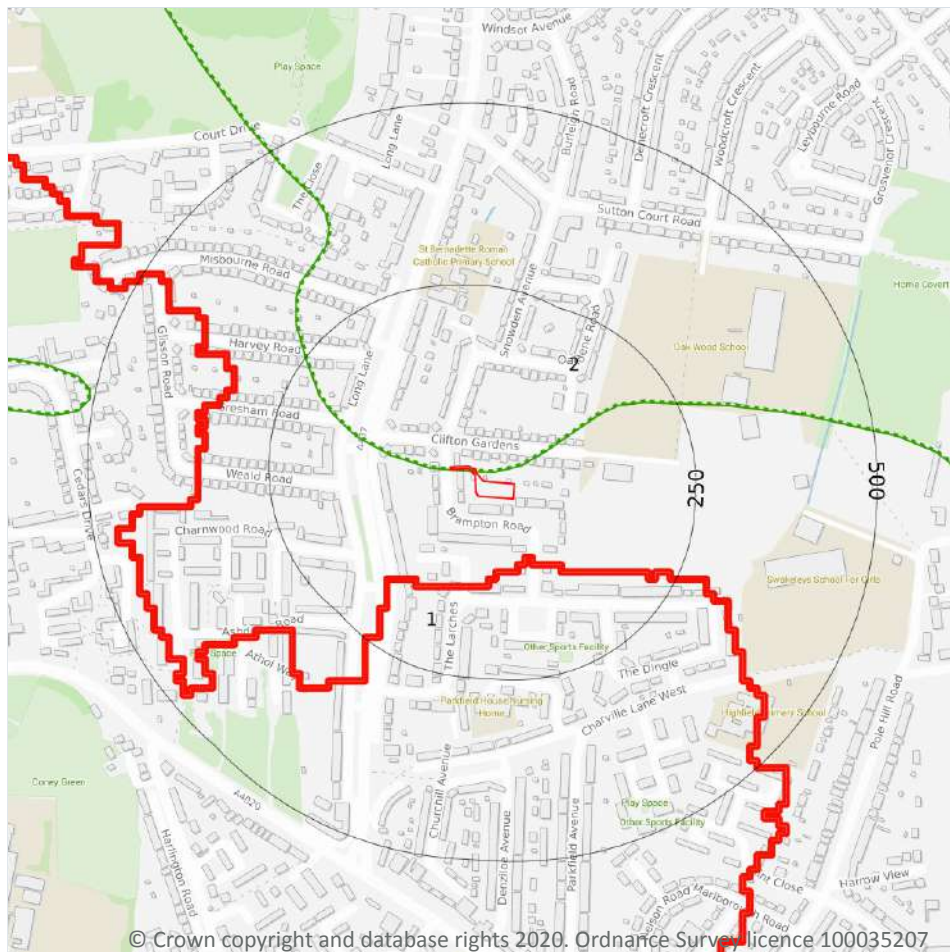
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on **page 39**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Yeading Brook	GB106039023051	Crane Rivers and Lakes	London

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 39**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1495m NE	River	Yeading Brook	GB106039023051	Moderate	Good	Moderate	2016

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



6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 39**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Lower Thames Gravels	<u>GB40603G000300</u>	Good	Good	Good	2015

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 Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

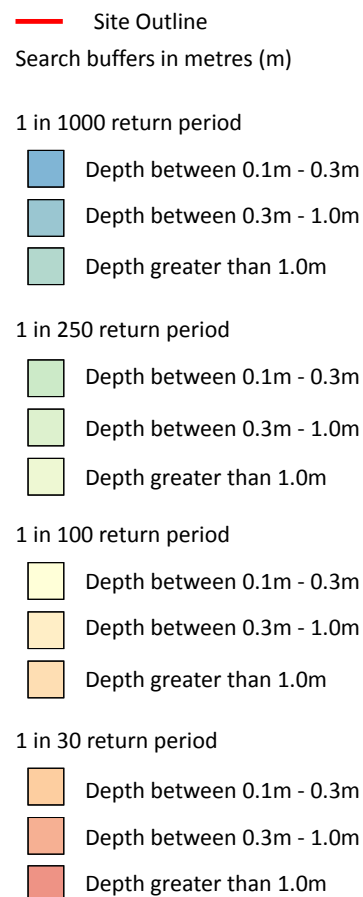
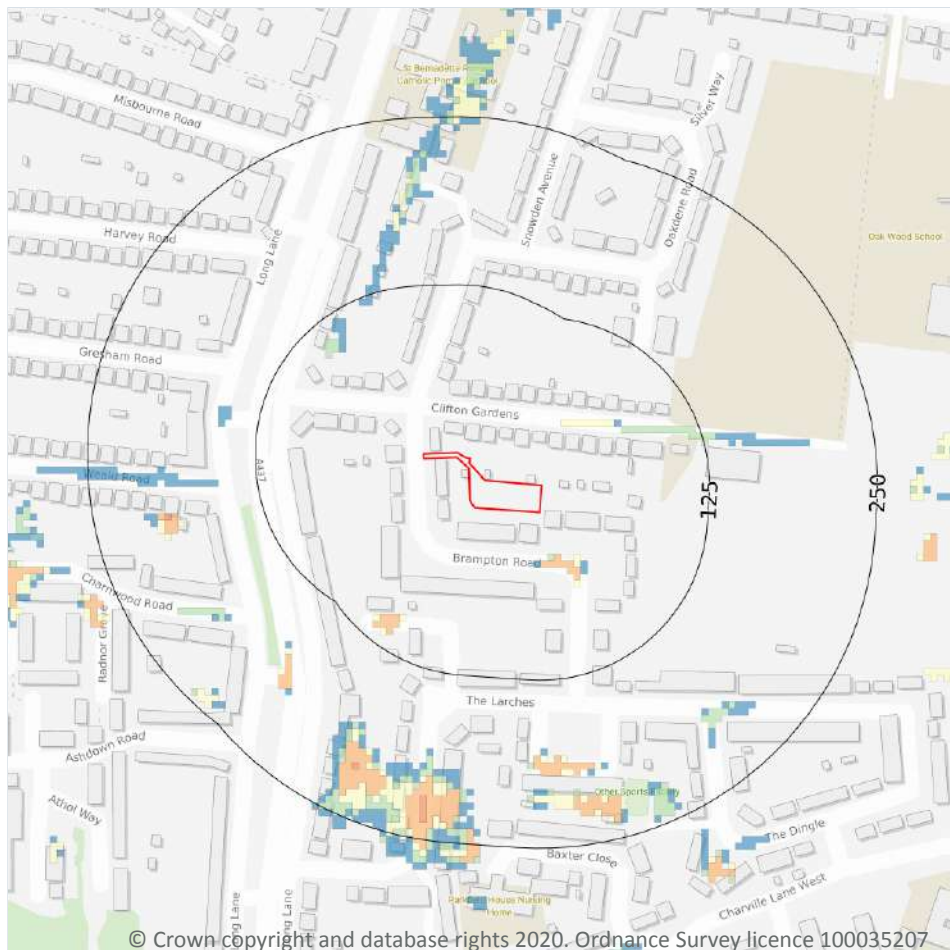
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on **page 45**

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

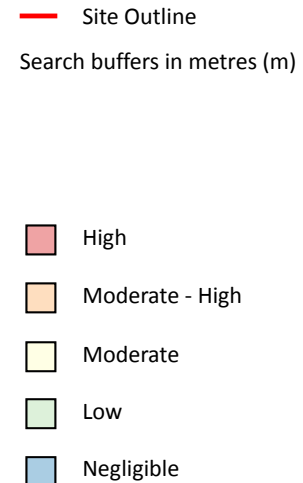
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

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 47**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- ▤ Designated Ancient Woodland
- ▤ Green Belt

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

1

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

Features are displayed on the Environmental designations map on **page 48**

ID	Location	Name	Data source
A	1380m NE	Yeading Woods (mapped boundary not verified)	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

1

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 48**

ID	Location	Name	Woodland Type
-	1568m NE	Gutteridge Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

17

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

Features are displayed on the Environmental designations map on **page 48**

ID	Location	Name	Local Authority name
1	88m E	London area	Hillingdon
2	406m NW	London area	Hillingdon
3	593m SW	London area	Hillingdon
4	609m SE	London area	Hillingdon
5	664m W	London area	Hillingdon
6	851m SW	London area	Hillingdon
7	1220m S	London area	Hillingdon
8	1268m SW	London area	Hillingdon
9	1421m NW	London area	Hillingdon
-	1523m N	London area	Hillingdon
11	1634m SW	London area	Hillingdon
-	1675m NE	London area	Hillingdon
-	1732m S	London area	Hillingdon

ID	Location	Name	Local Authority name
-	1741m N	London area	Hillingdon
-	1797m N	London area	Hillingdon
-	1818m S	London area	Hillingdon
-	1851m N	London area	Hillingdon

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

10.12 Proposed Ramsar sites

Records within 2000m **0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m **0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m **0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

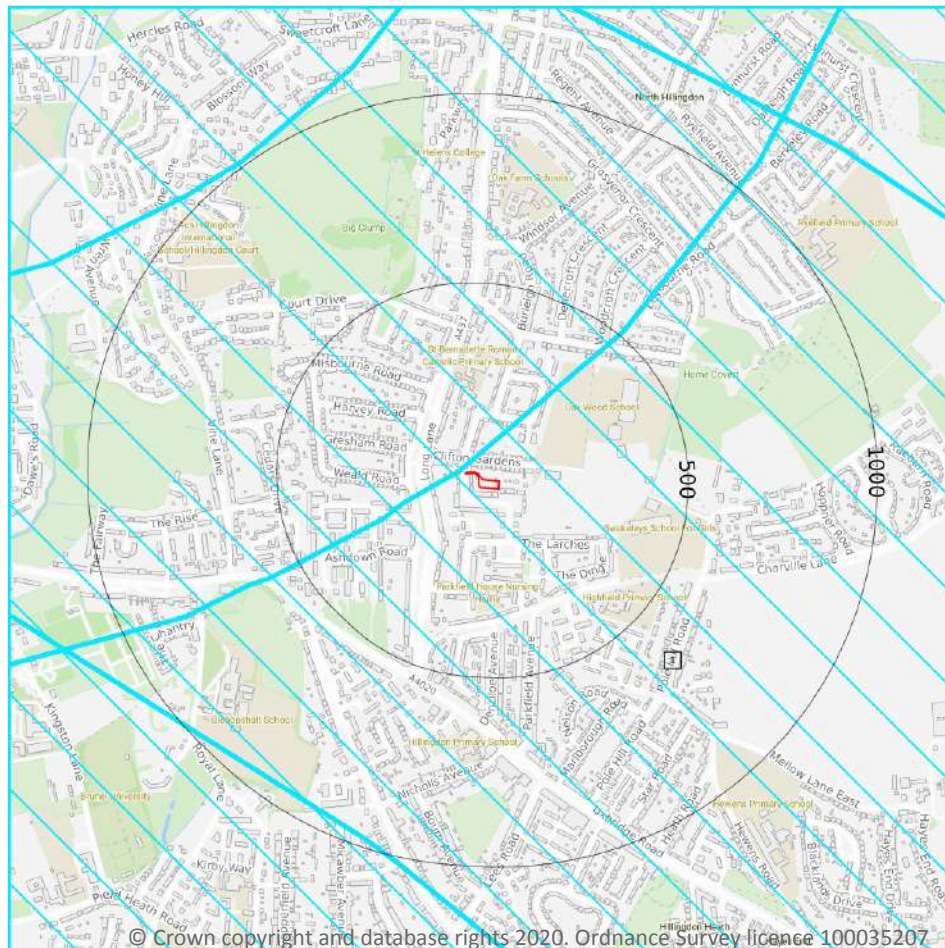
Records within 2000m**0**

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

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 54**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.7 Registered Parks and Gardens

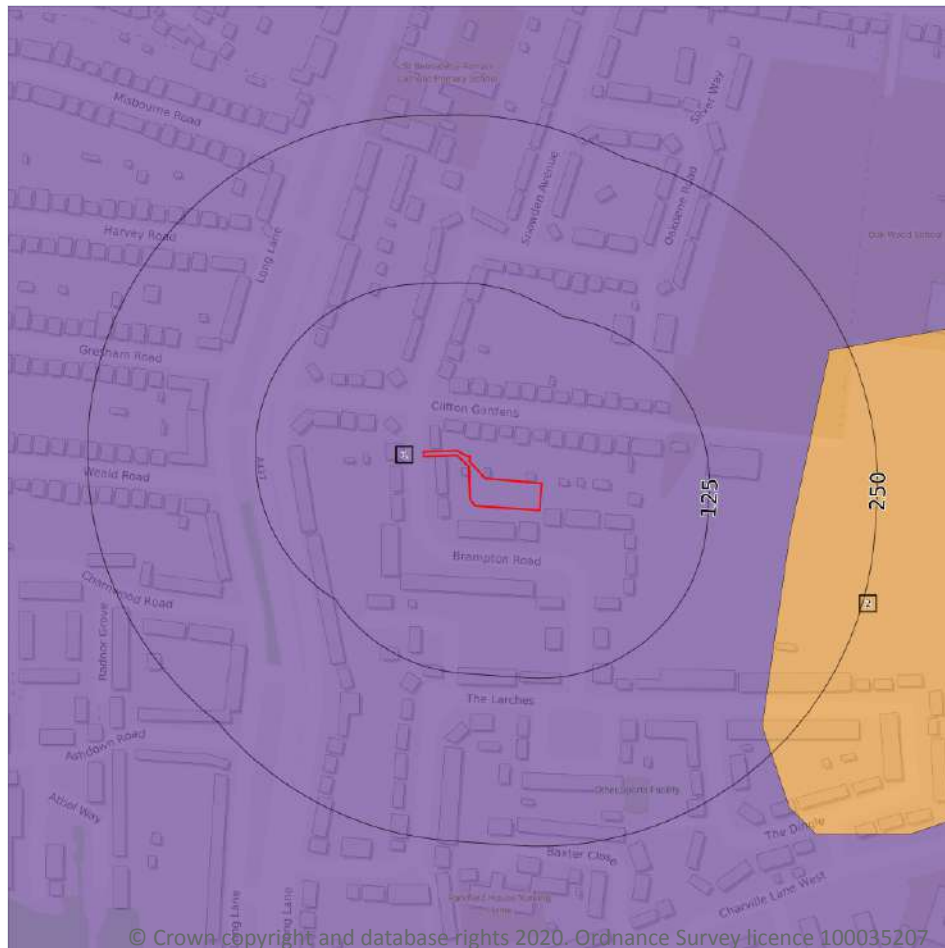
Records within 250m

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 English Heritage, 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

2

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 58**

ID	Location	Classification	Description
1	On site	Urban	-
2	187m E	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.



This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

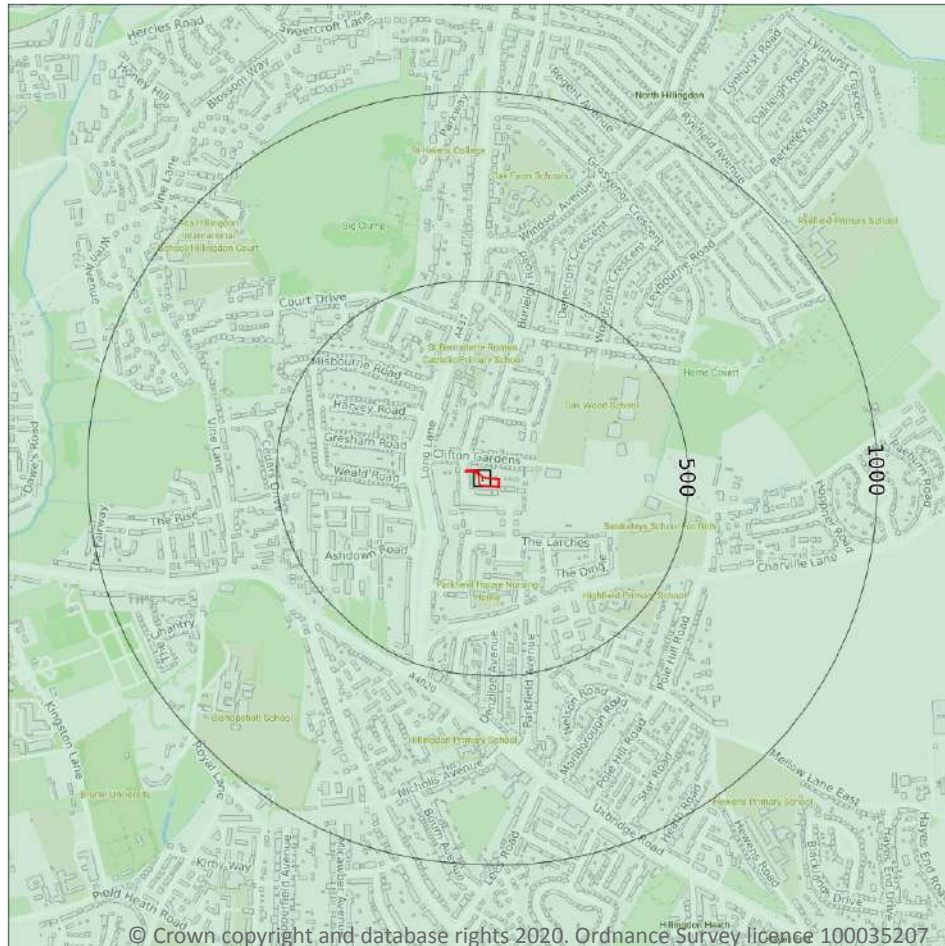
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Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 61**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	TQ08SE

This data is sourced from the British Geological Survey.



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



— Site Outline
Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m

3

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

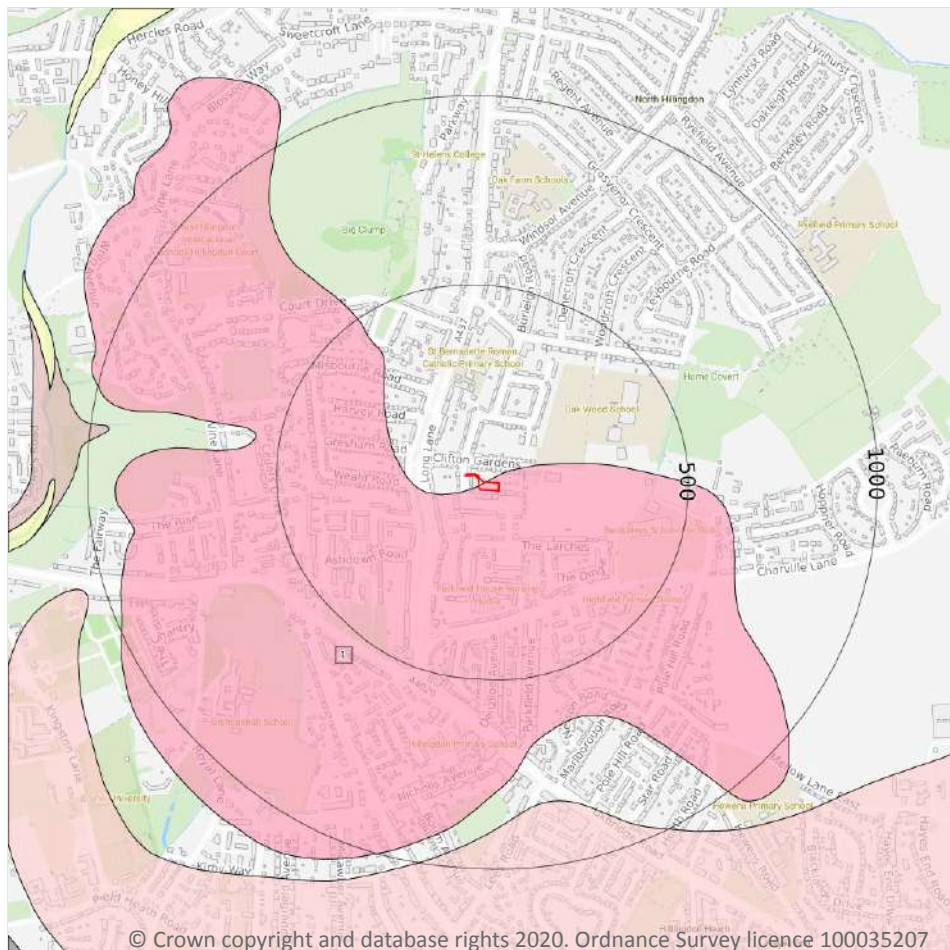
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 62**

ID	Location	LEX Code	Description	Rock description
1	171m S	WGR-VOID	Worked Ground (Undivided)	Void
2	337m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	367m S	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 63**

ID	Location	LEX Code	Description	Rock description
1	On site	BPGR-XSV	Black Park Gravel Member - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

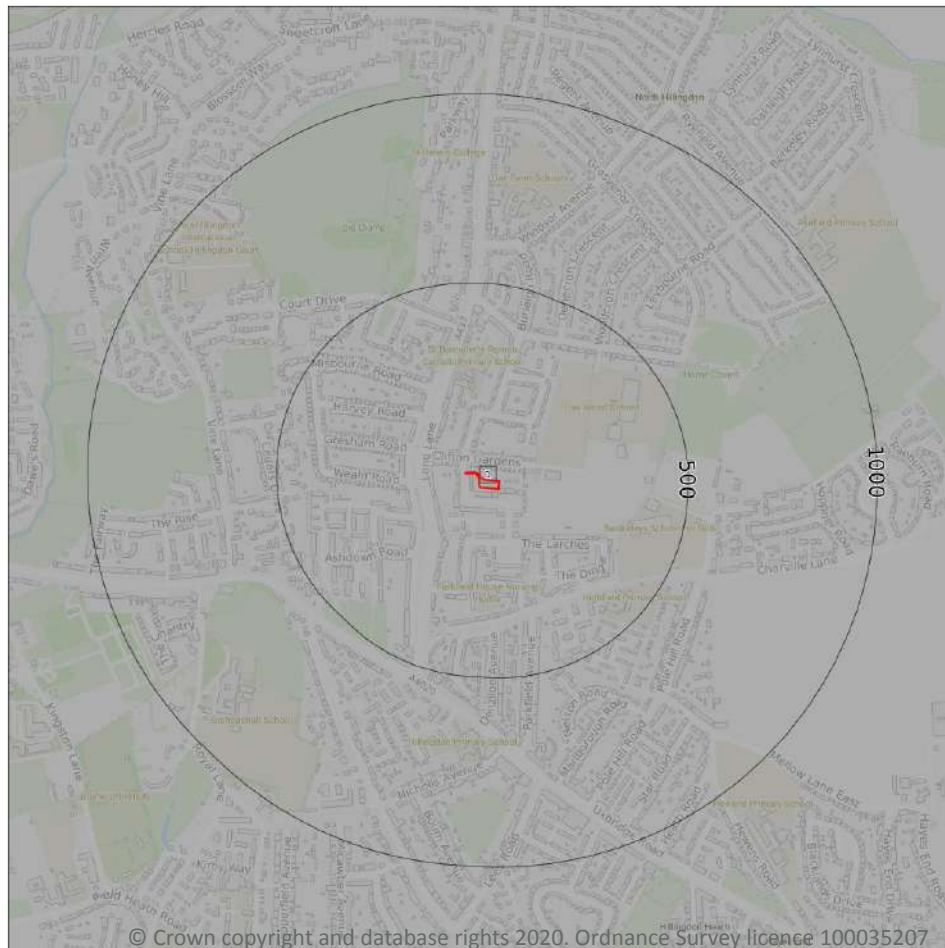
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 65**

ID	Location	LEX Code	Description	Rock age
1	On site	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

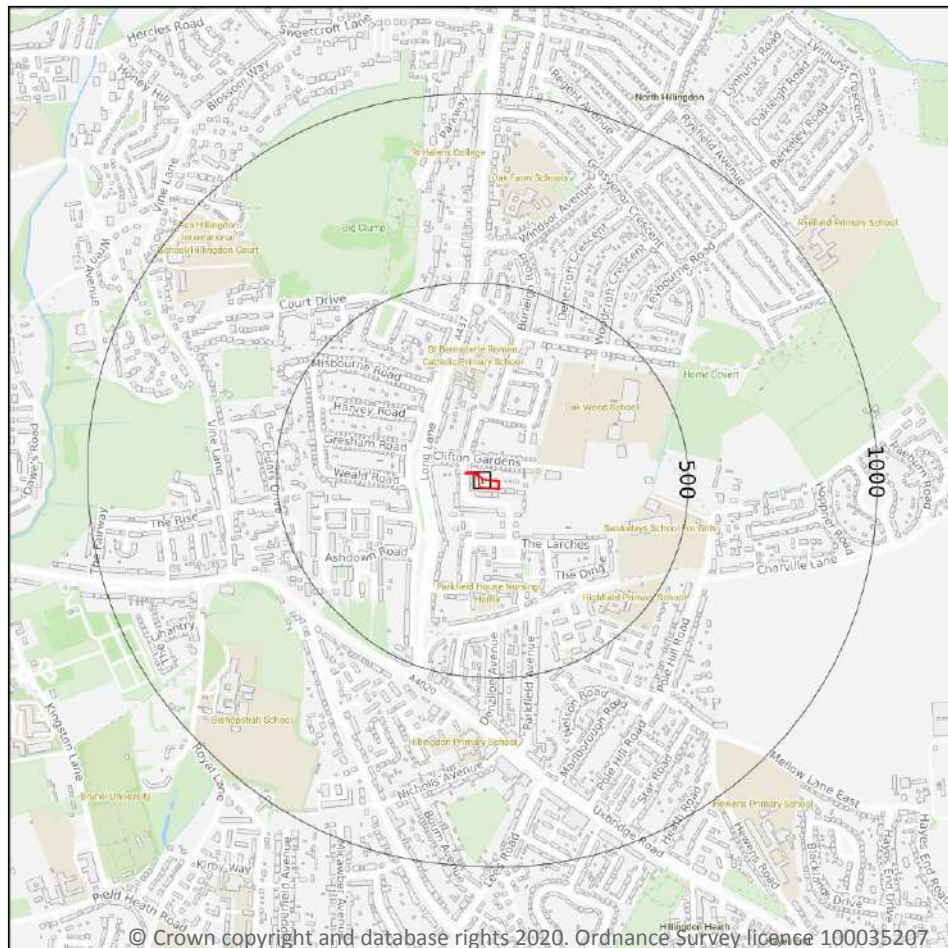
0

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

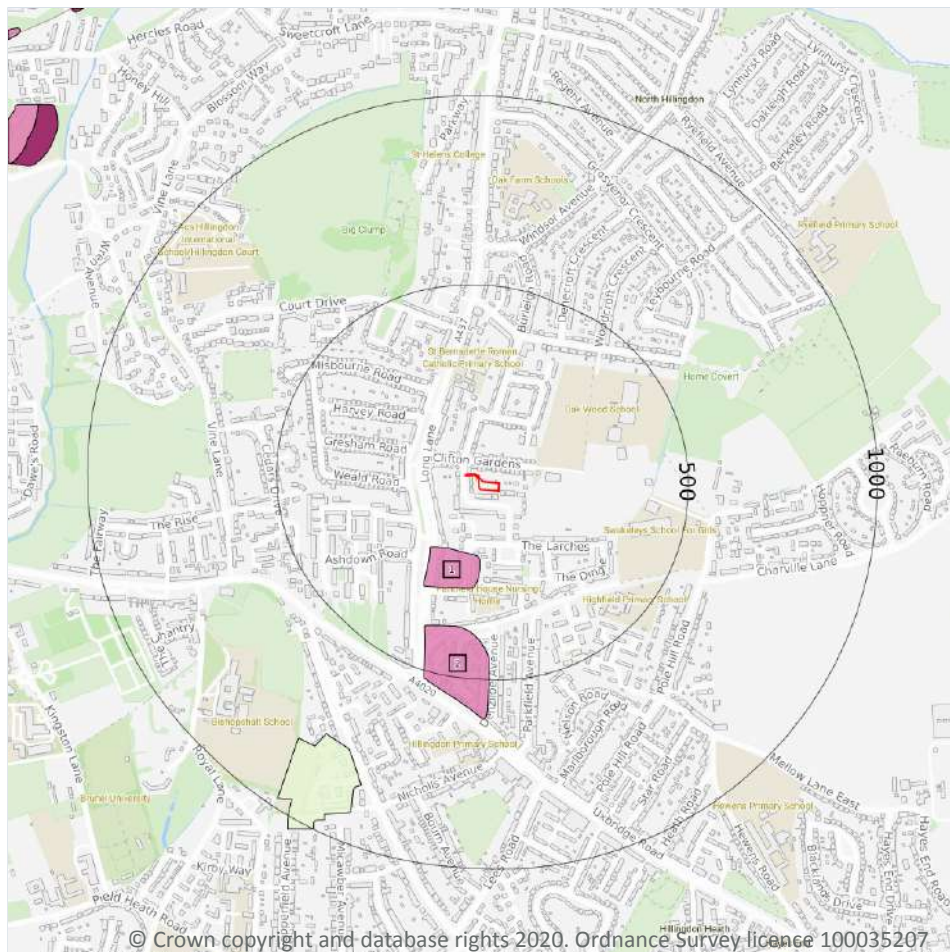
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 67**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW255_beaconsfield_v4

This data is sourced from the British Geological Survey.

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



- Site Outline
- Search buffers in metres (m)
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 68**

ID	Location	LEX Code	Description	Rock description
1	171m S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	367m S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

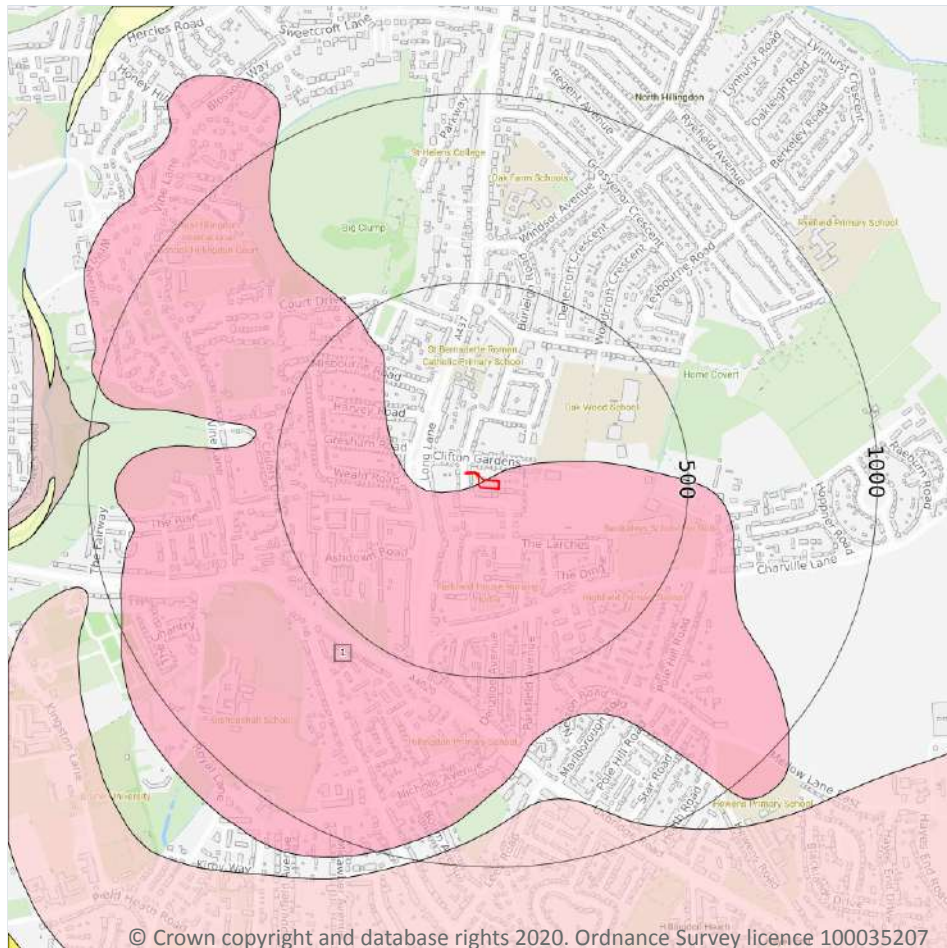
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 70**

ID	Location	LEX Code	Description	Rock description
1	On site	BPGR-XSV	BLACK PARK GRAVEL MEMBER	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m**1**

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

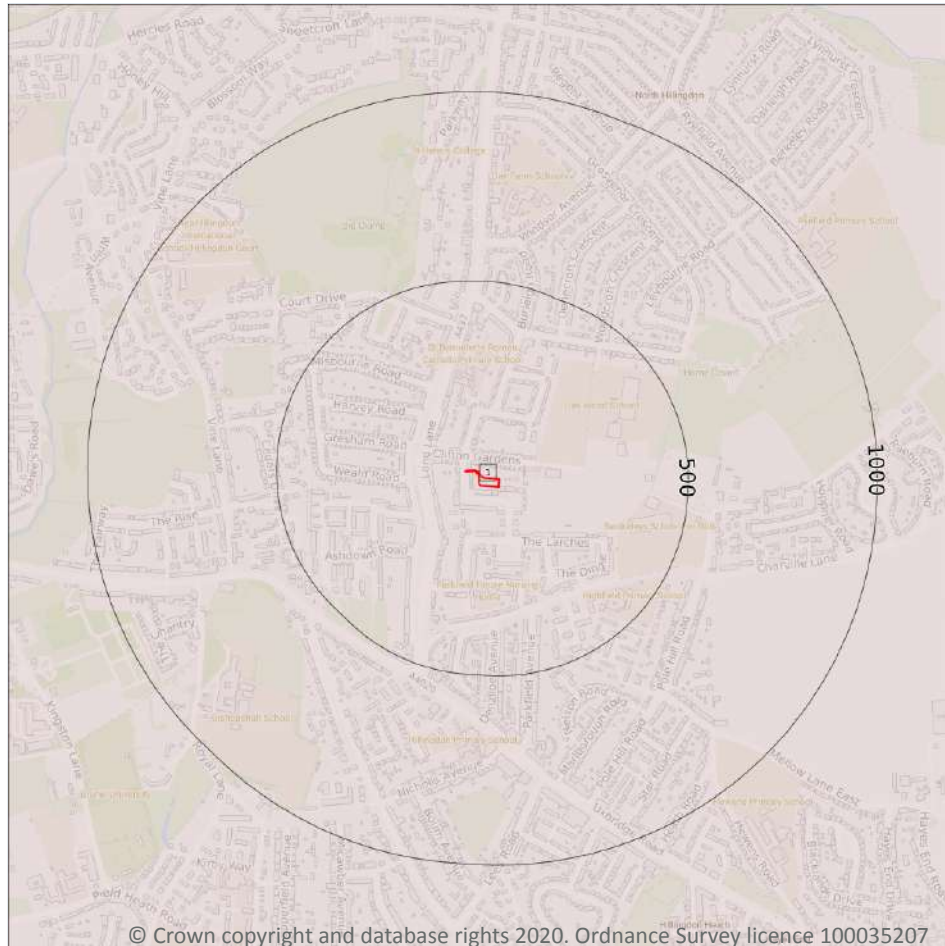
15.7 Landslip permeability (50k)

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 72**

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

16.1 BGS Boreholes

Records within 250m

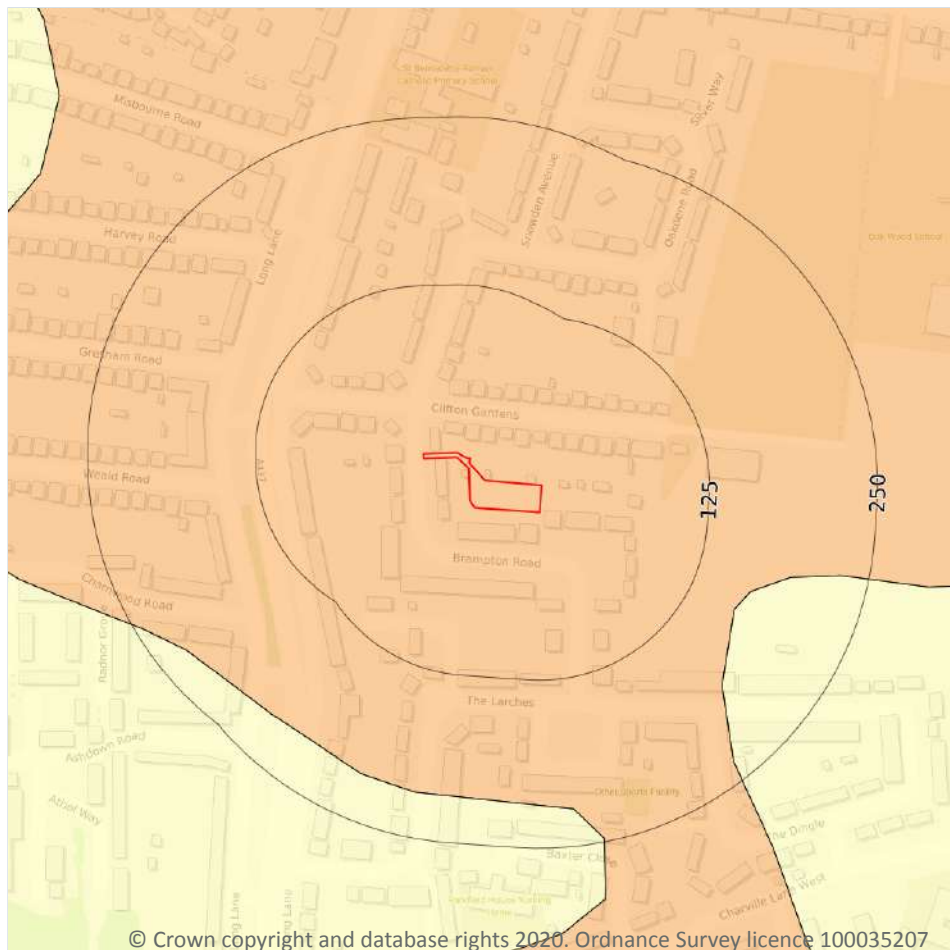
0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

1

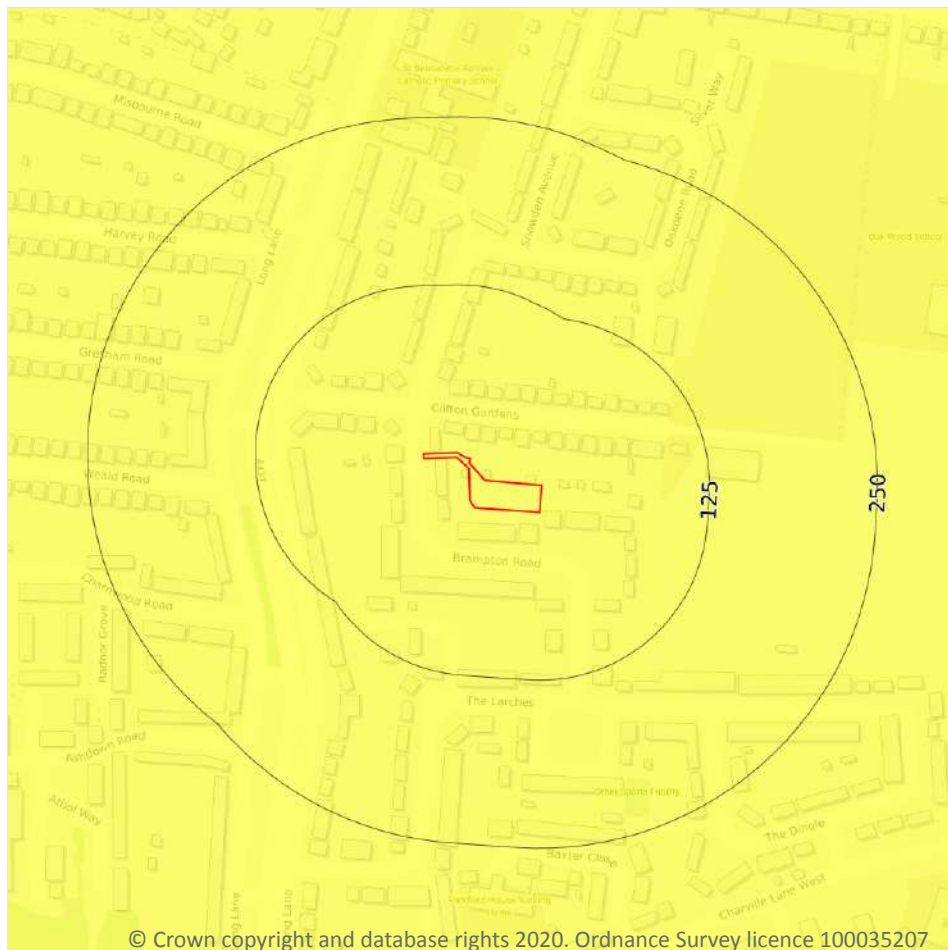
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 75**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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— Site Outline
Search buffers in metres (m)

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

17.2 Running sands

Records within 50m

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.

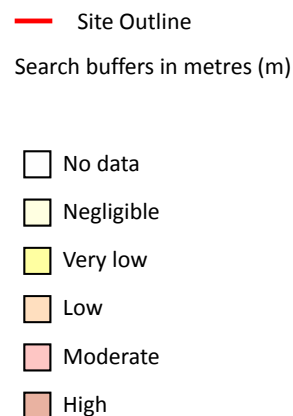
Features are displayed on the Natural ground subsidence - Running sands map on **page 76**

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



17.3 Compressible deposits

Records within 50m

1

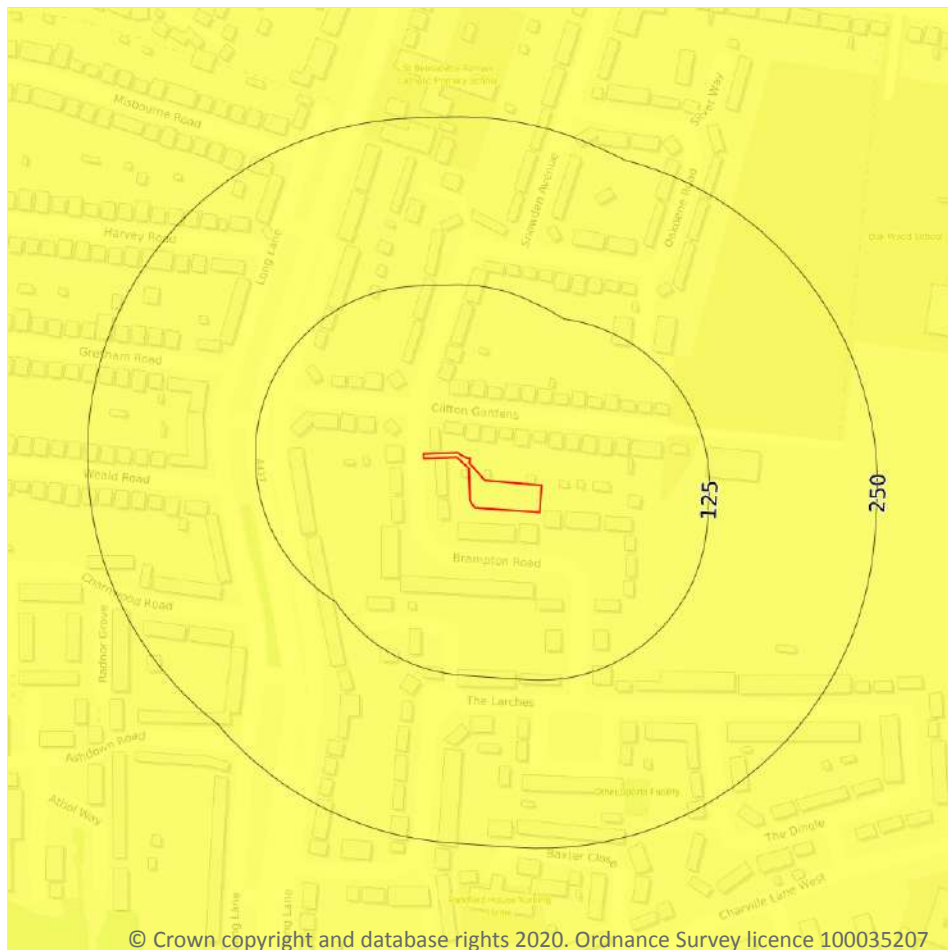
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 77**

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

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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.

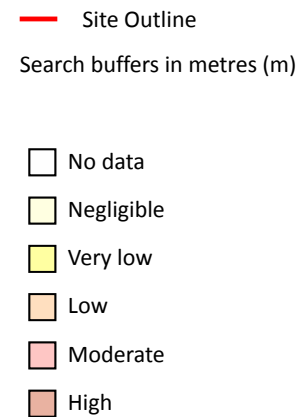
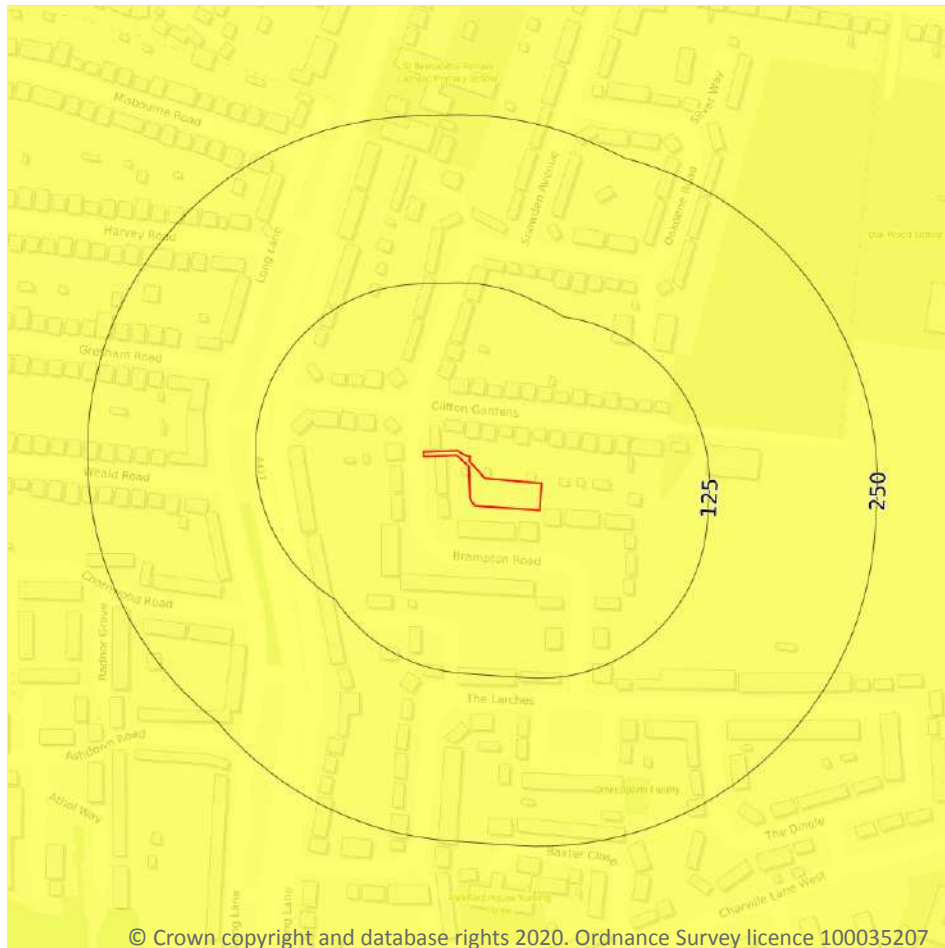
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 78**

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



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.

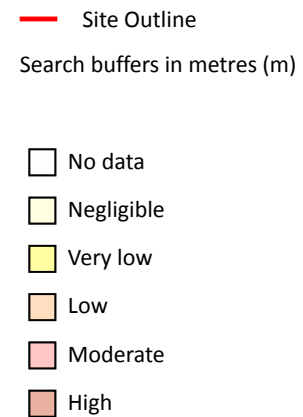
Features are displayed on the Natural ground subsidence - Landslides map on **page 79**

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.

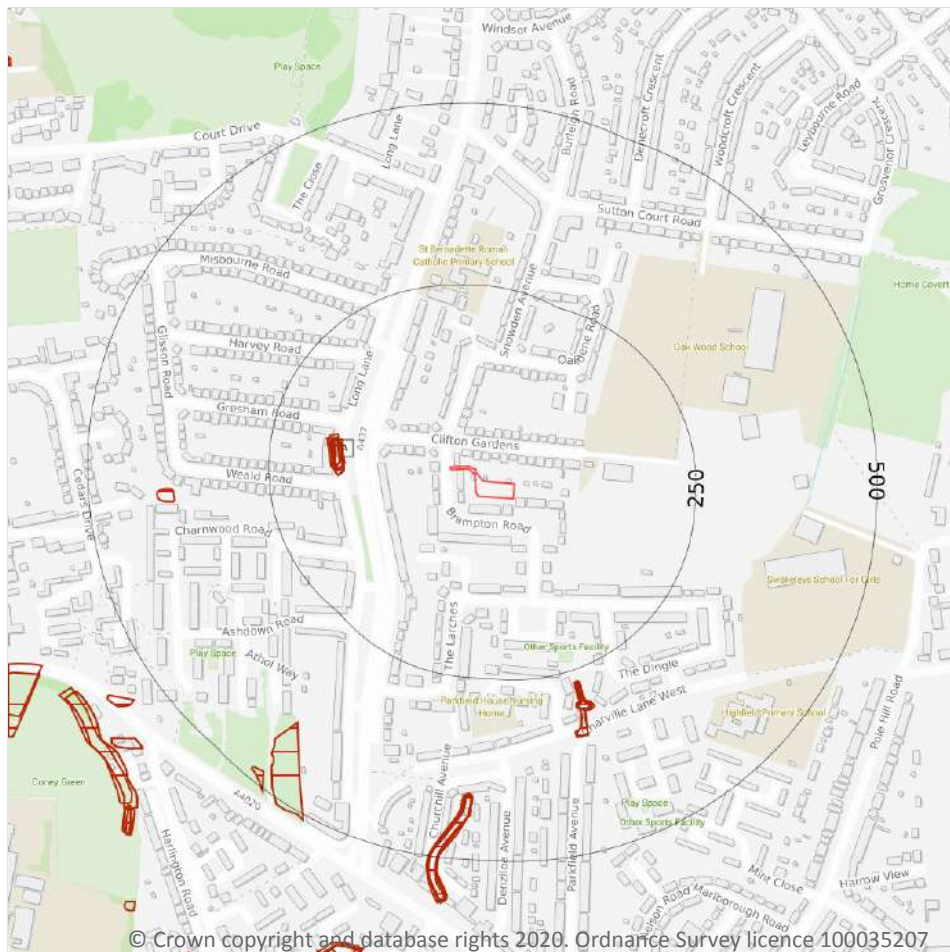
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 80**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.2 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.

18.3 Surface ground workings

Records within 250m

7

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 81**

ID	Location	Land Use	Year of mapping	Mapping scale
A	146m W	Pond	1913	1:10560
A	147m W	Pond	1932	1:10560
A	147m W	Pond	1900	1:10560
A	148m W	Pond	1913	1:10560
A	149m W	Pond	1868	1:10560
A	151m W	Pond	1897	1:10560
A	153m W	Pond	1895	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This data is sourced from Ordnance Survey/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 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 Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.



18.10 Brine areas

Records on site	0
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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.

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

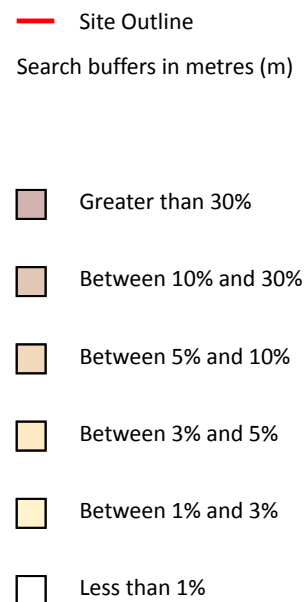
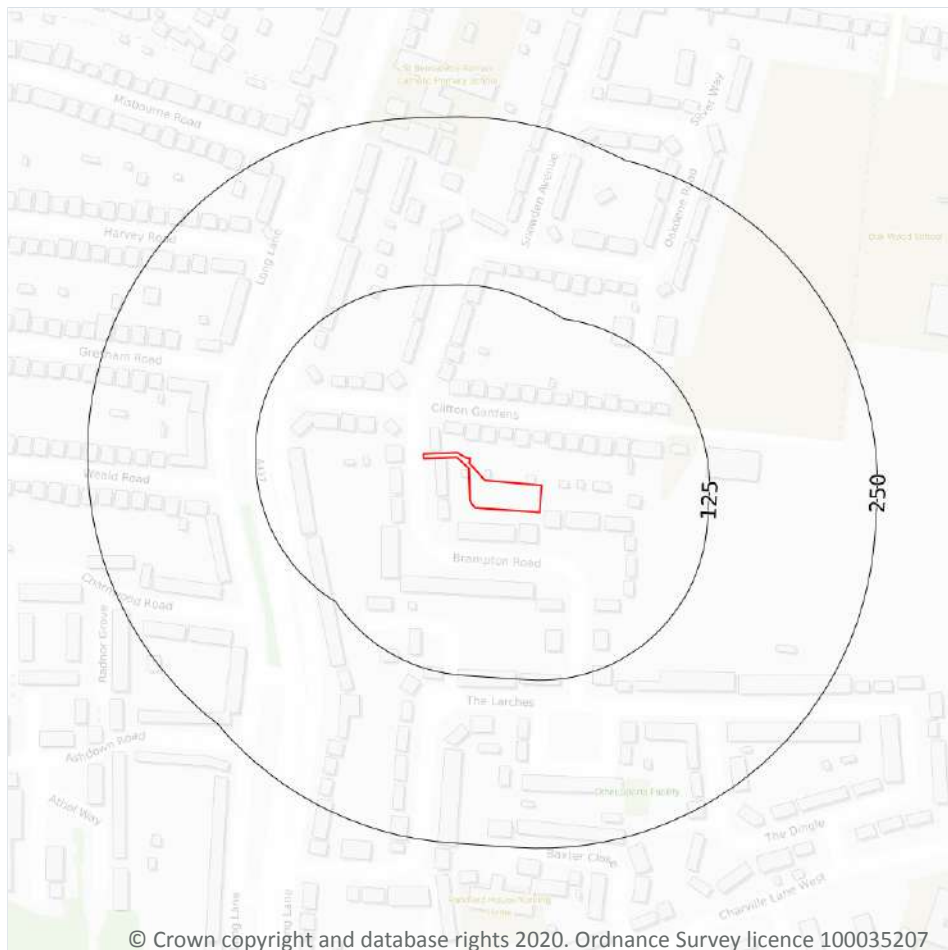
18.13 Clay mining

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

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

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

19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 85**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

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	No data	No data	No data	No data	No data	No data	No data
On site	No data	No data	No data	No data	No data	No data	No data
48m NW	No data	No data	No data	No data	No data	No data	No data

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

5

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).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	11	1.9	124	85	0.7	48	30	18	12
On site	12	2.1	142	98	0.7	49	31	18	12
On site	12	2.1	131	90	0.7	49	31	18	12
On site	13	2.3	146	100	0.7	50	31	18	12
48m W	14	2.5	170	117	0.7	49	31	18	12

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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>.

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APPENDIX C

Historical Maps

Site Details:

5 GARAGE COURT REAR OF,
BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1865

Scale: 1:2,500

Printed at: 1:2,500



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

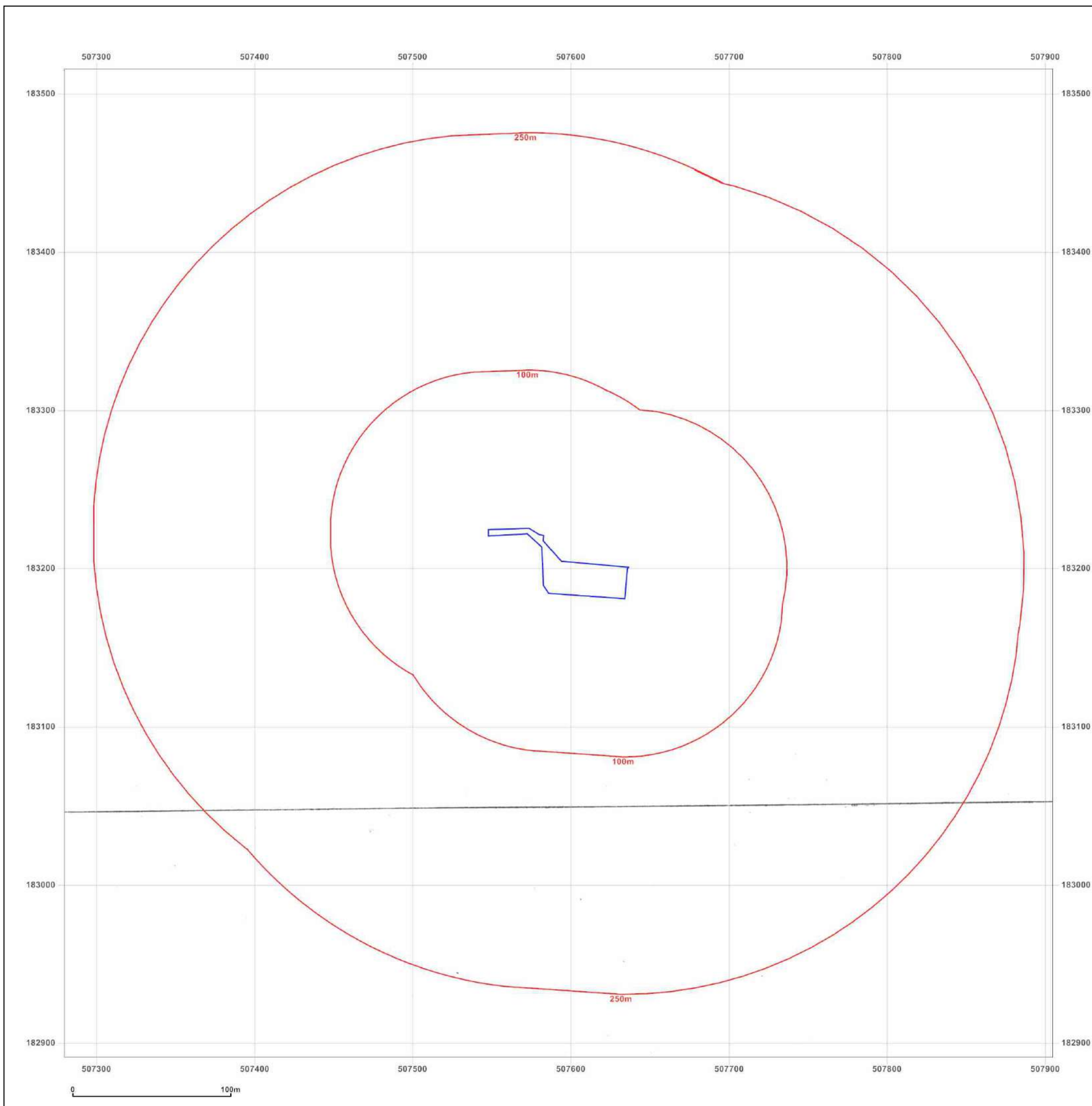


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Production date: 30 November 2020

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



Site Details:

5 GARAGE COURT REAR OF,
BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1866

Scale: 1:2,500

Printed at: 1:2,500



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

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

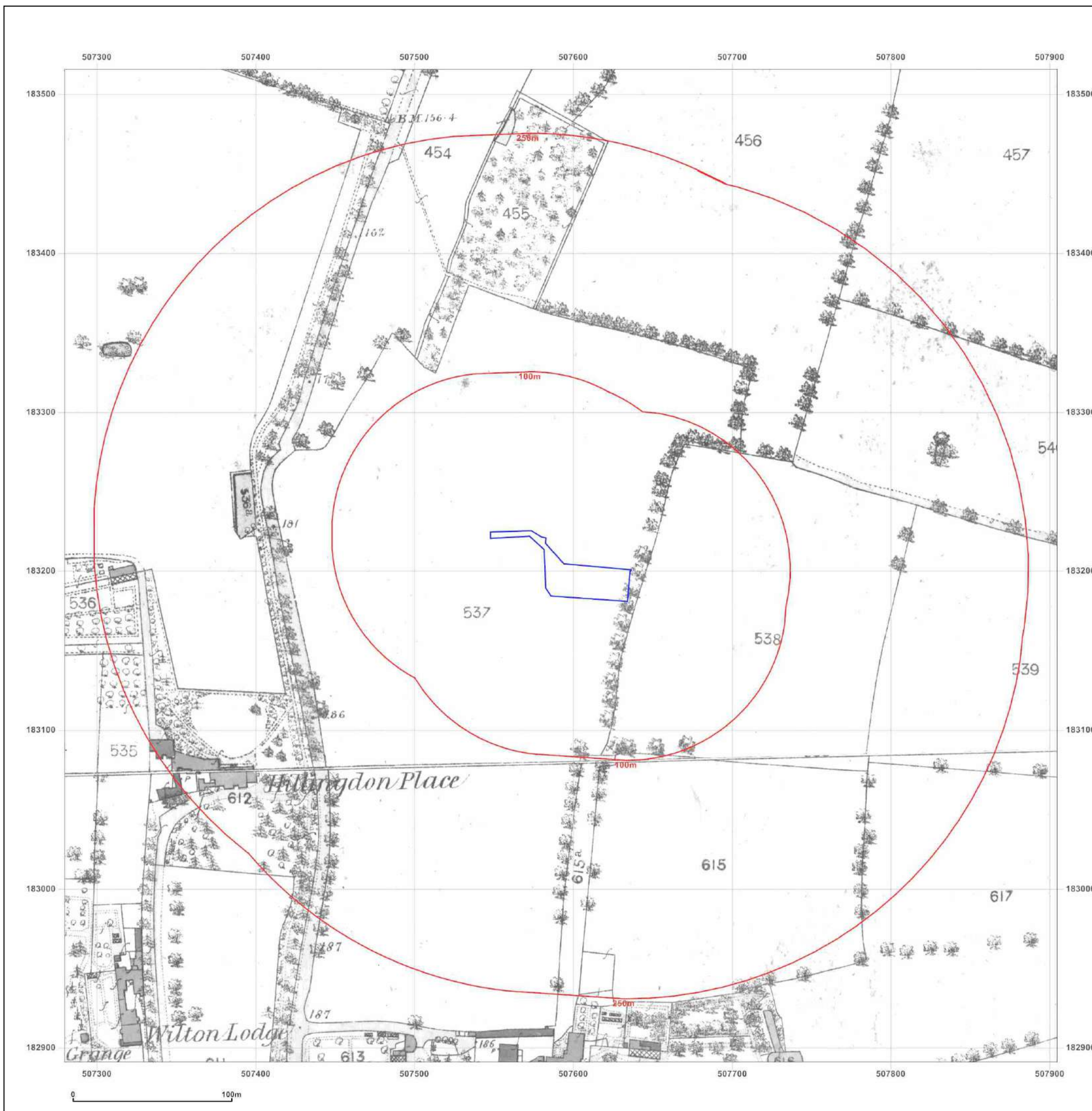


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Site Details:

5 GARAGE COURT REAR OF,
BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

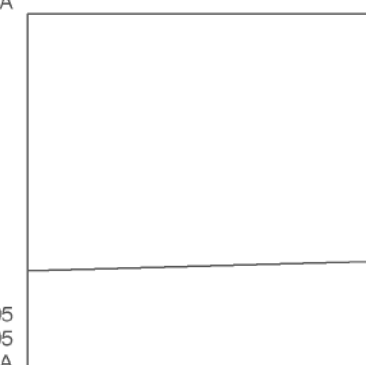
Map date: 1895

Scale: 1:2,500

Printed at: 1:2,500



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



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

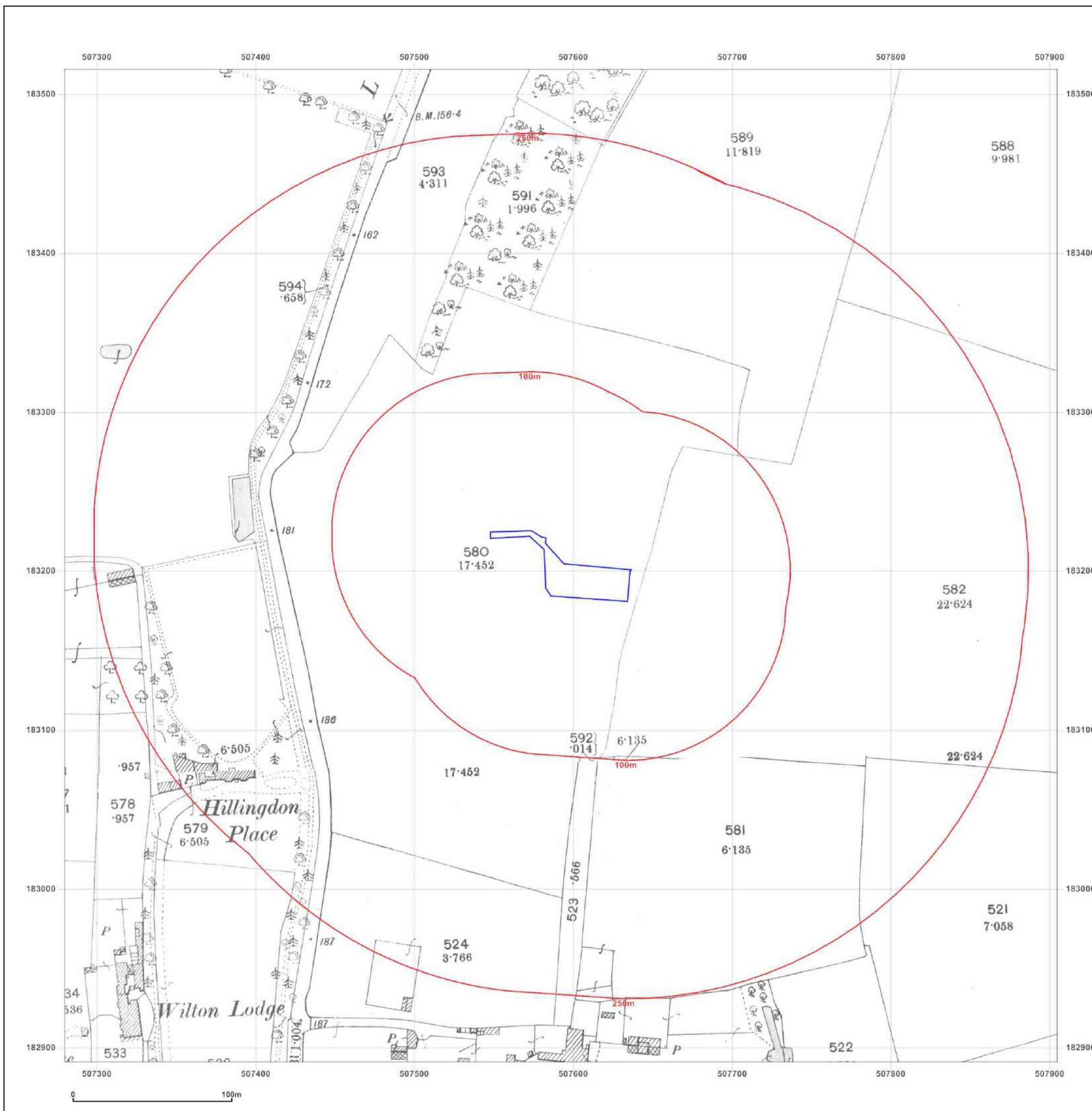


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Map legend available at:
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Site Details:

5 GARAGE COURT REAR OF,
BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

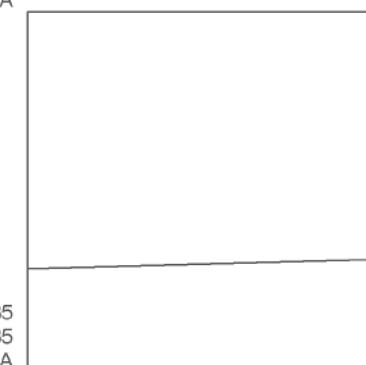
Map date: 1935

Scale: 1:2,500

Printed at: 1:2,500



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



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

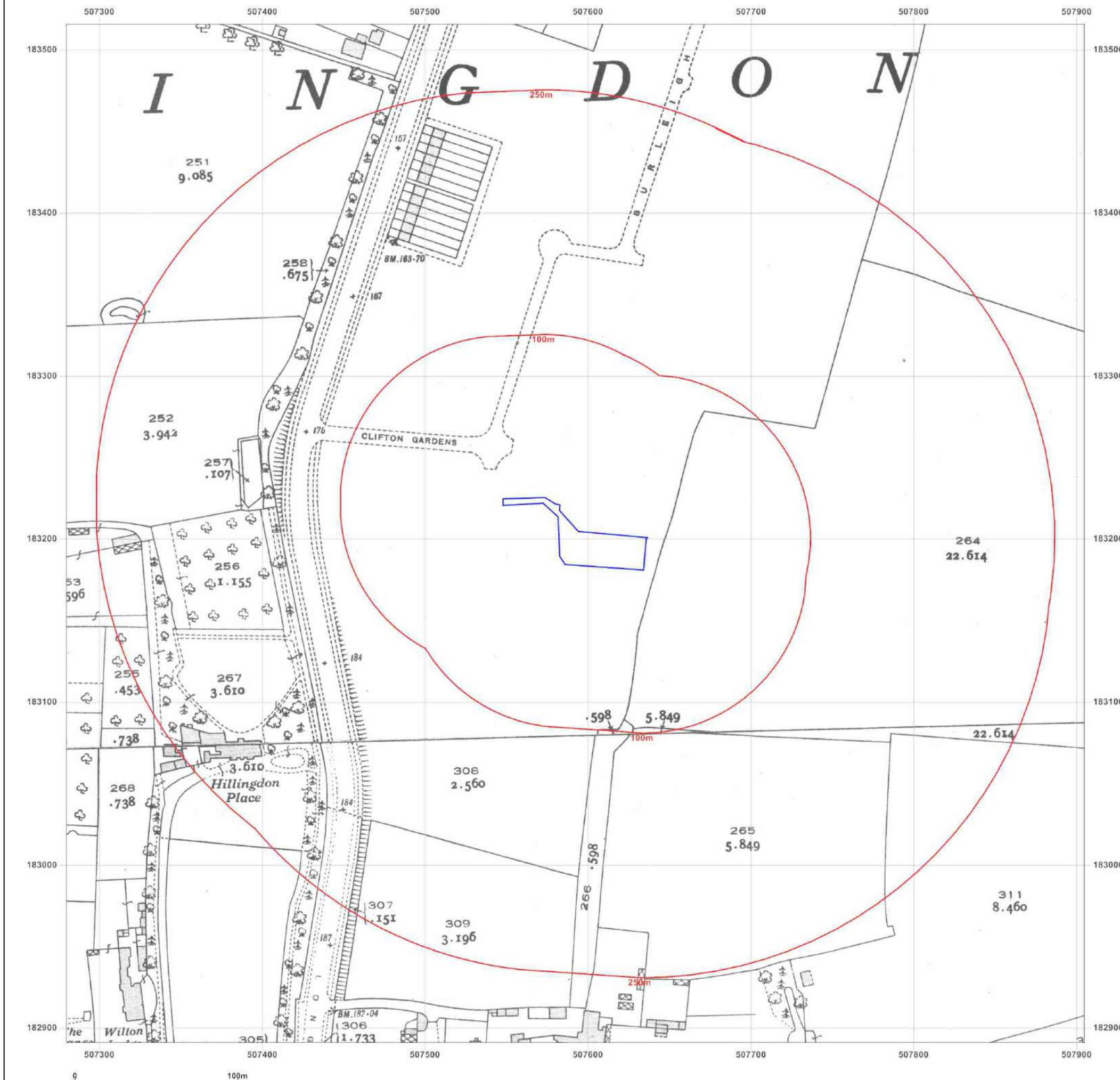


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Site Details:

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BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1964

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1963
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Edition N/A
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Levelled 1957

Surveyed N/A
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1963-1965

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1963
Revised 1963
Edition N/A
Copyright 1964
Levelled 1957

Surveyed 1963
Revised 1963
Edition N/A
Copyright 1964
Levelled 1957

Surveyed 1963
Revised 1963
Edition N/A
Copyright 1965
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Surveyed 1963
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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1963-1965

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1963
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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1964-1966

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1963
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1971-1975

Scale: 1:1,250

Printed at: 1:2,000



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

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

Surveyed 1963
Revised 1971
Edition N/A
Copyright 1971
Levelled 1956

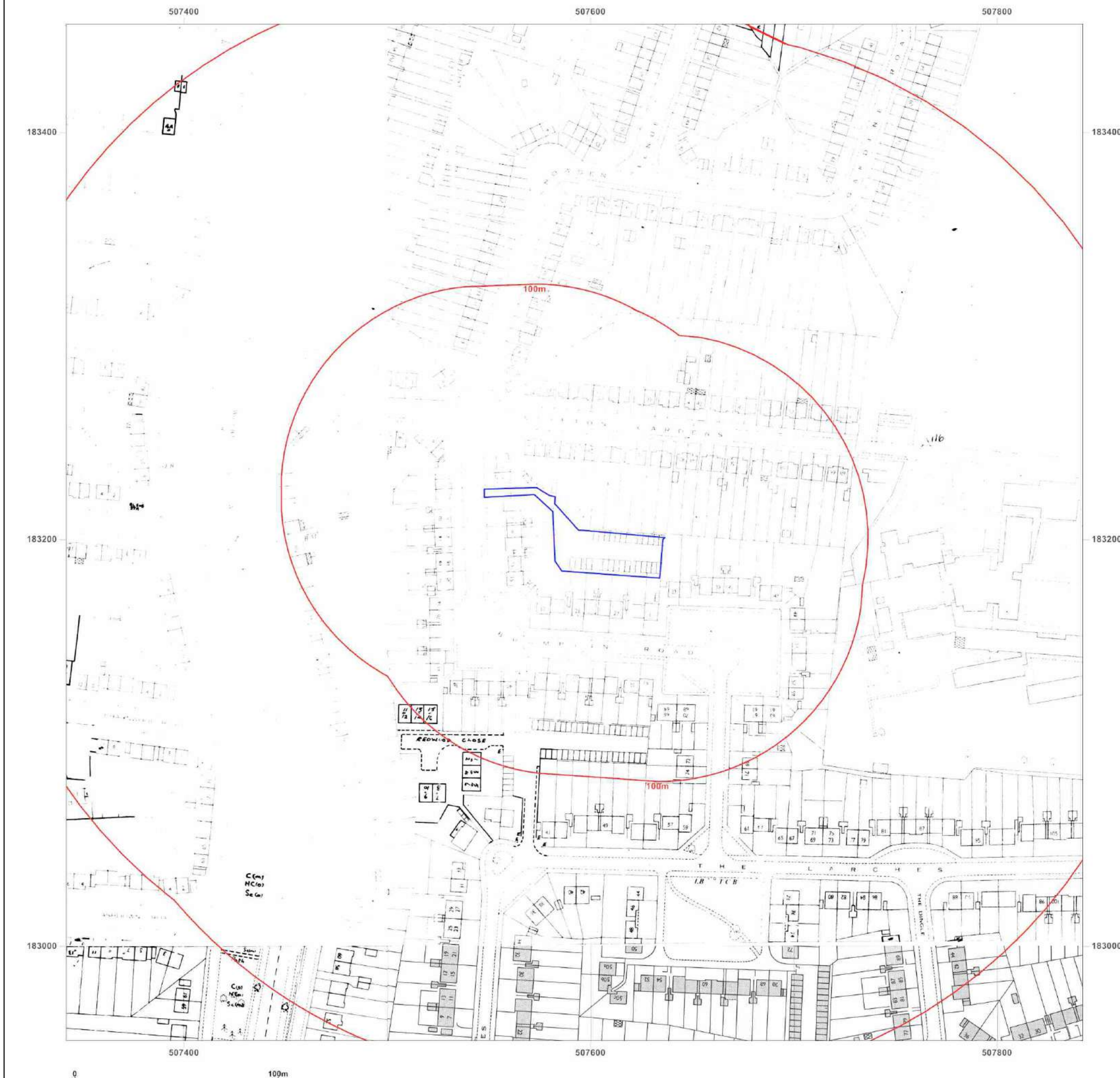


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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1975-1980

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1963
Revised 1979
Edition N/A
Copyright 1980
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Edition N/A
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Surveyed N/A
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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed N/A
Revised N/A
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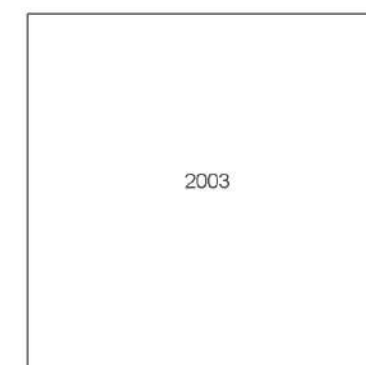
Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1894-1897

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1875
Revised 1895
Edition 1897
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Surveyed 1864
Revised 1894
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BRAMPTON ROAD, UXBRIDGE,
UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1900

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1875
Revised 1897
Edition 1900
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1900
Edition 1900
Copyright N/A
Levelled N/A

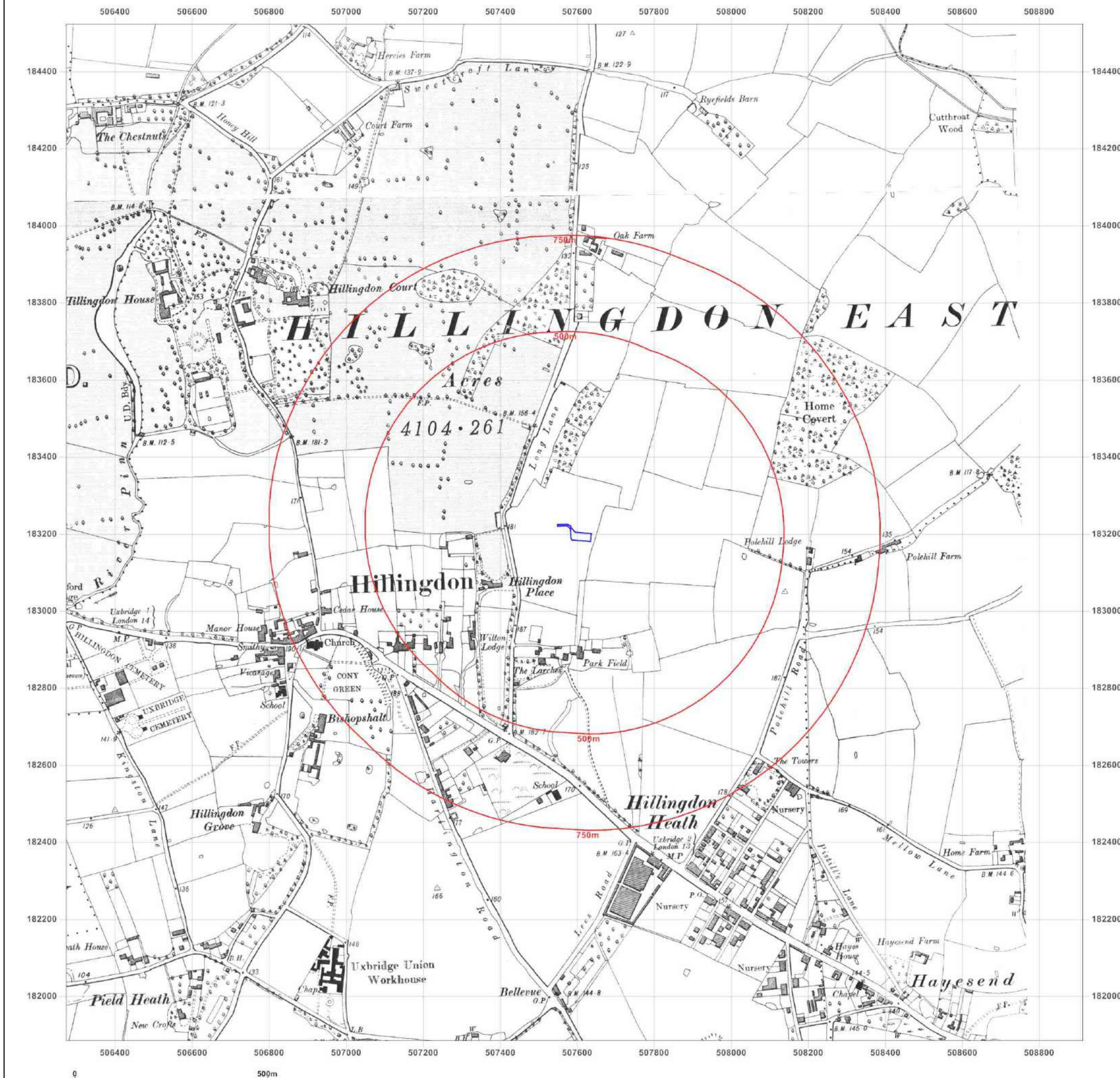


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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1920

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1865
Revised 1913
Edition 1920
Copyright N/A
Levelled 1912

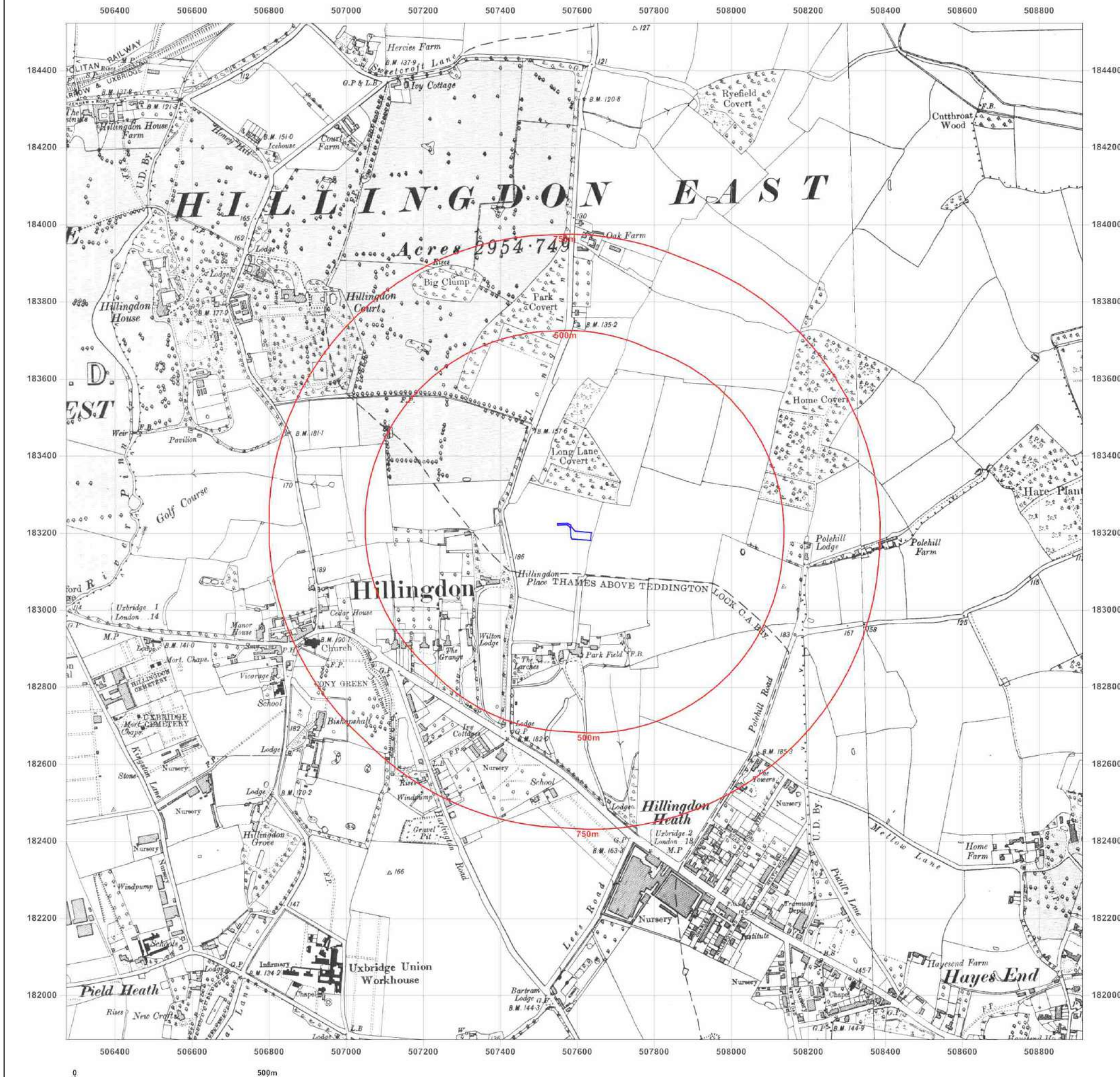


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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1935-1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
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Surveyed 1864
Revised 1938
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
Revised 1938
Edition N/A
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Surveyed 1864
Revised 1938
Edition N/A
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: Provisional

Map date: 1960

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised 1959
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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: Provisional

Map date: 1970

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised 1970
Edition N/A
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Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1975

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
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UB10 0DR

Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 1990

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1988
Revised 1989
Edition N/A
Copyright 1990
Levelled 1972

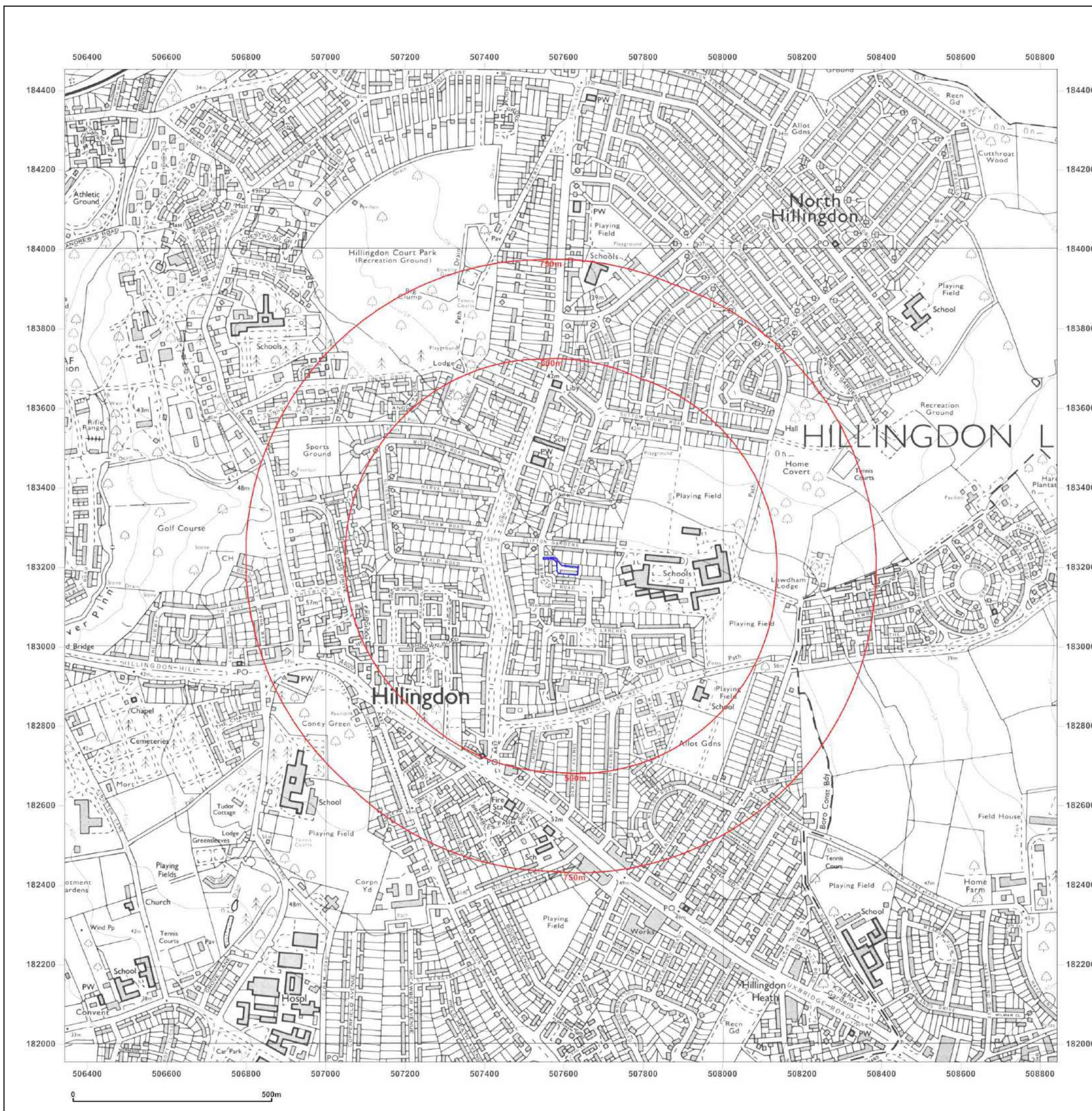


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UB10 0DR

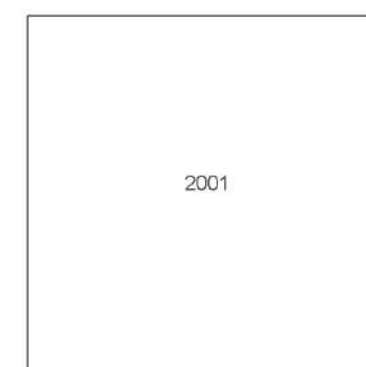
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Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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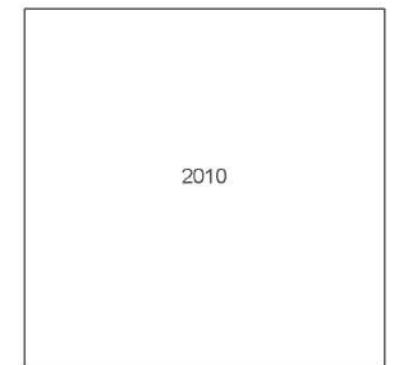
Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

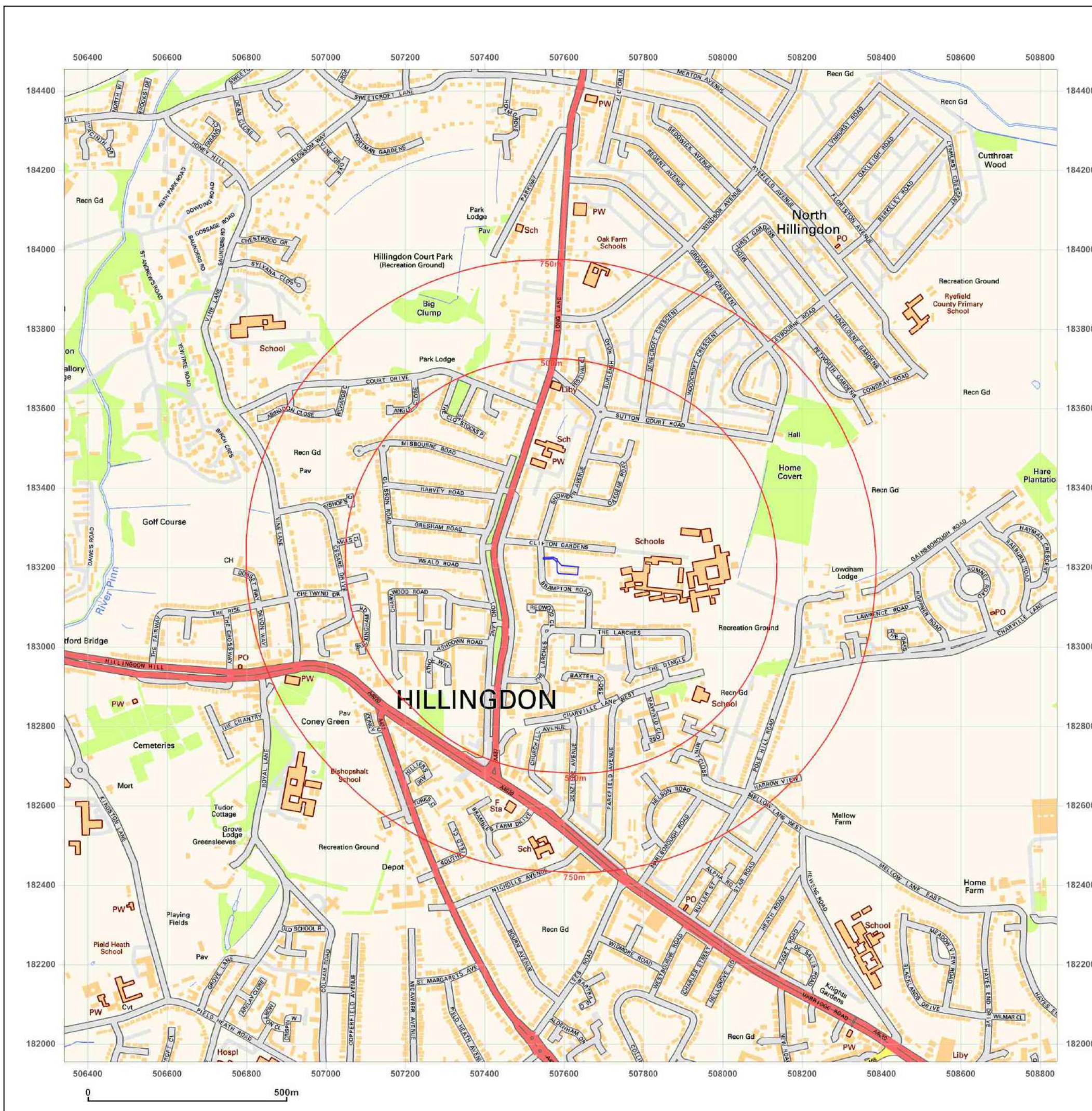


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UB10 0DR

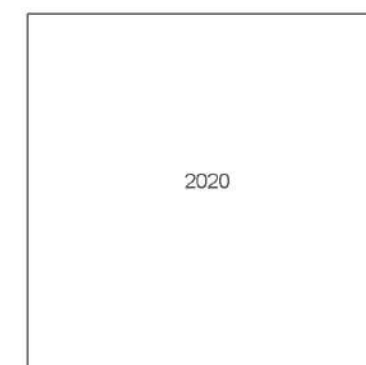
Client Ref: GWPR3961
Report Ref: HMD-445-7323513
Grid Ref: 507592, 183203

Map Name: National Grid

Map date: 2020

Scale: 1:10,000

Printed at: 1:10,000



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Project:
Land to the rear of 5 - 13 Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR

Client:
Balwinder Gill c/o Gill Builders Limited

Date:
January 2021

Site Location Plan

Ref:
GWPR3961

Figure 1





Project:
Land to the rear of 5 - 13 Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR

Client:
Balwinder Gill c/o Gill Builders Limited

Date:
January 2021

Site Development Area

Ref:
GWPR3961

Figure 2





Project:
Land to the rear of 5 - 13 Brampton Road, Hillingdon, Uxbridge, Middlesex UB10 0DR

Client:
Balwinder Gill c/o Gill Builders Limited

Date:
January 2021

Site Aerial View

Ref:
GWPR3961

Figure 3



