



GEO

Environmental Engineering



PHASE 1: DESK TOP STUDY REPORT

(PRELIMINARY RISK ASSESSMENT)

SITE 1: LAND AT HOLLINS CLOSE

BURY

GREATER MANCHESTER

BL9 8AX

FOR

CORNELL GROUP

GEO Environmental Engineering

DOCUMENT CONTROL SHEET

Report Ref: 2020-4255 (Site 1)

Report Date: 05.06.2020

Report Type: DRAFT DTS V1 for Design Team Review
No Planning Authority submission or reliance until fees paid in full

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Client Title: Cornell Group

Consultant: RWO Associates Limited



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1.0 Introduction

1.1 Instruction

Geo Environmental Engineering (GEO) has completed a Phase 1: Desk Top Study Report (Preliminary Risk Assessment) across a piece of land at the junction of Hollins Lane and Hollins Close, Bury, Greater Manchester to determine any potential geohazards that may affect the residential development of the site.

Geo Environmental Engineering has been commissioned by the Consultant, RWO Associates Limited on behalf of the Client, Cornell Group.

The Phase 1 report is to be used for submission to the Local Authority as part of the planning application as it is the Client's intention to redevelop the site for residential purposes although no proposed plans were available at the time of completing this report although it is expected to include property(s) with driveway(s) and areas of both hard and soft landscaping. Full development details will be available from the Consultant.

1.2 Aims and Objectives

The aims and objectives of this Phase 1: Desk Top Study (DTS) Report are to assess the geological and environmental sensitivity of the development area and the surrounding environs, with particular attention made to any potentially contaminative industries or processes that may have taken place on site or on immediately adjacent sites, which may be considered as potentially posing a risk of ground and/or groundwater contamination/gas that could negatively affect the proposed end users, adjacent sites and controlled waters. This Phase 1: Desk Top Study Report has generally been completed in accordance with the following documents:

- CLR11: Model Procedures for the Management of Land Contamination. DEFRA/EA, 2004.
- BS10175:2011: Code of Practice for the Investigation of Potentially Contaminated Sites.
- BS5930:2015: Code of Practice for Site Investigations.

During the completion of this DTS information has been obtained and reviewed from the following sources:

- British Geological Survey (BGS).
- Environment Agency (EA).
- Enviro+Geo Insight Ground Sure Report – (GSR – Appendix II).
- Historical Map Extracts (Appendix III).
- The Coal Authority Consultants Mining Report and Online Database (CA – Appendix IV).

A series of site photographs are presented in Appendix I with site details summarised in Section 2.0.

1.3 Limitations of Use

The information, assessments, conclusions and recommendations presented within this Phase 1: Desk Top Study (DTS) Report are solely based on, and are limited to, the boundaries of the site, the immediate area around the site, and the historical use(s) as described, with the approximate extent of the site marked on the Existing Site Location Plan in Appendix I.

This DTS has been completed utilising information relating to the physical, environmental and industrial setting of the development area, highlighting, where possible, any potential geohazards that might be encountered when considering the future redevelopment of this land, with this DTS reflecting a proposed

end use, as considered by the developer (i.e. “Best Fit” CLEA classification of *Residential*). Therefore, if a change in the proposed end use is envisaged, then a reassessment of the development area should be carried out.

Consequently, any comments, opinions, diagrams, cross sections and/or sketches contained within the DTS, and/or any configuration of the findings is purely conjectural and given for guidance only as no intrusive investigation works have been completed by Geo Environmental Engineering and it is recommended that confirmation of the anticipated ground conditions should be considered before development proceeds.

Agreement for the use or copying of this report by any Third Party must be obtained in writing from Geo Environmental Engineering. It is also recommended that reference be made to the Geo Environmental Engineering standard terms and conditions.

2.0 Site Location and Development Proposals

2.1 Site Location

The development area comprises a roughly square piece of land adjacent to the junction of Hollins Lane / Hollins Close. The site is currently an undeveloped piece of land. It appeared during the site visit that the site has recently undergone some site clearance / preparatory works prior to development. Historical photographs indicate that the site was once covered by dense trees and shrubs.

In the south, a small mound of clayey soil and grass was noted as well as a small mound of wood chippings in the northeast of the site.

The surrounding land uses include residential properties and a golf course along with road infrastructure.

The approximate National Grid Reference for the centre of the site is 381794, 407936 with the site area being approximately 0.06ha.

2.2 Existing Site Levels

Although no topographical survey has been provided, the site appears to be generally level with a small retaining structure along the eastern boundary of the site.

2.3 Existing Site Surfacing and Buildings

No structures were present on site with the site appearing to have undergone site clearance works with the soils present across the site as a whole.

2.4 Existing Infrastructure and Utilities

Whilst the review of statutory utility supplier records lies beyond the scope of this report, given the presence of adjacent buildings it is possible that the site may be crossed by mains electricity, gas, water and sewerage.

Therefore, it is considered prudent to undertake a Utility Survey that will include correspondence with the utility providers to determine the presence of buried utilities prior to commencing any redevelopment works. This will determine if any significant or mains utilities are present on site that may require easement strips, alterations to proposed layouts or potentially costly diversions/terminations. Determining the presence of on-site utilities will also protect the workforce by reducing the risk of utility strikes during the construction phase.

2.5 Development Proposal

Although no definitive development plans have been provided it is thought the site will be redeveloped for residential purposes with areas of both hard and soft landscaping.

3.0 Geo-Environmental Setting

3.1 Development Area Geology

A geological review of the site has been undertaken using information provided on published Geological Plans in conjunction with the Enviro+Geo Insight Ground Sure Report (GSR) contained in Appendix II.

3.1.1 Made Ground

A review of published geological plans (BGS Sheet 85, 1:50,000 Scale) and the GSR does not indicate the presence of made ground materials on site although the GSR notes several areas of made ground and landscaped ground recorded within c.250m of the site. These areas appear to be associated with an adjacent farm as well as the golf course to the southwest.

Although the site appears to have remain undeveloped it is likely given that adjacent developments have occurred that some limited made ground should be expected.

If this is the case, made ground may be variable in depth and extent and could potentially comprise a mixture of disturbed natural materials (clay, sand and gravel) with varying quantities of anthropogenic debris (fragments of ash, brick, clinker, coal, etc.).

The nearest areas of infilled ground / artificial ground (within c.250m) are located c.15m north, c.84m west, c.165m east and c.177m southwest.

3.1.2 Drift Geological Deposits

A review of published geological plans (BGS Sheet 85, 1:50,000 Scale) indicates that the site is underlain by varied deposits of silty clay as well as sand and gravel deposits clayey

The Ground Sure Report identifies the following geohazards and a preliminary level of risk:

- Shrink-swell clays – low risk.
- Landslides – very low risk.
- Compressible deposits – negligible risk.
- Collapsible deposits – very low risk.
- Running sands – very low risk.

Consequently, Phase 2: Ground Investigation works would be prudent to aid the design of foundations, any retaining structures and highways, should new-build structures be considered.

3.1.3 Solid Geological Deposits

The Solid Geological deposits below the site are recorded as the Carboniferous Middle Coal Measures (MCM) and is directly underlain by mudrocks (i.e. mudstone, siltstone, etc.).

The GSR indicates a negligible risk associated with the dissolution of soluble rocks.

3.1.4 Historical Borehole Review

No historical BGS borehole records are recorded on or within close proximity to the site.

3.1.5 Geological Features

No geological structural faults are inferred within close proximity to the site.

3.1.6 Mining and Quarrying Assessment

The MCM are known to comprise productive coal seams. As the site lies within a Coal Authority (CA) referral area reference has been made to the CA on-line database, which confirms the following:

- No shallow coal seams are noted.
- Recorded coal mine workings are not present.
- No recorded shallow coal mine workings are present.
- No suspected shallow coal mine workings are present.
- No mine entries are recorded.
- The site does not lie within a Coal Authority defined “*High Risk Development Area*”.

In addition to the above, a CA Consultants Mining Report (Ref: 51002285717001) has been procured, a copy of which is in Appendix IV and which references the following:

- Past Underground Mining: None.
- Probable Unrecorded Shallow Workings (less than 30m): None.
- Outcrops: None.
- Spine Roadways at Shallow Depth: None.
- Mine Entries: None recorded within c.100m of the site.
- Coal Mining Subsidence: No claims.

As a result of the above information, in-conjunction with the geological review using the desk based information available from the CA, BGS and GSR, the development site is not currently considered to be at potential risk of shallow coal mining related geohazards. Shallow coal is not anticipated beneath the site as a geohazard or potential resource.

A review of the GSR (GeoInsight) indicates that the following activities do not affect the site:

- | | | |
|--------------------|---------------------|--------------|
| ■ Natural Cavities | ■ Gypsum Extraction | ■ Tin Mining |
| ■ Brine Extraction | ■ Clay Mining | |

The areas of made ground to the north, east and west of the site may potentially represent a source of gas generation and migration with a period of ground gas monitoring possibly required to satisfy the LPA.

3.1.7 Radon Gas Assessment

In accordance with the GSR the development site is not located within a Radon Affected Area as defined by the Health Protection Agency (HPA), as less than 1% of properties are above the Action Level. Consequently, in accordance with BR211 no radon protective measures are necessary.

3.2 Development Area Hydrogeology (Groundwater)

3.2.1 Made Ground/Soils

The made ground materials on site are likely to be classified as high permeability (worst case scenario) until site information is available.

3.2.2 Drift Geology

The Drift geological deposits across the site are classified by the EA as being a Secondary Undifferentiated Aquifer, formerly a Minor Aquifer.

3.2.3 Solid Geology

The Solid geological deposits are noted as a Secondary A Aquifer. They are considered to be capable of supporting water supplies at local rather than a strategic scale.

3.3 Development Area Hydrology

3.3.1 Groundwater

Groundwater could potentially be present at shallow depth within any granular drift geological deposits (i.e. sands and gravels if present) as well as the potential for localised pockets of trapped surface infiltration within the upper made ground (where present). Deeper groundwater is likely to be present within the Solid geological deposits. A review of the information in the GSR indicates the following:

A review of the information in the GSR indicates the following:

- One “active” groundwater abstraction is recorded within c.1km of the site, located c.855m west which is utilised for the watering of the golf course.
- No surface water abstractions are recorded within c.1km of the development area.
- No potable water abstraction licences are held within c.1km of the site.
- The site is not recorded as being within a Source Protection Zone or within c.500m of a Source Protection Zone.

3.3.2 Surface Water Features

No surface water features are identified on site although an unnamed watercourse is located c.189m east (at its closest point).

No Environment Agency (EA) GQA classified rivers, canals, ponds or lakes are recorded within c.250m of the development area.

3.3.4 Current Surface Water Run-off

It is considered that the current surface water will infiltrate directly into the ground given the sites recent clearance works. If periods of prolonged rainfall occurs then some surface run-off is likely to occur.

3.4 Development Area Environmental Sensitivity

3.4.1 Site Ecology

- There are no sites of Special Scientific Interest (SSSI) noted within c.250m.
- Hollins Vale, a Local Nature Reserves (LNR) is present c.68m north.
- No Special Areas of Conservation (SAC) are noted within c.250m.
- No Special Protection Areas (SPA) are present within c.250m.
- No World Heritage Sites are recorded within c.250m.
- No Areas of Outstanding Natural Beauty (AONB) are recorded within c.250m.
- No Designated Ancient Woodland are recorded within c.250m.
- The site is located within an area of Green Belt.
- No National Parks are recorded within c.250m.
- No Nitrate Vulnerable Zones (NVZ) or Nitrate Sensitive Areas are within c.250m.

3.4.2 Authorisations, Incidents and Registers

- No Part A(2) / B Activities and Enforcements are recorded within c.250m.

- No Pollution Incidents are recorded within c.250m.
- No records of IPC Authorisations are held within c.250m.
- No records of Red List Discharge Consents (potentially harmful discharges to controlled waters) are held within c.250m.
- No records of List 1 or List 2 Dangerous Substances Inventory sites are held within c.250m.
- No records of Radioactive Substances Authorisations are held within c.250m.
- No active Licensed Discharge Consent is held within c.250m.
- No records of COMAH and NIHHS sites are held within c.250m.
- No Environment Agency Recorded Pollution Incidents are detailed within c.250m.

The Design Team should refer to Section 4.0 of the Enviro & Geo Insight (Appendix II).

3.4.3 Determination of Contaminated Land (Part IIA)

A review of the GSR Section 4.5 has indicated that no sites determined as Contaminated Land under Part IIA EPA 1990 are recorded within c.500m of the development area. In addition, the site is not currently recorded in the GSR as being determined as Contaminated Land under Part IIA EPA 1990.

3.4.4 Historical Industrial Land Uses

A review of Section 1.0 of the Enviro & Geo Insight identifies the following:

- Potentially Contaminative Uses Identified within c.250m – The GSR indicates that a Sewage Works is located adjacent to the southern boundary although the historical plans (c.1851 to c.2020) do not record this feature although it is possible structures to the southwest may be settling tanks. No further entries of concern are noted.
- Historical Tank Database – No entries noted within c.250m.
- Historical Energy Features – Nine entries are recorded within c.250m with these entries noted to be electricity substations, the closest being c.127m north.
- Historical Petrol and Fuel Site Database – No entries noted within c.250m.
- Historical Garage Database – No entries noted within c.250m.
- Historical Military Land – No entries noted within c.250m.
- Potentially Infilled Land within c.250m – Several areas of made are recorded within c.250m with the nearest being c.15m north.

It is recommended that reference be made to Section 1.0 of the Enviro & Geo Insight for further information (Appendix II).

3.4.5 Current Industrial Land Uses

Section 4 of the GSR identifies current industrial lands uses including but not limited to electricity substations, gas governor station and haulage distributors.

None of these are considered to be located within close proximity to represent a risk to the site.

3.4.6 Fuel Station Entries

No currently active petrol filling station are recorded within c.250m.

3.4.7 Landfill and Waste Regulation/Management – Landfill Sites

- No active or recent Landfill Sites are recorded within c.250m.
- No BGS historical Landfill Sites are recorded within c.250m.
- No EA/NRW historical Landfill Sites are recorded within c.250m.

- No Environment Agency Historic Landfill Site is recorded within c.250m.
- No historical waste sites are recorded within c.250m.
- No licensed waste sites are recorded within c.250m.
- Several waste exemptions are recorded within c.250m although these are not considered to represent a risk to the site.

3.5 Development Area Historical Plan Appraisal

Section 3.5 is based on historical plans (Ordnance Survey extracts) obtained as part of the parcel of information within the GSR Mapinsight and provides a summary of the site history, highlighting any industries, processes or activities that may be considered as Geohazards. Copies of selected survey plans covering the site and adjacent areas are included in Appendix III.

3.5.1 Site Area

The earliest historical plan (c.1851) shows the site as being undeveloped land.

No significant changes are noted on site although it is possible that that when the adjacent properties are developed (Hollins Close), the site may have been incorporated and may have been the garden of the adjacent property although this would need to be verified.

During the completion of the site walkover, the site had recently been cleared, although historical photographs show that the site was once heavily vegetated. In addition, excellent “housekeeping” of the site appears to have been undertaken with no fly tipped materials, burning or staining noted.

3.5.2 Adjacent Site Area

From the early c.1850's the adjacent land is largely undeveloped albeit for Hollies Mount Farm (north) and a Conservative Club (east). A small surface water feature is recorded c.250m west although this is no longer present by c.1956, possibly infilled.

By c.1907, a Bowling Green is adjacent to the southern boundary, likely to be associated with the Conservative Club.

The surrounding land continues to be developed, mainly for residential properties and associated infrastructure. Although not recorded as such, structures are present to the southwest which may be associated with a Sewage Works as recorded by the GSR.

Between c.1992 and c.1993, the Bowling Green and Conservative Club are no longer recorded with this area developed for residential properties with the addition of further structures and changes in road infrastructure up until the present date.

As noted previously; areas of made ground have been noted within c.250m of the site and this may represent a risk to the site from ground gas migration.

4.0 Conceptual Site Model

A Conceptual Site Model (CSM) has been designed using the information presented within this DTS to provide a graphical representation of the anticipated ground and groundwater conditions below the development area (Existing Site CSM).

The CSM utilises the established *Source – Pathway – Receptor* pollutant linkage model and is designed to provide an improved understanding of the site characteristics. This ensures adequate and appropriate Phase 2: Ground Investigation (P2 GI) Works are designed for wide spread and targeted investigations should they be deemed necessary.

During the P2 GI the CSM can be refined depending upon the outcomes of the intrusive works to ensure that appropriate remediation (if required) is completed to ensure the development area is “fit for purpose” in relation to the proposed end use. The CSM is graphically presented on the following page.

SOURCE-PATHWAY-RECEPTOR POLLUTANT LINKAGE MODEL

Sources:

S1 = Generic/Organic Made Ground – Potential Sources Identified. At this stage, the historical information available for the site suggests that there is the potential for sources of contamination (i.e. made ground) as the site and surrounding area has undergone historical development. In addition, as the site lies within an urbanised area there is the potential for atmospheric accumulations of airborne contaminants (i.e. ash particles from open fires, etc.).

Therefore, at this stage it is recommended that excavations be completed on site to confirm the shallow ground conditions.

Where made ground is identified that includes anthropogenic debris (i.e. ash, clinker etc.) and/or visual/olfactory (malodorous) evidence of potential contamination then an appropriate Human Health Risk Assessment for the proposed residential end users should be undertaken. Should made ground be identified then Potential Contaminants of Concern (PCOC's) could comprise: Arsenic, Cadmium, Chromium (III and VI), Copper, Lead, Mercury, Nickel, Selenium, Zinc, Cyanide (free), pH, Water Soluble Sulphate, Total Organic Carbon and Speciated PAH.

Although not expected at this stage, if during any excavation works visual and/or olfactory evidence of hydrocarbons is noted then samples should be recovered and screened for Speciated TPH, BTEX and MTBE.

In addition to the above, a prudent developer should implement a watching brief during the redevelopment works to ensure that if made ground and or visual/olfactory evidence of contamination is identified then works should be stopped, the Local Authority notified and advice should be sought from an appropriately qualified and experienced Geo-Environmental Engineer.

S2 = GROUND GAS – At this stage, potential sources of ground gas (carbon dioxide and methane) have been identified which include but are not limited to the numerous areas of infilling recorded within c.250m of the site.

Therefore it would be prudent to allow for a period of ground gas monitoring to determine any risks present to the proposed residents.

Pathways:

P1 = Inhalation of indoor / outdoor air (wind-blown particles)

P2 = Dermal/direct contact (limited risk present through areas of soft landscaping).

P3 = Ingestion (soil and dust – limited risk present through areas of soft landscaping).

P4 = Migration through existing services.

P5 = Direct contact with building materials.

P6 = Surface Run-off.

P7 = Leaching from Soils (risk present where sources are exposed to surface water infiltration).

Receptors:

R1 = Human Health (Residents)

R2 = Human Health (construction workforce – redevelopment works)

R3 = Groundwater (Secondary A Aquifer)

R4 = Building Materials and Buried Utilities

R5 = Flora and Fauna (potential future soft landscaping)

5.0 Preliminary Qualitative Risk Assessment

5.1 Qualitative Geotechnical Risk Assessment – Risk Meter

The following Geotechnical Risk Meter determines the potential level of risk associated with the geotechnical properties of the site, considering any potential geohazards identified by the information presented within the DTS.

Geotechnical:						
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH

A risk level of LOW is currently determined appropriate for this development area for the following reasons:

- Limited made ground may be present on site.
- The drift geological deposits across the site (i.e. Till) comprises silty clay as well as sand and gravel deposits, which are likely to be suitable for the proposed structures if standard foundations are envisaged.
- If clay soils are present then they could potentially be affected by the surrounding mature vegetation or recently removed vegetation (mature trees), potentially requiring an increase in foundation depths.
- Information available from the CA, BGS and GSR suggests that the development site is not considered to be at potential risk of coal mining related geohazards (i.e. ground disturbance/movement/mine entries etc.) and therefore no remedial measures are considered to be required (i.e. grouting).
- Shallow trapped groundwater could be present within any made ground as well as within any granular drift deposits which may impact on ground bearing pressures.
- Surface water ponding/overland flow may occur particularly following periods of heavy rainfall.
- At this stage, there is a potential for ground gas (i.e. carbon dioxide and methane) from areas of made ground / infilling that surrounds the site.
- The site is not currently considered to be at risk of Radon.

Consequently, Phase 2: Ground Investigation works are recommended, should planning permission be obtained, to determine ground/groundwater/gas conditions and to aid the design of foundations, retaining structures and highways, as per any specific requirements of the Design Team.

5.2 Qualitative Contamination Risk Assessment – Risk Meter

The following Ground Contamination, Groundwater Contamination and Ground Gas Risk Meter determines the potential level of risk associated with the redevelopment of the site when taking into account the anticipated *Sources – Pathways – Receptors* within the pollutant linkage model and CSM.

Ground Contamination:	↓					
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
Groundwater Contamination:	↓					
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
Ground Gas:	↓					
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH

A risk level of VERY LOW is currently determined appropriate for this development with respect to ground contamination.

In summary, although the site appears to have remained undeveloped given the proximity of some adjacent historical developments (i.e. conservative club, bowling green, farm, and residential properties) some made ground may be present on site. If the materials on site (i.e. topsoil) are being considered for use within the proposed development, then suitable testing should be undertaken to confirm its suitability.

As part of the proposed development, if any areas of soft landscaping are proposed and if made ground is encountered which includes anthropogenic debris (such as ash, coal, clinker and tarmac) the Potential Contaminants of Concern (PCOC's) could include: Arsenic, Cadmium, Chromium (III and VI), Copper, Lead, Mercury, Nickel, Selenium, Zinc, Cyanide (free), pH, Water Soluble Sulphate, Total Organic Carbon, Asbestos and Speciated PAH.

If during any future intrusive works, visual and / or olfactory evidence of hydrocarbons is encountered then targeted sampling and screening will need to be considered and targeted for Speciated TPH (Aliphatic and Aromatic split), BTEX and MTBE. At this stage, the presence of hydrocarbons is not expected.

Therefore, it is recommended that excavations be completed on site to confirm the shallow ground conditions and if made ground is identified (with anthropogenic debris) then contamination screening and a human health risk assessment will be required.

In addition, a watching brief is recommended during the redevelopment works to ensure that if made ground (that includes anthropogenic debris, i.e. ash, clinker etc.) and/or visual/olfactory (malodorous) evidence of potential contamination are identified then works should be stopped, the Local Authority notified and advice sought from an appropriately qualified and experienced Geo-environmental engineer.

When considering the potential for made ground, the historical development of the site, the potential for shallow ground water overlying a Secondary A Aquifer a risk level of NEGLIGIBLE is currently thought appropriate for this development with respect to potential risks to controlled waters (i.e. groundwater, nearby surface water features) and adjacent sites.

A risk level of VERY LOW is considered appropriate for the site with respect to potential harmful ground gas (carbon dioxide and methane) as potential geohazards have been identified within an influencing distance of the site with areas of infilled ground / made ground to the north, east and west of the site.

In addition, the site is located in an area where no basic radon protection measures are required to be installed.

If following a period of ground gas monitoring; it is identified that gas protection measures are to be installed, it is likely that the LPA will require a Remediation Strategy detailing the protection measures to be installed and a Verification Plan detailing the installation and verification parameters. This can only be confirmed by the completion of ground gas monitoring.

6.0 Conclusions

When considering the results of this DTS report and the proposed development (i.e. construction of residential structures) with the inclusion of private gardens, the following can be seen:

- The site is currently considered to pose a low geotechnical risk (proposed structures).
- The site is currently considered to pose a very low risk to the proposed end users from ground contamination.
- The site is currently considered to pose a negligible risk to adjacent sites, surrounding environment and controlled waters with respect to potential ground/groundwater contamination.
- A very low risk is currently considered present of ground gas, with a negligible risk of radon.

Consequently, Phase 2 Ground Investigation works may be required by a structural engineer to fully characterise the ground/groundwater conditions below the development area (i.e. below the proposed extension). In summary, the site works may include:

- Mini Percussion boreholes.
- Soil logging by a suitably qualified and experienced geo-environmental engineer.
- In-situ strength and density testing to aid foundation design (Standard Penetration Tests and Hand Shear Vane testing).
- Laboratory based geotechnical testing.
- Laboratory contamination screening for generic and organic analytes as per the PCOC's in Section 4.0.
- Human Health Ground Contamination risk assessment.
- Groundwater and Ground Gas Monitoring (if the LPA require this to be completed – the requirement for Radon Protection measures may negate the need for monitoring).
- Interpretive Phase 2: Ground Investigation Report.

GEO also recommends that a “watching brief” and “observational technique” be applied to this site to ensure that if ground conditions appear to vary from those identified within this investigation report then advice should be sought from a suitably qualified and experienced Engineering Geologist, Geotechnical or Geo-Environmental Engineer.

The conclusions and recommendations presented within this report are considered reasonable based on the available information. However, these cannot be guaranteed to gain regulatory approval. Therefore, the report should be passed to the appropriate regulatory authorities and/ or other key stakeholders as soon as practicably possible in order to seek their approval of the findings prior to undertaking any works on site. GEO accepts no responsibility for the accuracy of third party information involved within the completion of this report.

End of Report

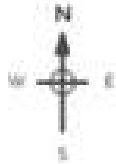
Appendix I

- Site Location Plan
- Aerial Photograph Extract
- Existing Site Layout Plan
- Site Photographs (June 2020)

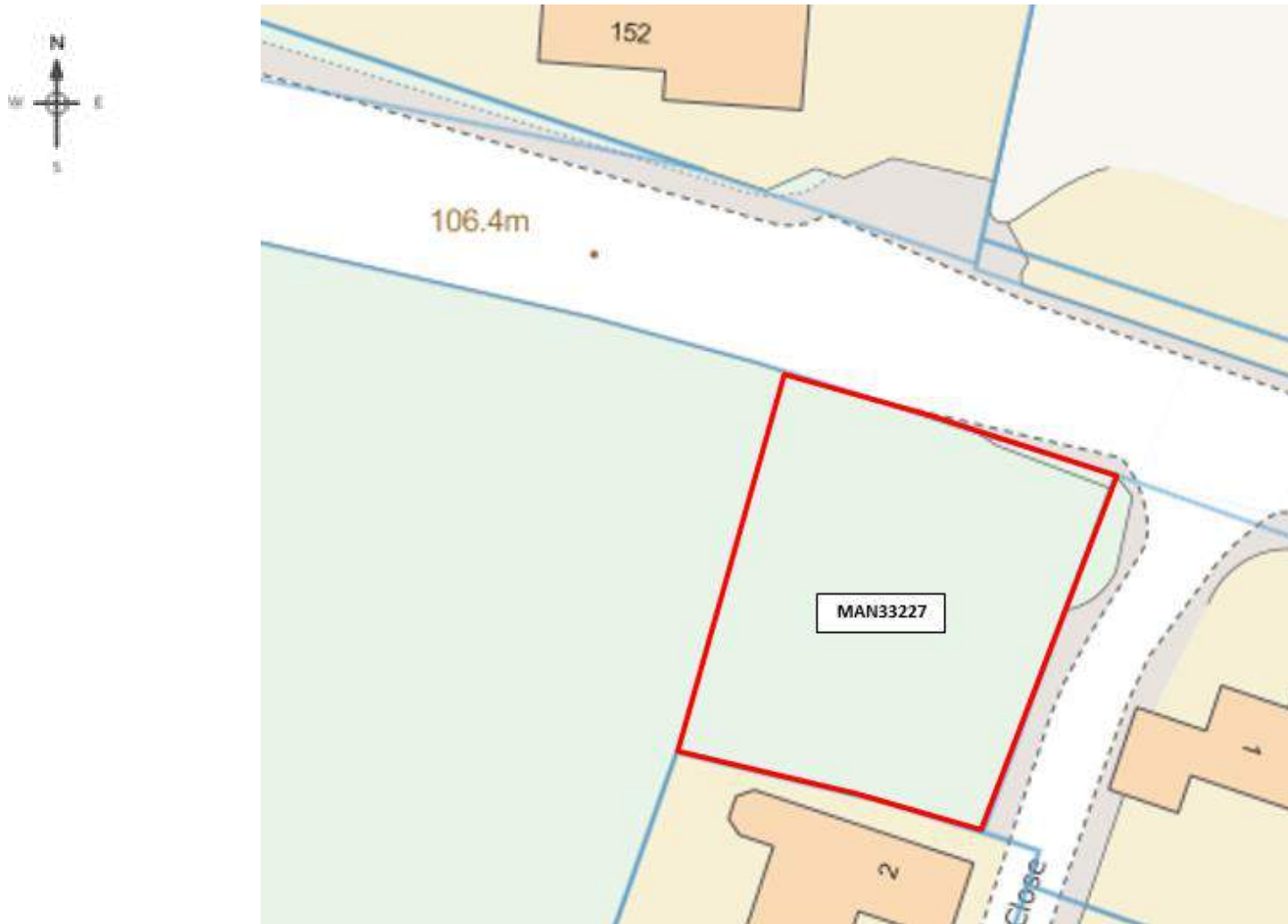
GEO2020-4255 (Site 1): Site Location Plan



GEO2020-4255 (Site 1): Aerial Photograph Extract



GEO2020-4255 (Site 1): Existing Site Layout Plan



GEO2020-4255 (Site 1): Site Photographs



Appendix II

- Ground Sure Report (GSR – Enviro+Geo Insight)

381794 407936

Order Details

Date: 02/06/2020
Your ref: EMS_612584_817732
Our Ref: EMS-612584_817732
Client: emapsite

Site Details

Location: 381794 407936
Area: 0.06 ha
Authority: [Bury Metropolitan Borough Council](#)



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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
<u>13</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	0	2	0	30	-
<u>15</u>	<u>1.2</u>	<u>Historical tanks</u>	0	0	0	14	-
<u>16</u>	<u>1.3</u>	<u>Historical energy features</u>	0	0	4	2	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<u>18</u>	<u>2.1</u>	<u>Historical industrial land uses</u>	0	2	0	46	-
<u>20</u>	<u>2.2</u>	<u>Historical tanks</u>	0	0	0	17	-
<u>21</u>	<u>2.3</u>	<u>Historical energy features</u>	0	0	9	6	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
<u>24</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	0	6	7	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>26</u>	<u>4.1</u>	<u>Recent industrial land uses</u>	0	1	4	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
27	4.5	Sites determined as Contaminated Land	0	0	0	0	-



28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
29	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
29	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
30	4.19	Pollution inventory substances	0	0	0	0	-
30	4.20	Pollution inventory waste transfers	0	0	0	0	-
31	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
32	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
34	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
35	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	5.6	<u>Groundwater abstractions</u>	0	0	0	0	21
43	5.7	<u>Surface water abstractions</u>	0	0	0	0	13
46	5.8	<u>Potable abstractions</u>	0	0	0	0	2
47	5.9	Source Protection Zones	0	0	0	0	-
47	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
48	6.1	<u>Water Network (OS MasterMap)</u>	0	0	3	-	-



49	6.2	<u>Surface water features</u>	0	0	3	-	-
49	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
50	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
50	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
51	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
51	7.2	Historical Flood Events	0	0	0	-	-
51	7.3	Flood Defences	0	0	0	-	-
51	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
52	7.5	Flood Storage Areas	0	0	0	-	-
53	7.6	Flood Zone 2	None (within 50m)				
53	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
54	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
56	9.1	<u>Groundwater flooding</u>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
57	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
58	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
58	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
58	10.4	Special Protection Areas (SPA)	0	0	0	0	0
58	10.5	National Nature Reserves (NNR)	0	0	0	0	0
59	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	1	0	0
59	10.7	Designated Ancient Woodland	0	0	0	0	0
59	10.8	Biosphere Reserves	0	0	0	0	0
59	10.9	Forest Parks	0	0	0	0	0
60	10.10	Marine Conservation Zones	0	0	0	0	0
60	10.11	<u>Green Belt</u>	1	0	0	0	2
60	10.12	Proposed Ramsar sites	0	0	0	0	0



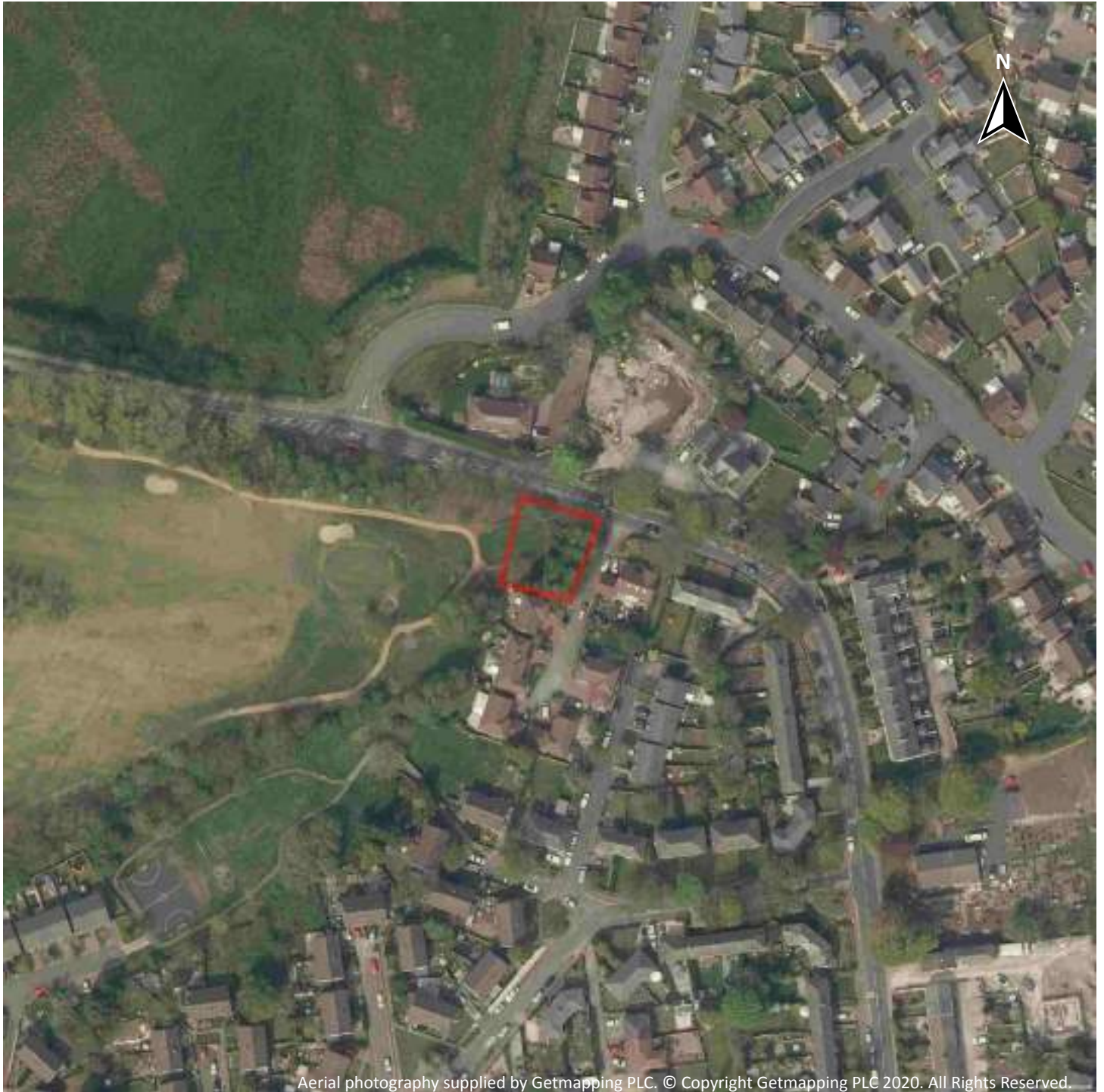
60	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
61	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
61	10.15	Nitrate Sensitive Areas	0	0	0	0	0
61	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
62	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
63	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	11.1	World Heritage Sites	0	0	0	-	-
64	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
64	11.3	National Parks	0	0	0	-	-
64	11.4	Listed Buildings	0	0	0	-	-
65	11.5	Conservation Areas	0	0	0	-	-
65	11.6	Scheduled Ancient Monuments	0	0	0	-	-
65	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
66	<u>12.1</u>	<u>Agricultural Land Classification</u>	Urban (within 250m)				
67	12.2	Open Access Land	0	0	0	-	-
67	12.3	Tree Felling Licences	0	0	0	-	-
67	12.4	Environmental Stewardship Schemes	0	0	0	-	-
67	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
68	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	0	4	-	-
69	<u>13.2</u>	<u>Habitat Networks</u>	1	1	0	-	-
69	13.3	Open Mosaic Habitat	0	0	0	-	-
69	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
70	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
71	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	1	3	10	-
73	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	0	4	-

74	14.4	<u>Landslip (10k)</u>	0	0	0	5	-
75	14.5	<u>Bedrock geology (10k)</u>	1	0	2	3	-
76	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	1	0	4	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
77	15.1	<u>50k Availability</u>	Identified (within 500m)				
78	15.2	Artificial and made ground (50k)	0	0	0	0	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79	15.4	<u>Superficial geology (50k)</u>	1	0	0	3	-
80	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
80	15.6	<u>Landslip (50k)</u>	0	0	0	1	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81	15.8	<u>Bedrock geology (50k)</u>	1	0	2	3	-
82	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
82	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	0	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
83	16.1	<u>BGS Boreholes</u>	0	0	3	-	-
Page	Section	Natural ground subsidence					
85	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
86	17.2	<u>Running sands</u>	Very low (within 50m)				
87	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
88	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
89	17.5	<u>Landslides</u>	Very low (within 50m)				
90	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
91	18.1	Natural cavities	0	0	0	0	-
92	18.2	BritPits	0	0	0	0	-
92	18.3	<u>Surface ground workings</u>	0	1	0	-	-
92	18.4	Underground workings	0	0	0	0	0
92	18.5	Historical Mineral Planning Areas	0	0	0	0	-



93	18.6	Non-coal mining	0	0	0	0	0
93	18.7	Mining cavities	0	0	0	0	0
93	18.8	JPB mining areas	None (within 0m)				
93	18.9	<u>Coal mining</u>	Identified (within 0m)				
94	18.10	Brine areas	None (within 0m)				
94	18.11	Gypsum areas	None (within 0m)				
94	18.12	Tin mining	None (within 0m)				
94	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
95	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
96	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	3	-	-	-
96	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
97	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
98	21.1	Underground railways (London)	0	0	0	-	-
98	21.2	Underground railways (Non-London)	0	0	0	-	-
98	21.3	Railway tunnels	0	0	0	-	-
98	21.4	Historical railway and tunnel features	0	0	0	-	-
98	21.5	Royal Mail tunnels	0	0	0	-	-
99	21.6	Historical railways	0	0	0	-	-
99	21.7	Railways	0	0	0	-	-
99	21.8	Crossrail 1	0	0	0	0	-
99	21.9	Crossrail 2	0	0	0	0	-
99	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 22/05/2019

Site Area: 0.06ha



Recent site history - 2015 aerial photograph



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Capture Date: 11/06/2015

Site Area: 0.06ha



Recent site history - 2011 aerial photograph



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Capture Date: 01/05/2011

Site Area: 0.06ha



Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

Site Area: 0.06ha

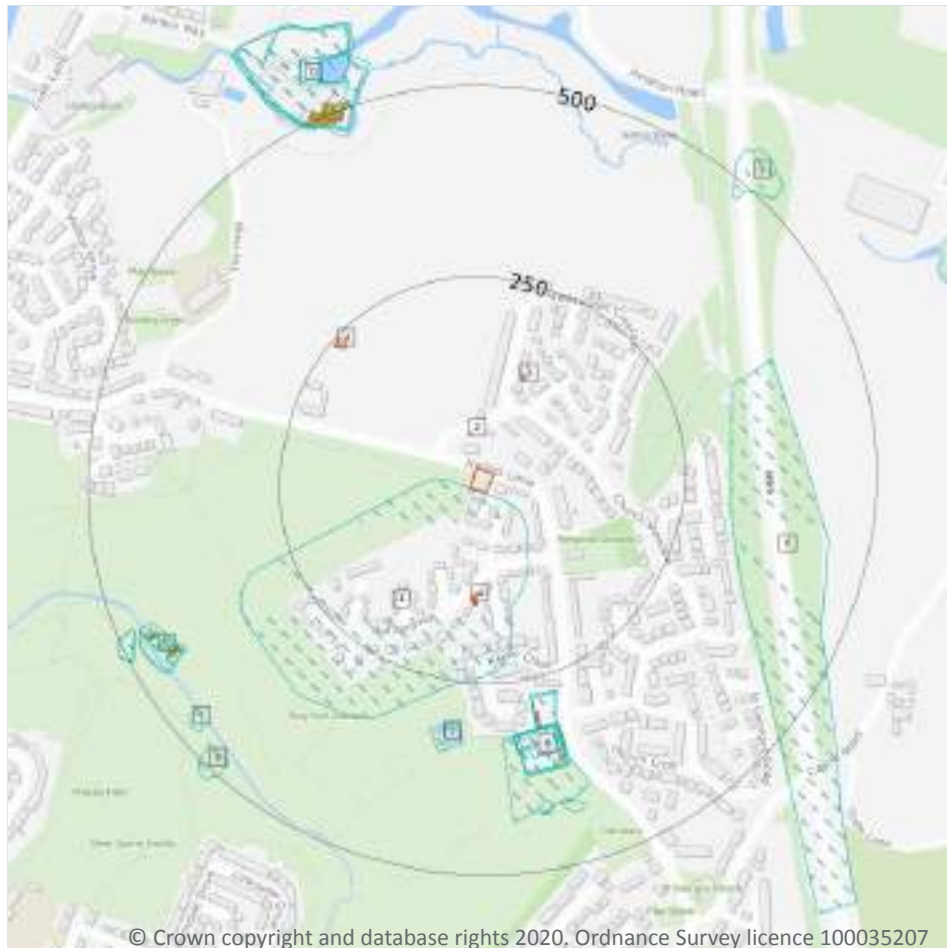


OS MasterMap site plan



Site Area: 0.06ha

1 Past land use



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

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1.1 Historical industrial land uses

Records within 500m

32

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
1	0m S	Sewage Works	1955	659747



ID	Location	Land use	Dates present	Group ID
2	45m N	Pump	1851	675599
B	270m S	Unspecified Commercial/Industrial	1907	643332
B	270m S	Spindle Works	1915 - 1923	761769
B	274m S	Spindle Works	1955	789680
5	301m S	Filter Beds	1907	665793
6	310m E	Cuttings	1981	642590
B	313m S	Spindle Works	1932 - 1938	745057
B	315m S	Unspecified Works	1981	679084
B	315m S	Dye Works	1965 - 1974	746999
B	316m S	Finishing Works	1891	641784
B	318m S	Cotton Mill	1851	644064
B	408m S	Sewage Filterbed	1915 - 1938	732926
B	412m S	Unspecified Ground Workings	1907	648188
B	420m S	Filter Bed	1955	643466
C	426m SW	Unspecified Works	1965	679045
C	431m SW	Sewage Works	1932 - 1938	709131
C	439m SW	Unspecified Tank	1932 - 1938	761051
C	441m SW	Unspecified Tank	1965	719723
C	443m SW	Unspecified Tank	1955	674823
C	445m SW	Unspecified Tank	1932 - 1938	698135
7	458m SW	Unspecified Pit	1974 - 1981	740331
C	460m SW	Unspecified Tank	1932 - 1938	710712
C	462m SW	Unspecified Tank	1955	733403
D	472m N	Bleach Works	1891	751282
D	473m N	Bleach Works	1908 - 1938	769160
D	476m N	Bleach Works	1955	709253
8	476m SW	Unspecified Pit	1965 - 1981	717267
C	477m SW	Unspecified Pit	1965	713829



ID	Location	Land use	Dates present	Group ID
9	477m NE	Filter Beds	1908	665791
C	477m SW	Unspecified Pit	1974 - 1981	767357
D	488m NW	Print Works	1851	680238

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

14

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
B	354m S	Unspecified Tank	1893 - 1995	92665
C	434m SW	Settling Tank	1956	78448
C	434m SW	Settling Tanks	1956	78176
C	443m SW	Unspecified Tank	1932	84661
C	453m SW	Settling Tanks	1956	78175
C	454m SW	Settling Tank	1956	78449
C	459m SW	Unspecified Tank	1932	84662
E	485m N	Settling Tanks	1930 - 1937	92251
E	486m N	Tanks	1910	87159
E	490m N	Settling Tanks	1969	97948
E	490m N	Settling Tanks	1956	93380
E	493m N	Unspecified Tank	1910	84663
E	497m NW	Settling Tanks	1969	93434
E	499m N	Tanks	1910 - 1969	95803

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

6

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
3	127m N	Electricity Substation	1985 - 1996	52214
A	131m S	Electricity Substation	1968 - 1995	51445
A	139m S	Electricity Substation	1969	58036
4	232m NW	Electricity Substation	1988	45646
B	294m S	Electricity Substation	1956 - 1995	50319
B	301m S	Electricity Substation	1956 - 1969	58337

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

0

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



This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

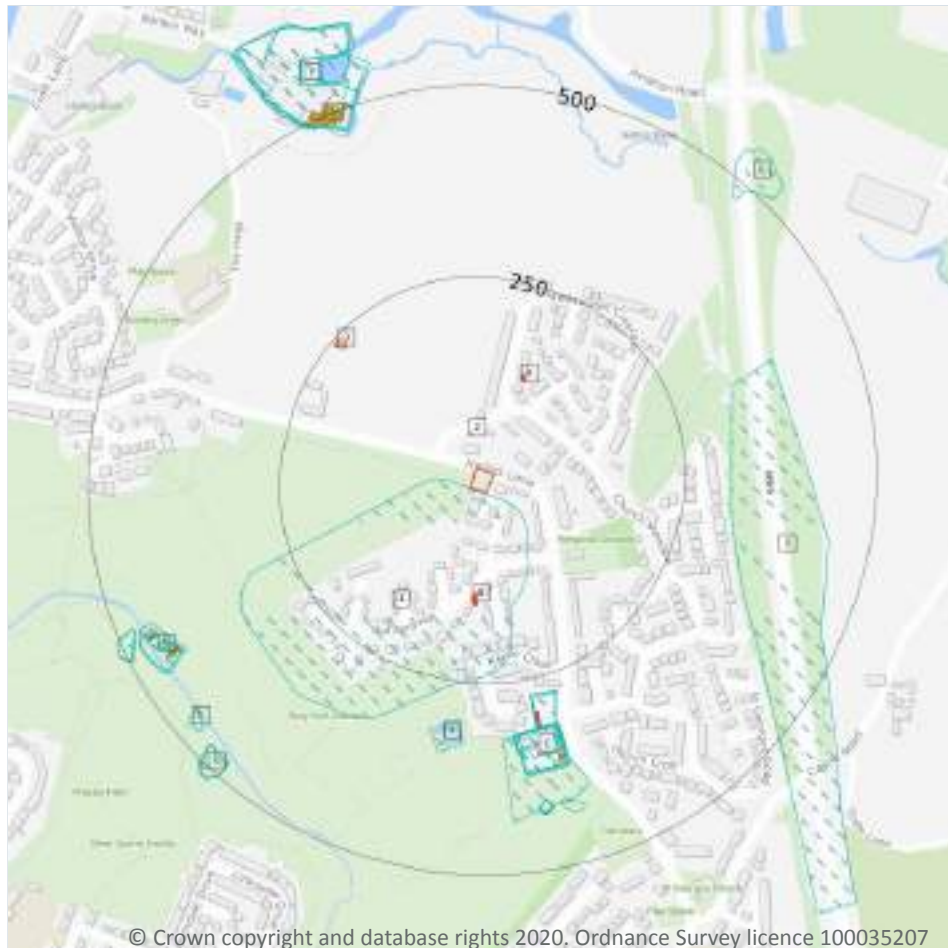
0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

48

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
1	0m S	Sewage Works	1955	659747
2	45m N	Pump	1851	675599
C	270m S	Spindle Works	1915	761769

ID	Location	Land Use	Date	Group ID
C	270m S	Unspecified Commercial/Industrial	1907	643332
C	270m S	Spindle Works	1923	761769
C	274m S	Spindle Works	1955	789680
4	301m S	Filter Beds	1907	665793
5	310m E	Cuttings	1981	642590
C	313m S	Spindle Works	1938	745057
C	314m S	Spindle Works	1932	745057
C	315m S	Unspecified Works	1981	679084
C	315m S	Dye Works	1974	746999
C	315m S	Dye Works	1965	746999
C	316m S	Finishing Works	1891	641784
C	318m S	Cotton Mill	1851	644064
C	408m S	Sewage Filterbed	1932	732926
C	408m S	Sewage Filterbed	1938	732926
C	409m S	Sewage Filterbed	1915	732926
C	409m S	Sewage Filterbed	1923	732926
C	412m S	Unspecified Ground Workings	1907	648188
C	420m S	Filter Bed	1955	643466
D	426m SW	Unspecified Works	1965	679045
D	431m SW	Sewage Works	1932	709131
D	431m SW	Sewage Works	1938	709131
D	439m SW	Unspecified Tank	1932	761051
D	439m SW	Unspecified Tank	1938	761051
D	441m SW	Unspecified Tank	1965	719723
D	443m SW	Unspecified Tank	1955	674823
D	445m SW	Unspecified Tank	1932	698135
D	446m SW	Unspecified Tank	1938	698135
E	458m SW	Unspecified Pit	1981	740331



ID	Location	Land Use	Date	Group ID
E	458m SW	Unspecified Pit	1974	740331
D	460m SW	Unspecified Tank	1932	710712
D	460m SW	Unspecified Tank	1938	710712
D	462m SW	Unspecified Tank	1955	733403
F	472m N	Bleach Works	1891	751282
F	473m N	Bleach Works	1938	769160
F	473m N	Bleach Works	1928	769160
F	473m N	Bleach Works	1908	769160
F	476m N	Bleach Works	1955	709253
G	476m SW	Unspecified Pit	1965	717267
D	477m SW	Unspecified Pit	1965	713829
G	477m SW	Unspecified Pit	1981	717267
G	477m SW	Unspecified Pit	1974	717267
6	477m NE	Filter Beds	1908	665791
D	477m SW	Unspecified Pit	1981	767357
D	477m SW	Unspecified Pit	1974	767357
F	488m NW	Print Works	1851	680238

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

17

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
C	354m S	Unspecified Tank	1994	92665
C	354m S	Unspecified Tank	1995	92665
C	358m S	Unspecified Tank	1893	92665



ID	Location	Land Use	Date	Group ID
D	434m SW	Settling Tank	1956	78448
D	434m SW	Settling Tanks	1956	78176
D	443m SW	Unspecified Tank	1932	84661
D	453m SW	Settling Tanks	1956	78175
D	454m SW	Settling Tank	1956	78449
D	459m SW	Unspecified Tank	1932	84662
H	485m N	Settling Tanks	1930	92251
H	485m N	Settling Tanks	1937	92251
H	486m N	Tanks	1910	87159
H	490m N	Settling Tanks	1969	97948
H	490m N	Settling Tanks	1956	93380
H	493m N	Unspecified Tank	1910	84663
H	497m NW	Settling Tanks	1969	93434
H	499m N	Tanks	1910	95803

This data is sourced from Ordnance Survey / Groundsure.

2.3 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. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
A	127m N	Electricity Substation	1985	52214
A	128m N	Electricity Substation	1996	52214
A	128m N	Electricity Substation	1996	52214
A	128m N	Electricity Substation	1996	52214
B	131m S	Electricity Substation	1968	51445
B	132m S	Electricity Substation	1994	51445



ID	Location	Land Use	Date	Group ID
B	132m S	Electricity Substation	1995	51445
B	139m S	Electricity Substation	1969	58036
3	232m NW	Electricity Substation	1988	45646
C	294m S	Electricity Substation	1956	50319
C	294m S	Electricity Substation	1968	50319
C	295m S	Electricity Substation	1994	50319
C	295m S	Electricity Substation	1995	50319
C	301m S	Electricity Substation	1956	58337
C	301m S	Electricity Substation	1969	58337

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



— Site Outline
Search buffers in metres (m)
● 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**13**

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

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

ID	Location	Site	Reference	Category	Sub-Category	Description
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in secure containers
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
A	239m NW	Hollins Mount Farm Hollins Lane bl9 8aw	EPR/TH0071SK /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Disposing of waste exemption	On a farm	Burning waste in the open
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Storing waste exemption	On a farm	Storage of waste in secure containers
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Storing waste exemption	On a farm	Storage of waste in a secure place
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Using waste exemption	On a farm	Use of waste in construction
B	446m W	Hollins Mount Farm, Hollins Lane, Bury, BL9 8AS	WEX077030	Using waste exemption	On a farm	Use of waste for a specified purpose
1	452m NW	Land at Sabden Fold Farm Sabden Fold Lancashire BB12 9LS	EPR/BF0834RL /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction

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

4.1 Recent industrial land uses

Records within 250m

5

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
1	37m S	Gas Governor Station	Greater Manchester, BL9	Gas Features	Infrastructure and Facilities
2	89m N	Walsh Bros Contracting Ltd	1, Haweswater Crescent, Unsworth, Bury, Greater Manchester, BL9 8LT	Civil Engineers	Engineering Services



ID	Location	Company	Address	Activity	Category
3	135m N	Electricity Sub Station	Greater Manchester, BL9	Electrical Features	Infrastructure and Facilities
4	139m S	Electricity Sub Station	Greater Manchester, BL9	Electrical Features	Infrastructure and Facilities
5	221m NE	A J F Express	6, Mere Close, Unsworth, Bury, Greater Manchester, BL9 8NY	Distribution and Haulage	Transport, Storage and Delivery

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**0**

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m**0**

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**0**

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

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

4.19 Pollution inventory substances

Records within 500m**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m**0**

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

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



4.21 Pollution inventory radioactive waste

Records within 500m

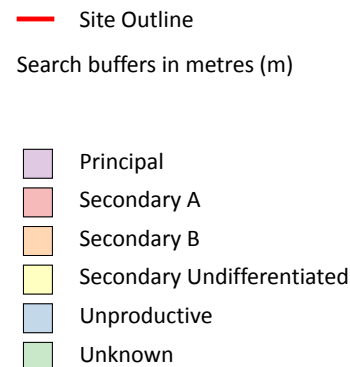
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 32**

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	37m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers



ID	Location	Designation	Description
3	153m N	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

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5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

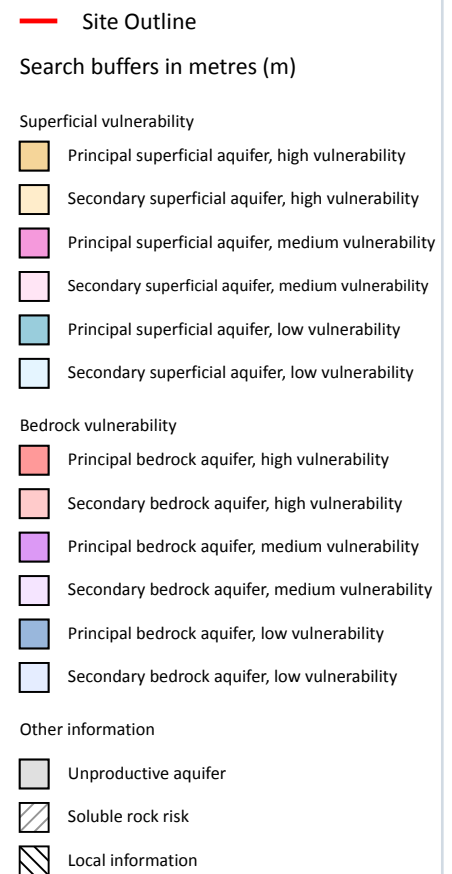
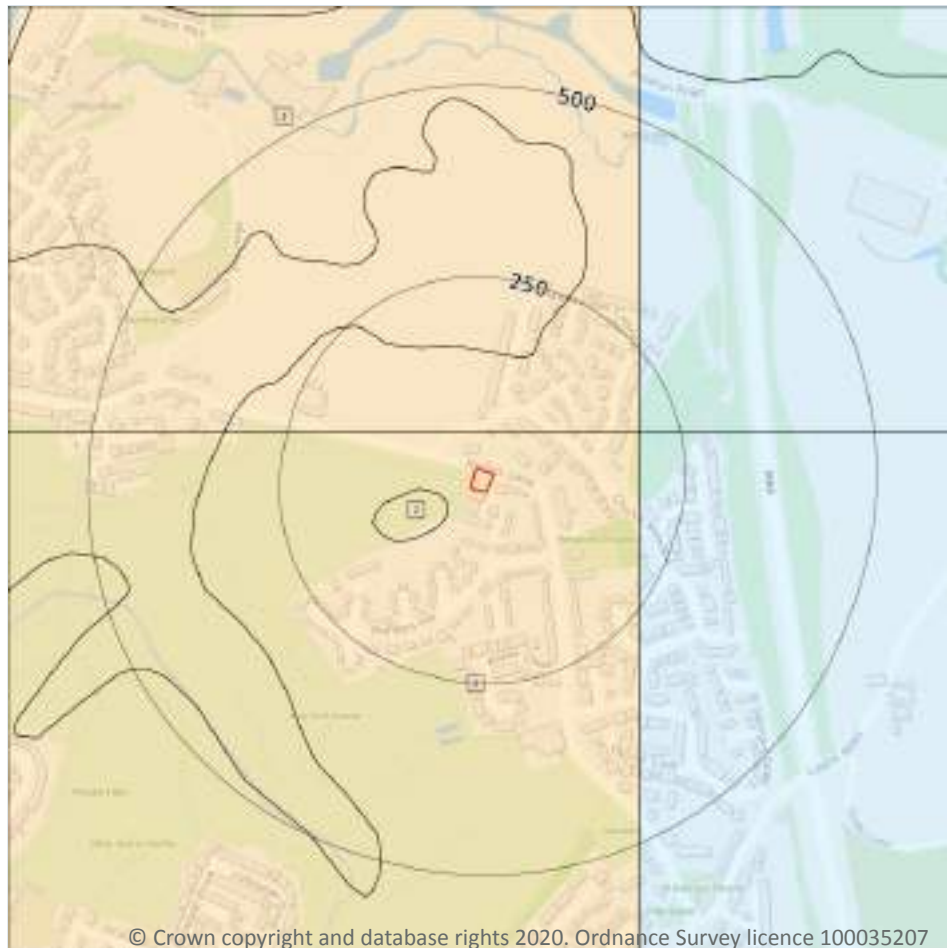
Features are displayed on the Bedrock aquifer map on **page 34**

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.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

3

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

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

Features are displayed on the Groundwater vulnerability map on **page 35**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	36m SW	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	47m N	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

0

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

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



Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

21

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 37**

ID	Location	Details	
-	755m N	Status: Historical Licence No: 2569002272 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, PILSWORTH, BURY" Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -
-	755m N	Status: Historical Licence No: 2569002272 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, PILSWORTH, BURY Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -
-	850m W	Status: Historical Licence No: 2569002264 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "A BOREHOLE AT BURY GOLF CLUB, BLACKFORD BRIDGE, BURY" Data Type: Point Name: BURY GOLF CLUB Easting: 380970 Northing: 407670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/04/1997 Expiry Date: 16-Apr-07 Issue No: 100 Version Start Date: 17/04/1997 Version End Date: -
-	850m W	Status: Historical Licence No: 2569002264 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: A BOREHOLE AT BURY GOLF CLUB, BLACKFORD BRIDGE, BURY Data Type: Point Name: RAYMOND ADAMS Easting: 380970 Northing: 407670	Annual Volume (m ³): 9000 Max Daily Volume (m ³): 55 Original Application No: - Original Start Date: 17/04/1997 Expiry Date: 16/04/2007 Issue No: 101 Version Start Date: 27/01/2004 Version End Date: 16/04/2007



ID	Location	Details	
-	850m W	Status: Historical Licence No: 2569002264R1 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: A BOREHOLE AT BURY GOLF CLUB, BLACKFORD BRIDGE, BURY Data Type: Point Name: RAYMOND ADAMS Easting: 380970 Northing: 407670	Annual Volume (m ³): 7000 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 01/06/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	855m W	Status: Historical Licence No: 2569002264R1 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: A BOREHOLE AT BURY GOLF CLUB, BLACKFORD BRIDGE, BURY Data Type: Point Name: RAYMOND ADAMS Easting: 380963 Northing: 407673	Annual Volume (m ³): 7000 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 01/06/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	855m W	Status: Active Licence No: 2569002264R02 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: A BOREHOLE AT BURY GOLF CLUB, BLACKFORD BRIDGE, BURY Data Type: Point Name: Bury Golf Club Limited Easting: 380963 Northing: 407673	Annual Volume (m ³): 7,000 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	1234m SE	Status: Historical Licence No: 2569002273 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR R MONAGHAN MR H ADAMS MR G RYAN MR P BRADLEY Easting: 382600 Northing: 406980	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 08/07/2005 Expiry Date: 31/03/2014 Issue No: 3 Version Start Date: 21/12/2007 Version End Date: -



ID	Location	Details	
-	1234m SE	Status: Historical Licence No: 2569002273 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR R MONAGHAN MR H ADAMS MR G RYAN MR P BRADLEY Easting: 382600 Northing: 406980	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 08/07/2005 Expiry Date: 31/03/2014 Issue No: 3 Version Start Date: 21/12/2007 Version End Date: -
-	1268m SE	Status: Historical Licence No: 2569002273 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 08/07/2005 Expiry Date: 31/03/2014 Issue No: 3 Version Start Date: 21/12/2007 Version End Date: -
-	1268m SE	Status: Historical Licence No: 2569002273 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 08/07/2005 Expiry Date: 31/03/2014 Issue No: 3 Version Start Date: 21/12/2007 Version End Date: -
-	1268m SE	Status: Historical Licence No: 2569002273R01 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 01/04/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -



ID	Location	Details	
-	1268m SE	Status: Historical Licence No: 2569002273R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 01/04/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1268m SE	Status: Active Licence No: 2569002273/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8,000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 01/04/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1268m SE	Status: Active Licence No: 2569002273/R01 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT HILLS LANE UNSWORTH BURY Data Type: Point Name: MR RAY MONAGHAN MR HARRY ADAMS MR GED RYAN MR PAUL BRADLEY Easting: 382647 Northing: 406975	Annual Volume (m ³): 8,000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 01/04/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1610m NW	Status: Historical Licence No: 2569001258 Details: Pollution Remediation Direct Source: Ground Water - North West Region Point: "WELL POINT SYSTEM AT MANCHESTER ROAD, BURY" Data Type: Point Name: TOTALFINAELF UK LTD Easting: 380450 Northing: 408850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 12/06/2002 Expiry Date: - Issue No: 1 Version Start Date: 12/06/2002 Version End Date: -



ID	Location	Details	
-	1610m NW	Status: Historical Licence No: 2569001258 Details: Pollution Remediation Direct Source: Ground Water - North West Region Point: WELL POINT SYSTEM AT MANCHESTER ROAD, BURY Data Type: Point Name: TOTALFINAELF UK LTD Easting: 380450 Northing: 408850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 12/06/2002 Expiry Date: - Issue No: 1 Version Start Date: 12/06/2002 Version End Date: -
-	1747m N	Status: Historical Licence No: 2569002063 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT WATER FARM, HEAP BRIDGE, BURY" Data Type: Point Name: FISH Easting: 381800 Northing: 409700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1747m N	Status: Historical Licence No: 2569002063 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT WATER FARM, HEAP BRIDGE, BURY Data Type: Point Name: FISH Easting: 381800 Northing: 409700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1849m SW	Status: Historical Licence No: 2569004042 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, STANLEY ROAD, WHITEFIELD" Data Type: Point Name: DANISH BACON INDEPENDENT DBI LTD Easting: 380900 Northing: 406300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/07/1973 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1986 Version End Date: -



ID	Location	Details	
-	1849m SW	Status: Active Licence No: 2569004042 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, STANLEY ROAD, WHITEFIELD Data Type: Point Name: DANISH CROWN UK LIMITED Easting: 380900 Northing: 406300	Annual Volume (m ³): 7,000 Max Daily Volume (m ³): 21 Original Application No: - Original Start Date: 18/07/1973 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2008 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

13

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Details	
-	775m NE	Status: Historical Licence No: 2569002088 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY" Data Type: Point Name: BORDEN CHEMICAL U K LTD Easting: 382500 Northing: 408300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/05/1996 Version End Date: -
-	775m NE	Status: Historical Licence No: 2569002088 Details: General Washing/Process Washing Direct Source: "Surface, Non-Tidal - North West Region" Point: "BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY" Data Type: Point Name: BORDEN CHEMICAL U K LTD Easting: 382500 Northing: 408300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/05/1996 Version End Date: -



ID	Location	Details	
-	775m NE	Status: Historical Licence No: 2569002088 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY" Data Type: Point Name: BORDEN CHEMICAL U K LTD Easting: 382500 Northing: 408300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/05/1996 Version End Date: -
-	775m NE	Status: Historical Licence No: 2569002088 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY Data Type: Point Name: HEXION SPECIALITY CHEMICALS UK TD Easting: 382500 Northing: 408300	Annual Volume (m ³): 118198 Max Daily Volume (m ³): 681.9 Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/2005 Version End Date: -
-	775m NE	Status: Historical Licence No: 2569002088 Details: General Washing/Process Washing Direct Source: Surface, Non-Tidal - North West Region Point: BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY Data Type: Point Name: HEXION SPECIALITY CHEMICALS UK TD Easting: 382500 Northing: 408300	Annual Volume (m ³): 118198 Max Daily Volume (m ³): 681.9 Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/2005 Version End Date: -
-	775m NE	Status: Historical Licence No: 2569002088 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: BRIGHTLEY& WHITTLE BRKS @ THEIR CONFLUENCE, ABOVE WEIR, BURY Data Type: Point Name: HEXION SPECIALITY CHEMICALS UK TD Easting: 382500 Northing: 408300	Annual Volume (m ³): 118198 Max Daily Volume (m ³): 681.9 Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/2005 Version End Date: -

ID	Location	Details	
-	1808m S	Status: Historical Licence No: NW/069/0004/002 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: POINT "C"ON WHITFIELD BROOK Data Type: Point Name: Onsite Central Limited Easting: 381610 Northing: 406123	Annual Volume (m ³): 0.001 Max Daily Volume (m ³): 0.001 Original Application No: - Original Start Date: 01/11/2011 Expiry Date: 27/11/2011 Issue No: 1 Version Start Date: 01/11/2011 Version End Date: -
-	1937m NW	Status: Historical Licence No: 2569001245 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1937m NW	Status: Historical Licence No: 2569001245 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1937m NW	Status: Historical Licence No: 2569001245 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -



ID	Location	Details	
-	1937m NW	Status: Historical Licence No: 2569001245 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1937m NW	Status: Historical Licence No: 2569001245 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1937m NW	Status: Historical Licence No: 2569001245 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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 37**



ID	Location	Details	
-	755m N	Status: Historical Licence No: 2569002272 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, PILSWORTH, BURY" Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -
-	755m N	Status: Historical Licence No: 2569002272 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, PILSWORTH, BURY Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 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

3

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

Features are displayed on the Hydrology map on **page 48**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	189m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
A	207m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	231m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

3

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

Features are displayed on the Hydrology map on **page 48**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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 48**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Whittle Brook (Irwell)	GB112069061250	Roch Irk Medlock	Irwell
3	On site	River WB catchment	Roch (Spodden to Irwell)	GB112069064600	Roch Irk Medlock	Irwell

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



6.4 WFD Surface water bodies

Records identified

2

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 48**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
6	431m N	River	Whittle Brook (Irwell)	GB112069061250	Moderate	Good	Moderate	2016
-	824m NW	River	Roch (Spodden to Irwell)	GB112069064600	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 48**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800	Poor	Poor	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
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Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

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

7.7 Flood Zone 3

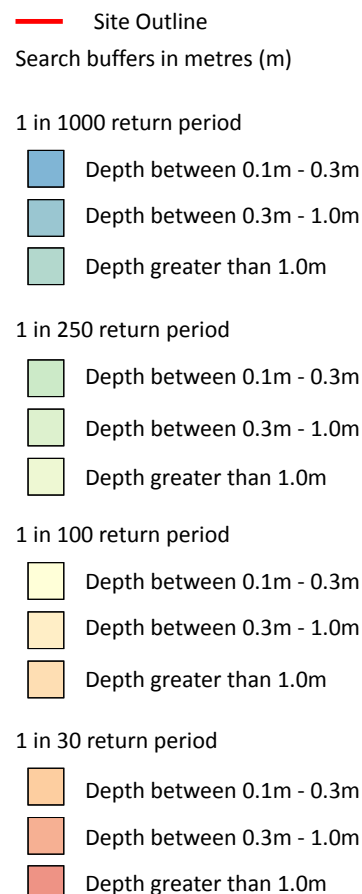
Records within 50m	0
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Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each 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 54**

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.

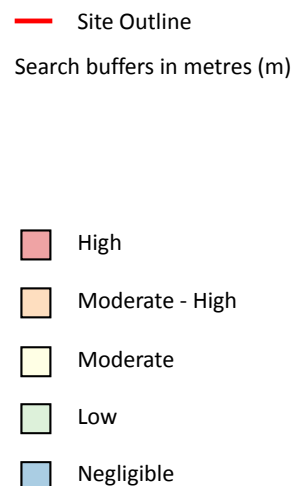
The table below shows the maximum flood depths for a range of return periods for the site.

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 Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

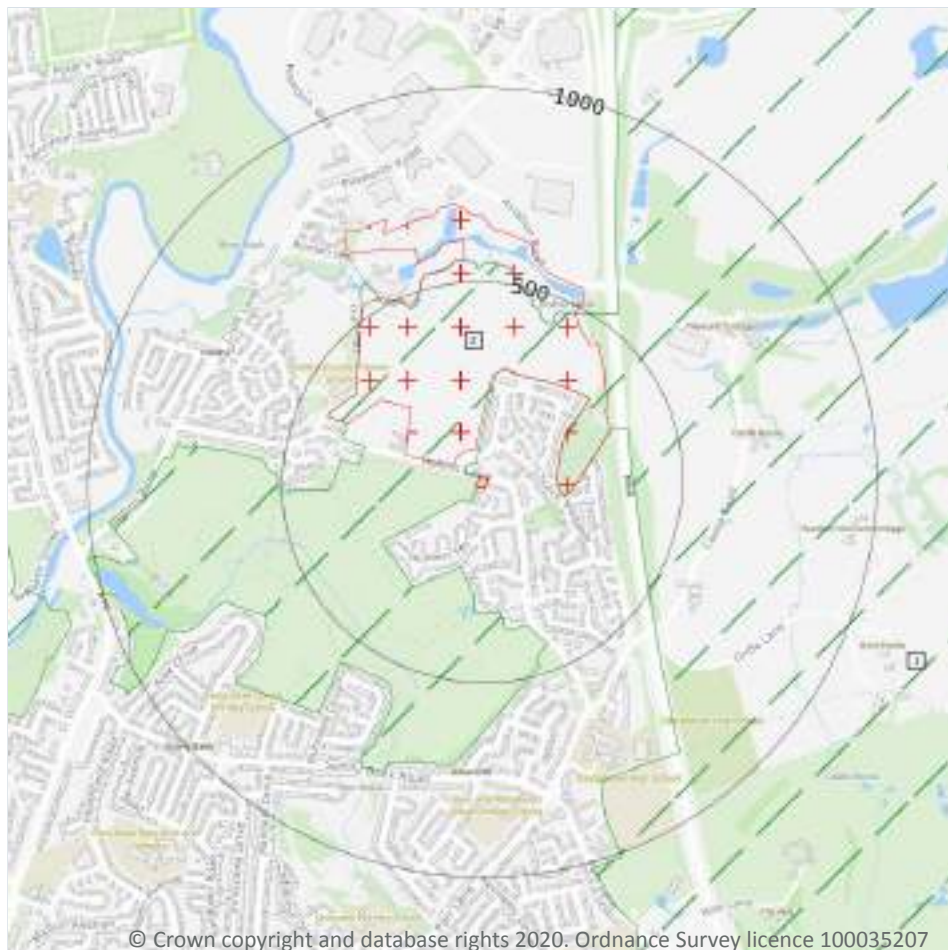
Moderate

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

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

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- / 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 57**

ID	Location	Name	Data source
2	68m N	Hollins Vale	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m**0**

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

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

10.8 Biosphere Reserves

Records within 2000m**0**

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

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

10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

3

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

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

ID	Location	Name	Local Authority name
1	On site	Liverpool and Manchester	Bury
3	1101m W	Liverpool and Manchester	Bury
-	1386m N	Liverpool and Manchester	Rochdale

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

0

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

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

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

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 4000m². 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

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

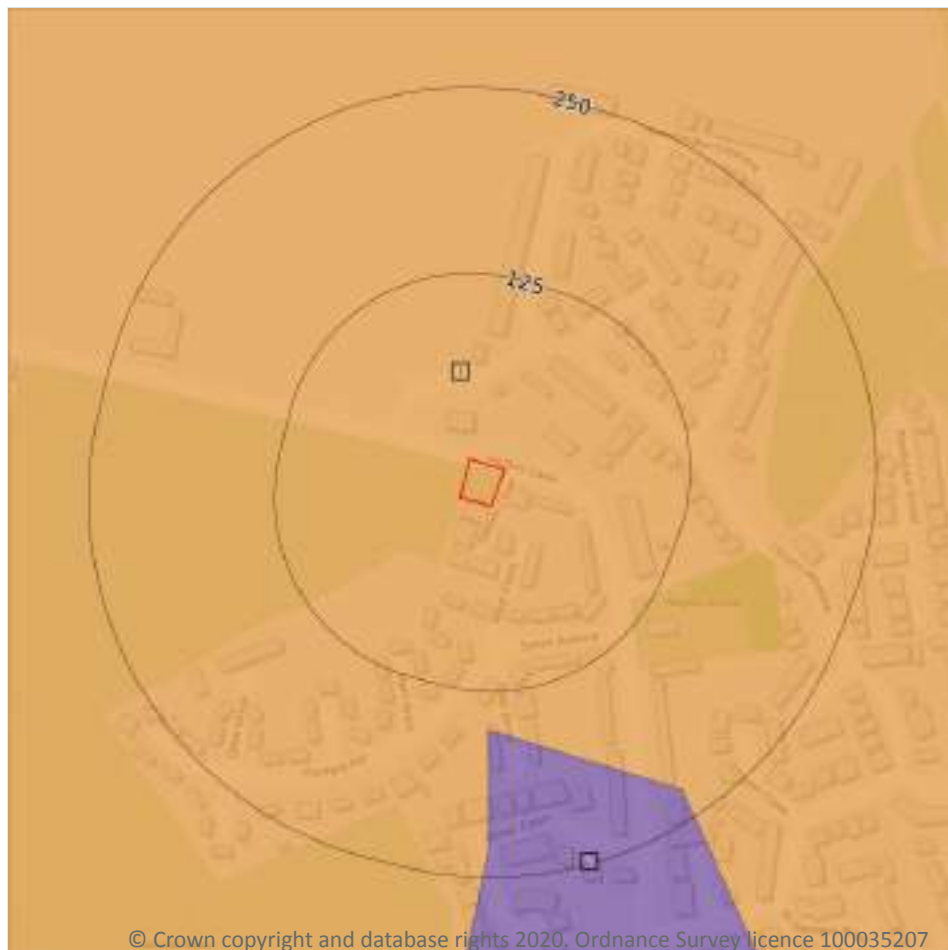
0

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 66**

ID	Location	Classification	Description
1	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
2	151m S	Urban	-



This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

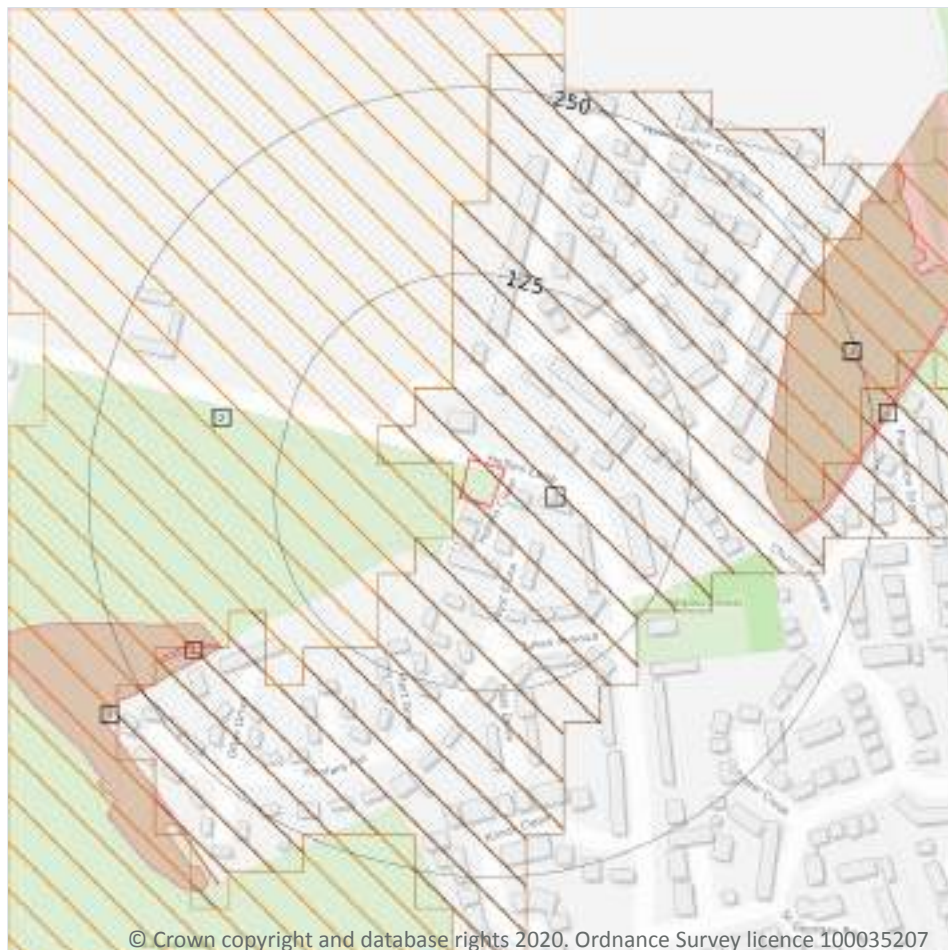
0

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

This data is sourced from Natural England.



13 Habitat designations



- Site Outline**
- Search buffers in metres (m)**
- Priority Habitat Inventory
 - Open Mosaic Habitat
 - Limestone Pavement Orders
- Habitat Networks**
- Primary Habitat
 - Restorable Habitat
 - Associated Habitats
 - Habitat Restoration-Creation
 - Network Enhancement Zone 1
 - Network Enhancement Zone 2

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13.1 Priority Habitat Inventory

Records within 250m

4

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

Features are displayed on the Habitat designations map on **page 68**

ID	Location	Main Habitat	Other habitats
3	176m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	189m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	189m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	198m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

2

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.

Features are displayed on the Habitat designations map on **page 68**

ID	Location	Type	Habitat
1	On site	Network Enhancement Zone 2	Not specified
2	6m W	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

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

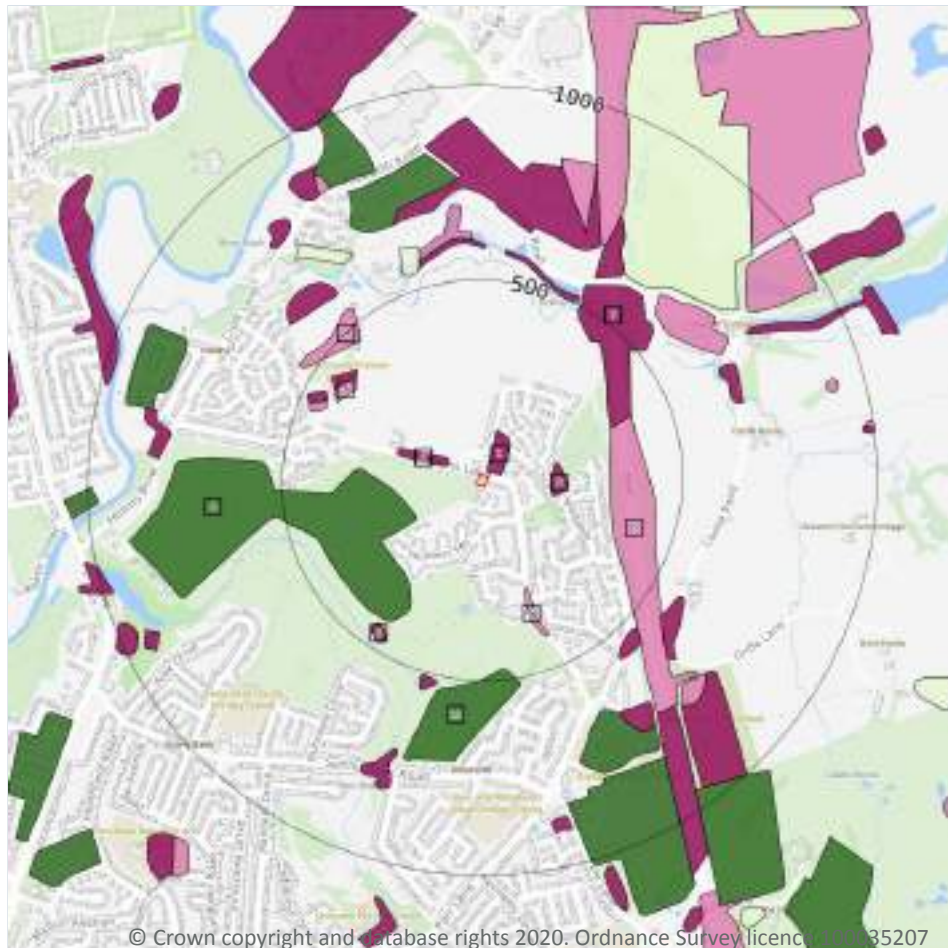
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 70**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD80NW

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

14

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 71**

ID	Location	LEX Code	Description	Rock description
1	15m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	84m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	165m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	177m SW	LSGR-ARTDP	Landscaped Ground (Undivided)	Artificial Deposit

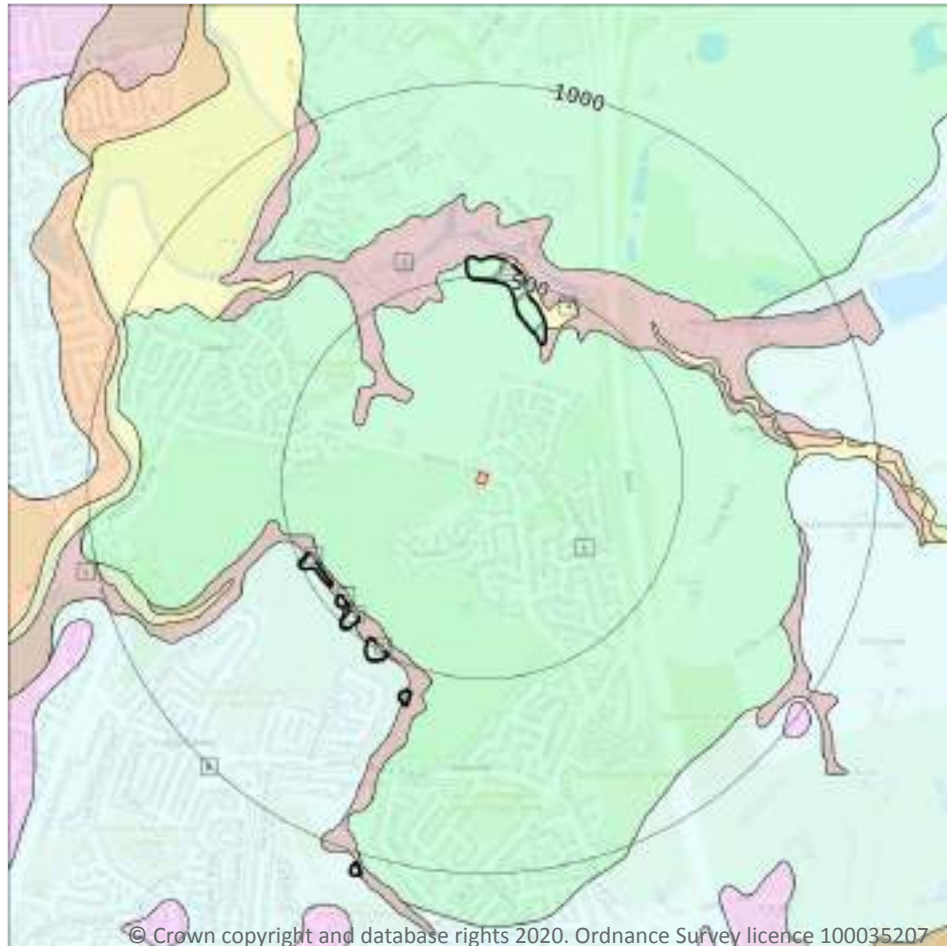


ID	Location	LEX Code	Description	Rock description
5	281m SE	WGR-VOID	Worked Ground (Undivided)	Void
6	312m E	WGR-VOID	Worked Ground (Undivided)	Void
7	338m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	383m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	402m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	428m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	434m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	435m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	460m NW	WGR-VOID	Worked Ground (Undivided)	Void
10	473m S	LSGR-ARTDP	Landscaped Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

5

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 73**

ID	Location	LEX Code	Description	Rock description
1	On site	HMGDD-DMTN	Hummocky (moundy) Glacial Deposits, Devensian - Diamicton	Diamicton
2	258m NW	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	410m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	435m SW	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	452m SW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

5

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.

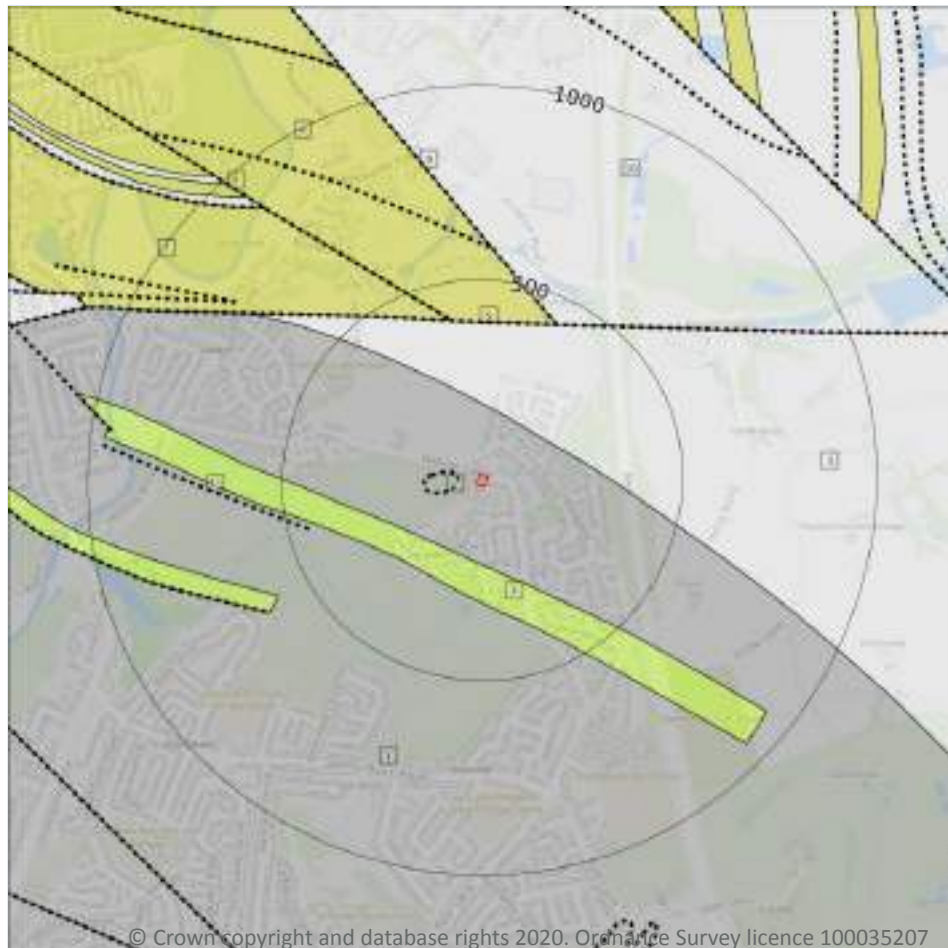
Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 73**

ID	Location	LEX Code	Description	Rock description
3	364m N	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
7	452m SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
8	454m SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
9	456m SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
10	484m SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

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

6

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 75**

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
3	158m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
4	182m SW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
6	391m N	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age
7	400m N	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age
10	430m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

5

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.

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

ID	Location	Category	Description
2	49m W	LANDFORM	Drumlin, form-line at base of mound
5	391m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
8	400m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
9	430m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
11	439m W	ROCK	Coal seam, inferred

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 77**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW085_manchester_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

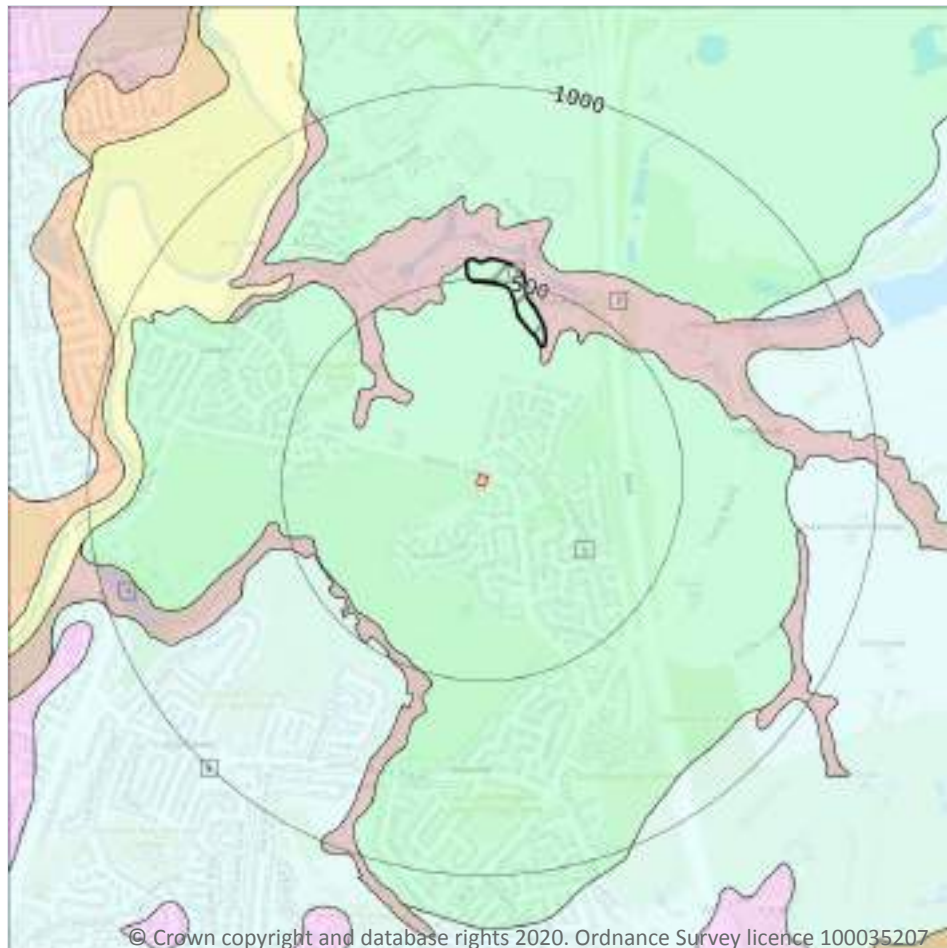
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

4

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

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

ID	Location	LEX Code	Description	Rock description
1	On site	HMGDD-DMTN	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	DIAMICTON
2	258m NW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	435m SW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
5	448m SW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

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	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

1

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.

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

ID	Location	LEX Code	Description	Rock description
3	364m N	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

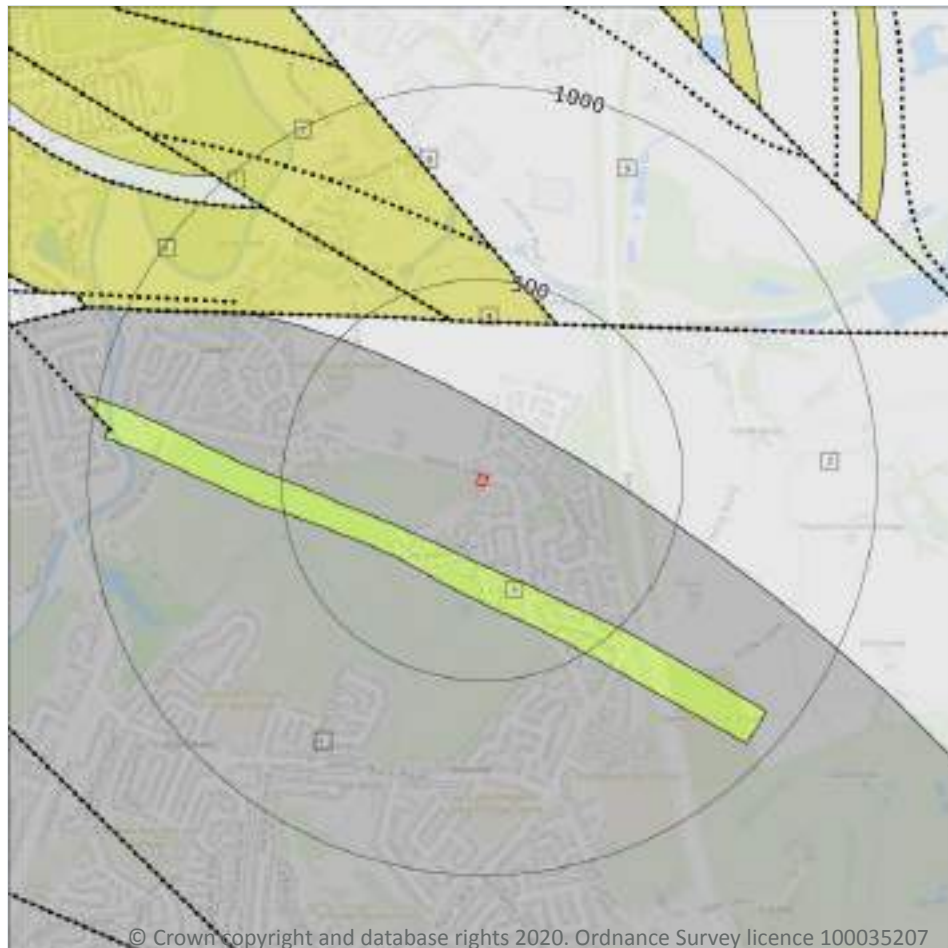
0

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

6

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

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

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	157m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
3	182m SW	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
5	392m N	TRBR-SDST	TRENCHBONE ROCK - SANDSTONE	WESTPHALIAN
6	400m N	TRBR-SDST	TRENCHBONE ROCK - SANDSTONE	WESTPHALIAN
9	430m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

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	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	3
----------------------------	----------

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.

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

ID	Location	Category	Description
4	392m N	FAULT	Fault, inferred
7	400m N	FAULT	Fault, inferred
8	430m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



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— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

3

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

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

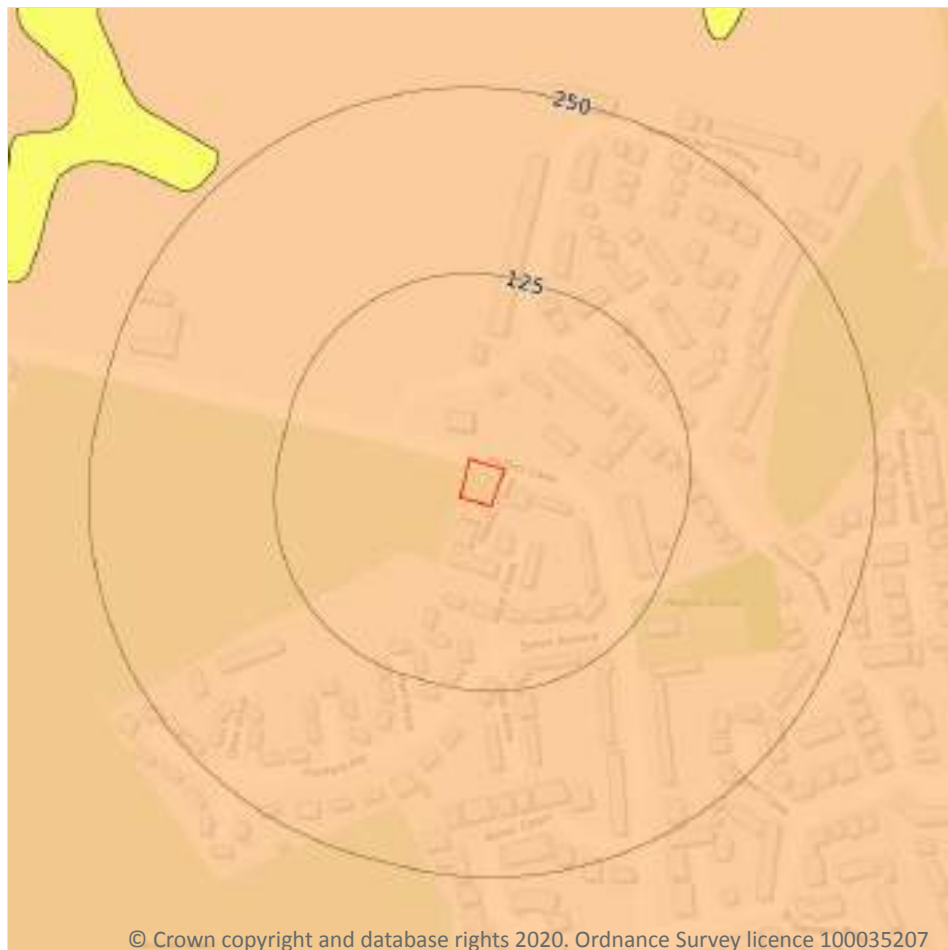
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	238m SE	382000 407790	HOLLINS LANE BURY 4	9.0	N	27383
2	242m E	382040 407870	HOLLINS LANE BURY 5	9.0	N	27384
3	247m SE	381970 407740	HOLLINS LANE BURY 2	9.0	N	27381



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).

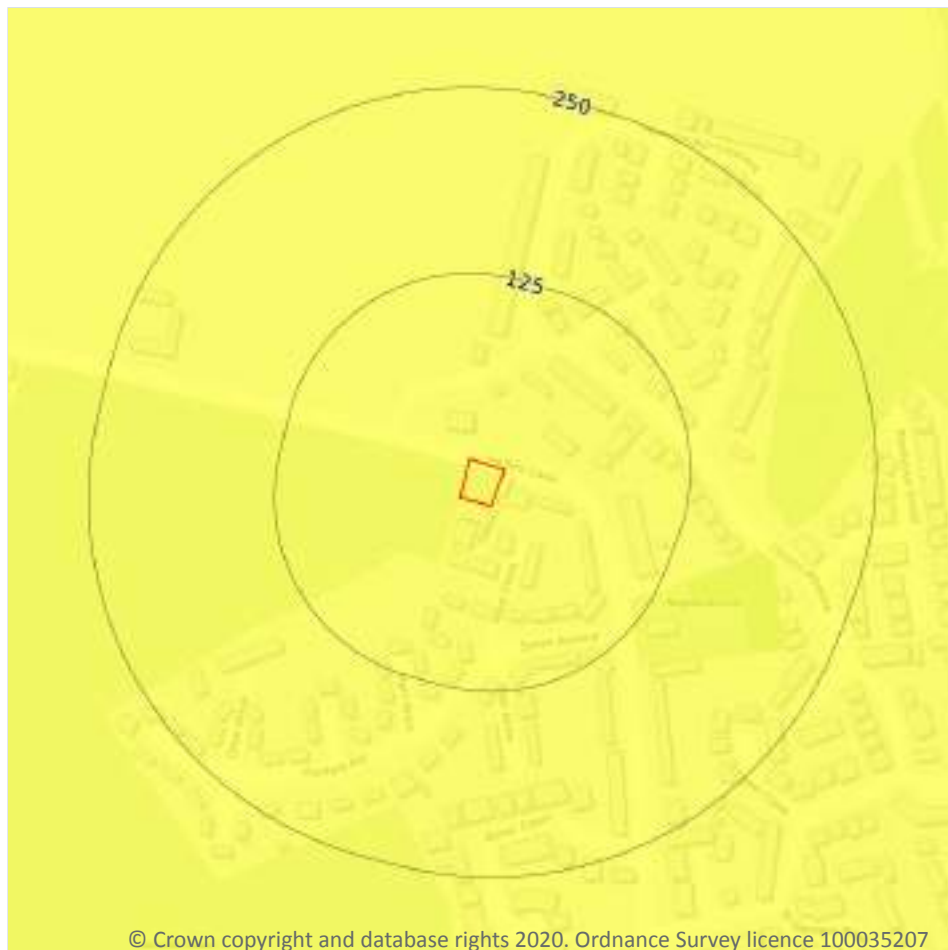
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 85**

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



- 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 86**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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

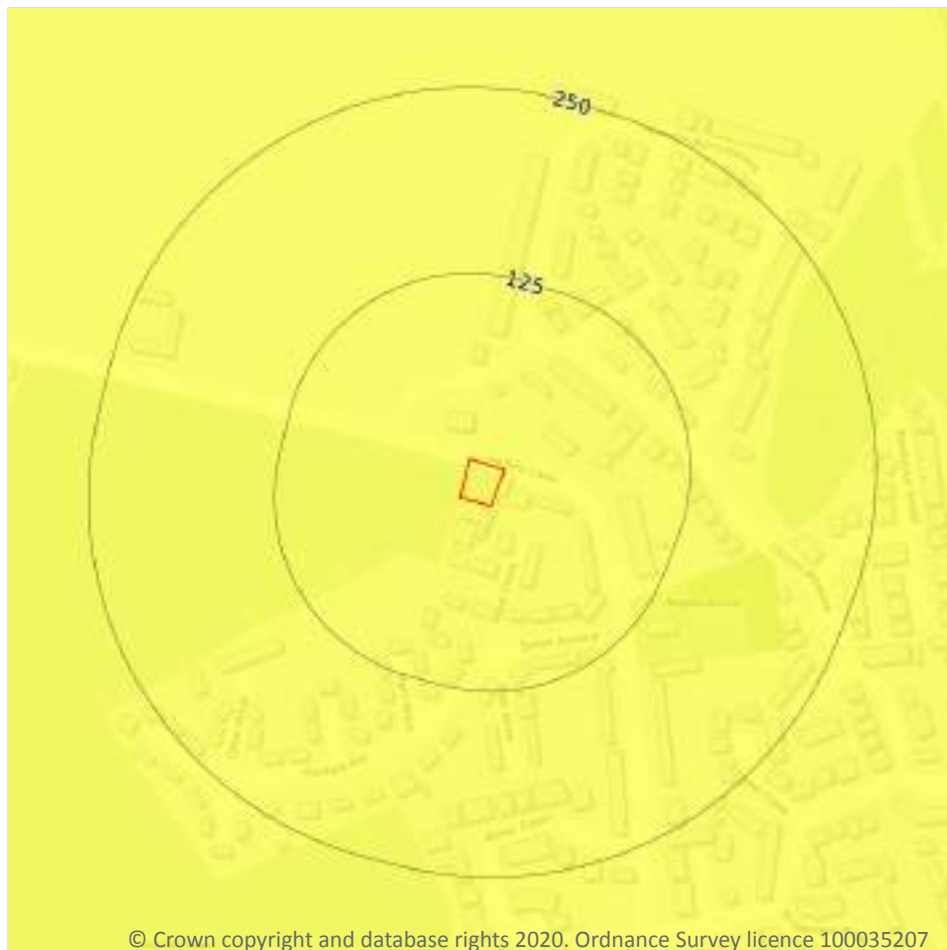
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 87**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

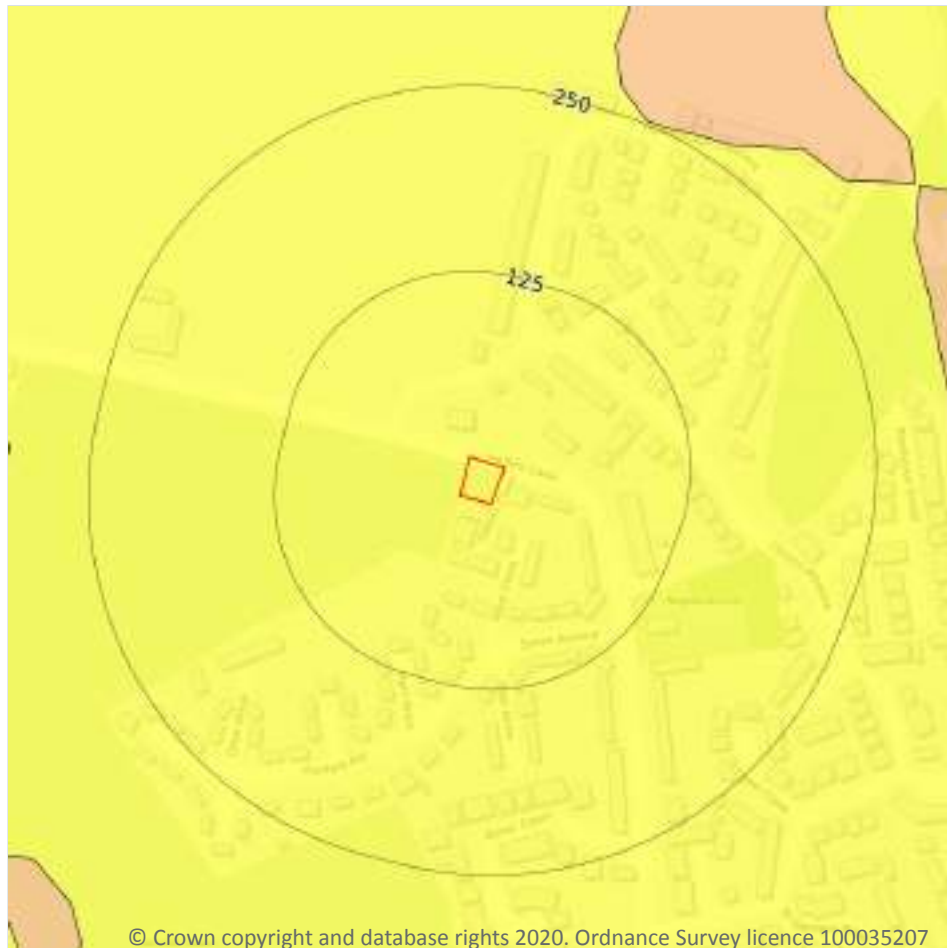
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 88**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 89**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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

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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 90**

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**1**

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 91**

ID	Location	Land Use	Year of mapping	Mapping scale
1	0m S	Sewage Works	1955	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

1

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

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.



18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

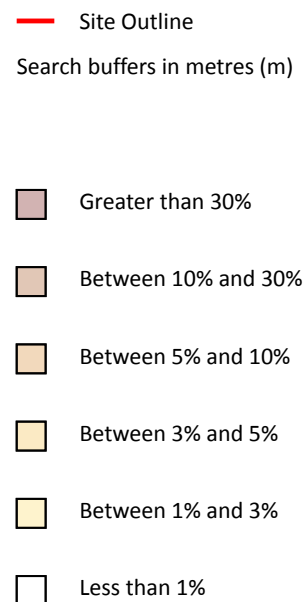
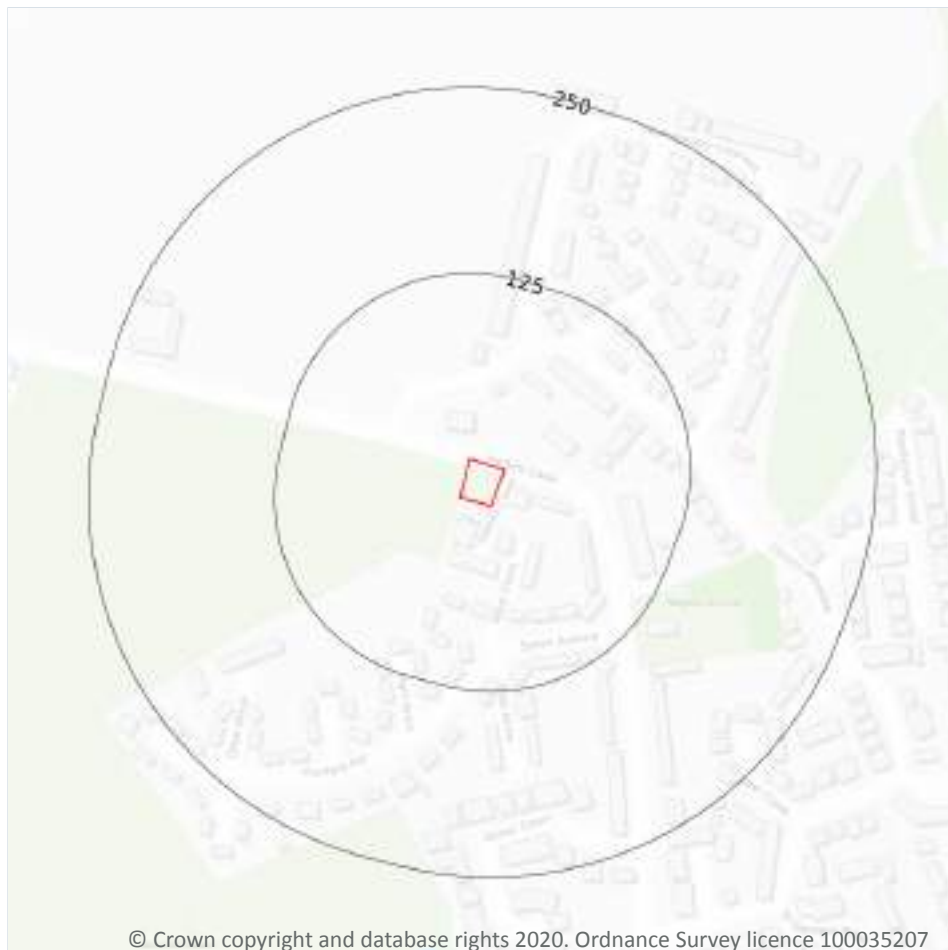
18.13 Clay mining

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 95**

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

4

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
36m SW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
47m NW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
47m NW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

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 III

- Ground Sure Report Historical Map Extracts (GSR – Mapinsight)

Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1890-1893

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1890
Edition N/A
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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
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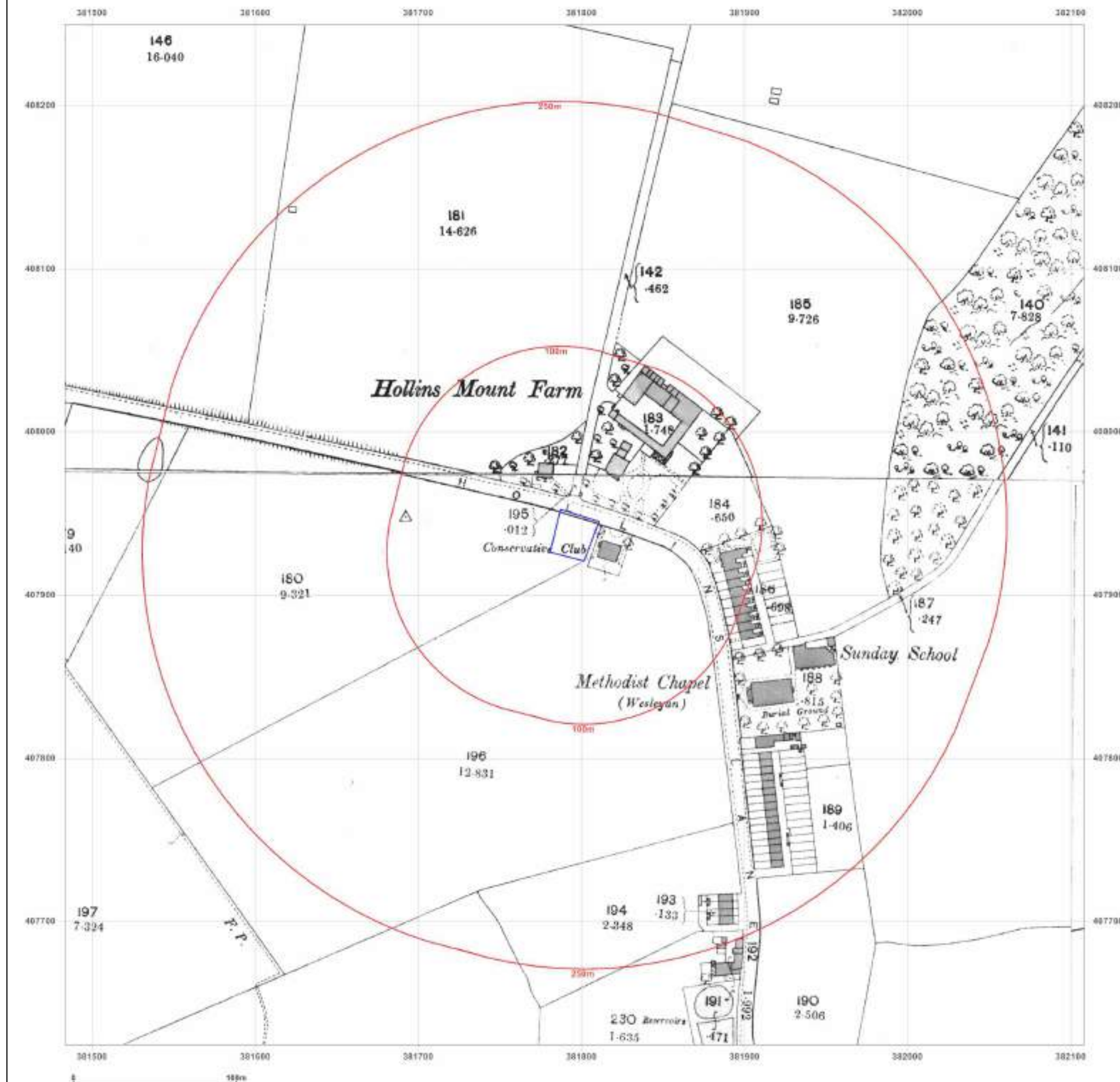


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Map legend available at:
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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1909-1910

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1910
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Edition N/A
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Surveyed 1909
Revised 1909
Edition N/A
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Levelled N/A

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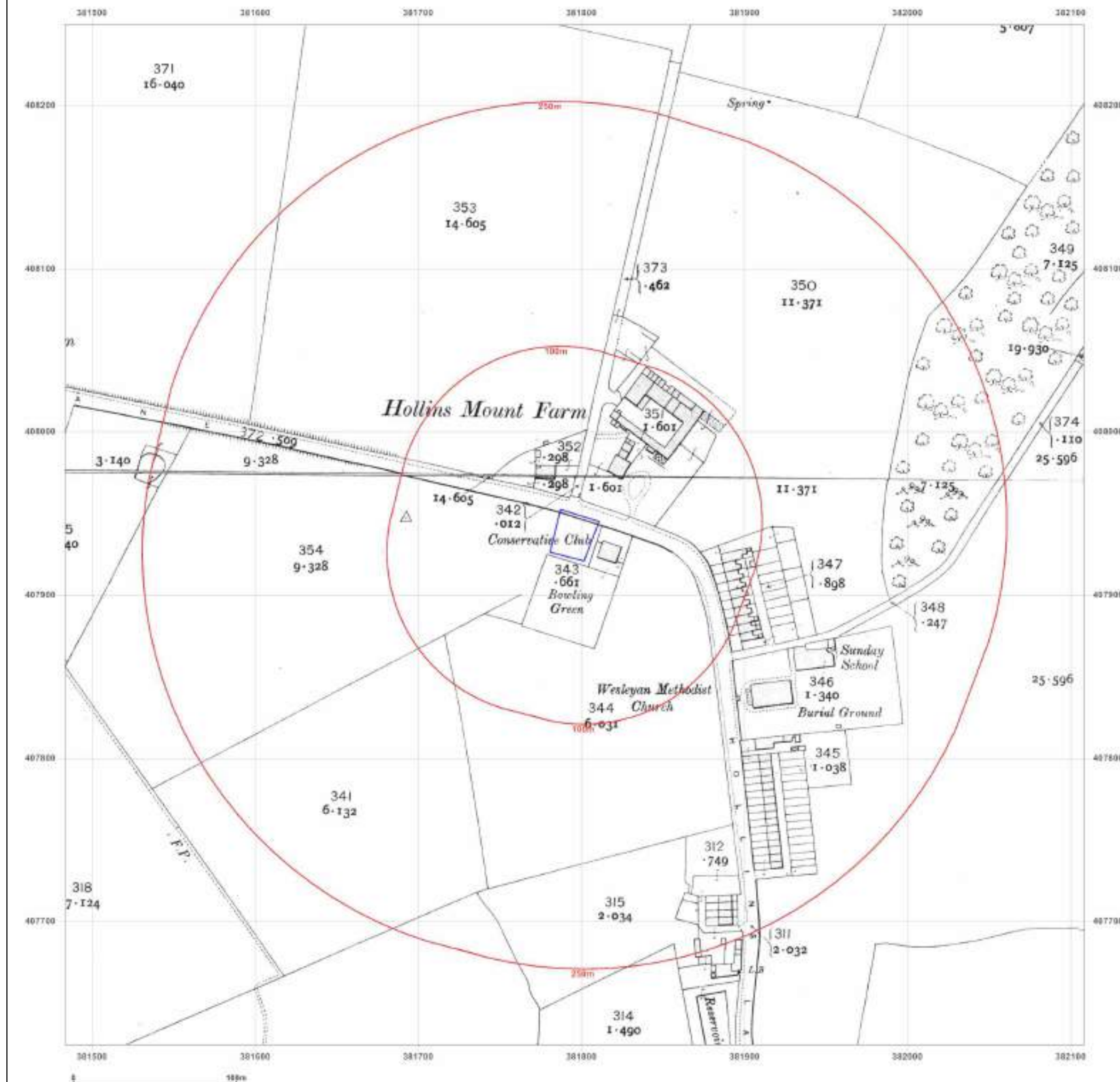


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



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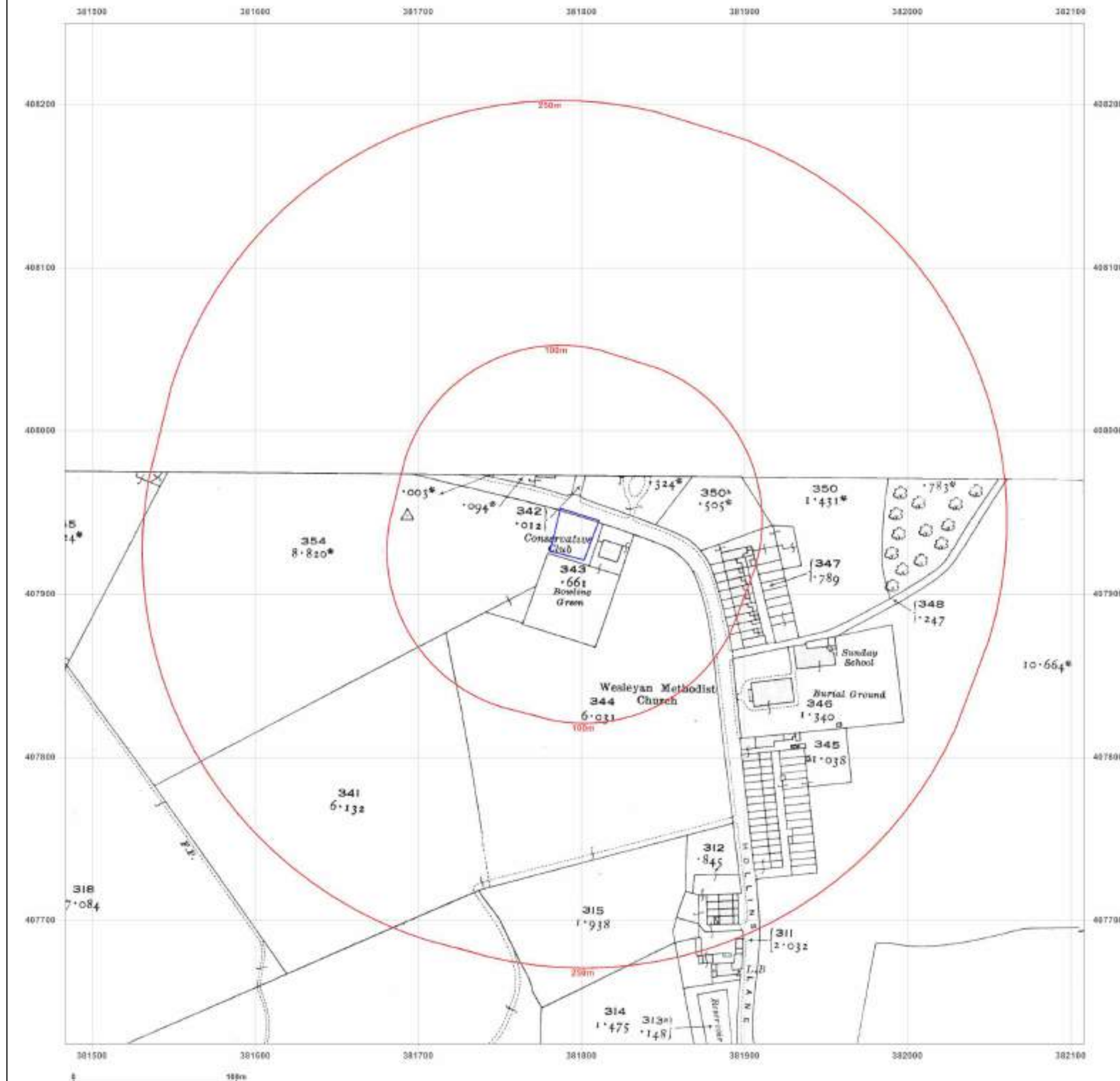


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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

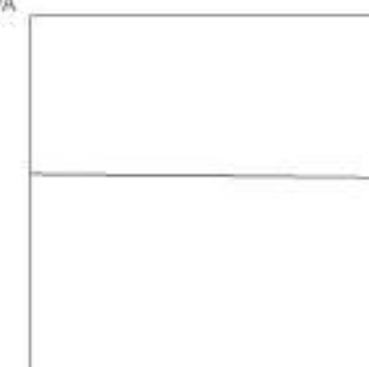
Map date: 1937

Scale: 1:2,500

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Revised 1937
Edition N/A
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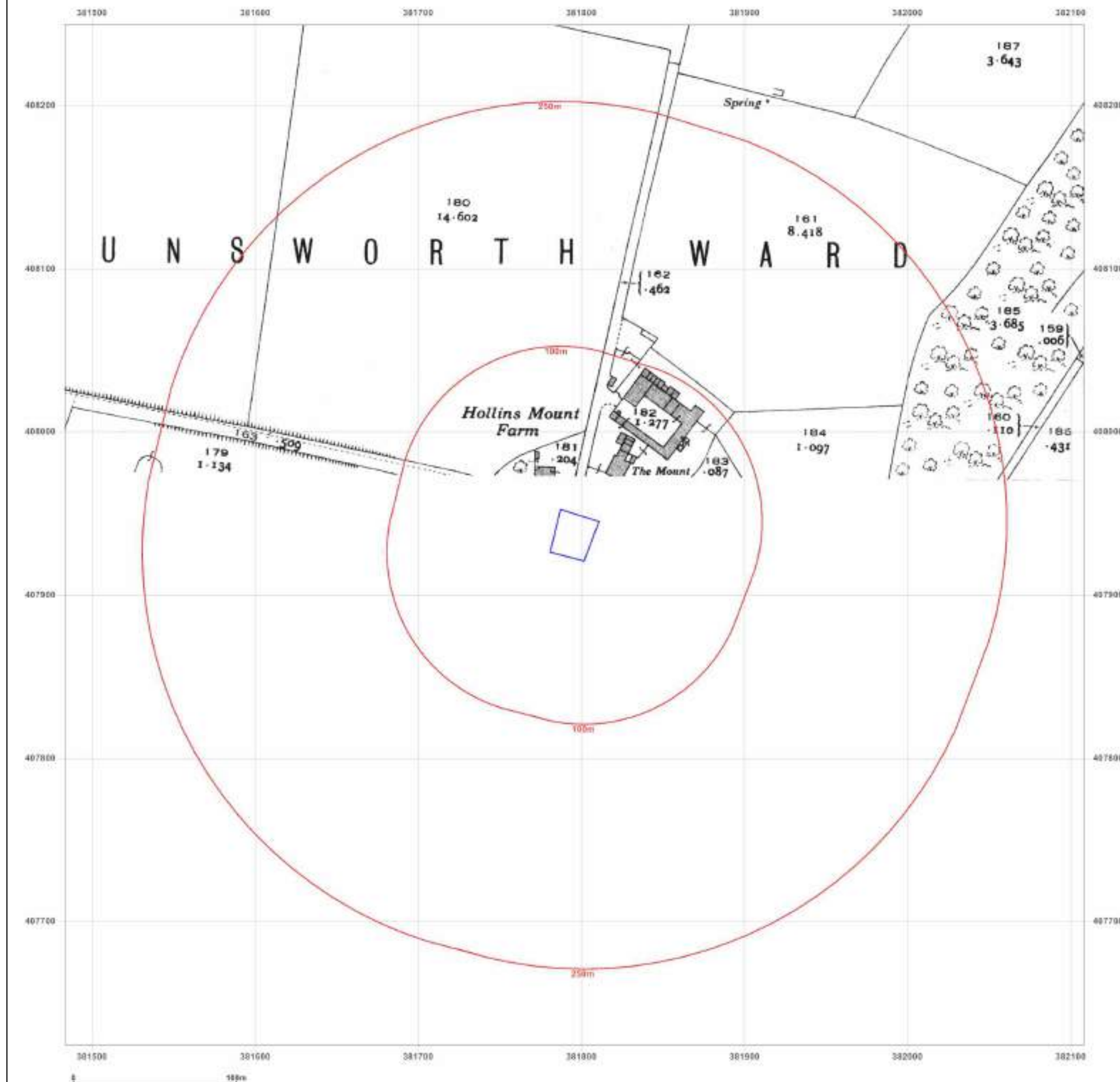


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1956

Scale: 1:1,250

Printed at: 1:2,000



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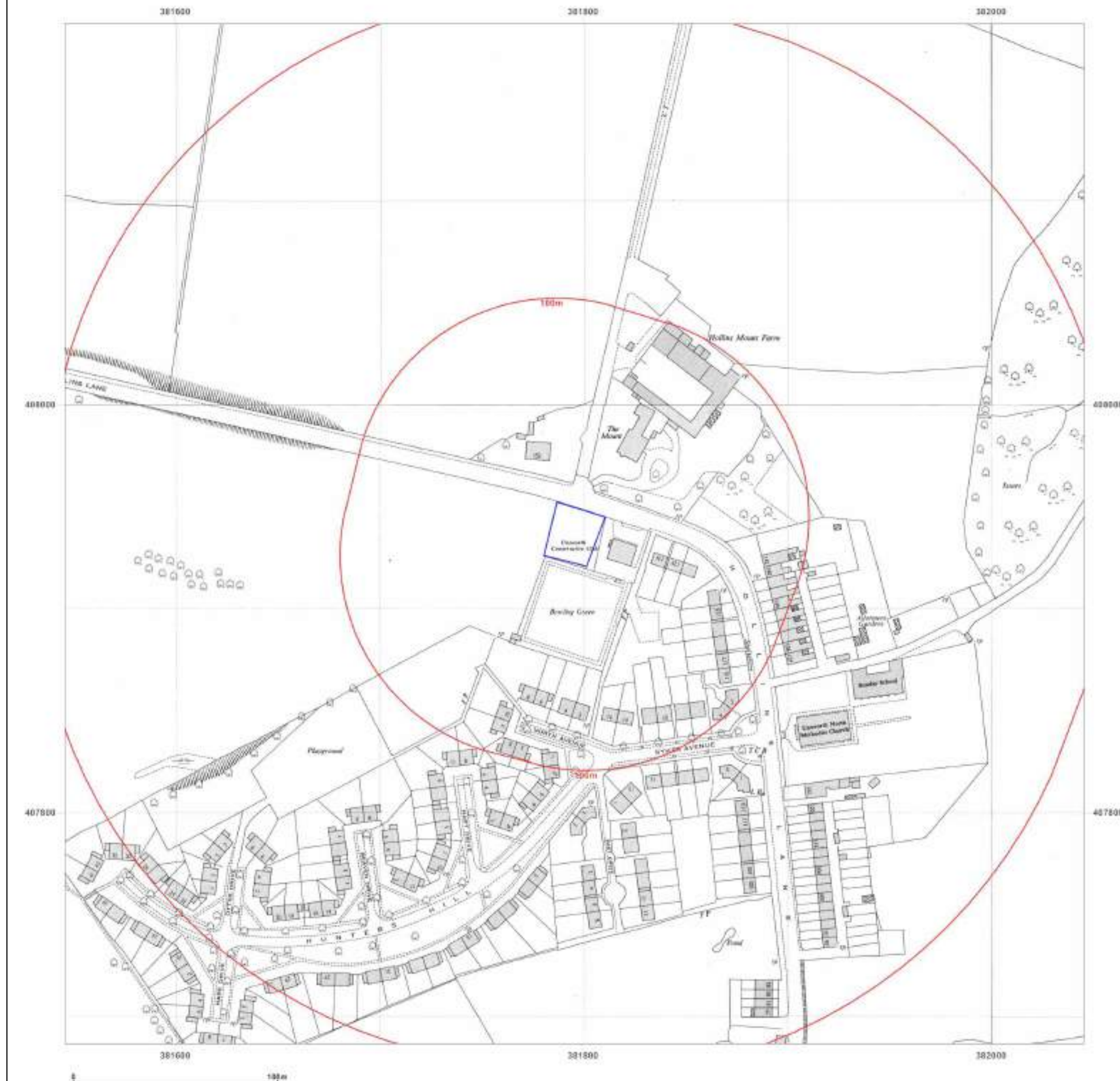


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Site Details:

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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1956

Scale: 1:2,500

Printed at: 1:2,500



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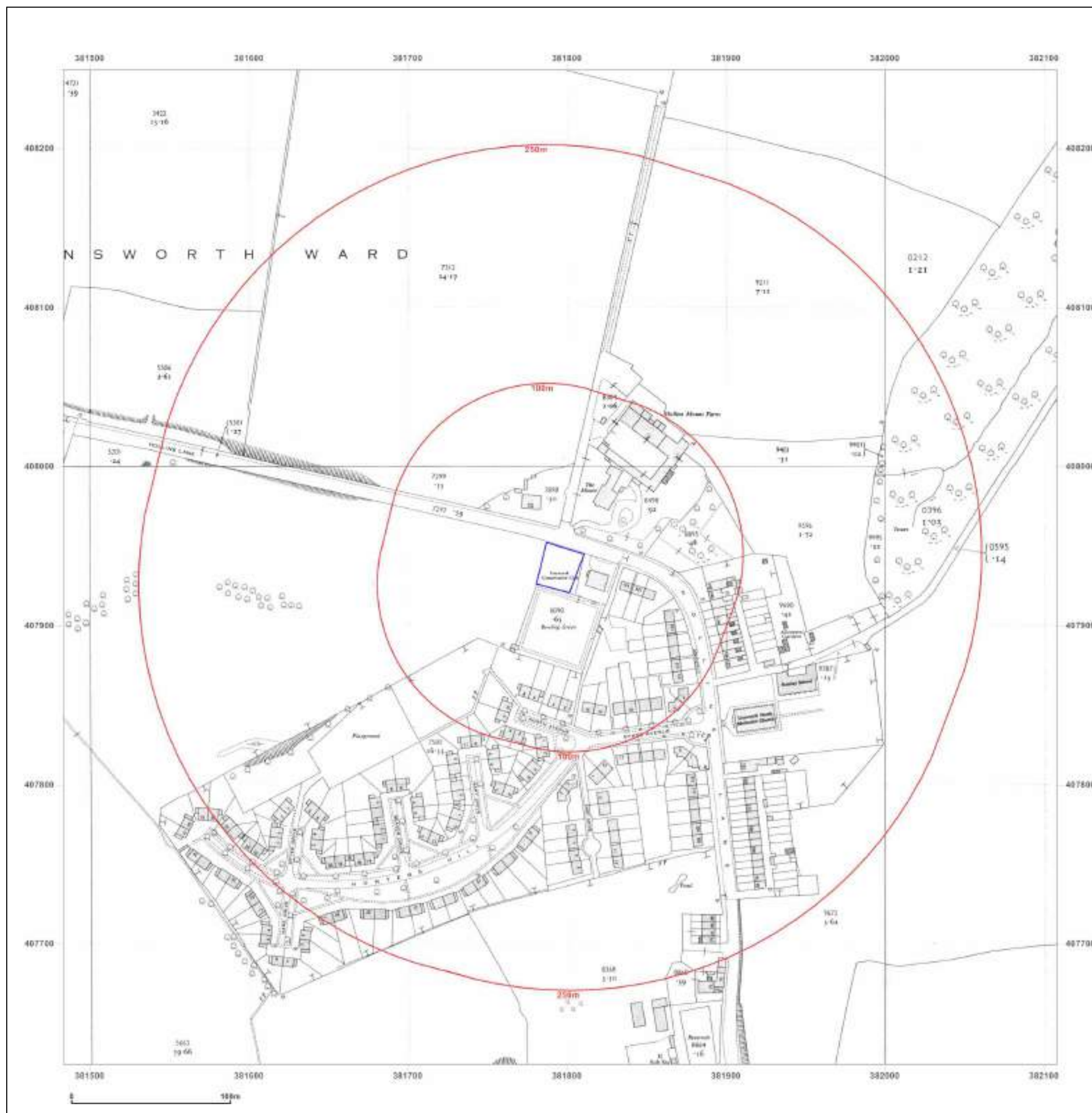


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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1957

Scale: 1:1,250

Printed at: 1:2,000



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 Edition N/A
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 Edition N/A
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 Edition N/A
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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1969

Scale: 1:1,250

Printed at: 1:2,000



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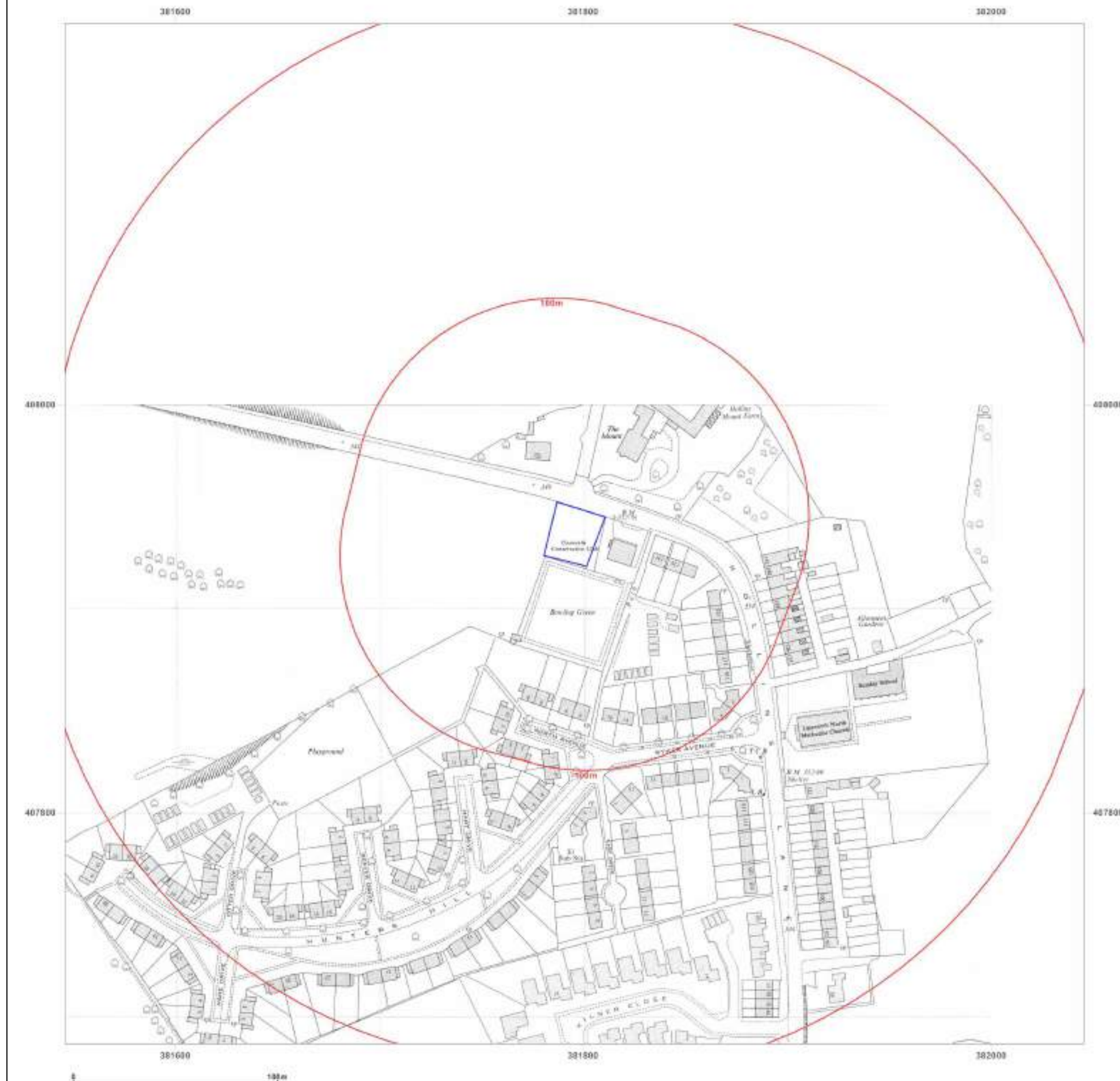


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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1980-1985

Scale: 1:1,250

Printed at: 1:2,000



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 Edition N/A
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 Levelled N/A

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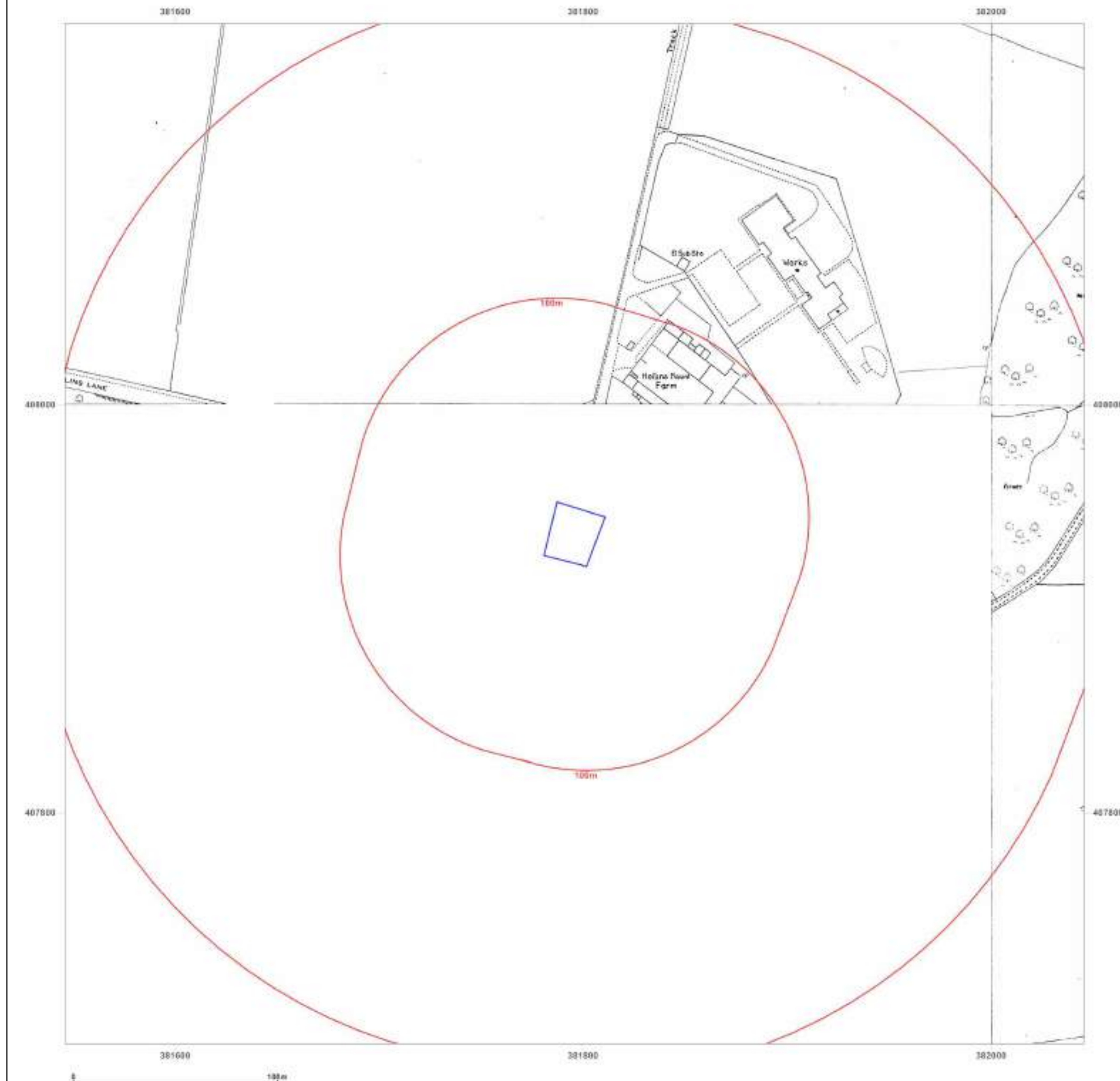


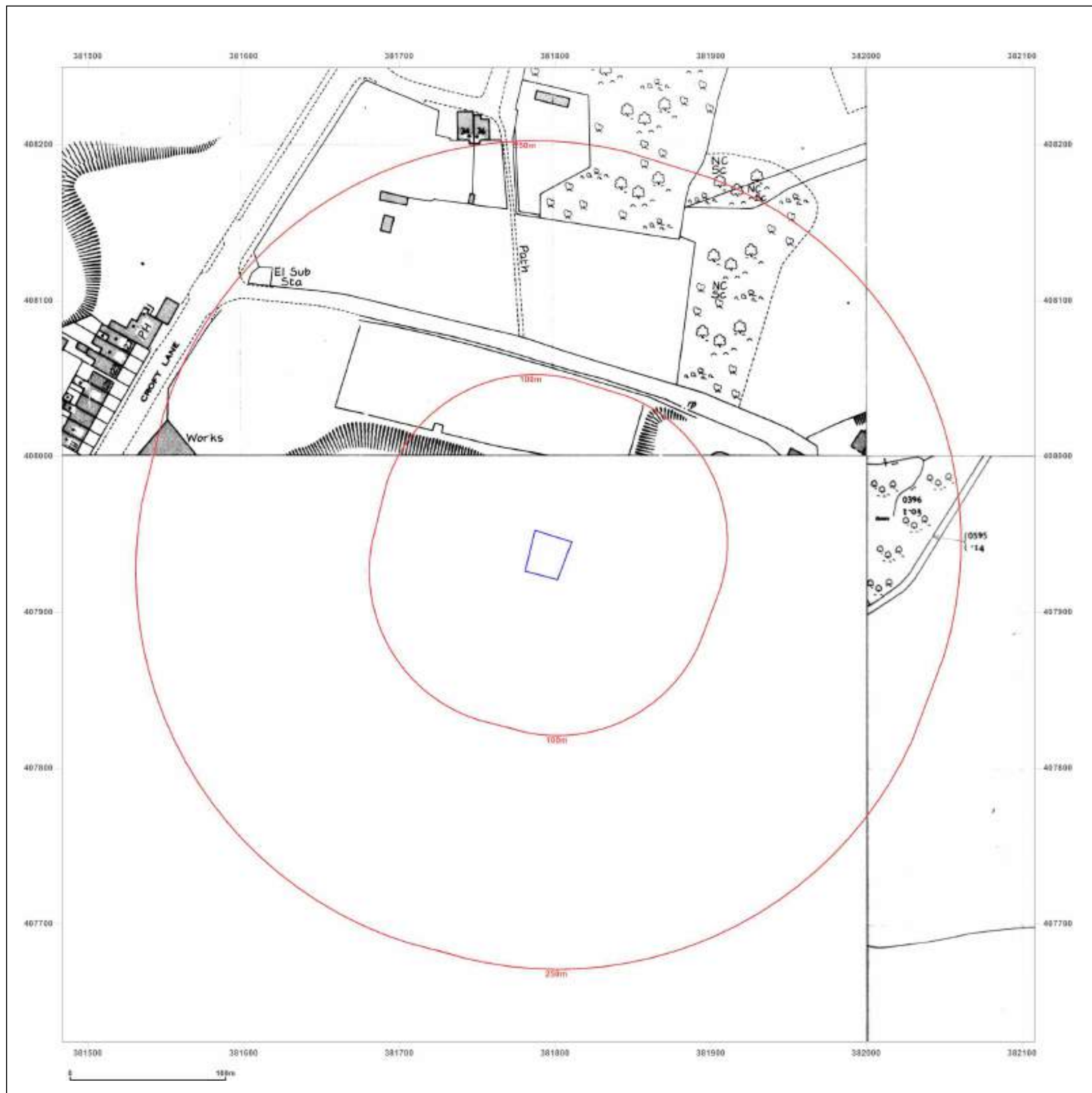
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Report Ref: EMS-612584_817731
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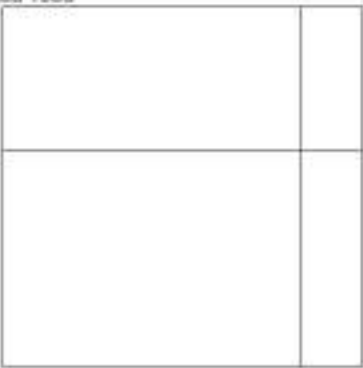
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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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 Edition N/A
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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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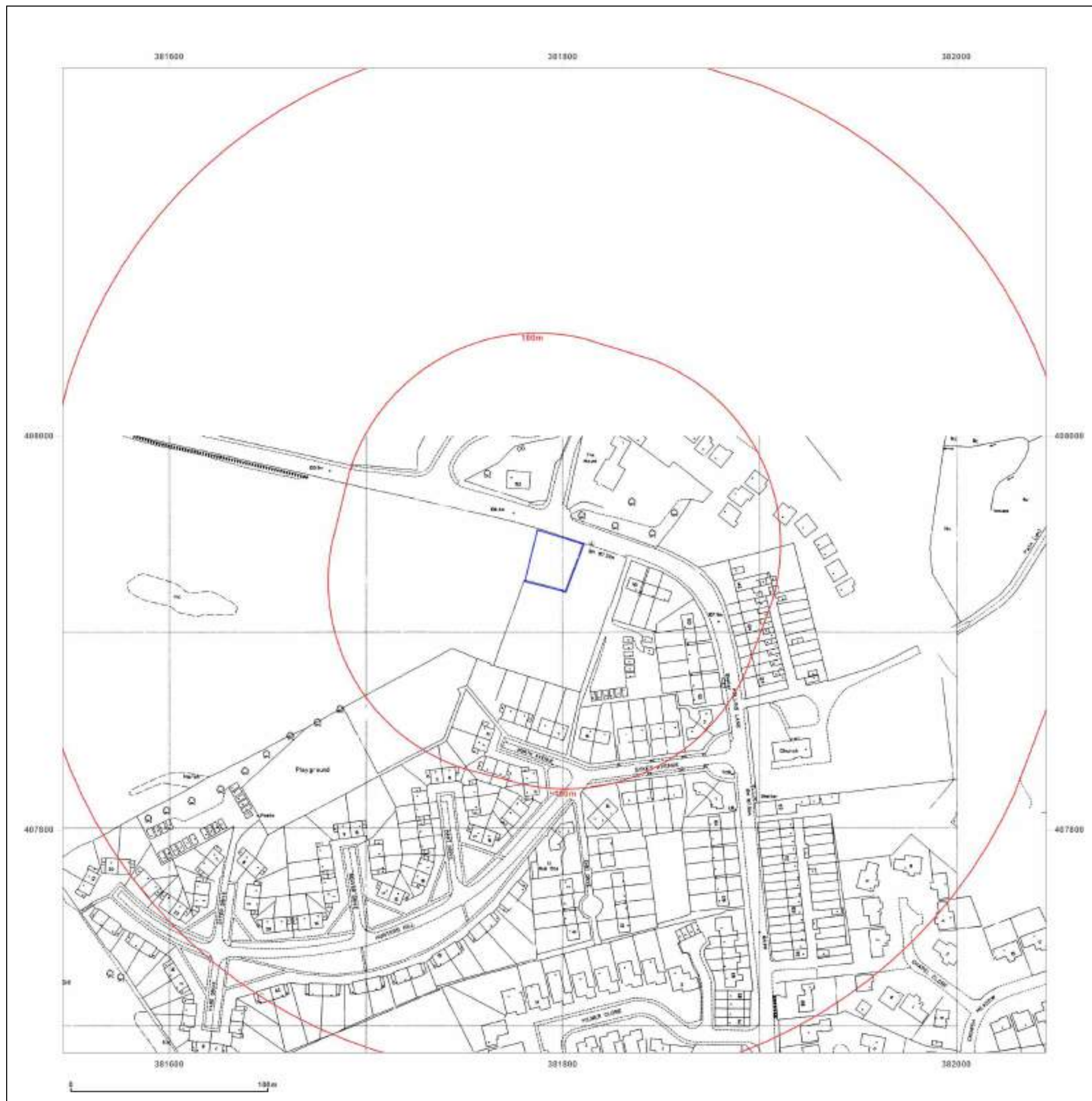


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Site Details:

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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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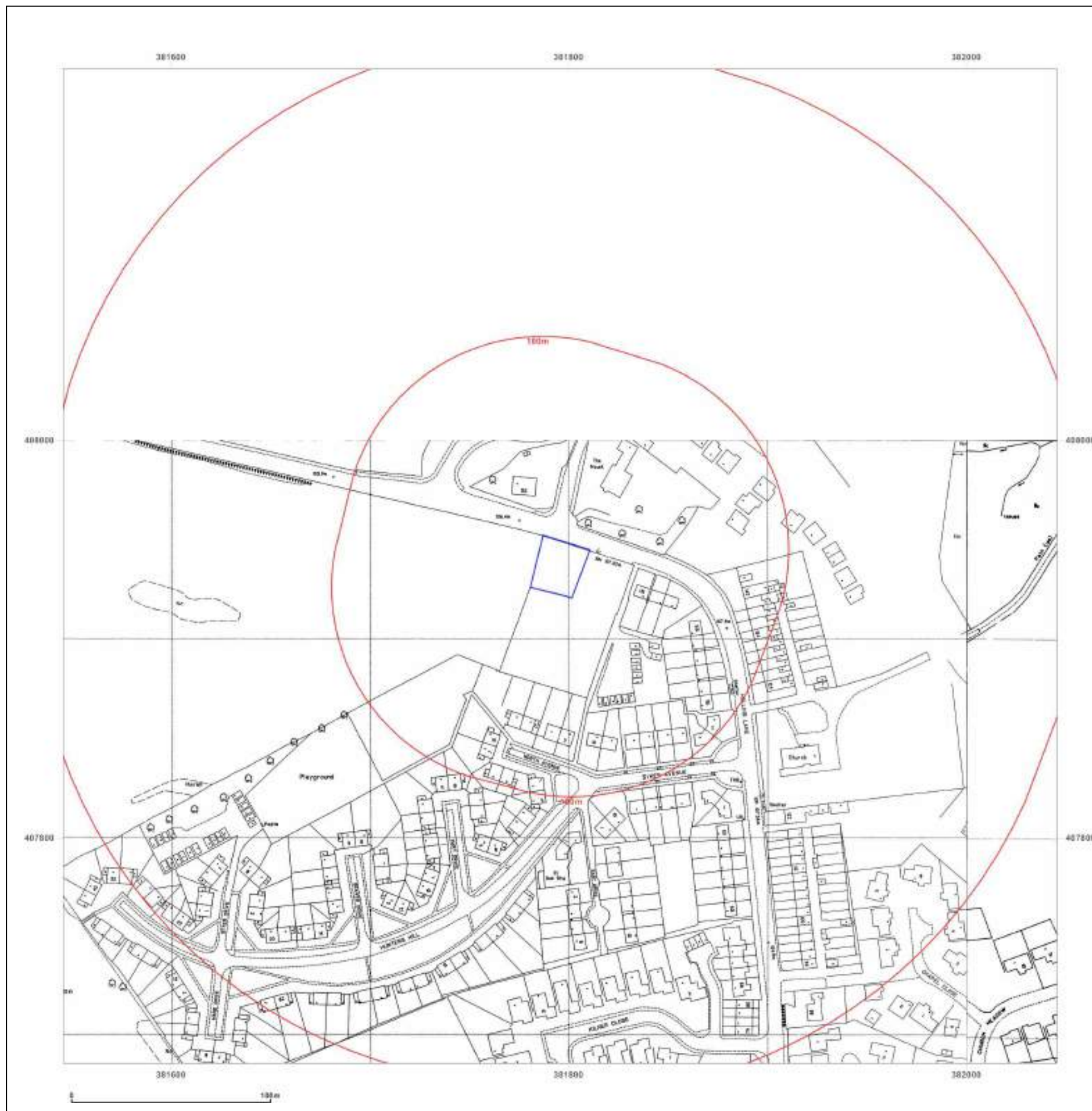


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1993-1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995 Revised N/A Edition N/A Copyright 1995 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
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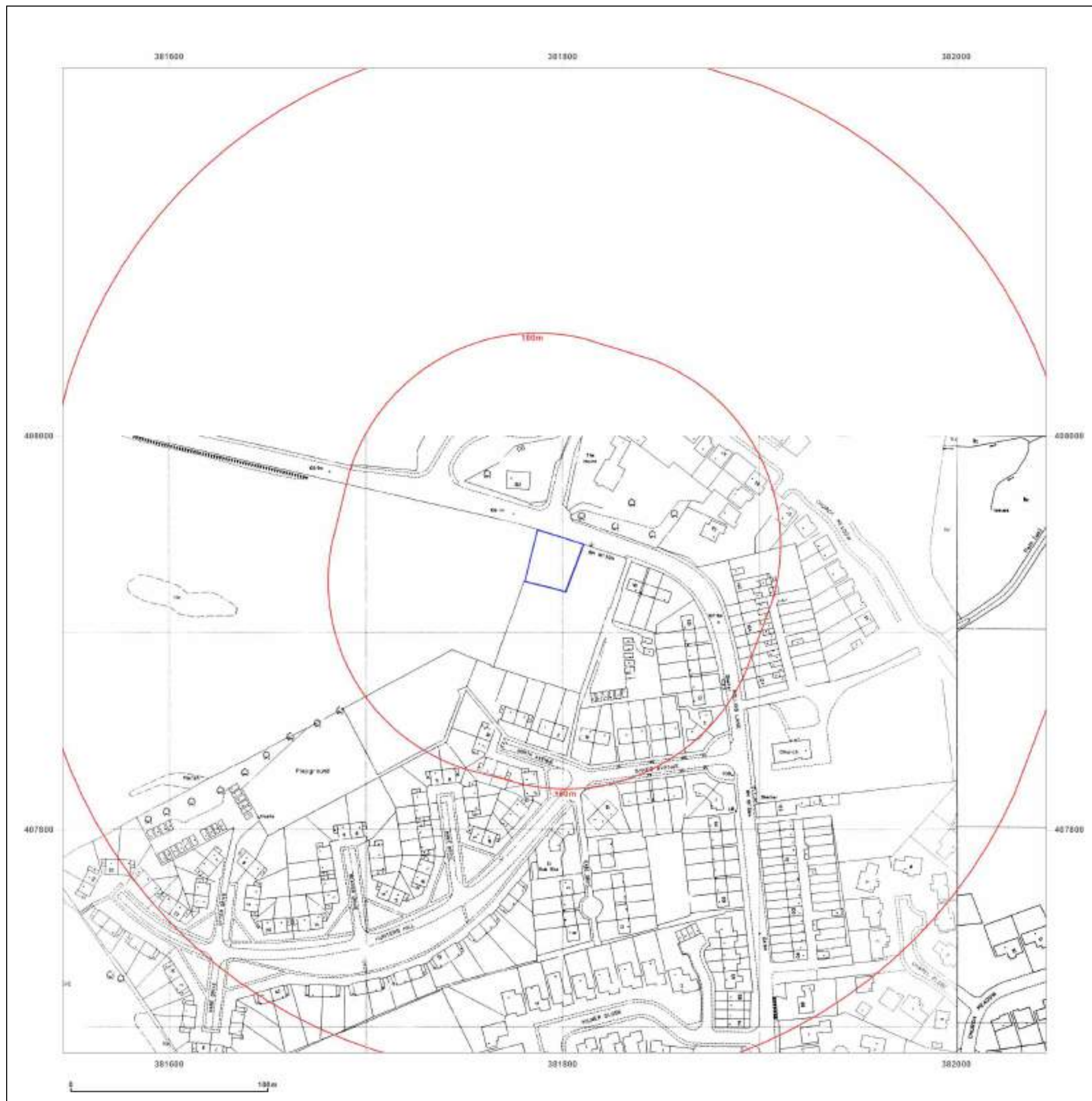


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Site Details:

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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1993-1995

Scale: 1:1,250

Printed at: 1:2,000



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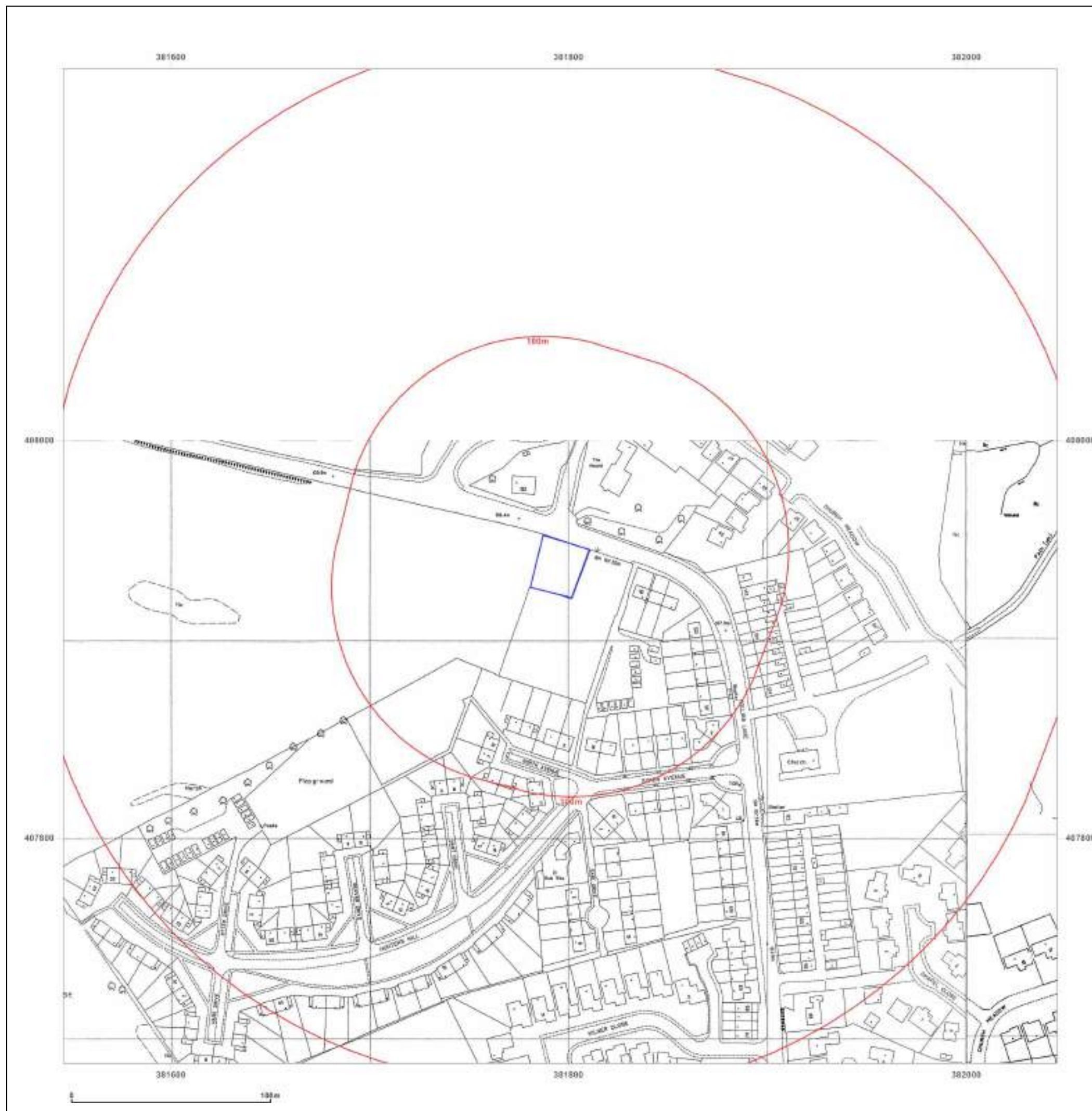


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Site Details:

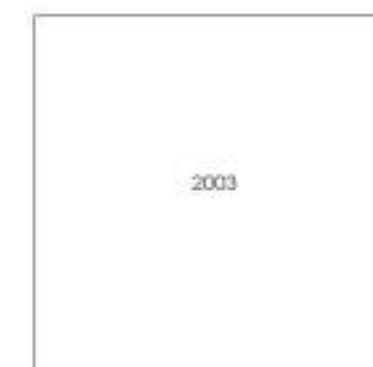
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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Map legend available at:
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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1891

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
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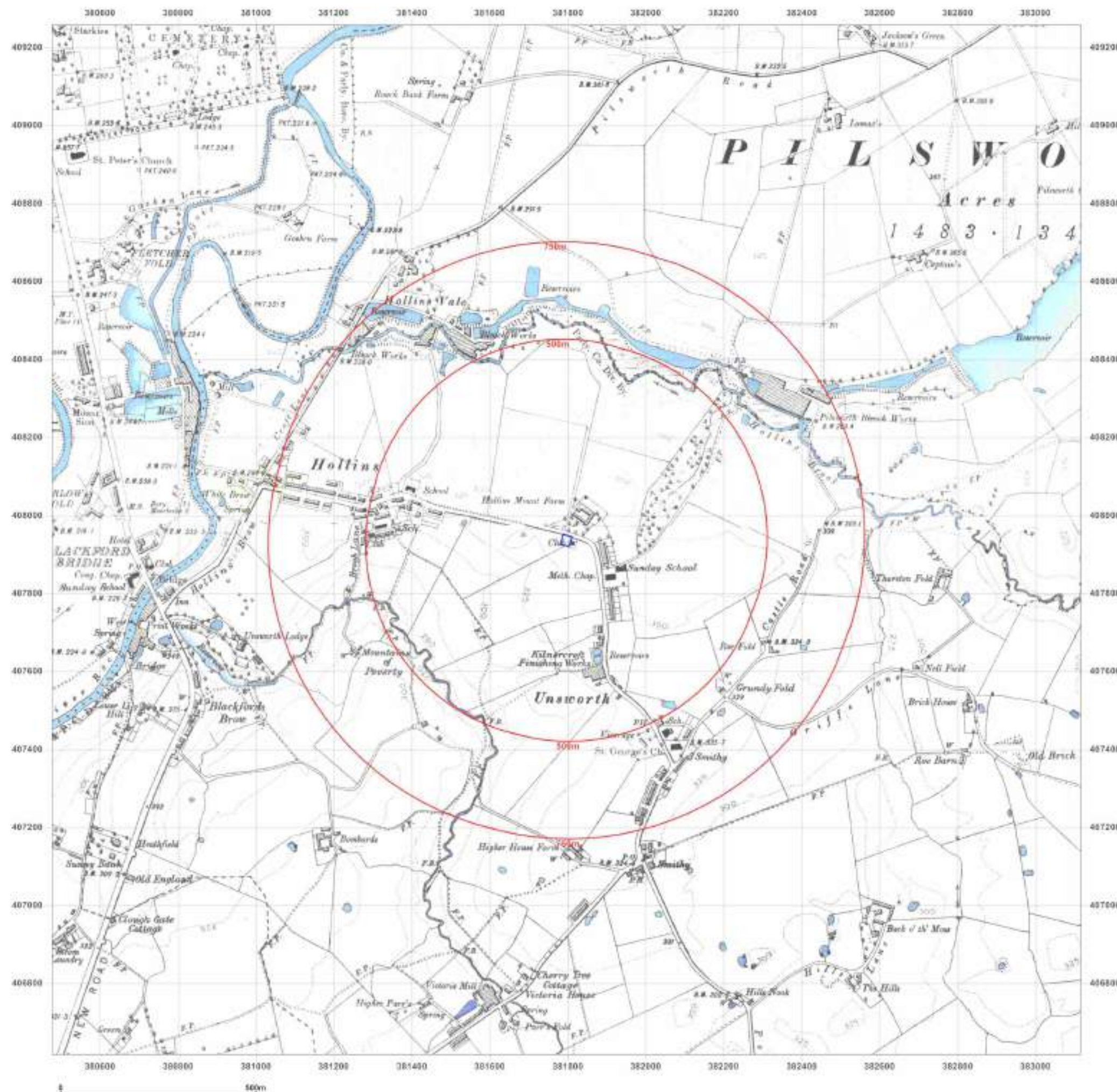


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1907-1908

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A



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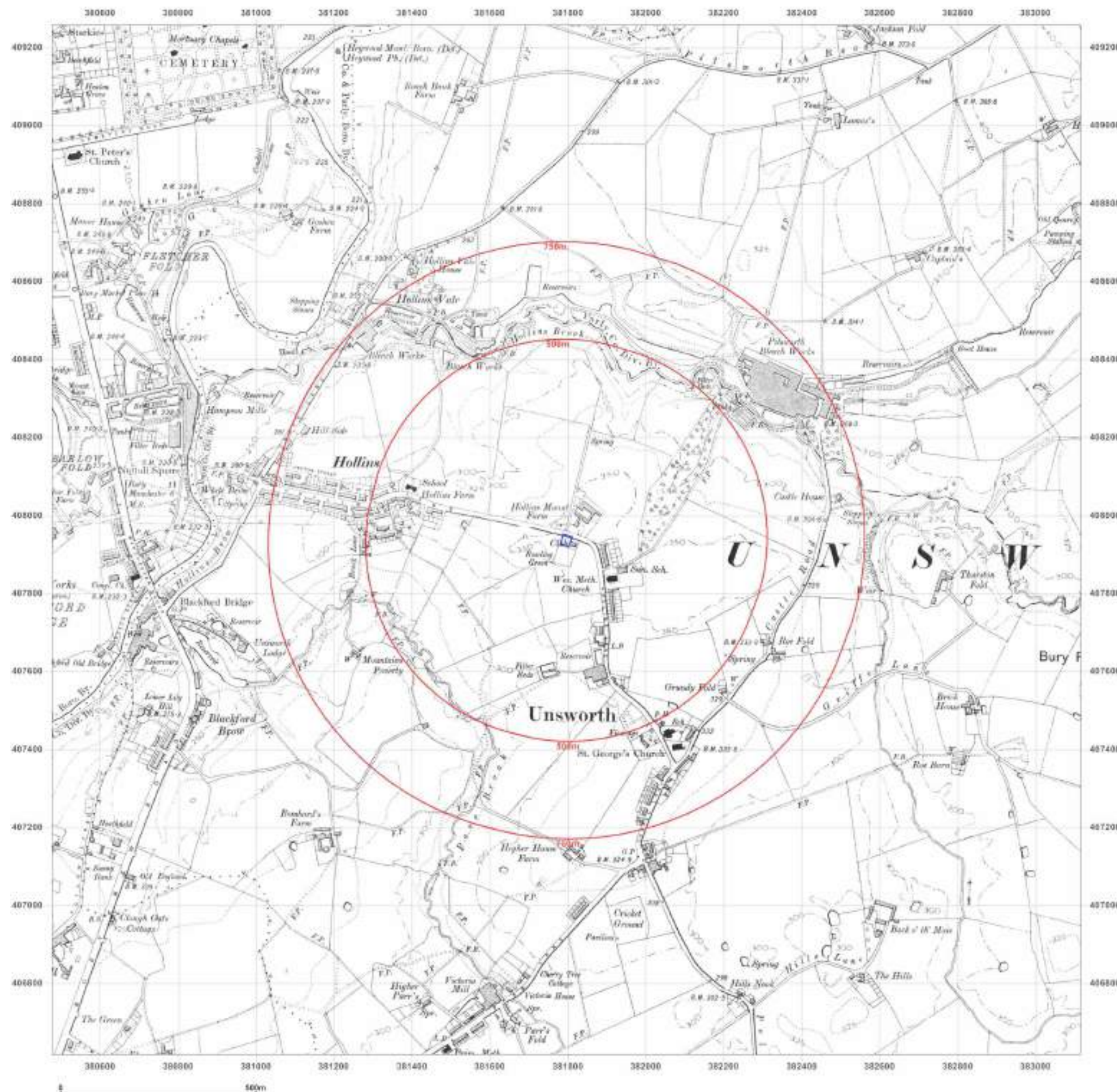


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1915

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A



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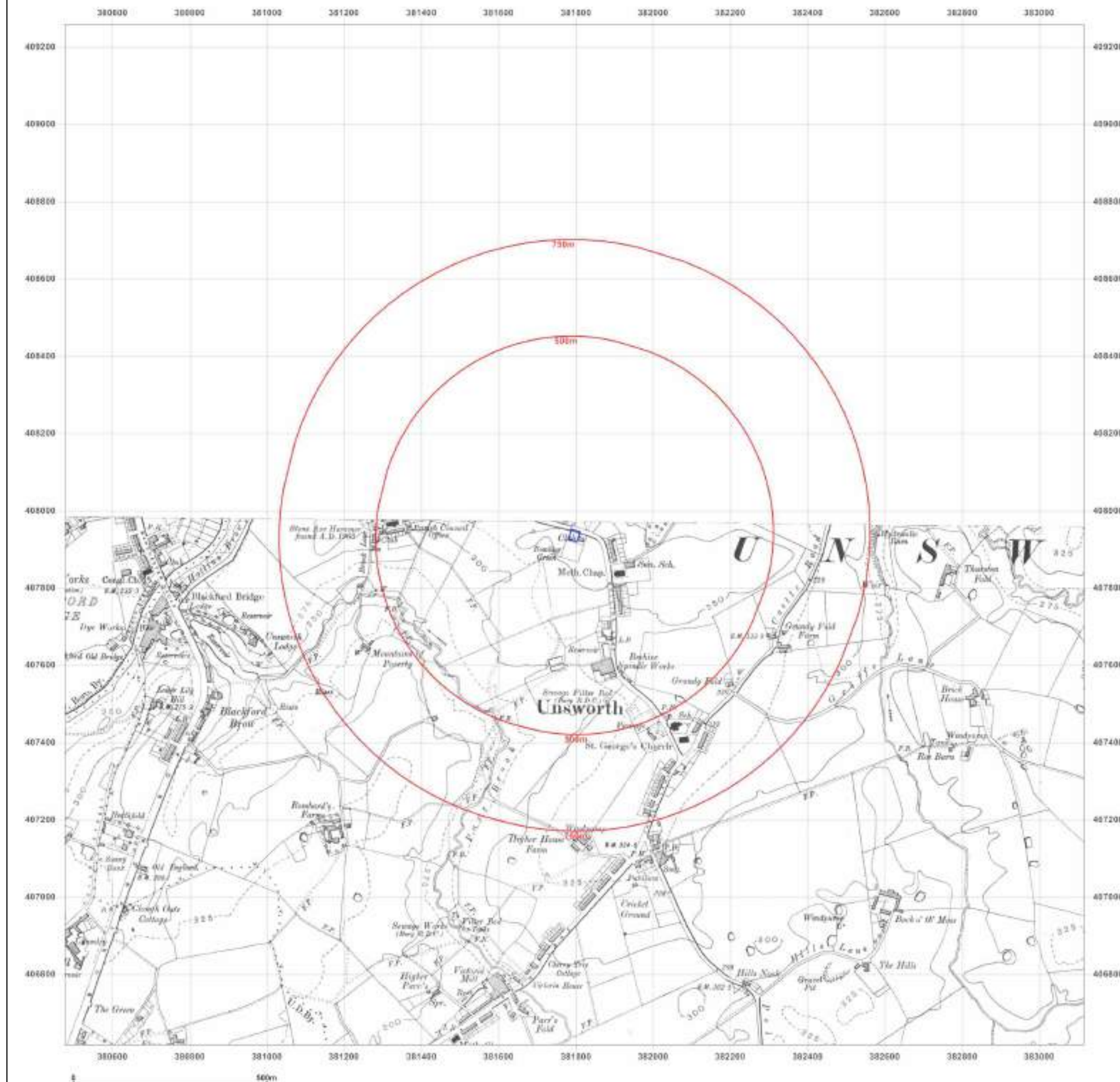


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Production date: 02 June 2020

Map legend available at:
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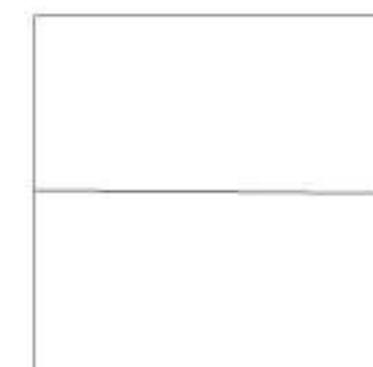
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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A



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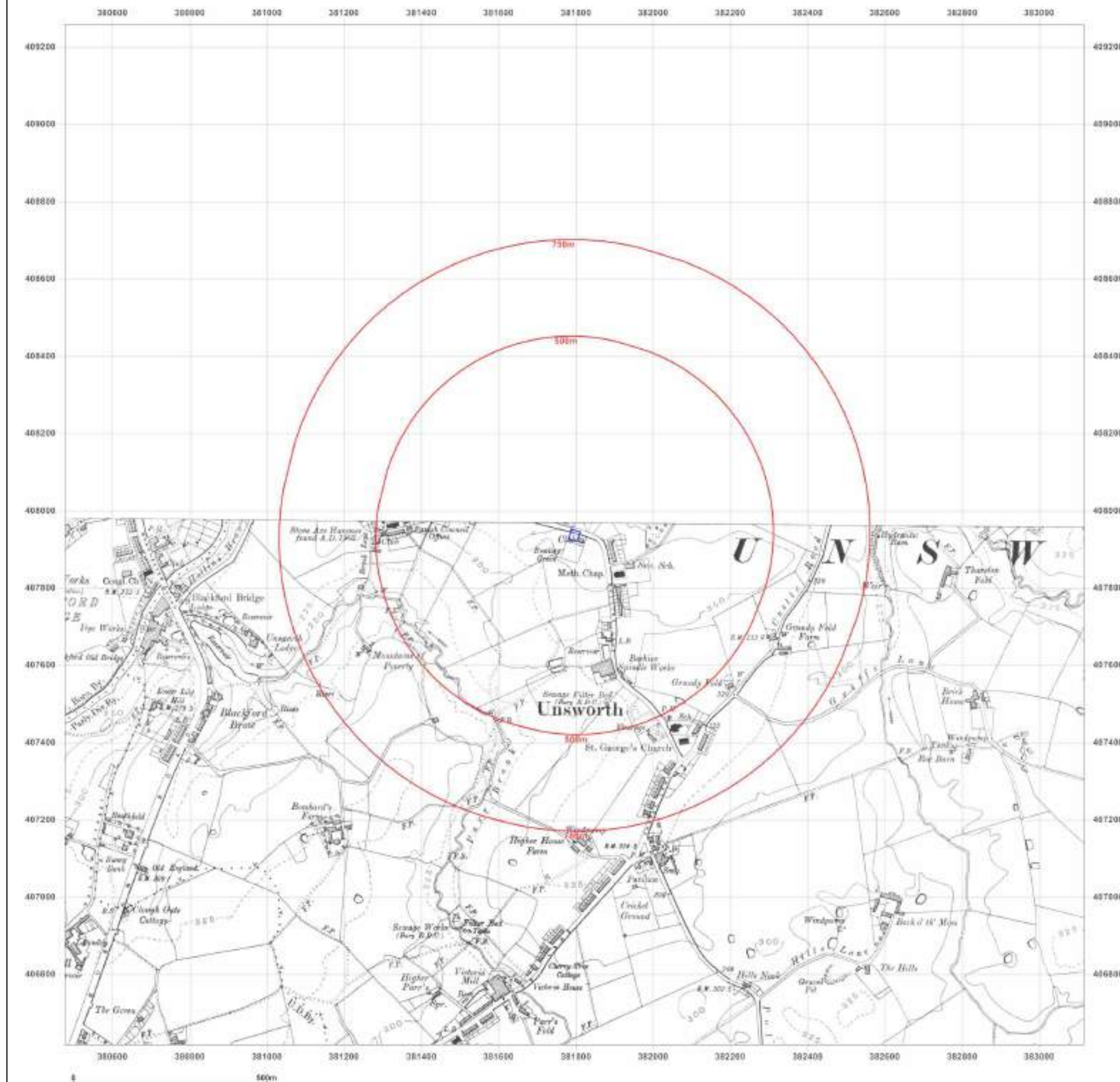


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A



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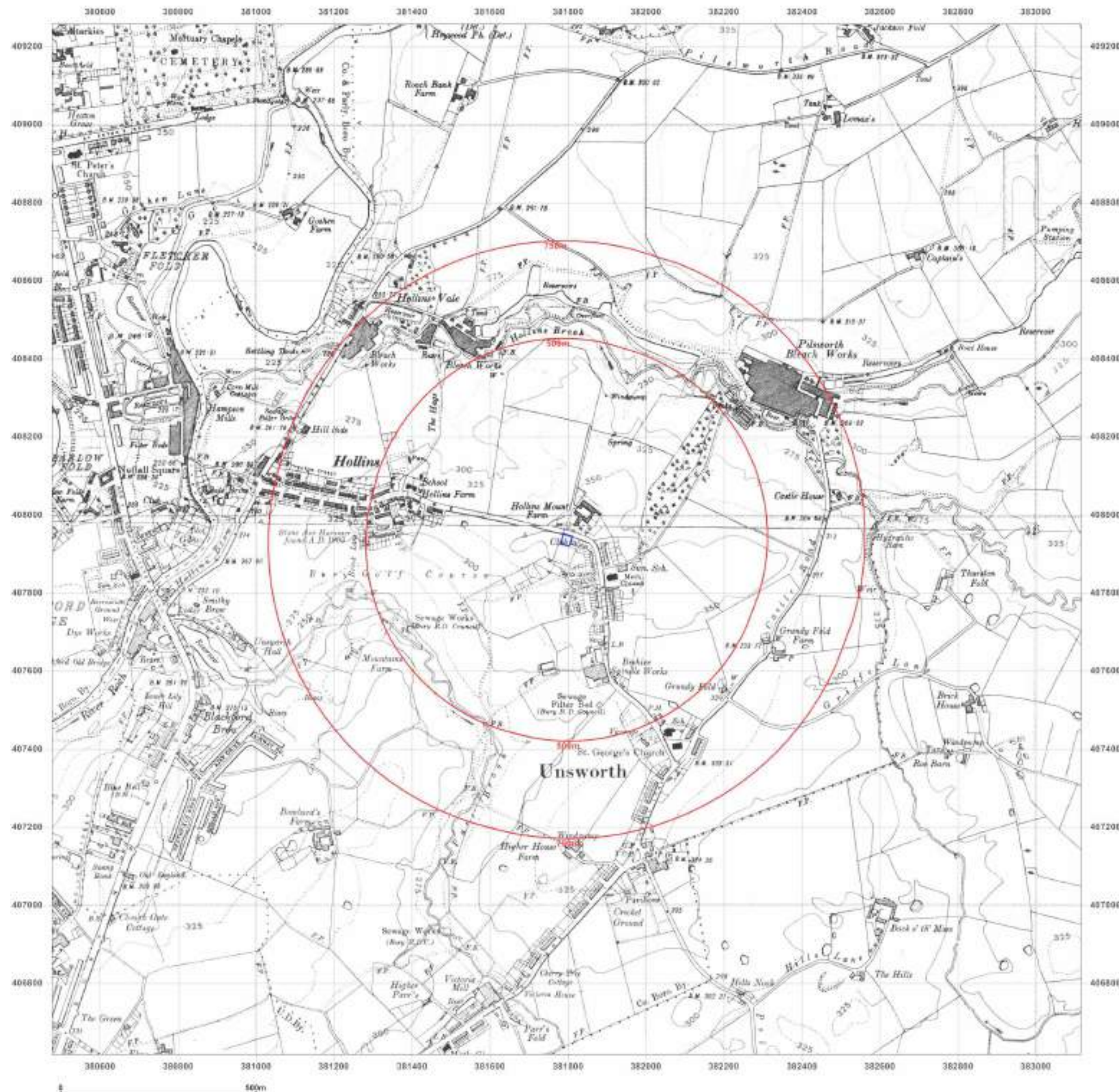


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Production date: 02 June 2020

Map legend available at:
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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: Provisional

Map date: 1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1949
Revised 1955
Edition 1955
Copyright N/A
Levelled N/A



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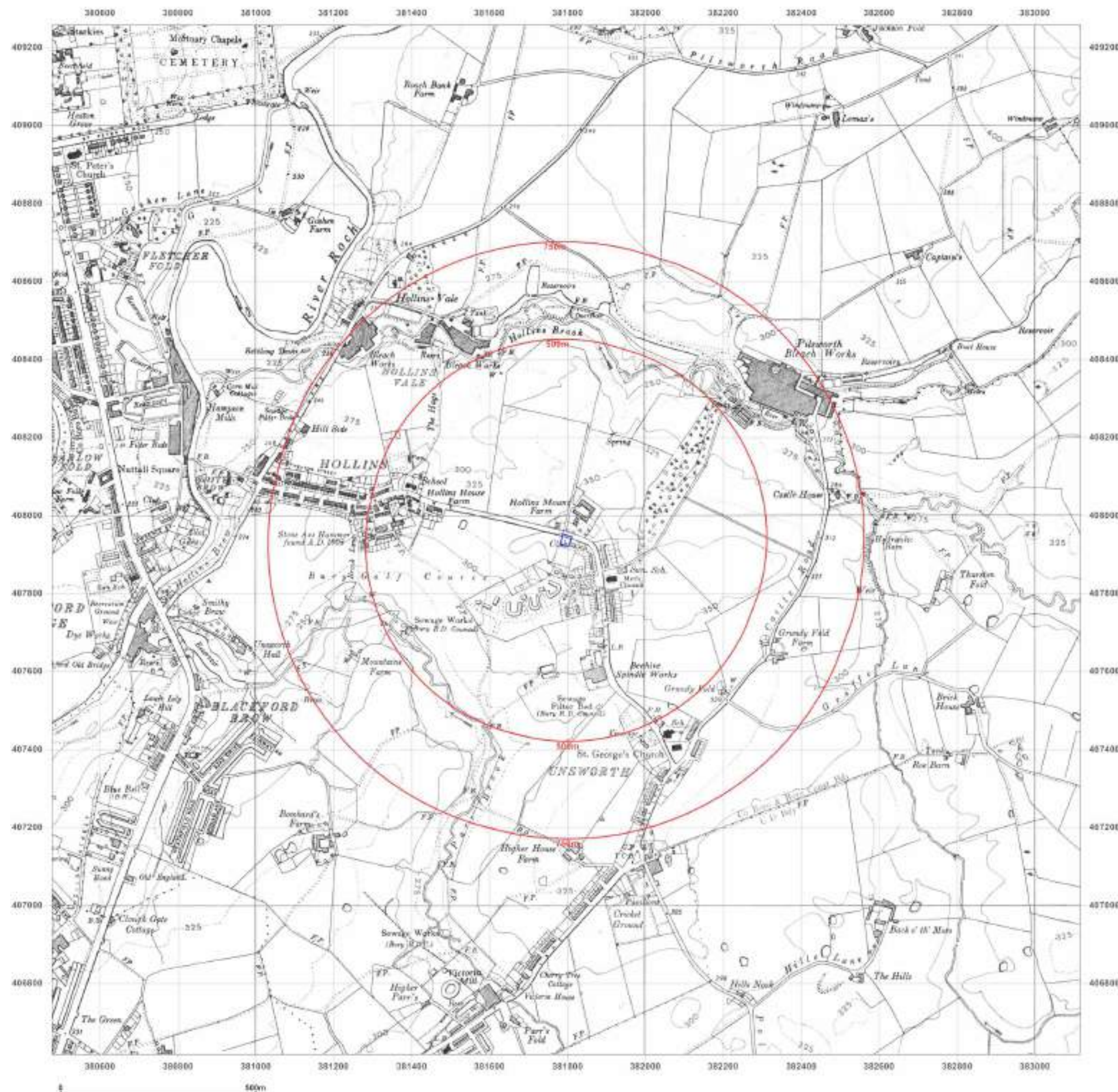


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: Provisional

Map date: 1965

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A



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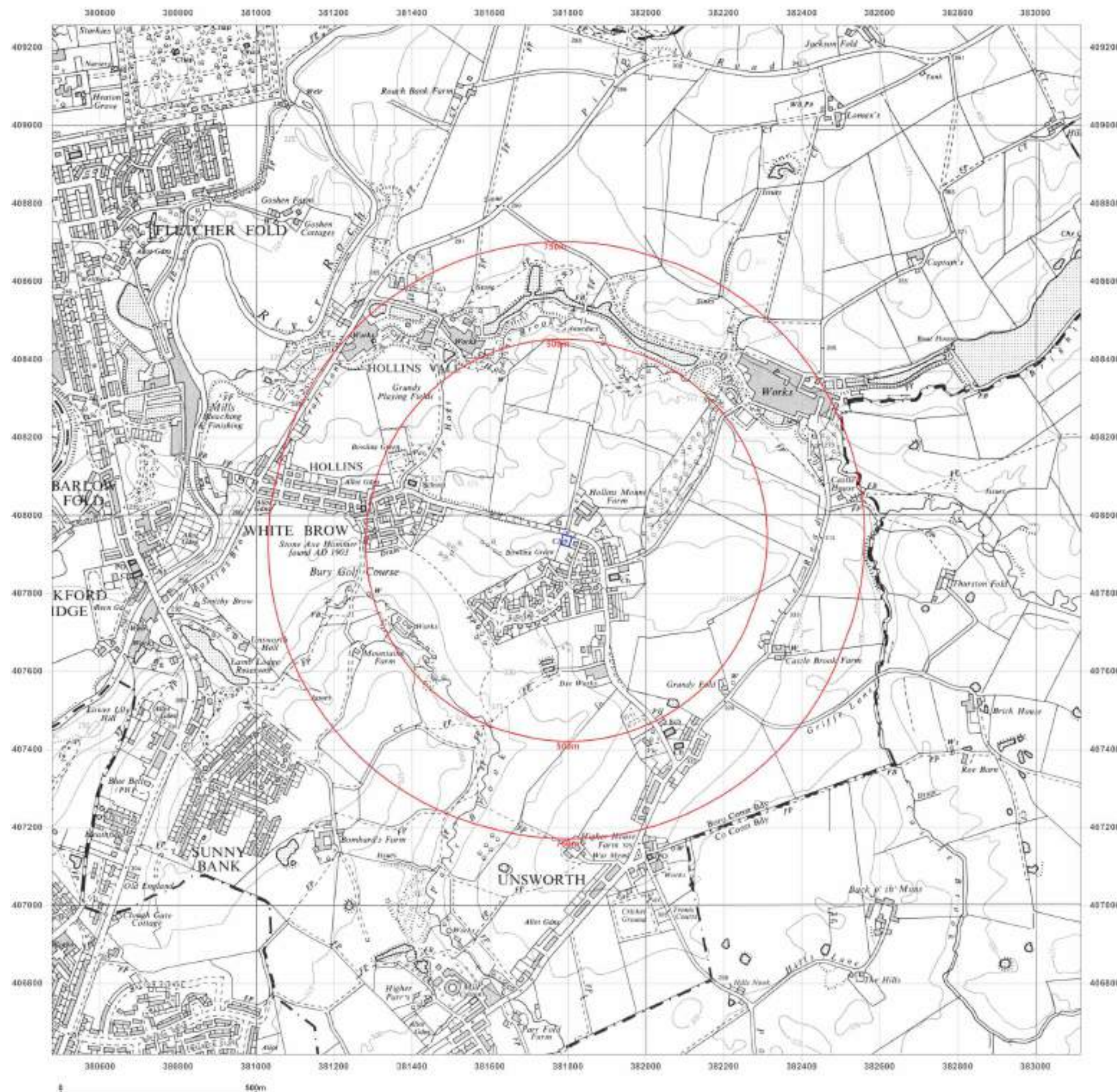


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Production date: 02 June 2020

Map legend available at:
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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1974

Scale: 1:10,000

Printed at: 1:10,000



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



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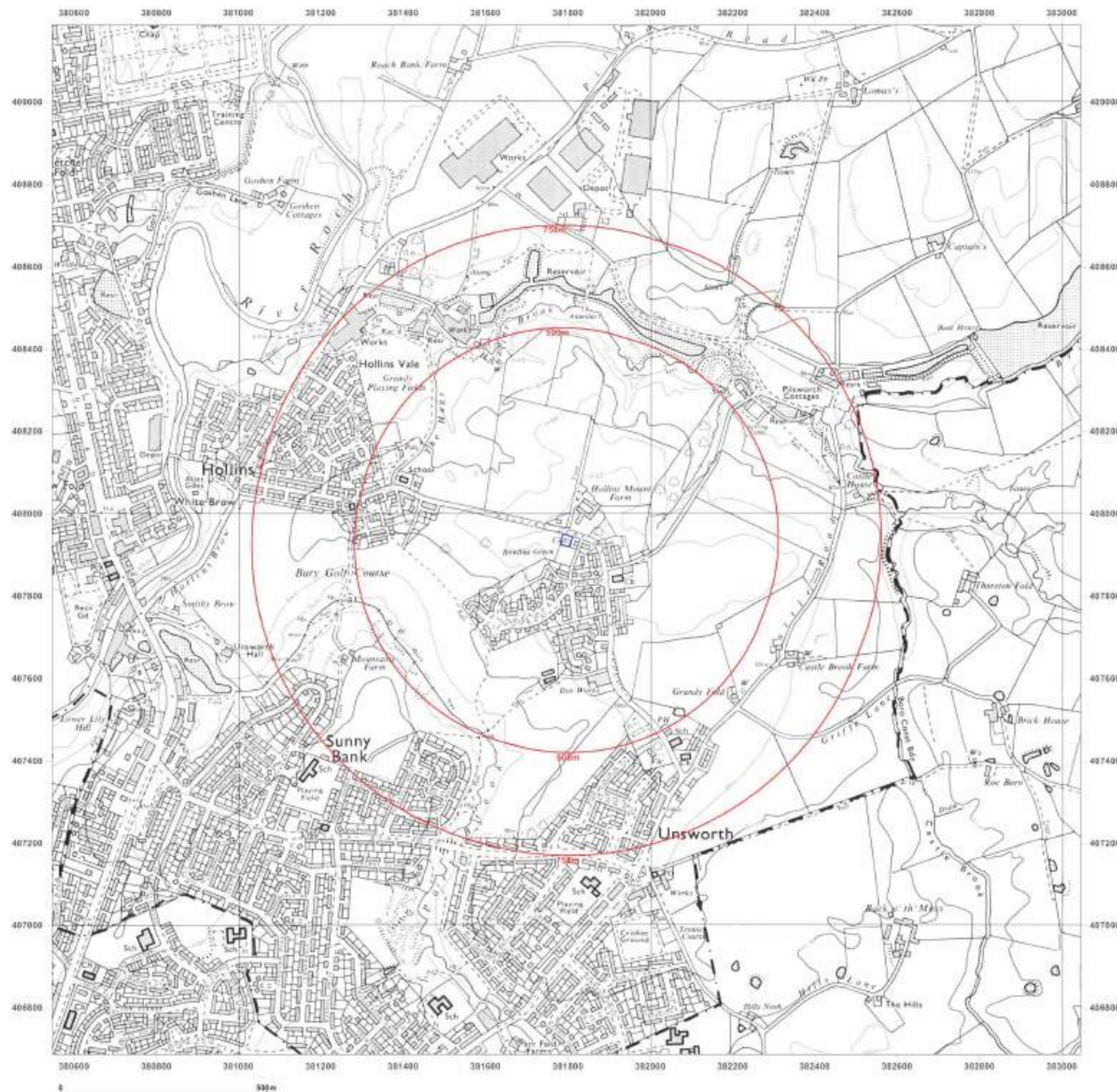


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Production date: 02 June 2020

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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1980
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A



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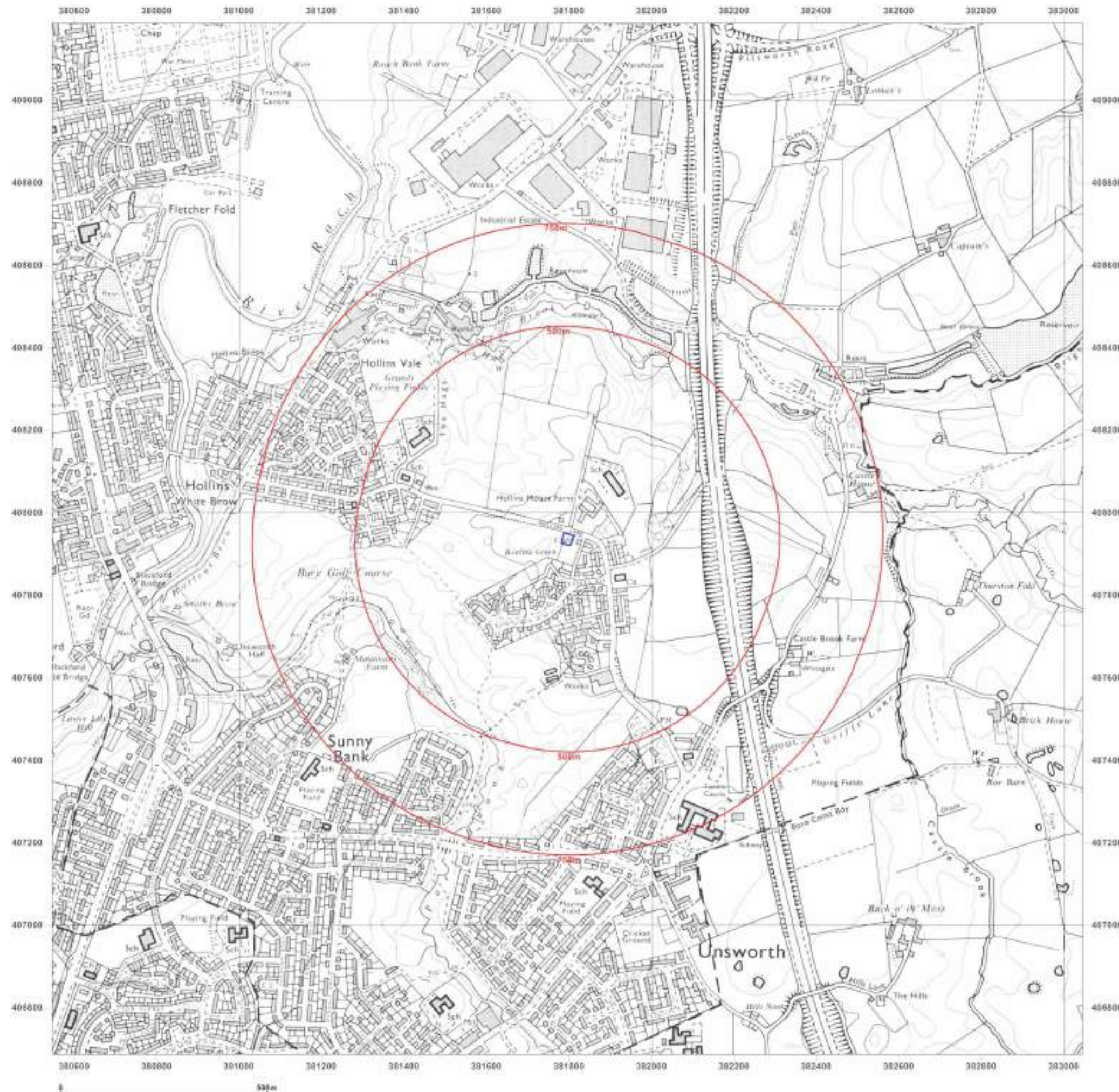


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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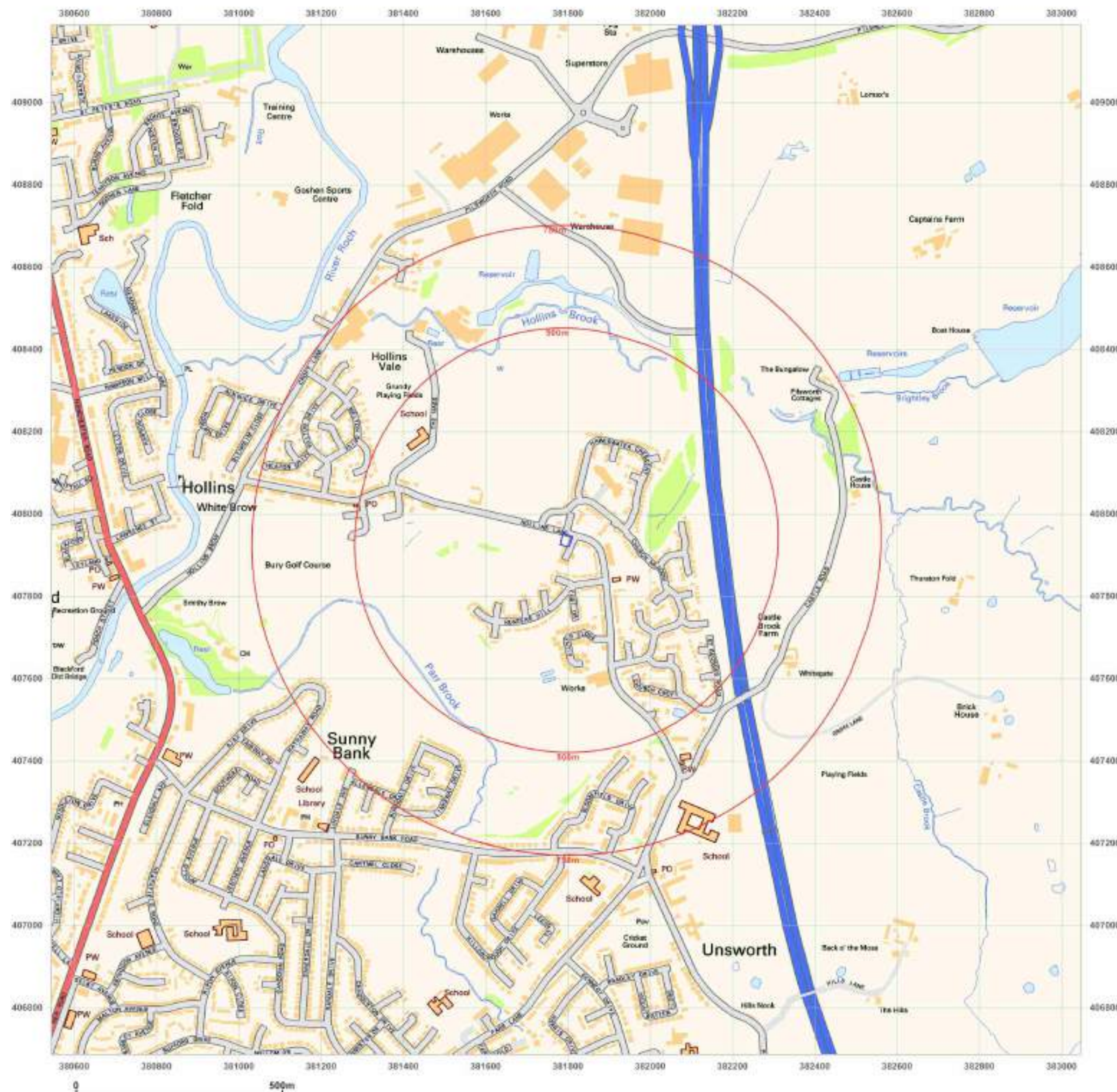


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Site Details:

Client Ref: EMS_612584_817731
Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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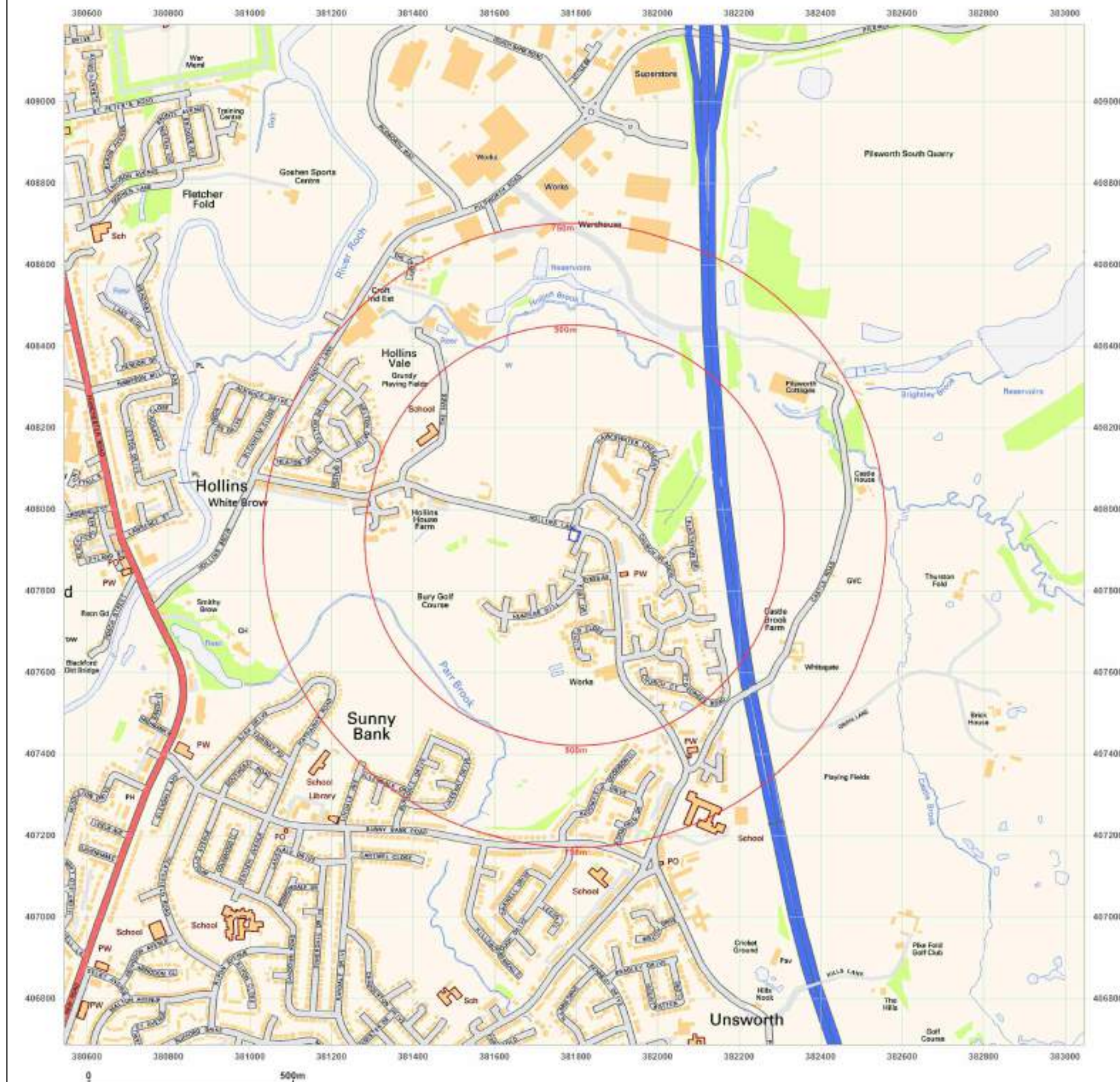


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Production date: 02 June 2020

Map legend available at:
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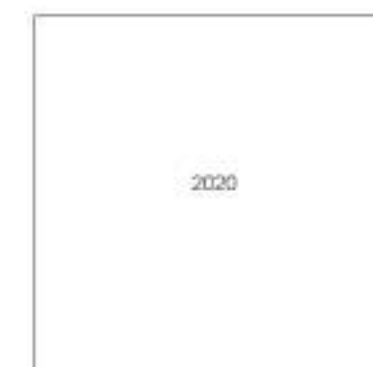
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Report Ref: EMS-612584_817731
Grid Ref: 381796, 407937

Map Name: National Grid

Map date: 2020

Scale: 1:10,000

Printed at: 1:10,000



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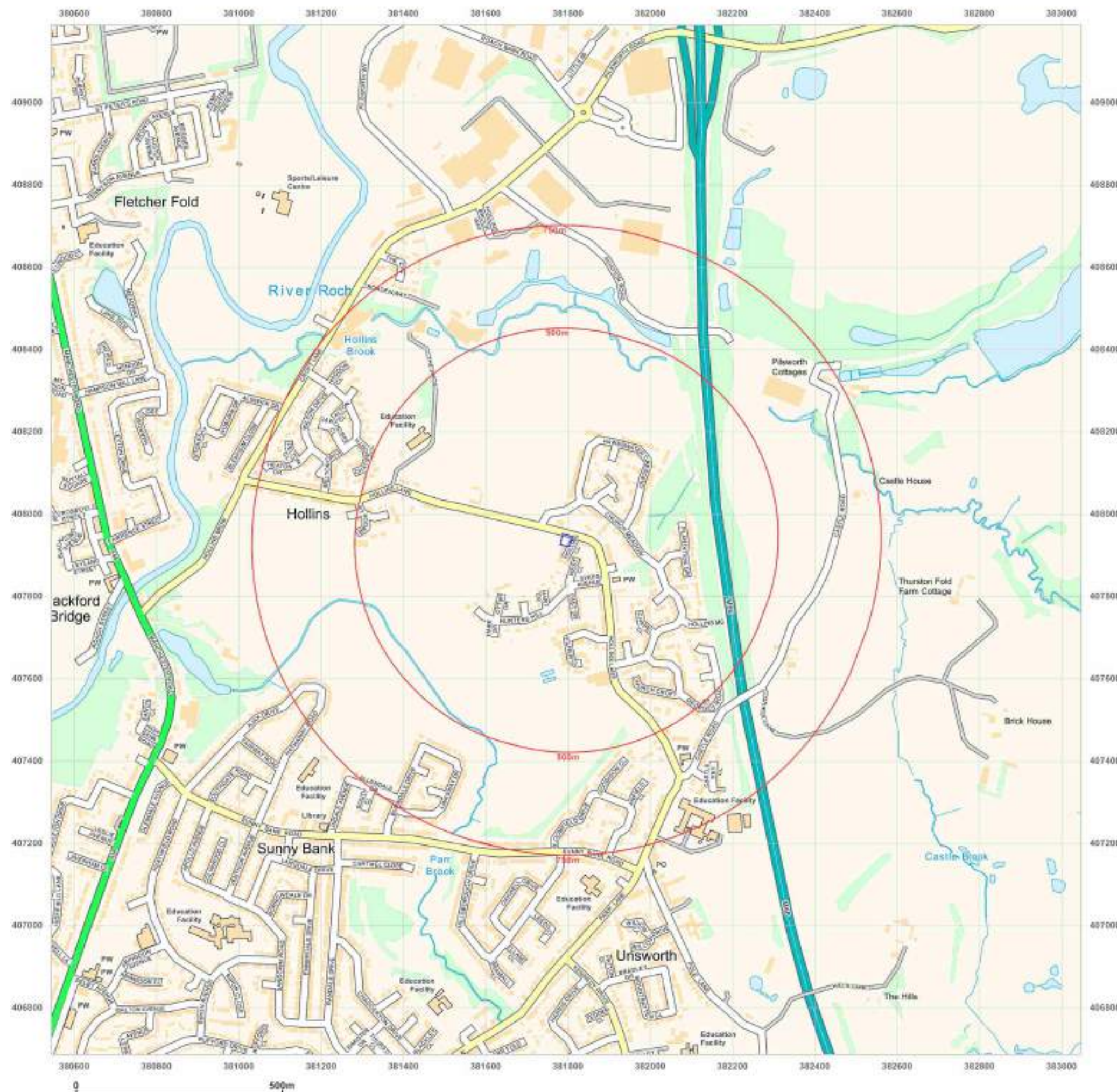


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Production date: 02 June 2020

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County Series 1:10,560 scale

VEGETATION



Fir Wood



Deciduous Wood



Mixed Wood



Brushwood



Orchard



Reeds



Rough Pasture



Furze



Marsh



Osiers

ROADS



Railway over Road



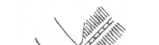
Road over Railway



Road over River or Canal



Level Crossing



Railway over River



Road over Stream



Road over Stream



Sunken Road



Raised Road

RAILWAYS

Double Lines of Railway



Single Lines of Railway and Tramway

GENERAL FEATURES



Gravel Pit



Sand Pit



Quarry



Shingle



Other Pits



Antiquities, Site of



Arrow, showing direction of flow of water



Trigonometrical Station

BOUNDARIES

County Boundary

Parish Boundary

Contours

Parliamentary Division Boundary

Union Boundary

Rural District Boundary

National Grid 1:10,000 scale

HEIGHTS (METRES)

Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey 163m
air survey 164m

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

Contours are at 5 metres vertical interval.

ROCK FEATURES

Loose rock

Boulders

Outcrop

Scree

Vertical face

CONVERSION SCALE

Metres - Feet

2000 Metres 6500 Feet

6000

5000

1500

4000

ABBREVIATIONS

BP,BS Boundary Post or Stone

Ch Church

CH Club House

F Sta Fire Station

FB Foot Bridge

Fn Fountain

GP Guide Post

MP,MS Mile Post or Stone

P Pole or Post

Pol Sta Police Station

PO Post Office

PC Public Convenience

PH Public House

S Stone

Spr Spring

TCB Telephone Call Box

TCP Telephone Call Post

TH Town Hall

W Well

Y Youth hostel

ROADS

Road

Track

Where unfenced shown by pecked lines.

Path

RAILWAYS

Cutting Embankment

Road over

Level crossing

Foot Bridge

Road under

Multiple track

Single track

Siding, tramway or mineral line

Narrow gauge

GENERAL FEATURES

Antiquity, (site of)

Boulders

Building

Pylon

Pole

Electricity transmission line

Glasshouse

Triangulation station

Lake, loch or pond

Sloping masonry

= Chalk pit, clay pit or quarry

= Gravel pit

= Sand pit

Refuse or slag heap

Direction of flow of water

Shingle

Sand

VEGETATION

Bracken, rough grassland

Scrub

Heath

Marsh

Saltings

Reeds

Coppice

Orchard

Coniferous trees

Non-coniferous trees

In some areas bracken () and rough grassland () are shown separately.



GroundSure

Historical Map Pack Legend

County Series & National Grid

1:10,560 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

If you have a query regarding any of the maps provided please contact GroundSure's technical helpline. We will endeavour to answer any queries you may have.

Technical Helpline

Tel 08444159000

groundsureinsight@groundsure.com
www.groundsure.com

County Series 1:2,500 scale

National Grid 1:2,500 / 1:1,250 scale



Historical Map Pack Legend

County Series
1:1,250 scale
~

County Series &
National Grid
1:2,500 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

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GENERAL FEATURES	
	Wood
	Marsh
	Reeds
	Fir
	Mixed Wood
	Brush Wood
	Osiers
	Orchard
	Bush
	Rough Pasture
	Furze
	Ford
	Stepping Stones
	Ferry
	Sloping Masonry
	Flat Rock
	Lock
	Waterfall
	Quarry
	Sand Pit
	Refuse Heap
	Clay Pit
	Shingle
	Gravel Pit
	Trigonometrical Station
	Altitude at Trigonometrical Station
	Bench Mark
	Surface Level
	Permanent Traverse Station
	Antiquities (site of)
	Arrow denotes flow of water
	Sluice
	Trough
	Spring
	Well
	Mooring Ring
	Mooring Post
	Boundary Stone
	Boundary Post

ROADS	
	Road over single stream
	Road crossing railway
	Road over River or Canal
RAILWAYS	
	Railway crossing River or Canal
	Railway crossing Road
	Level Crossing
	Embankment
	Cutting

ABBREVIATIONS	
	Trigonometrical Station
	Altitude at Trigonometrical Station
	Bench Mark
	Surface Level
	Permanent Traverse Station
	Antiquities (site of)
	Arrow denotes flow of water
	Sluice
	Trough
	Spring
	Well
	Mooring Ring
	Mooring Post
	Boundary Stone
	Boundary Post

ABBREVIATIONS	
	Beer House
	Bench Mark
	Boundary Post
	Boundary Stone
	Crane
	Club House
	Chimney
	Capstan
	Drinking Fountain
	Dock
	Electricity Pillar or Post
	Electricity Transmission Line
	Fire Alarm
	Fire Alarm Pillar
	Filter Bed, Foot Bridge
	Fundamental Bench Mark
	Flagstaff
	Fire Station
	Guide Post
	Gas Valve Compound
	Hydrant or Hydraulic
	Hectares
	Lecter Box
	Lifeboat Station
	Level Crossing
	Loading Gauge
	Lighthouse
	Lighting Tower
	Metres
	Mean High Water
	Mean High Water Springs
	Mean Low Water
	Mean Low Water Springs
	Mile or Mooring Post
	Mail Pick-up
	Mile Stone
	National Trust
	Normal Tidal Limit
	National Trust for Scotland
	Pillar, Pole or Post
	Public Convenience
	Police Call Box
	Public House
	Post Office
	Pump
	Police Telephone Pillar
	Reservoir
	Road House
	Revision Point
	Stone
	Signal Box
	Signal Light
	Sluice
	Signal Post
	Spring
	Signal Station
	Telephone Call Box
	Telephone Call Post
	Tank or Track
	Trough
	Traverse Station
	Well
	Weighbridge
	Wind Pump
	Works
	Water Point
	Water Tap

GENERAL FEATURES	
	Non-coniferous Trees
	Coniferous Trees
	Surveyed Trees
	Orchard Trees
	Copple, Osier
	Scrub
	Bracken
	Heath
	Rough Grassland
	Marsh, Saltings
	Reeds
	Slopes
	Cliff
	Cave Entrance
	Rock
	Boulders
	Sloping Masonry
	Roofed Building
	Glasshouse
	Archway
	Change of boundary marking
	see AREAS notes
	Antiquity (site of)
	Culvert
	Direction of water flow
	Electricity Pylon
	Electricity Transmission Line
	Triangulation Station
	Traverse Station (permanent)
	Bench Mark
	Surface Level
	Revision Point (instrumentally fixed)
	Revision Point & Bench Mark coincident
	Top
	Slopes
	Quarry
	Refuse Heap
	Sloping Masonry
	Flat Rock
	Sand
	Sand Pit
	Culvert
	Archway
	Shingle
	Boulders
	Gravel Pit
	Cliff Face
	Glazed Roof Building

BOUNDARIES	
England & Wales	
	County Boundary (geographical)
	County & Civil Parish Boundary coterminous
	Admin County or County Borough Boundary
	London Borough Boundary
	County District Boundaries based on civil parish
England, Wales & Scotland	
	Civil Parish Boundary
	Parly & Ward Boundaries based on civil parish
	Parly & Ward Boundaries not based on civil parish
Scotland	
	County Boundary (geographical)
	County Council Boundary
	County of the City Boundary
	Burgh Boundary
	District Council Boundary
	* Not with parish
	† Coincident with parish

Appendix IV

- The Coal Authority Consultants Report
- The Coal Authority On-line Database



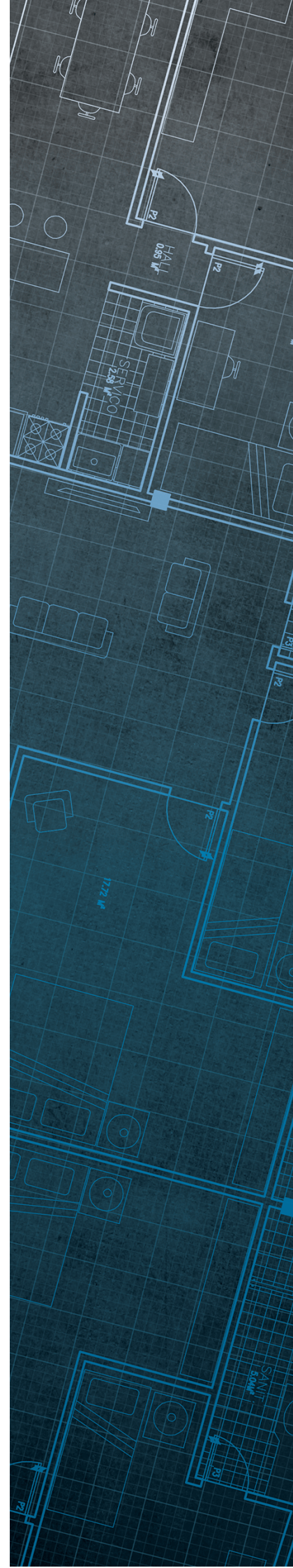
The Coal
Authority

Consultants Coal Mining Report

Land Off Hollins Close
Bury
BL9 8AX

Date of enquiry: 4 June 2020
Date enquiry received: 4 June 2020
Issue date: 4 June 2020

Our reference: 51002285717001
Your reference: GEO2020-4255 (SITE 1)



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GEO ENVIRONMENTAL ENGINEERING LIMITED

Enquiry address

Land Off Hollins Close
Bury
BL9 8AX

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

16820		
-------	--	--

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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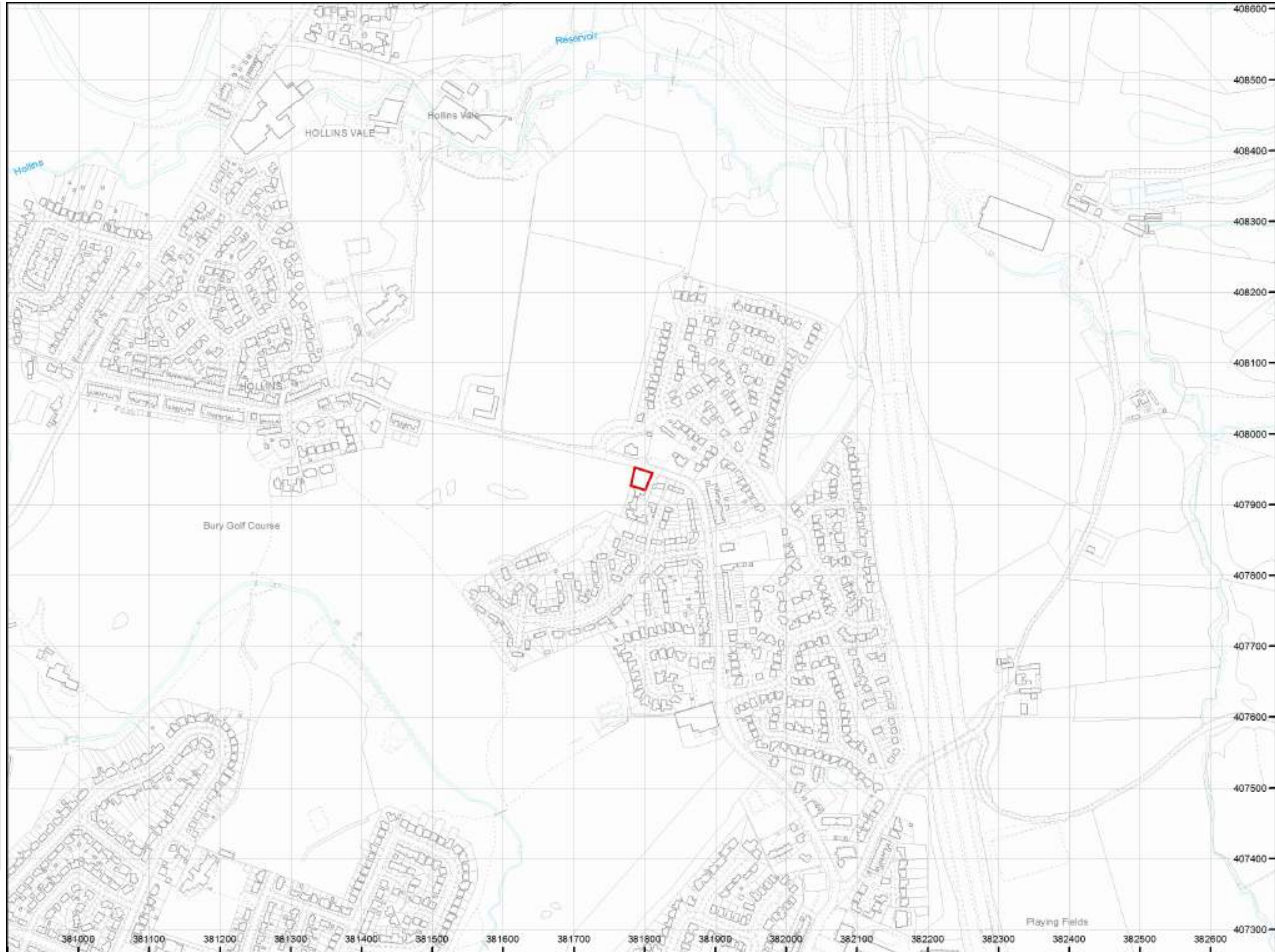
VAT receipt

Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	04 June 2020
Issued to	GEO ENVIRONMENTAL ENGINEERING LIMITED UNITS 19A AND 20 BRENKLEY WAY, BRENKLEY WAY BLEZARD BUSINESS PARK SEATON BURN NORTH TYNESIDE NE13 6DS
Property search for	LAND OFF HOLLINS CLOSE BURY BL9 8AX
Reference number	51002285717001
Date of issue	04 June 2020
Cost	£112.13
VAT @ 20%	£22.43
Total received	£134.56
VAT registration	598 5850 68

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

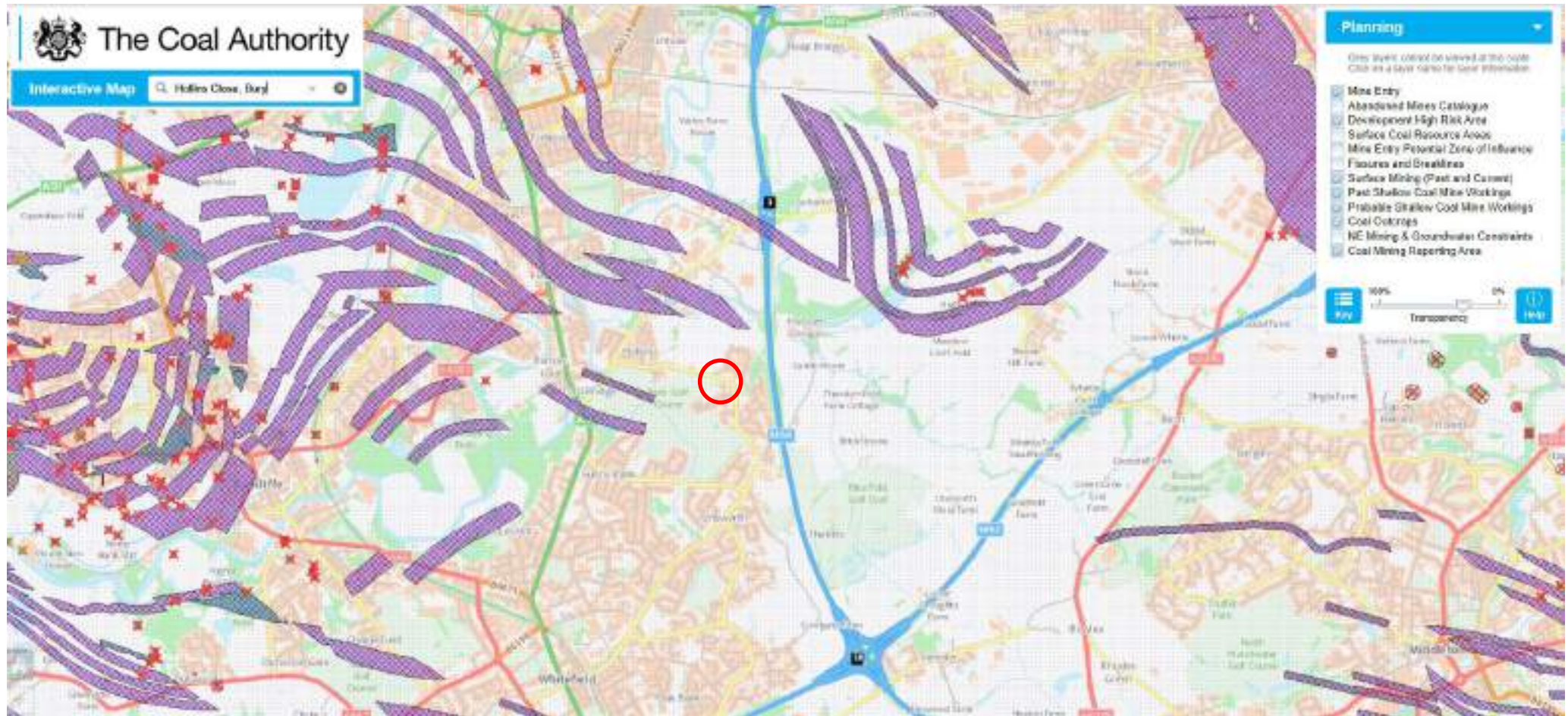
Approximate position of the enquiry
boundary shown 



How to contact us

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www.groundstability.com

GEO2020-4255 (Site 1): The Coal Authority Online Database (CA)





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