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Report No 3358/01 Issue 2

PROPOSED RESIDENTIAL DEVELOPMENT AT 68 RINGLEY ROAD, WHITEFIELD, MANCHESTER

PHASE 1 SITE INVESTIGATION REPORT

Carried out for: **AOR Properties Ltd.**

Lead Consultant: **Debtal Architecture**



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DEBTAL | ARCHITECTURE

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DISCLAIMER

This report should be read with the Service Constraints Report Limitations & Planning Requirements set out in Appendix A.



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CONTENTS

1.	INTRODUCTION	1
1.1	Background Information	1
1.2.	Development Proposals.....	1
1.3.	Planning Status & Requirements	2
1.4	Scope of the Investigation	2
1.5.	Previous Investigations	3
2.	SITE LOCATION AND DESCRIPTION	4
2.1	Site Location.....	4
2.2	Site Description	4
2.3	Site Ownership	5
2.4	History	6
3.	ENVIRONMENTAL SETTING	9
3.1	Data Summary	9
3.2	Mining and Quarrying.....	12
4.	HAZARD ASSESSMENT & PRELIMINARY CONCEPTUAL SITE MODEL.....	13
4.1	Hazards Identified with the Proposed Development	13
4.2	Potential Sources of Contamination.....	13
4.3	Potential Receptors of Contamination	14
4.4	Identification of Pathways.....	15
4.5	Contaminant Linkages	17
4.6	Conceptual Site Model.....	18
4.7	Preliminary Contamination Hazard Assessment	19
4.8	Geotechnical Hazards Associated with the Development	21
5.	CONCLUSION.....	22
5.1	Environmental Risk Assessment	22
5.2	Risk from Coal Mining	22
5.3	Geotechnical Design	23
5.4	Recommendations for Further Works.....	23
5.5	Health and Safety.....	24
	REFERENCES.....	25
	DRAWINGS.....	1
	List of Drawings.....	1
	DA16117.6 – 001.1 Proposed Site Plan Drawing by Debtal Architects.....	1
	DA16117.6 – 003.2 Proposed GA Plan Drawing by Debtal Architects.....	1
	DA16117.6 – 004.2 Proposed Elevation Drawing by Debtal Architects.....	1
	DA16117.6 – 303.2 Proposed Materials Drawing by Debtal Architects.....	1
	APPENDICES.....	2

APPENDICES

Appendix A	Service Constraints, Report Limitations & Planning Requirements
Appendix B	Environmental Risk Assessment Methodology and Terminology
Appendix C	Photographs
Appendix D	Groundsure EnviroInsite Report
Appendix E	Coal Authority Coal Mining Report

PROPOSED RESIDENTIAL DEVELOPMENT AT 68 RINGLEY ROAD, WHITEFIELD, MANCHESTER

PHASE 1 SITE INVESTIGATION REPORT

1. INTRODUCTION

1.1 Background Information

1.1.1 TerraConsult Limited was commissioned by Debtal Architecture on behalf of AOR Properties Ltd, to carry out a preliminary site investigation for an area of land at 68 Ringley Road, Whitefield, Manchester. The purpose of the report is to provide preliminary information on conditions at the site for a proposed residential development at the site.

1.1.2 This report has been devised to generally comply with the relevant principles and requirements of a range of guidance including:

- Part IIA of the Environment Protection Act, 1990;
- Contaminated Land (England) (Amendment) Regulations 2012 and Contaminated Land Statutory Guidance (DEFRA, April 2012);
- National Planning Policy Framework (HCA, February 2019);
- BS 5930:2015: “Code of practice for site investigations”;
- BS 10175: 2011 +A2:2017 “Investigation of Potentially Contaminated Sites - Code of Practice”;
- The Building Regulations 2010. Part C (HM Government 2013)
- Environment Agency Guidance (October 2020) Land Contamination Risk Management Land Contamination (LCRM);
- Environment Agency (2011) Report GPLC1 “Guiding Principles for Land Contamination”; and,
- Environment Agency (2017) “The Environment Agency’s Approach to Groundwater Protection” November 2017 Version 1.1.

1.1.3 TerraConsult’s service constraints and report limitations are presented in Appendix A and a description of environmental risk assessment methodology and terminology is presented in Appendix B.

1.2. Development Proposals

1.2.1 The proposed development of the site is understood to comprise:

- the conversion and extension of the existing building;
- the removal from site or the treatment of any contaminated material encountered during the conversion and extension works; and,

- the creation of a four-storey apartment block, comprising five apartments, underground parking, access roads and service provision.

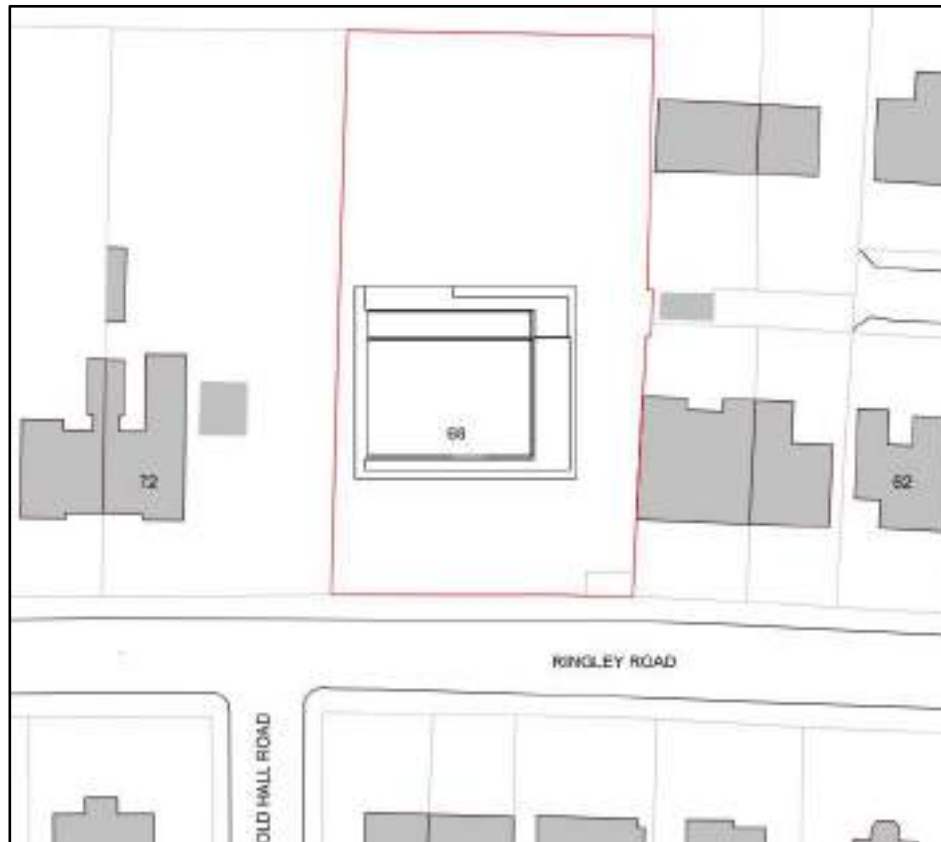


Figure 1: Proposed development (from Debtal Architecture's drawing DA16117.6. 001)

- 1.2.2 The findings and conclusions of the risk assessments have been set out and recommendations given for the proposed residential end use. If there is a subsequent change in the proposed land, the risk assessments and conclusions should be reviewed to determine whether they are still applicable for the revised end use.

1.3. Planning Status & Requirements

- 1.3.1 This report is designed to comply with the requirements of The National Planning Policy Framework (NPPF, 2019) and is intended to be used by the developer as part of the submission to gain planning for the works.

1.4 Scope of the Investigation

- 1.4.1 The scope of the investigation was to meet the requirements to provide information for planning purposes and for design of the development. The specific activities carried out are as follows:

- Undertake a desk study of available information to include a review of existing reports, history of the site and geo-environmental data;
- Walk over survey;
- Hazard assessment and development of a conceptual model; and,
- Provide recommendations for a Phase 2 Site Investigation.

1.5. Previous Investigations

1.5.1 No previous reports are available for this site.

2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

2.1.1 The site is indicated in Figure 2 below and the site location is summarised in Table 1:

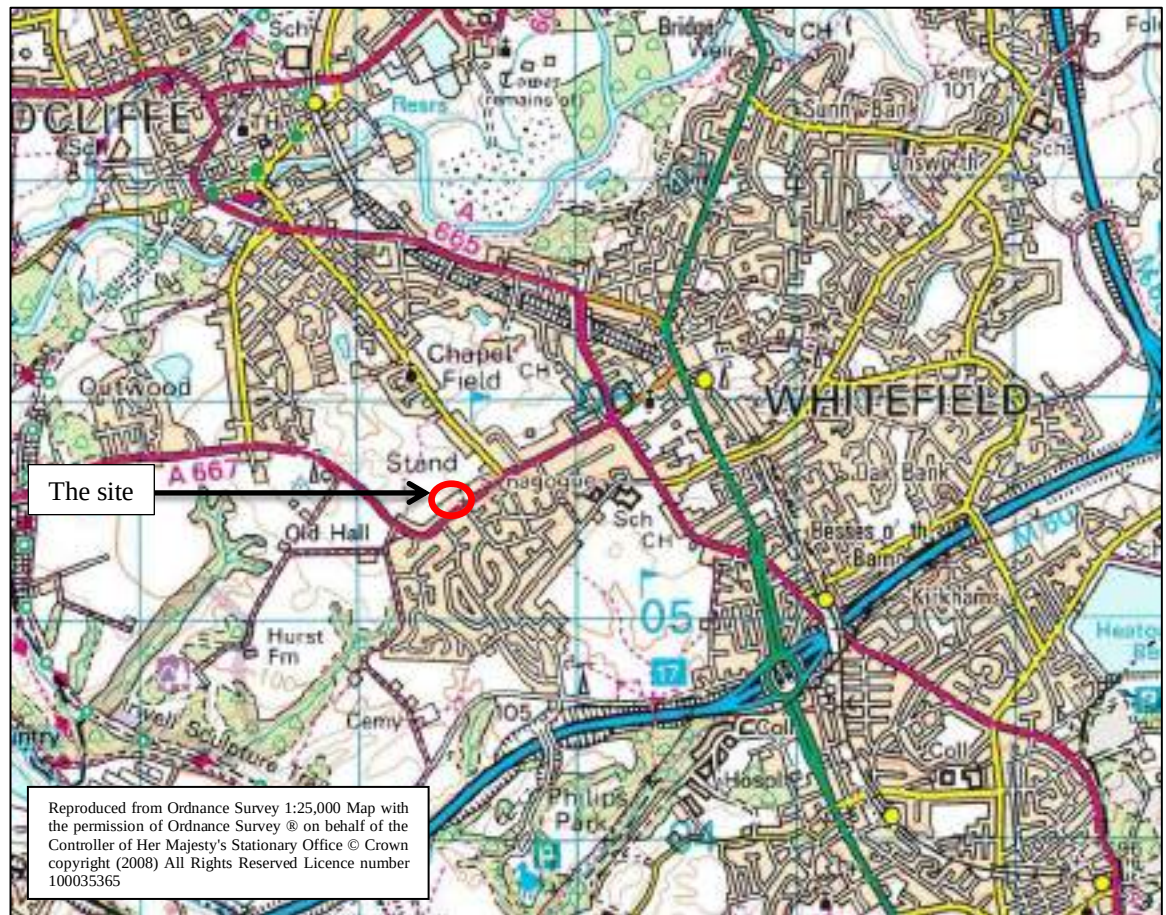


Figure 2: Site Location

Table 1: Summary of Site Location	
Location	The site is approximately 1.1 km to the southwest of Whitefield, and 8 km northwest of Manchester City Centre.
Grid Reference	379408, 405467
Post Code	M45 7LN
Site Area	0.20 ha (approx.)
Site Shape	The site has maximum plan dimensions of m by m and is roughly rectangular in shape.
Topography	The elevation is at approximately 125 mAOD. The site slopes slightly northwards by around 1 to 2 m towards the back of the site.

2.2 Site Description

2.2.1 A site visit was undertaken on 8th May 2017. Photographs of the site are presented in Appendix C.

Table 2: Summary of Description of the Site and its Environs	
Current Use:	The site was currently being used as a residential property, although no one currently resided within it. Some vegetation clearance and demolition works on external buildings had taken place at the time of the walkover.
Access	Directly north off of Ringley Road
Existing Buildings & Structures	The existing L-shaped residential property was situated in the centre of the site and comprised of a two-storey structure with a semi-basement and double garage in the basement. The access drive way down to the basement was in a cutting, which had a concrete crib wall along the eastern perimeter supporting the brick boundary wall.
Site Surface	Block paving hardstanding was located on the southern half of the site along the southern, eastern, and part of the western sides of the site. There was evidence of settlement as the surface was uneven and the brick alignments were locally out of alignment. This suggested poor construction of the paving. There were some large ornamental sandstone boulders. A grass covered area was noted to the north of the site (back garden), other areas of soft cover/ Made Ground were noted to the south and western side of the site where vegetation used to be located.
Vegetation	Grass and weed covered borders were noted to the north of the site in the former back garden area. A vegetated rockery was noted to the immediate north of the residential property. The majority of the trees noted on google mapping had been cut down prior to the walkover.
Storage Tanks	Below Ground Tanks: No evidence but could be present in the basement. Above Ground Tanks: None present.
Services	Several service covers were noted in the grassed back garden, a further cover was noted adjacent to the underground garage on the eastern side of the site. It is likely that most of the services are located on the southern side of the site from the main road, but this cannot be confirmed at this stage.
Asbestos	No potential Asbestos Containing Materials (ACMs) were noted in the buildings or on the ground surface. However, a refurbishment / demolition asbestos survey will be required prior to the conversion and extension of the existing structure.
Waste Disposal/ Materials Storage	A pile of demolition rubble was noted in the north-western corner of the site, at the site of a former structure (possibly a shed). Several blue plastic bags were also noted on the northern border near the pile of demolition waste. Along the south side of the building, there was an area where there had been some demolition next to the house.
Surrounding Area	Residential properties to the south, east and west and fields to the north. Ringley Road bounds the southern side of the site.
Ecology	There was no evidence of protected burrowing animals (e.g., badgers) or habitats suitable for protected amphibians (e.g., Great Crested Newts). It was believed an ecologist was visiting the site to determine if the site had bats. Trees were present on the site but had been cut down by the time of the walkover. Several other trees on to the north of the site along the border were present. No evidence of invasive plant species was noted. <i>These comments on the ecology are for initial preliminary assessment. They are based on the assessment of personnel who are not trained ecologists and does not constitute a Phase I Habitat Survey or similar.</i>

2.3 Site Ownership

2.3.1 It is understood that the site is currently owned by the Client.

2.4 History

2.4.1 The following information in Table 3 has been gathered to detail relevant land use changes for the site and its surroundings. The maps used are previous editions of the County Series and Ordnance Survey dating back to 1848-50. These maps are presented in Appendix D. Note the 1915 and 1923 1:10,560 maps do not cover the site.

Table 3: Summary of Examined Ordnance Survey Historical Mapping

OS Map Edition	On-site Features	Off-site Features
1848-50 County Series Plan 1:10,560 map	The site is bisected by a boundary line that crosses the site northwest-southeast. The western half of the site is in an open field, whilst the eastern half is part of the adjacent Presbyterian Chapel grounds.	The site is predominantly surrounded by open fields. Ringley Road is shown in its present-day location and alignment and bounding the southern side of the site. An unnamed Presbyterian Chapel is located approximately 80 – 110 m east of the site with its associated grounds adjacent to the eastern border and on the eastern side of the site. Two small ponds to the east and west of the site are noted within 150 to 200 m of the site. A larger pond is located approximately 400 m northwest of the site. The village of ‘Old Hall’ is located approximately 150 m to the south west of the site. Whilst the village of ‘Stand’ is located approximately 300 m northeast of the site.
1893 County Series Plan 1:2,500 & 1891 County Series Plan 1:10,560 map	A large L shaped building named ‘Hawthorns’ has been developed on the site. The site also now features two rectangular outbuildings in the northern portion of the site.	Four residential buildings have been developed along Ringley road to the immediate west of the site. The villages of ‘Old Hall’ and ‘Stand’ have had residential development and increased in size. A large square reservoir named ‘Clarke Hill Reservoir’ has been developed 500 m northwest of the site. A sand pit is noted adjacent to its south-eastern corner. A sand pit is named approximately 600 m east of the site, beyond Stand. An old sand pit is noted approximately 700 m southeast of the site. A railway line has been developed approximately 850 m northeast of the site on a northwest-southeast alignment.

1909 County Series Plan 1:2,500 & 1907-08 1:10,560 map	No significant changes noted.	A school and one large house, named as 'Springfield House' have been developed west of the Chapel on its grounds. A small new pond is noted approximately 200 m northwest of the site, whilst one to the east is no longer shown. The old sand pit to the southeast is no longer shown, whilst the sand pit to the east is now noted to be 'old sand pit'. A golf course is noted 500 m to the northeast of the site.
1929-32 County Series Plan 1:2,500 & 1927-32 County Series 1:10,000 map	No significant changes noted.	Two residential properties have been developed to the immediate east of the site. Further residential properties have been developed along the southern side of Ringley Road in a line. The field to the immediate northeast of the site appears to be partially excavated in the northern half of the field. Another golf course (or part of the existing on to the northeast) is now shown in an area of previously open fields to the northwest of the site. A "works" has been developed approximately 650 m north of the site adjacent to a nursery. The old sand pit to the east is no longer named, but its earthworks are still noted.
1937 County Series Plan 1:2,500 & 1937-38 1:10,560 map	No significant changes noted.	Further residential development has occurred to the south of the site. The open field to the northeast has had further earthwork realignments and is now named as a playing field. Further residential developments have occurred in the general area.
1955 Provisional 1:2,500 & 1955-56 1:10,560 map	The two rectangular outbuildings in the northern portion of the site are noted to be a riding school.	A pavilion has been developed in the playing field to the northeast of the site. Further residential development in the area, including on some of Strand Houses garden areas.
1967-68 & 1968 National Grid 1:2,500 & 1965-68 provisional 1:10,000 map	No significant changes noted.	The golf course to the northwest is named as Strand Golf Course, the one to the northeast is no longer named as a golf course, but as Chapel Field. Further residential development in the area to the east and south of the site.
1973-77 1:10,000 National Grid maps	No significant changes noted.	Significant residential development to the south and southeast within 500 m of the site. The reservoir to the west has been replaced by two small circular ponds.

1987 1:2,500 & 1981-89 1:10,000 National Grid maps	The site is now shown to reflect the present-day alignment with one L-shaped building in the centre of the site.	A sports ground is now noted to the northwest of the site, the playing field to the northeast is no longer labelled and the pavilion is no longer shown. The pond to the northwest is no longer shown. Further residential development in the area.
1989-92 & 1992 1:2,500 & 1991 1:10,000 National Grid maps	No significant changes noted.	No significant changes noted.
2002 1:10,000 Raster map	No significant changes noted.	No significant changes noted.
2010 1:10,000 National Grid map	No significant changes noted.	No significant changes noted.
2014 1:10,000 National Grid map	No significant changes noted.	The reservoir to the west is no longer shown.

3. ENVIRONMENTAL SETTING

3.1 Data Summary

3.1.1 A summary of the environmental background information (geology, hydrology, hydrogeology, database information etc.) and regulator consultation information has been tabulated and presented below. The source information for this table is presented in Appendix D or is referred to in Table 4 below. The table below represents the base data used to formulate the conceptual ground model.

Table 4: Data Summary: Environmental Setting & Regulator Contact		
	Data Source	Data Summary
Regional Geology	1:50,000 BGS Sheet 85. Groundsure Report HMD-147-3850571 & HMD-147-3850572	The site was shown to be underlain by superficial deposits comprising Glaciofluvial Deposits (sands and gravel) on the southern side of the site, to the north the site is underlain by Glacial Till. A fault line bounds the western side of the site on a northwest-southeast alignment. The geological map indicates that the downthrow is to the southwest. The bedrock is different across the fault. An area of Triassic Chester Formation sandstone bounds the site to the immediate west of this fault line, but the majority of the site is underlain by bedrock consisting of siltstone and sandstones of Carboniferous Pennine Middle Coal Measures (Westphalian). The north-eastern corner of the site is underlain by sandstone of the Newton Heath Sandstone Formation and is separated by a discontinuity from the Pennine Coal Measures, which is on a northwest-southeast alignment. A coal seam sub-crop is noted 145 m to the north of the site on a northwest-southeast alignment as is named as the Worsley Four Foot Mine. A second fault line is notes 455 m southwest on a northwest-southeast alignment. The BGS does not hold any freely available borehole logs within 250 m of the site.
Mining	BGS Maps & Coal Authority Website Coal Authority Report HMD-147-3881851 Groundsure Report HMD-147-3850571 & HMD-147-3850572	The site is located in a Coal Authority Referral area and a Coal Authority Coal Mining Report has been purchased (See Appendix E) and the findings are discussed in more detail in Section 3.2. The site is not in an area affected by historic brine or salt extraction.
Quarrying	Historic OS Plans Groundsure Report HMD-147-3850571 & HMD-147-3850572	From the historic maps, there is no evidence of mineral extraction or quarrying at the site (e.g., brick pits, sand, and gravel extraction etc.). However, sand pits were noted in the late 1800s between 500 -700 m from site.

Hydrogeology	Groundsure Report HMD-147-3850571 Environment Agency Web Site, 16/05/2017	Source Protection Zone – none underlying the site or within 500 m of the site. Aquifer (superficial) – Secondary A Aquifer. Aquifer (bedrock) – Secondary A Aquifer. Soil Leaching Potential – Soil of high leaching potential indicated at the surface. Groundwater Abstractions – No groundwater abstractions in the area of the site, or within 500 m of the site. The site is not within: • A Surface Water Safeguard Zone; or, • A Groundwater Safeguard Zone. The site is within: • A Groundwater Drinking Water Protected Area – Groundwater probably at risk.
	Groundsure Report HMD-147-3850571 Environment Agency Web Site, 15/05/2017	Nearest watercourse – 441 m to the southwest of the site and is an unnamed tertiary river. The River Irwell is located 1.2 km to the north of the site on an east-west alignment.
Hydrology	Groundsure Report HMD-147-3850571 Environment Agency Web Site, 15/05/2017	Flooding: The site is not in or within 500 m of a flood risk zone. Pollution Incidents: None within 500 m of the site. Surface Water Abstractions – No recorded abstractions within 1 km of the site. Discharge Consents – None within 500 m of the site.
	Drainage Plans	None currently identified.
	Buried Culverts	None currently identified.
Radon Potential	Building Research Establishment, 2015, 'Radon: Guidance on protective measures for new buildings' Groundsure Report HMD-147-3850571	The site is not in an area where radon protective measures are considered necessary in the construction of new buildings. However, it should be noted that the Health Protective Agency, now Public Health England (PHE), published advice in July 2010 recommending that all new buildings in the UK include minimum basic radon protective measures. (http://www.hpa.org.uk/NewsCentre/NationalPressReleases/2010PressReleases/100708Newadviceonradon/). Further advice can be obtained from the PHE web site (http://www.ukradon.org/information/reducelevels).
Other Radiation	Historic land use (from Groundsure report appended to this report).	No reasonable grounds for believing land to be radioactively contaminated (in accordance with 2005 extension of Part IIA of The Environment Protection Act 1990).
Ordnance	Zetica Bomb Risk Map (Manchester)	Low risk for unexploded ordnance.

Environmental Database Information	Industrial Processes (from Groundsure Report appended to this report) Groundsure Report HMD-147-3850571	There are no registered Integrated Pollution Control (IPC) Sites, Registered Radioactive Substances sites, Control of Major Accident sites (COMAH), Explosives Sites or Notification of Installations Handling Hazardous Substances (NIHHS) within 500 m of the site.
Landfill Search	Environment Agency Web Site, 17/05/2017 Groundsure Report HMD-147-3850571	No landfill sites were noted in the surrounding area, with the closest over 1 km from the site. A historic landfill, associated with Stand Golf Course is noted 478 m to the northwest. It took inert material, but no other information is noted. It was likely that this material was used to construct parts of the course. There are no waste treatment or transfer sites within 500 m of the site. There are no recorded Pollution Incidents noted within 500 m of the site.
Trade Directories	Trade Directory Entries recorded in 250 m radius (from Groundsure report appended to this report)	There are three recorded entries within 250 m of the site; all three relate to electricity sub-stations 158 m southwest, 207 m south and 232 m east of the site.
Fuel Stations	Fuel Stations recorded in 250 m radius (from Groundsure Report appended to this report)	There are no recorded fuel stations within 500 m of the site.
Ecology	Sites of Ecological Importance (from Groundsure Report) MAGIC website 17/05/2017 http://magic.defra.gov.uk/website/magic/	There are no sites of Special Scientific Interest (SSSI), Special Protection Areas, Conservation Areas, National Nature Reserves, National Parks, Areas of Outstanding Natural Beauty or RAMSAR (wetlands) or Local Nature Reserves (LNR) within 1 km of the site. There is one Ancient Woodland noted within 500 m of the site, located 438 m southwest of the site.
Archaeological & Building Heritage	Historic England website 17/05/2017 https://historicengland.org.uk	There are no scheduled ancient monuments buildings in historic parks and gardens on-site or buildings within the curtilage of scheduled ancient monuments.
	MAGIC website 17/05/2017 http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx	There are no sites of archaeological interest on-site or in the vicinity.
Regulator Contact	Metropolitan Borough of Bury Council	Contact with the Council was not made at this stage, but they will require a Phase 1 site investigation as part of the planning process.
	Environment Agency	Contact with the Environment Agency was not made at this stage.

3.2 Mining and Quarrying

- 3.2.1 Evidence of mining and quarrying is summarised below and is based on a Coal Authority Mining Report for the site (see Appendix E), geological maps, existing borehole logs and the historic maps of the area:

Table 5: Summary of Mining and Quarrying	
Is site within an area where past underground mining has taken place?	Yes
Is site within an area for which a licence for present extraction exists?	No
Is site within an area for which a licence for future extraction exists?	Yes
Are shafts / adits recorded on-site?	No
Is site within geographical boundary of former opencast workings?	No
Is site within 200 m of current or within 800 m of future opencast workings?	No
Is there any evidence of quarrying or brick pits or mineral extraction within 100 m of the site	No

- 3.3.2 A Coal Authority Mining Report for the site (see Appendix E) notes *that “the property is in a surface area that could be affected by underground mining in 2 seams of coal at 450 m to 530 m depth, and last worked in 1971. Any movement in the ground due to coal mining activity should have stopped. In addition, the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.”*
- 3.3.3 The property is not in an area where any future coal working licences have been granted, however. There are no records of mines or mine entrances within 20 metres of the site held by the Authority, however there may be additional entries in the local area which the Coal Authority has no knowledge of. The site is not within an area of influence of past or present open cast workings. There are no records of mine gas emissions requiring action.
- 3.3.4 The property is in an area where a notice to withdraw support was given in 1959. 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.
- 3.3.5 From the historic maps, there is no evidence of mineral extraction or quarrying at the site (e.g., brick pits, sand, and gravel extraction etc.).
- 3.3.6 On the basis of the geology of the area, the Coal Authority Report, and the historic maps, it is considered that the site is not likely to be at risk from ground movements due to previous coal mining or quarrying.

4. HAZARD ASSESSMENT & PRELIMINARY CONCEPTUAL SITE MODEL

4.1 Hazards Identified with the Proposed Development

4.1.1 The hazard identification is based on the assumptions presented below:

- the site will be a residential development;
- the residential development will include some domestic gardens/communal, and residents may choose to grow their own vegetables; and
- drinking water will be from mains supply.

4.2 Potential Sources of Contamination

4.2.1 For the purpose of this assessment, the potential contaminants of concern have been considered according to whether they are likely to have originated from on-site or off-site sources.

Potential On-site Sources of Contamination

- Made Ground: possible metals, metalloids, asbestos, PAH, and petroleum hydrocarbons from previous land uses (mainly from former residential building); and
- Ground gases (carbon dioxide and methane): from Made Ground and organic matter in natural soils.

Potential Off-site Sources of Contamination

- Made Ground (as above) from off-site residential developments;
- Ground gases (carbon dioxide and methane): from Made Ground from infilled ponds within the vicinity of the site (between 150 and 200 m from site), infilled old pit to the northeast of the site and organic matter in natural soils;
- Electrical sub-station: PCB's However, even if there had been a spillage of PCBs at one of the sub-stations it is considered very unlikely to impact onto the development site, especially as the closest is located 158 m southwest from the site. This is because the quantities of PCBs at the sub-station would be relatively low and PCBs are not very mobile, particularly given the Glacial Till strata. PCBs are therefore not considered further in this report.

4.2.2 Overall, it is considered unlikely that there is significant contamination at this site but there could be localised areas of slightly elevated concentrations of contaminants.

4.3 Potential Receptors of Contamination

4.3.1 Based on the data previously discussed, the following potential receptors to contamination have been identified:

Table 6: Identified Potential Sensitive Receptors	
A	Humans – Pre development completion, i.e., working on-site during construction.
B	Humans living on the site post construction.
C	Controlled waters – Surface Waters (rivers and streams).
D	Perched groundwater in Made Ground and Controlled waters – (groundwater –Secondary A Aquifers in superficial and bedrock).
E	Local flora and fauna during and post construction.
F	Building structure and services.

4.3.2 The possible contaminant linkages are discussed below. It should be noted not all may be formed between all sources and receptors.

4.3.3 The preliminary assessment of risks undertaken for the development considers potential risks to receptors A to F in Table 6 above. The receptors A to F incorporate each of the receptors normally required by the Local Authority to be considered in their planning conditions relating to land contamination;

- Human Health (A & B)
- Property (including buildings, crops, livestock, pets, woodland, service lines) (E & F)
- Adjoining land (D & F)
- Groundwater and surface water (C & D)
- Ecological systems (E)
- Buildings and structures (F)

4.3.4 It should be noted that there are no archaeological sites or ancient monuments considered to be within the zone of influence of the site. They are therefore not considered in the risk assessment.

4.3.5 The closest of each of the above receptor categories to the site are considered to be;

On-site

- Site users;
- Buildings;
- Flora and fauna; and,
- Secondary A superficial and bedrock aquifers.

Off-site

- Residential properties to west, south and east;
- Users/visitors of playing fields and open space to the north;
- Tertiary river 441 away;
- Flora and fauna in the area; and,
- Users/visitors of golf course to the north.

4.3.6 The possible contaminant linkages are discussed below. It should be noted not all may be formed between all sources and receptors.

4.4 Identification of Pathways

Pathways to Human Health

4.4.1 There are various routes by which a potential contaminant may reach a receptor. For example, in areas where contaminated material is exposed, dermal contact with the material, inhalation or ingestion of dust may occur.

4.4.2 The majority of the site is currently hardstanding or a building footprint to the south with planting areas, the northern part of the site is predominantly grass covered soft cover. It is anticipated that some demolition and earthworks will be required to convert and extend the existing structure and construct the apartment block, modify ground levels, and modify the basement areas / underground car park.

4.4.3 Inhalation or ingestion of dust and water could occur during the construction and development phase at the site. Pathways from dermal contact with soil and groundwater may also arise. It is considered that the risk of short-term exposure for ground workers and other construction workers is low unless there are asbestos fibres in the Made Ground.

4.4.4 Made Ground is likely to be present on the site given the previous and current residential buildings being developed on-site. However, historical mapping indicates that it is unlikely that materials / Made Ground that would pose a significant risk of significant harm would be present on-site, similarly it is unlikely acidic conditions are present on-site.

4.4.5 Post construction, the surface of the development area will be occupied with buildings and hard standing; however extensive landscaped garden areas will still be present. This is significant in that a number of potential pathways are possible such as long-term direct contact and dust inhalation/ingestion is also applicable.

Ground Gas

4.4.6 Gas and vapour entry into buildings is considered to be potential pathway for the proposed development due to the possibility of advection and diffusion into buildings. However, it should be noted that no significant source of ground gas is noted on-site other than some fill placed along the northern edge of the property to form a rockery against the semi-basement. Several infilled ponds were noted within 200 m of the site, though the majority were infilled between the early 1900s and late 1980s and the open pit feature in the field to the north of the site was infilled by the mid to late 1930s. These are

unlikely to be generating significant quantities of ground gas given the age of infilling. No landfills were identified within 500 m of the site.

- 4.4.7 The site is underlain, according to the geological maps, by glaciofluvial gravels and sand to the south and Glacial Till to the north, it is also likely that below the sands and gravels, Glacial Till is present. It is possible that ground gas from coal seams at depth could migrate through the granular materials to the site. The presence of Glacial Till would restrict this due to its impermeable nature. It should also be noted that the sites present building and those surrounding the site have been in place since the late 1980s, and prior to that another building was on-site since the late 1800s. With the site history, no ground gas sources in the vicinity of the site other than coal measures at depth below part of the site, it is therefore assessed that there is no significant risk from ground gas at this site although the organic carbon content of the basement fill should be assessed to confirm that as anticipated it has a low organic content.

Pathways to Controlled Waters

- 4.4.8 Groundwater levels at the site are currently unknown, however lateral migration of potentially contaminated groundwater off-site (either via permeable Made Ground or the underlying aquifers) must be considered due to the permeable / granular nature of some of the natural stratum noted to underlie the site.
- 4.4.9 The vertical leaching of contaminants from the Made Ground into the groundwater is a potential pathway for contaminants to impact upon groundwater. The presence of superficial deposits which are granular in the southern half of the site means that there is a potential that Made Ground contaminated materials are in contact with the Secondary A Aquifer within the bedrock. However, the unsaturated bedrock will act as an attenuator to potential contaminants leaching into the groundwater at depth.
- 4.4.10 Surface run off from contaminated areas into surface watercourses must also be considered. Due to a lack of a hard standing site surface in the northern half of the site and for a period of time during the construction phase of the proposed apartment block, this will be uncontrolled and must be carefully managed. Post construction the majority of the site and surface run-off will be limited and controlled through drains. There are not any viable overland migration pathways for surface run off to reach any controlled waters receptors, the nearest being 400 m away.

Other Pathways

- 4.4.11 Other potential pathways that are possibly less significant to the site but still require consideration are; potential phytotoxic effects on sensitive landscaping plants; chemical attack on foundations and services and permeation of contaminants through domestic water pipes. The risk to buildings from ground gases has been discussed under human health above.

4.5 Contaminant Linkages

4.5.1 For each contamination source, there are potential contaminant linkages with all receptors. However, in the context of this site, not all of the contaminant linkages are plausible. The likelihood of the various pathways linking the contaminants to the receptors is presented in Table 7 below:

Table 7: Matrix of Contaminant Linkages							
Source/ Contaminated Medium	Pathway	Receptor					
		A - Humans using the site pre-development completion	B - Humans living on the site post construction	C – Surface Water	D - Groundwater	E - Flora & fauna	F - Building & Services
Soil/Made Ground/Bund Material	Ingestion	P	P	-	-	P	-
	Dermal Contact/Direct Contact	P	P	-	-	P	P
	Inhalation	P	P	-	-	U	-
	Infrastructure/Drainage	P	P	P	P	P	P
	Groundwater	P	P	U	P	U	P
	Surface water	U	U	U	P	U	P
Groundwater	Ingestion	U	U	-	-	U	-
	Inhalation	U	U	-	-	U	-
	Dermal Contact	P	U	-	-	P	-
	Groundwater	P	P	P	P	U	P
	Surface Water	U	U	U	P	U	P
Radon	Migration	-	-	-	-	-	-
Gas (CH₄ CO₂)	Migration	U	U	-	-	U	U
Key to significance of contaminant linkages S = Significant Pathway P = Possible Pathway U = Unlikely Pathway - =Not Applicable Only Significant and Possible contaminant linkages are taken forwards to the next part of the risk assessment.							

4.6 Conceptual Site Model

4.6.1 In accordance with BS 10175, a schematic section has been developed for the site based on the previously presented data and contaminant linkage assessment:

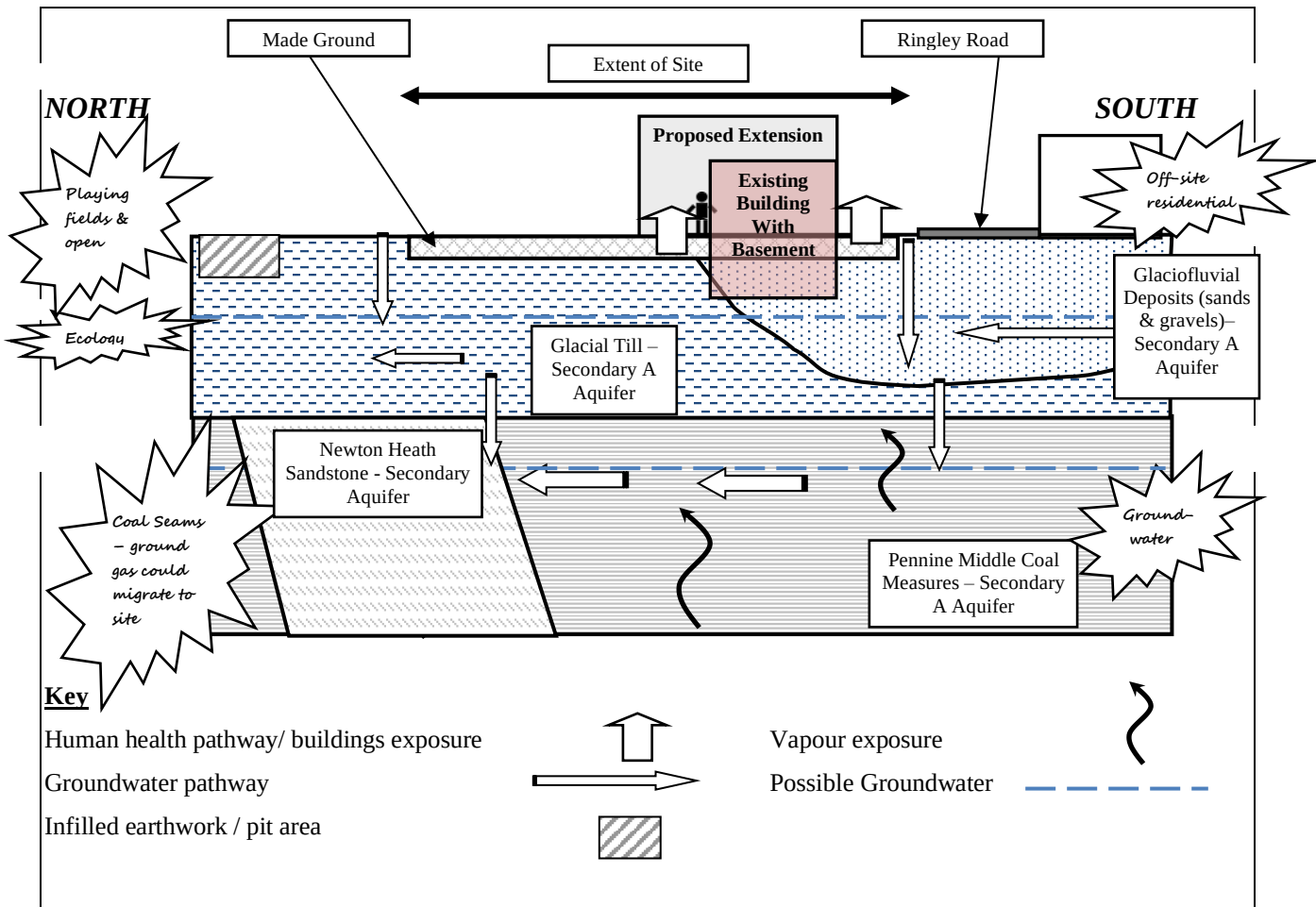


Figure 1: Preliminary Conceptual Ground Model - Schematic Section (not to scale)

4.6.2 The model shows the predicted geology and topography, the major on-site potential contamination sources, and vulnerable receptors. The information presented above represents the preliminary conceptual ground model that may need to be revised based on information obtained as part of any future intrusive investigation. A number of sensitive receptors and potential pathways and sources (in association with a list of likely contaminants) have been identified.

4.6.3 The ground model and proposed end use described above should be considered broadly representative of the standard housing (with vegetable uptake) as defined in SR3 “Updated Technical Model to the CLEA Model” (SC050021/SR3, 2011) for the purpose of this report.

4.7 Preliminary Contamination Hazard Assessment

- 4.7.1 The preliminary hazard assessment is based on current available guidance published by a number of sources and is summarised in Appendix B. A preliminary conceptual site model for this site has been established using the desk study information and has been used as a basis for the preliminary hazard assessment. The significant and possible potential pathways are only considered for the hazard assessment.
- 4.7.2 The preliminary hazard assessment is a qualitative assessment of the risks posed by each viable pollution link identified. The hazard assessment leads to a recommended subsequent activity that could be:
- Action Required (AR) in the short term to break existing contaminant-pathway-receptor (CPR) link;
 - Site Investigation Required (SIR) with objectives for risk estimation, or
 - No Action Required (NAR) at this stage.

4.7.3 The hazard assessment is summarised in Table 8 below.

Table 8: Preliminary Hazard Assessment							
Hazard Identification				Hazard Assessment			
Link	Contaminant	Pathway	Receptor	Probability	Consequence	Risk	Hazard Assessment
1	Contaminated soil/groundwater	Ingestion (via soil dust) and inhalation (via soil dust and vapours), ingestion through dirty hands, dermal contact with soil/water.	A- Humans using the site during construction.	Medium/ Reasonably Foreseeable	Mild	Low	SIR - Total soil concentration of relevant contaminants and ground gas vapours for contractors and designer's risk assessments.
2		Ingestion (via soil dust) and inhalation (via soil dust and vapours), ingestion through dirty hands, dermal contact with soil/water.	B- Humans using the site after development completion.	Medium/ Reasonably Foreseeable	Mild	Low	SIR- Total soil concentration of relevant contaminants for contractor's risk assessments.
3		Via service pipes	B- Humans using the site after construction. F- Building structures	Low/Unlikely	Medium	Medium/ Low	SIR - Total soil concentration of relevant contaminants and ground gas vapours and designer's risk assessments.
4		Downward migration	D- Perched groundwater	Medium/ Reasonably Foreseeable	Medium	Medium	SIR- Total soil concentration of relevant contaminants for contractor's risk assessments. Presence of groundwater is currently not known. Possible migration if superficial deposits are granular.
5		Downward migration	D - Secondary aquifers/water supply	Medium/ Reasonably Foreseeable	Medium	Medium	
7	Contaminated soil/waste/ groundwater	Ingestion, inhalation, dermal/direct contact	E- Ecology (Flora/Fauna)	Medium/ Reasonably Foreseeable	Negligible	Near Zero	NAR – no ecologically sensitive receptors in close proximity to the site
8	Contaminated groundwater	Secondary Aquifer/ Surface water	E- Ecology (Flora/Fauna)	Medium/ Reasonably Foreseeable	Negligible	Near Zero	
9	Contaminated soil/groundwater	Direct contact.	F- Building structures.	Medium/ Reasonably Foreseeable	Mild	Low	SIR

4.7.4 From Table 8 above, a range of risk ranking from near zero to medium was established. Potentially moderate (and high) risks require quantification and consideration prior to development. The site investigation objectives described above should represent part of a detailed main stage investigation that should include overall characterisation of the ground in association with obtaining and analysing the information described above. Overall, it is considered unlikely that there is significant contamination at this site but there could be localised areas of slightly elevated concentrations of contaminants. With the site history, no ground gas sources in the vicinity of the site other than coal measures at depth below part of the site it is therefore assessed that there is no significant risk from ground gas at this site although the organic carbon content of the existing basement fill should be assessed to confirm that as anticipated it has a low organic content.

4.8 Geotechnical Hazards Associated with the Development

- 4.8.1 In addition to the environmental hazards, there are also geotechnical hazards associated with the stability of the ground (including load bearing capacity, slope stability and effects of ground (mining) cavities). Local Authorities follow NPPF (2012) which requires that “site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining.” A summary of the geotechnical considerations is provided below:

Table 9: Summary of Geotechnical Hazards	
Geohazards:	
Highly Compressible Ground	Negligible
Collapsible Soils	Very Low
Swelling Clay	Very Low
Running Sand	Very Low
Ground Dissolution	Negligible
Landslip	Very Low
Mining & Quarrying (see Section 3.2)	There is no evidence of mining or mineral extraction or quarrying at the site.
Geotechnical Design Considerations	
Site Clearance/ demolition/ Existing Buildings / Obstructions	Currently residential with landscaping. The current building appears to have a basement/semi-basement. Foundations of previous buildings also present including in northeast corner.
Trees	Few relatively young trees present on-site but Google aerial photographs indicate that they were previously larger trees present. Foundation design to take into account existing trees and the larger former trees.
Earthworks	Bulk earthworks will be required to re-profile the site as required.
Foundations	Anticipate that shallow spread foundations will be suitable at this site designed following NHBC Standards (2016) to take into account of the presence of the trees and hedges. Need to confirm the volume change potential of the formation material. Site investigation is required to confirm this.
Floor Slabs	Suspended floor slabs envisaged.
Groundwater	Groundwater expected to be at depth (> depth 5 m)
Retaining Walls	Existing basement retaining walls present. Existing concrete crib wall along eastern boundary of site. Some of the individual elements of the crib wall appear to be damaged and this need to be assessed as part of the development if this is to be kept.
Chemically aggressive ground conditions	Possibility for low pH and high sulphate concentrations which could be detrimental to below ground concrete.

5. CONCLUSION

5.1 Environmental Risk Assessment

- 5.1.1 A preliminary risk assessment has been carried based on the contaminant-pathway-receptor model as defined in Statutory Guidance to Part IIA of the Environmental Protection Act, 1990 and in accordance with BS 10175: 2011+A2 2017 “Investigation of Potentially Contaminated Sites – Code of Practice. A preliminary conceptual site model has been produced to set out the characteristic ground conditions and elements of the surrounding environment and assisted with identifying potential sources of contamination, potential receptors of the contamination and potential pathways between them.
- 5.1.2 From the site history, review of historical maps and Groundsure information, the identified potential sources of contaminants are:
- Localised limited quantity of Made Ground could be present associated with the construction of the current residential building and the historical building which was on-site pre 1980s and from surrounding residential developments; and
 - Ground gases: potential for on-site basement fill to be a low-grade source. This needs to be checked through measurement of organic matter and if this is elevated then this fill can be removed from site.
- 5.1.3 The results of the risk assessments indicate that there are limited potential sources of contaminants of concern present at the site or within the vicinity of the site. The proposed development being a larger building that currently present, the site presents a low potential risk to identified receptors including humans post construction, controlled waters, and ecological receptors without further investigation as to the extent of potential contamination at the site.
- 5.1.4 The geological assessment of the ground conditions at the site indicates that no protection measures are required with respect to radon for the development.
- 5.1.5 A Phase 2 intrusive site investigation is required at this site in order that the environmental and geotechnical risks can be assessed. Only limited contamination testing is required in order to just confirm the level of risk is low as anticipated.

5.2 Risk from Coal Mining

- 5.2.1 The preliminary risk assessment has indicated that there is a low risk associated with mining subsidence and unrecorded historic shallow mining with the shallow bedrock. The geology mapping / Coal Authority records indicate that there are no significant / worked coal seams within at least 100 m of the site and the Coal Authority Report indicates that these seams were at 450 and 530 m deep and last worked in 1971.
- 5.2.2 On the basis of the geology of the area, the Coal Authority report, the historic maps, and site walkover, it is considered that the site is not likely to be at risk from ground movements due to historic mines and shallow coal extraction. There are no records of

mine gas emissions requiring action based on the Coal Authority Report. The worked coal seams underlying the site are 100+ m deep. No requirement for ground gas monitoring to be included in the scope of the Phase 2 investigation.

5.3 Geotechnical Design

- 5.3.1 The geotechnical hazards associated coal mining in the surrounding area of the site are assessed as low based on the site's location in relation to the identified coal seam. It is not likely that the site is at risk from ground movements from coal mining and no special precautions are required to be made in relation to the proposed development.
- 5.3.2 It is anticipated that there will be negligible thicknesses of Made Ground present on the site below the existing basement; with the exact superficial deposit's distribution (clays or granular materials) is currently unknown. Trees were previously on the site and further large trees are present adjacent to it, so any new foundation designs will need to take these into account and the volume change potential of the natural superficial deposits if they are clays. A site investigation will be required to determine the ground profile and material strength/density.
- 5.3.3 The pH and sulphate content of the soils requires assessment with respect to potential attack on concrete and appropriate action taken in terms of specifying a suitable mix in line with Building Research Establishment Special Digest 1 Concrete in Aggressive Ground (2005). Low pH and high sulphate contents associated with weathering of pyritic mudrocks in the Coal Measures sequence can cause localised issues requiring special concrete mixes.

5.4 Recommendations for Further Works

- 5.4.1 In order to make a quantitative assessment of the potential risks and so any required remedial measures can be designed; we recommend that a Site Investigation is carried out in accordance with BS 10175: 2011+A2:2017. This should be combined with a geotechnical investigation carried out in accordance with BS 5930:2015. We recommend that this investigation comprises:
- 1 day (5 No.) window sample boreholes with in-situ SPTs;
 - 4 hand dug pits in the basement backfill material for sample collection and TOC analysis;
 - The collection of soil samples for testing for a range of contaminants, although this will be dependent upon ground conditions and the proposed development; and
 - Geotechnical testing to include laboratory testing for pH, sulphate and liquid and plastic limits within the Glacial Till, Particle Size Distribution tests on any granular material (sands and gravels).

- 5.4.2 Information from the intrusive site investigation and any analytical data can be used to update the Conceptual Site Model and assess risks to identified receptors in accordance with LCRM and other guidance documents.
- 5.4.3 Following the site investigation, any proposals to remediate or develop the site should be agreed with the relevant authorities (e.g., local authority environmental health officer, Environment Agency, etc.) to obtain Planning Permission prior to commencement of the works and should be agreed the local authority building control officer prior to commencement of the works. Where remediation works are required, a verification report should be submitted to the relevant authorities for approval in accordance with relevant Planning Conditions.

5.5 Health and Safety

- 5.5.1 As outlined within the HSE publication “Successful Health and Safety Management – HSG65” this report should inform your development of safe systems of work and information as an input into the safety management system. The contents of this report may be used to supplement the contents of the Health and Safety File as required under the Construction Design and Management (CDM) Regulations 2015.

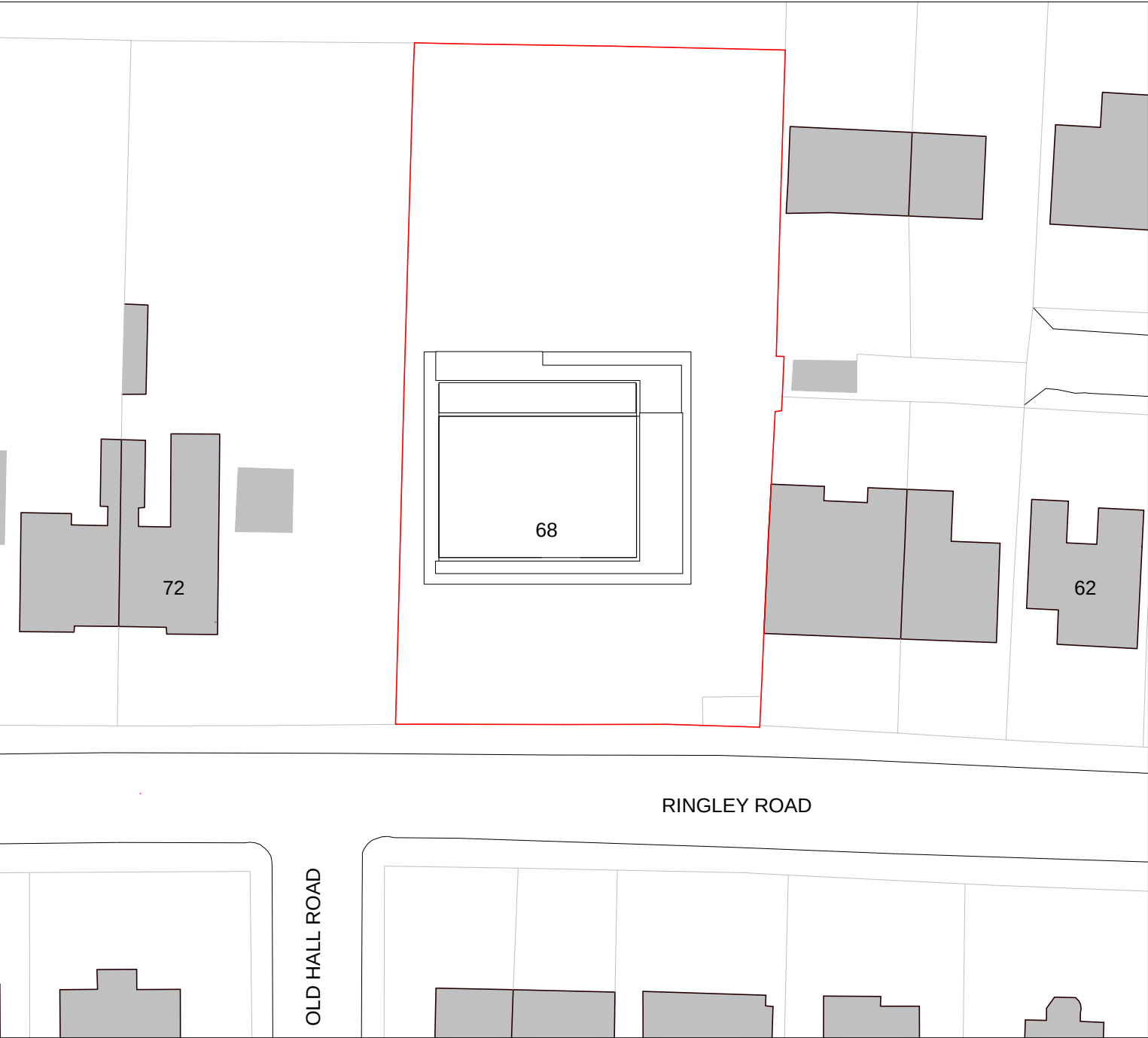
REFERENCES

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- Ministry of Housing, Communities & Local Government; Revised National Planning Policy Framework (NPPF); February 2019.
- Statutory Instruments: 2012: Health and Safety. The Control of Asbestos Regulations 2012. No. 262 coming into force 6th April 2012.
- Statutory Instruments: 2012: Environmental Protection, England. Contaminated Land (England) (Amendment) Regulations 2012 No. 263 coming into force 6th April 2012.

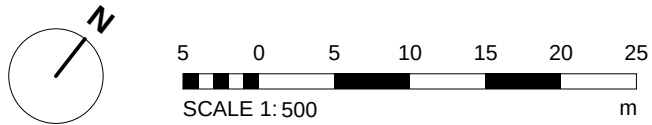
DRAWINGS

List of Drawings

DA16117.6 – 001.1	Proposed Site Plan Drawing by Debtal Architects
DA16117.6 – 003.2	Proposed GA Plan Drawing by Debtal Architects
DA16117.6 – 004.2	Proposed Elevation Drawing by Debtal Architects
DA16117.6 – 303.2	Proposed Materials Drawing by Debtal Architects

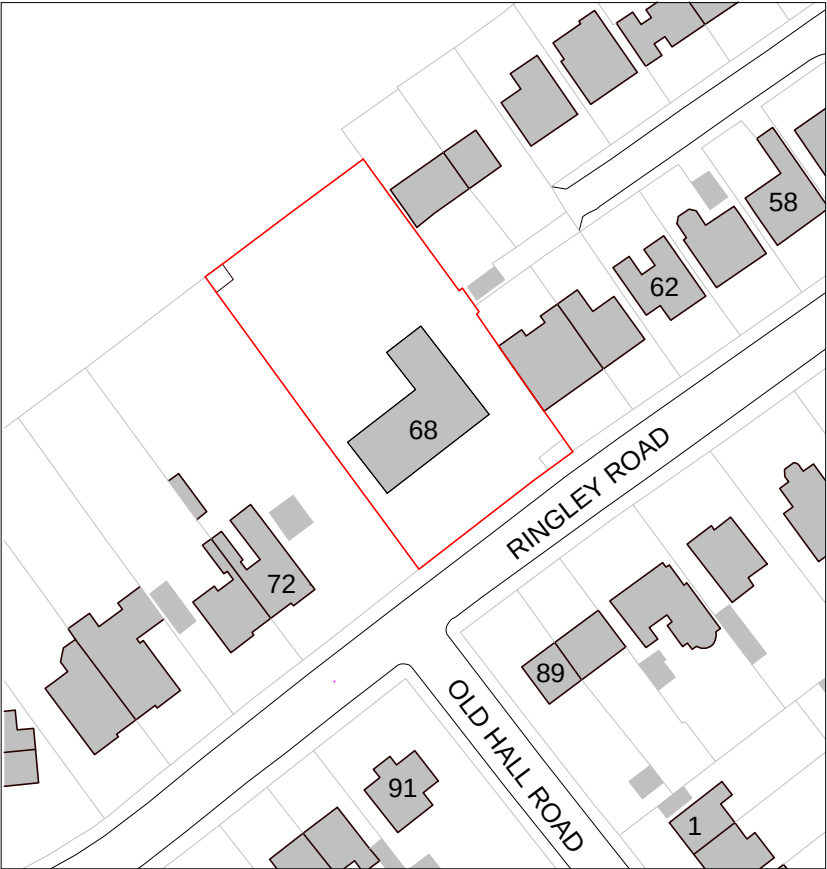


1. Site - Block Plan - Proposed
1 : 500



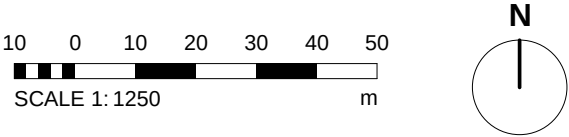
Legend - Boundaries

- Site Boundary
- Site Ownership



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2. Site - Location Plan - Existing

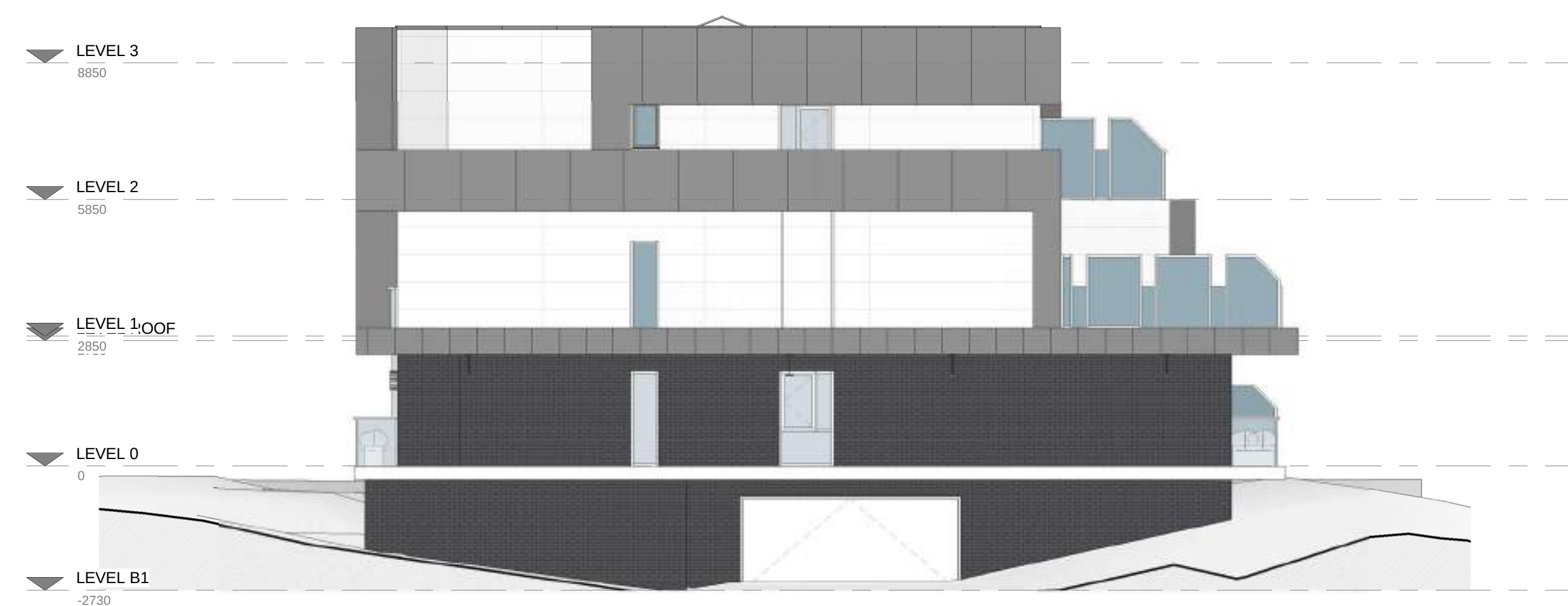
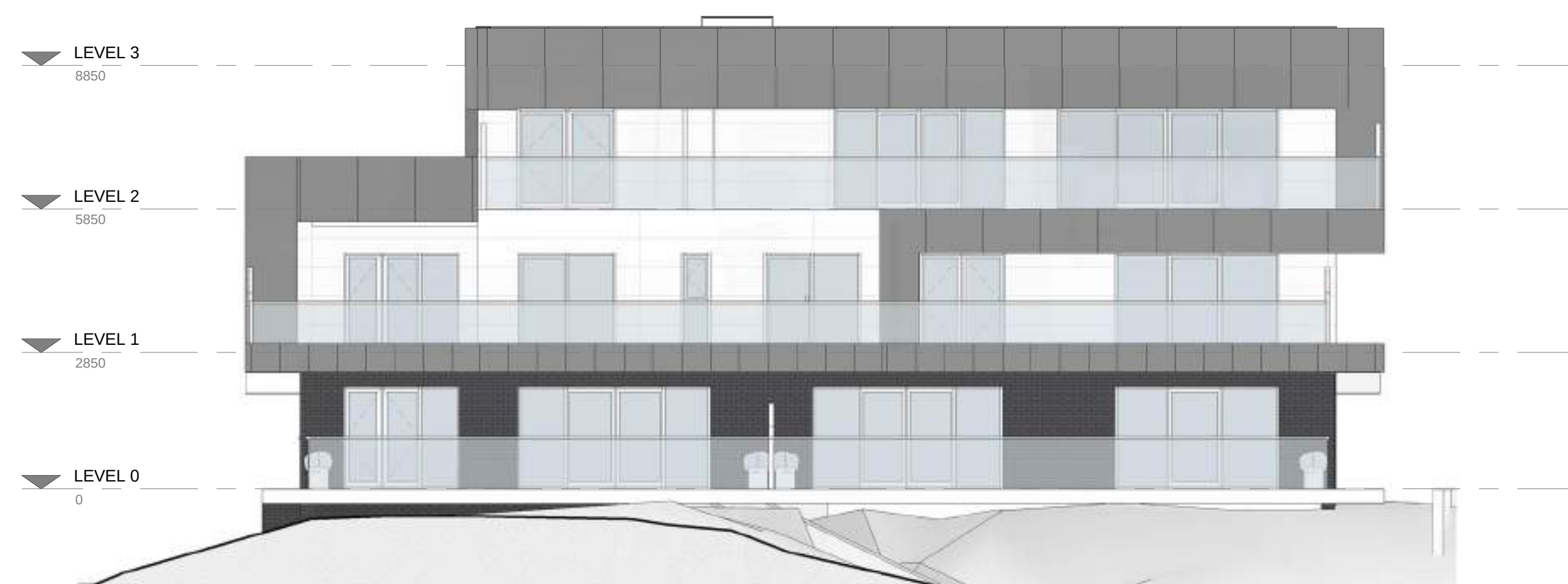
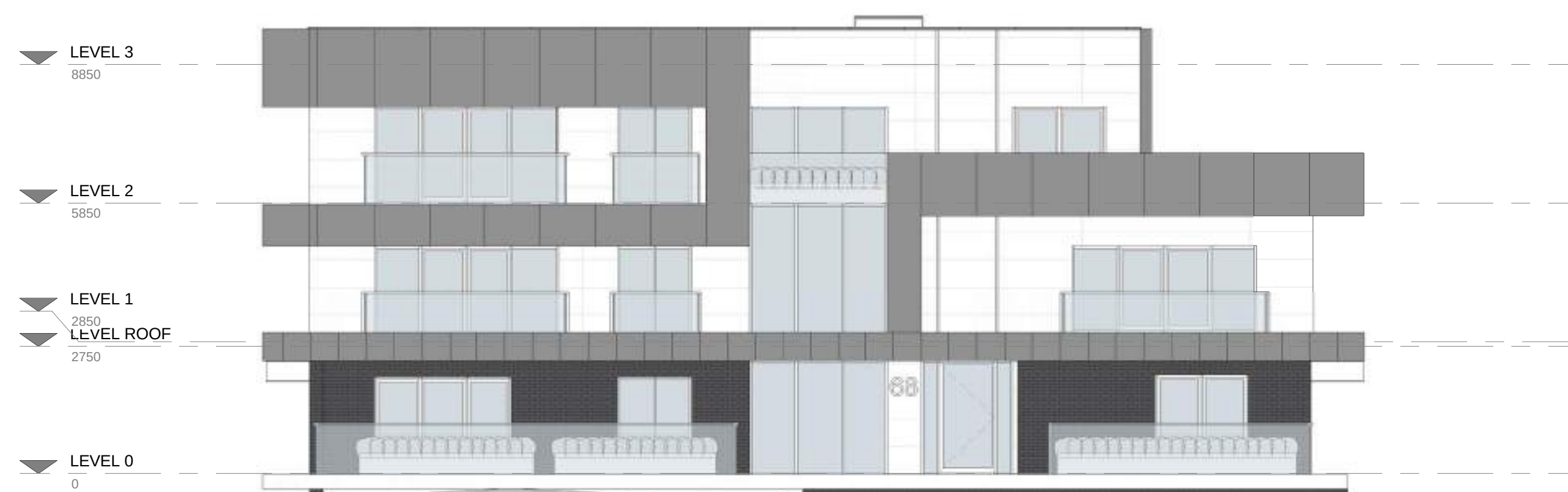


PROJECT	REV	DESCRIPTION	DATE	BY	DATE
68 Ringley Road	As indicated	26 March 2021	JK		
CLIENT	STATUS	PROJECT NO.	DRAWING NO.	REV.	NOTES
Mr Alex Rind	PLANNING	DA16117.6.	001.		
Site - Location and Block Plan					
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4. Level B1 - GA Proposed

PROJECT	68 Ringley Road	SCALE @ A1	DATE	DRAWING BY
		1 : 100	12 APR 2021	PY
CLIENT	Mr Alex Rind	PROJECT		
		PLANNING		
TITLE		PROJECT NO.	DRAWING NO.	REV.
Proposed GA Plans		DA16117.6.	003.	2
 NOTES THIS DRAWING MUST NOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF DEBTAL ARCHITECTURE. ALL DRAWINGS ARE PREPARED TO BE USED IN THE UK AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DEBTAL ARCHITECTURE. THE DESIGNER ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE, INCLUDING CONSEQUENTIAL LOSS OR DAMAGE, ARISING FROM THE USE OF THIS DRAWING FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED AND FOR WHICH IT IS NOT TO BE USED. THE DESIGNER ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE, INCLUDING CONSEQUENTIAL LOSS OR DAMAGE, ARISING FROM THE USE OF THIS DRAWING FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED AND FOR WHICH IT IS NOT TO BE USED. DEBTAL ARCHITECTURE www.debtal.co.uk				



	2	Planning CP 250 PP 230		PP 230 PP 230
	REV	DESCRIPTION		BY DATE
PROJECT	SCALE @ A3	DRAWN @	DATE	PY
68 Ringley Road	1 : 100		12 APR 2021	PY
CLIENT	STATUS			
Mr Alex Rind	PLANNING			
TITLE	PROJECT NO.	DRAWING NO.		REV
Proposed Elevations	DA16117.004.			2
	NOTES			
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	 DEBTAL ARCHITECTURE www.debtal.co.uk			

The most abundant material used for roofing in the area is either natural slate or concrete tiles imitating this aesthetic. The proposal introduces a more contemporary take on the grey roof finish by adopting matt metal cladding

Almost all existing properties in the area have a brick ground floor and white render first floor. This is done in a variety of styles - gable walls, traditional low eaves hipped roof, minimalistic and contemporary flat roof designs. The proposal will adopt this aesthetic but deliver it through the use of high end stone cladding.

Existing horizontal band/canopy in dark brown/black to be retained and overclad to match the contemporary aesthetic

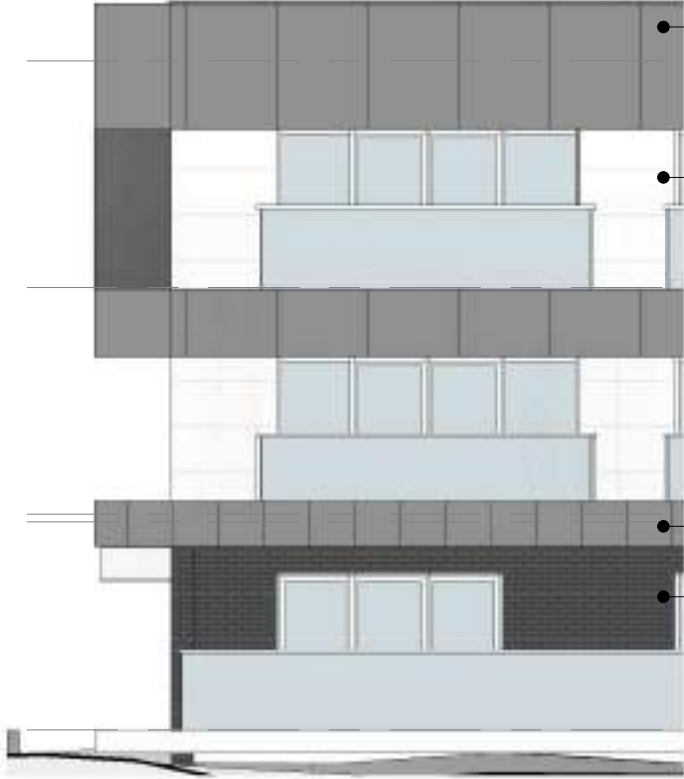
The existing facing brick ground floor wall is to be retained. This will match the prevailing aesthetic in the area but when stained a darker colour it will introduce a more modern design in line with the rest of the proposed aesthetic



3. Existing materials
1 : 1



2. Proposed Materials



- Dark grey matt metal cladding with shadow gaps between large panels
- Natural limestone rainscreen cladding with closed gaps between tiles and feature deeper vertical shadow gaps
- Black/Dark grey matt metal cladding with standing seam over existing overhanging canopy with exaggerated depth and cedar-looking composite soffit
- Existing buff brick on GF to be stained black/dark grey with black mortar
- New brickwork to match - dark grey/blue

1. Front - Proposed Materials
1 : 100

2 1	Planning GF 2 flats	PY 12/04/21 PY 23/02/21
	REV	DESCRIPTION
BY DATE		
PROJECT	SCALE @ A3	DATE
68 Ringley Road	As indicated	11 FEB 2021
CLIENT	STATUS	
Mr Alex Rind	PLANNING	
TITLE	PROJECT NO.	DRAWING NO.
Proposed Materials	DA16117.6.	303.
		2
NOTES		
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APPENDICES

List of Appendices

Appendix A	Service Constraints, Report Limitations & Planning Requirements
Appendix B	Environmental Risk Assessment Methodology and Terminology
Appendix C	Photographs
Appendix D	Groundsure EnviroInsite Report
Appendix E	Coal Authority Coal Mining Report

APPENDIX A

Service Constraints, Report Limitations & Planning

Service Constraints, Report Limitations & Planning Requirements

This consultancy contract, report, and the site investigation (together comprise the "Services") were compiled and carried out by TerraConsult Limited (TCL) for AOR Properties Ltd and Debtal Architecture (the "client") on the basis of a defined programme and scope of works and the terms of a contract between TCL and the "client." The Services were performed by TCL with all reasonable skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by TCL taking into account the limits of the scope of works required by the client, the prevailing site conditions, the time scale involved and the resources, including financial and manpower resources, agreed between TCL and the client. TerraConsult Ltd cannot accept responsibility to any parties whatsoever, following the issue of this report, for any matters arising which may be considered out with the agreed scope of works.

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It is TCL's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without TCL 's review and advice shall be at the client's sole and own risk.

The information contained in this report is protected by disclosure under Part 3 of the Environmental Information Regulations 2004 pursuant to the provisions of Regulation 12(5) without the consent in writing of a Director of TerraConsult Limited.

The report was written in May 2021 and should be read in light of any subsequent changes in legislation, statutory requirements, and industry practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of TCL. In the absence of such written advice of TCL, reliance on the report in the future shall be at the client's own and sole risk. Should TCL be requested to review the report in the future, TCL shall be entitled to additional payment at the then existing rate, or such other terms as may be agreed between TCL and the client.

The observations and conclusions described in this report are based solely upon the Services that were provided pursuant to the agreement between the client and TCL. TCL has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report. TCL is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, TCL did not seek to evaluate the presence on or off the site of electromagnetic fields or materials in buildings (i.e., materials inside or as part of the building fabric) such as asbestos, lead paint, radioactive or hazardous materials.

The Services are based upon TCL's observations of existing physical conditions at the site gained from a walkover survey of the site together with TCL's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst TerraConsult Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report. Further TCL was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. TCL is not liable for any inaccurate information or conclusions; the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to TCL and including the doing of any independent investigation of the information provided to TCL save as otherwise provided in the terms of the contract between the client and TCL.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and TCL] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site.

Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements) and the term 'geoenvironmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation, and these two main aspects are inter-related. The geoenvironmental sections are written in broad agreement with BS 10175:2011+A2 2017. For the geotechnical aspects of the report, the general requirements of Eurocode 7 (BS EN 1997-2:2007) are to produce a Ground Investigation Report (GIR) which shall form part of the Geotechnical Design Report (GDR). The geotechnical section of this report is intended to fulfil the general requirements of the GIR as outlined in BS EN 1997-2, Section 6. The GIR contains the factual information including geological features and relevant data, and a geotechnical evaluation of the information stating the assumptions made in the interpretation of the test results. This report shall not be considered as being a GDR.

Planning Requirements

The National Planning Policy Framework (NPPF, 2019) emphasises the presumption in favour of sustainable development. Paragraph 11, which defines the presumption in favour of sustainable development, has two similar clauses which related to potentially contaminated land and sensitive receptors:

11 Plans and decisions should apply a presumption in favour of sustainable development.

*For **plan-making** this means that:*

b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless:

- *the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type, or distribution of development in the plan area;*

*For **decision-taking** this means:*

d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

- *the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed.*

In accordance with the NPPF, areas or assets of particular importance are defined as:

habitats sites (and those sites listed in paragraph 176 – potential Special Protection Areas and Possible Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, a National Park (or within the Broads Authority) or defined as Heritage Coast; irreplaceable habitats; designated heritage assets (and other heritage assets of archaeological interest referred to in footnote 63 (Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.); and areas at risk of flooding or coastal change.

Paragraph 118 states that planning policies and decisions should:

- *give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land;*

Paragraph 170 clarifies that enhancing the natural environment includes:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

Paragraph 180 of NPPF states that planning policies and decisions should ensure the following:

- *Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.*

Paragraph 178 of NPPF states that planning policies and decisions for developments should also ensure that:

- a) *a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);*
- b) *after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and*
- c) *adequate site investigation information, prepared by a competent person, is available to inform these assessments.*

Paragraph 179 states that where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

This report has been prepared and authorised by staff that are competent as defined in the NPPF.

Unexploded Ordnance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA Report C681 (Stone et al 2009). A non-UXO specialist screening exercise has been carried out for the site by considering any evidence of UK defence activities on or near the site evident from the gathered desk study information and the unexploded aerial delivered bomb (UXB) regional risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experience in the desk study, field investigation and clearance of UXO/UXB.

APPENDIX B

Environmental Risk Assessment Methodology & Terminology

ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY & TERMINOLOGY

LEGISLATION OVERVIEW

This report includes hazard identification and environmental risk assessment in line with the risk-based methods referred to in relevant UK legislation and guidance. Government environmental policy is based upon a “suitable for use approach,” which is relevant to both the current use of land and also to any proposed future use. The contaminated land regime is the statutory regime for remediation of contaminated land that causes an unacceptable level of risk and is set out in Part 2A of the Environmental Protection Act 1990 (“EPA 1990”). The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment given the current use and circumstances of the land. Part IIA provides a statutory definition of contaminated land under Section 78A(2) as:

“any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused;*
- or*
- (b) Pollution of controlled waters is being, or is likely to be, caused.”*

In order to assist in establishing if there is a “significant possibility of significant harm” there must be a “contaminant linkage” for potential harm to exist. That means there must be a source(s) of contamination, sensitive receptors present and a connection or pathway between the two. This combination of contaminant-pathway-receptor is termed a “contaminant linkage or CPR linkage.”

Part IIA of The Environmental Protection Act 1990 is supported by a substantial quantity of guidance and other Regulations. Key implementing legislation of the Part 2A regime includes the Contaminated Land (England) Regulations 2006 (SI 2006/1380) as amended by the overarching legislation for the contaminated land regime, which implements the provisions of Part IIA of the Environmental Protection Act 1990 (as inserted by section 57 of the Environment Act 1995), came into force on 14th July 2000 together with recent amended regulations: Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263). Revised Contaminated Land Statutory Guidance was published by DEFRA in April 2012 and the Environment Agency in October 2020. Part IIA defines the duties of Local Authorities in dealing with it. Part IIA places contaminated land responsibility as a part of planning and redevelopment process rather than Local Authority direct action except in situations of very high pollution risk.

In the planning process guidance is provided by National Planning Policy Framework (NPPF) of February 2019 which requires that a site which has been developed shall not be capable of being determined “contaminated land” under Part IIA. In practice, Planning Authorities require sites being developed to have a lower level of risk post development than the higher level of risk that is required in order to determine a site as being contaminated in accordance with Part IIA. This is to ensure that there is a suitable zone of safety below the level for Part IIA determination and prevent recently developed sites becoming reclassified as contaminated land if there are future legislative or technical changes (e.g., a substance is subsequently found to be more toxic than previously assessed this increases its hazard).

The criteria for assessing concentrations of contaminants and hence determining whether a site represents a hazard are based on a range of techniques, models, and guidance. Within this context it is relevant to note that Government objectives are:

- (a) to identify and remove unacceptable risks to human health and the environment;*
- (b) to seek to bring damaged land back into beneficial use;*
- (c) to seek to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable, and economically sustainable.*

These three objectives underlie the “suitable for use” approach to risk management and remediation of contaminated land. The “suitable for use” approach focuses on the risks caused by land contamination. The approach recognises that

the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Risks therefore should be assessed on a site-by-site basis.

The "suitable for use" approach then consists of three elements:

- (a) *ensuring that land is suitable for its current use* - in other words, identifying any land where contamination is causing unacceptable risks to human health and the environment, assessed on the basis of the current use and circumstances of the land, and returning such land to a condition where such risks no longer arise ("remediating" the land); the contaminated land regime provides the regulatory mechanisms to achieve this;
- (b) *ensuring that land is made suitable for any new use, as planning permission is given for that new use* - in other words, assessing the potential risks from contamination, on the basis of the proposed future use and circumstances, before official permission is given for the development and, where necessary to avoid unacceptable risks to human health and the environment, remediating the land before the new use commences; this is the role of the town and country planning and building control regimes; and
- (c) *limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to the current use or future use of the land for which planning permission is being sought* - in other words, recognising that the risks from contaminated land can be satisfactorily assessed only in the context of specific uses of the land (whether current or proposed), and that any attempt to guess what might be needed at some time in the future for other uses is likely to result either in premature work (thereby running the risk of distorting social, economic and environmental priorities) or in unnecessary work (thereby wasting resources).

The mere presence of contaminants does not therefore necessarily warrant action, and consideration must be given to the scale of risk involved for the use that the site has and will have in the future.

OVERALL METHODOLOGY

The work presented in this report has been carried out in general accordance with recognised best practice as detailed in guidance documents such as in the Guidance Land Contamination Risk Management (LCRM) (Environment Agency, October 2020), and BS 10175:2011+A2 2017. Important aspects of the risk assessment process are transparency and justification. The particular rationale behind the risk assessments presented is given in this appendix.

The first stage of a two-staged investigation and assessment of a site is the Preliminary Investigation (BS 10175:2011), often referred to as the Phase 1 Study, comprising desk study and walk-over survey, which culminates in the Preliminary Risk Assessment. A preliminary conceptual site model (CSM) is developed which identifies potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. From the geo-environmental perspective, the Hazard Identification process uses professional judgement to evaluate all the hazards in terms of potential contaminant linkages (of contaminant source-pathway-receptor). Potential contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The scope of the Ground Investigation is based on the findings of the Preliminary Risk Assessment and is designed to reduce uncertainty in the geotechnical and geo-environmental hazard identification. The Ground Investigation comprises fieldwork, laboratory testing and usually also on-site monitoring. The Ground Investigation may include the Exploratory, Main and Supplementary Investigations described in BS 10175:2011+A2 2017. The results of the Ground Investigation reduces uncertainty in the geotechnical and geo-environmental risks. Depending on the findings more detailed investigations or assessments may be required.

PRELIMINARY RISK ASSESSMENT

Current practice recommends that the determination of potential liabilities that could arise from land contamination be carried out using the process of risk assessment, whereby “risk” is defined as:

- “(a) The probability, or frequency, or occurrence of a defined hazard; and*
- (b) The magnitude (including the seriousness) of the consequences.”*

The UK’s approach to the assessment of environmental risk is set out in by the Department of the Environment Transport and the Regions (2000) publication “A Guide to Risk Assessment and Risk Management for Environmental Protection” (also called Greenleaves II). This established an iterative, systematic staged process which comprises:

- (a) Hazard identification;
- (b) Hazard assessment;
- (c) Risk estimation;
- (d) Risk evaluation;
- (e) Risk assessment;

At each stage during the development process, the above steps are repeated as more detailed information becomes available for the site.

For an environmental risk to be present, all three of the following elements must be present:

- Source/Contaminant: hazardous substance that has the potential to cause adverse impacts;
- Receptor: target that may be affected by contamination: examples include human occupants/users of site, water resources (rivers or groundwater), or structures;
- Pathway: a viable route whereby a hazardous substance may come into contact with the receptor.

The absence of one or more of each component (contaminant, pathway, receptor) would prevent a contaminant linkage being established and there would be no significant environmental risk.

The identification of potential contaminant linkages is based on a Conceptual Model of the site, which is subject to continual refinement as additional data becomes available. As part of a Preliminary Risk Assessment (Desk Study and site walk over) a Preliminary Conceptual Site Model (PCSM) is formed. Based on the PCSM, potential contaminant linkages can be assessed. If the PCSM and hazard assessment indicate that a contaminant linkage is not of significance, then no further assessment or action is required for this linkage. For each significant and potential linkage, a risk assessment is carried out. The linkages which potentially pose significant risks may require a variety of responses ranging from immediate remedial action or risk management or, more commonly, further investigation and risk assessment. This next stage is termed a Phase II Main Site Investigation and should provide additional data to allow refinement of the Conceptual Site Model and assess the level of risk from each contaminant linkage.

Definition of Risk Assessment Terminology

The criteria used for risk assessment are broadly based on those presented in DETR’s “A Guide to Risk Assessment and Risk Management for Environmental Protection” (2000). The Severity of the risk is classified according to the criteria in Table B.1 below:

Table B.1 Severity/Consequence of Risk	
Severe	Acute risks to human health. Catastrophic damage to buildings/property (e.g., by explosion). Direct pollution of sensitive water receptors or serious pollution of other controlled water (watercourses or groundwater) bodies.
Medium	Harm to human health from long-term exposure. Slight pollution of sensitive controlled waters (surface waters or aquifers) or pollution of other water bodies. Significant effects on sensitive ecosystems or species.
Mild	No significant harm to human health in either short or long term. No pollution of sensitive controlled waters, no more than slight pollution of non-sensitive waters. Significant damage to buildings or structures. Requirement for protective equipment during site works to mitigate health effects.
Negligible	Damage to non-sensitive ecosystems or species. Minor damage to buildings or structures. No harm or pollution of water.

The probability of the risk occurring is classified according to criteria given in Table B.2 below:

Table B.2: Probability of Risk Occurring	
High likelihood	Contaminant linkage may be present, and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor.
Medium/Reasonably Foreseeable	Contaminant linkage may be present, and it is probable that the risk will occur over the long term.
Low/Unlikely	Contaminant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Negligible/ Not credible	Contaminant linkage may be present but the circumstances under which harm would occur are improbable.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability, as shown in Table B.3 below:

Table B.3: Comparison of Severity and Probability					
		Severity			
		Severe	Medium	Mild	Negligible
Probability	High likelihood	Very High Risk	High Risk	Medium/Low Risk	Low Risk
	Medium/Reasonably Foreseeable	High Risk	Medium Risk	Low Risk	Near Zero
	Low/Unlikely	High/Medium Risk	Medium/Low Risk	Low Risk	Near Zero
	Negligible/ Not credible	Medium/Low Risk	Low Risk	Low Risk	Near Zero

The various risk rankings provide guidance for recommended actions, whether this is:

- AR - Action Required, Remediation or mitigation or site investigation works required.
- SIR - Site Investigation Required, further assessment is required.
- NAR - No Action Required.

A description of the evaluated risk is as follows:

Table B.4 – Description of the Classified Risks and Likely Action Required	
Evaluated Risk	Recommended Actions
Very High Risk	AR: There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High Risk	AR: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate Risk	SI: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	NAR: It is possible that harm could arise to a designated receptor from an identified hazard, but there is a low likelihood of this hazard occurring and if realised, harm would at worst normally be mild.
Near Zero	NAR: There is a negligible possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

MANAGEMENT OF CONTAMINATED LAND

When risk assessment of the site has been completed and this indicates that remedial works are required, the main guidance in managing this process is set out in the Environment Agency publication “Guidance Land Contamination Risk Management” (LCRM) (October 2020). The stages of managing remediation are as follows:

- (a) Options Appraisal and develop Remediation Strategy;
- (b) Develop Implementation Plan and Verification Plan;
- (c) Remediation, Verification and Monitoring.

The Remediation Strategy sets out the remediation targets, identifies technically feasible remedial solutions and presents an evaluation of the options so that these can be assessed enabling that the most suitable solution is adopted. An outline of the proposed remedial method should be presented. Agreement should be sought of the appropriate statutory bodies for the Remediation Strategy before proceeding to the next stage.

The Implementation Plan is a detailed method statement setting out how the remediation is to be carried out including stating how the site will be managed, welfare procedures, health, and safety considerations together with practical measures such as details of temporary works, programme of works, waste management licences and regulatory consents required. Agreement should again be sought of the appropriate statutory bodies for this Plan.

The Verification Plan sets out the requirements for gathering data to demonstrate that the remediation has met the required remediation objectives and criteria. The Verification Plan presents the requirements for a wide range of issues including the level of supervision, sampling and testing regimes for treated materials, waste, and imported materials, required monitoring works during and post remediation, how compliance with all licenses and consents will be checked etc. Agreement should again be sought of the appropriate statutory bodies for the Verification Plan. On completion of the remediation a Verification Report should be produced to provide a complete record of all remediation activities on-site and the data collected as required in the Verification Plan. The Verification Report should demonstrate that the remediation has met the remedial targets to show that the site is suitable for the proposed use.

GLOSSARY

TERMS	UNITS
AST Above Ground Storage Tank	m Metres
BGS British Geological Survey	km Kilometres
BSI British Standards Institute	% Percent
BTEX Benzene, Toluene, Ethylbenzene, Xylenes	%v/v Percent volume in air
CIEH Chartered Institute of Environmental Health	mb Milli Bars
CIRIA Construction Industry Research Association	(atmospheric pressure)
CLEA Contaminated Land Exposure Assessment	l/hr Litres per hour
CSM Conceptual Site Model	ha Hectare (10,000 m ²)
DNAPL Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)	µg/l Micrograms per Litre
DWS Drinking Water Standard	(parts per billion)
EA Environment Agency	ppb Parts Per Billion
EQS Environmental Quality Standard	mg/kg Milligrams per kilogram
GAC General Assessment Criteria	(parts per million)
GL Ground Level	ppm Parts Per Million
GSV Gas Screening Value	mg/m ³ Milligram per metre cubed
HCV Health Criteria Value	Mg/m ³ Megagram per metre cubed
LNAPL Light Non-Aqueous Phase Liquid (petrol, diesel)	µg/m ³ Microgram per metre cubed
ND Not Detected	m bgl Metres Below Ground Level
LMRL Lower Method Reporting Limit	m bcl Metre Below Cover Level
NR Not Recorded	mAOD Metres Above Ordnance
OD Ordnance Datum	Datum (sea level)
PAH Poly Aromatic Hydrocarbon	kN/m ² Kilo Newtons per metre
PCB Poly-Chlorinated Biphenyl	squared
PID Photo Ionisation Detector	kPa Kilo Pascal – same as kN/m ²
PCSM Preliminary Conceptual Site Model	µm Micro metre
SGV Soil Guideline Value	
TPH (CWG) Total Petroleum Hydrocarbon (Criteria Working Group)	
SPT Standard Penetration Test	
SVOC Semi Volatile Organic Compound	
UST Underground Storage Tank	
VCCs Vibro Concrete Columns	
VSCs Vibro Stone Columns	
VOC Volatile Organic Compound	

APPENDIX C

Site Photographs



Photograph 1: View northwest – Along eastern side of the existing property



Photograph 2: View northwest – Along western side of the existing property



Photograph 3: View northeast along the front /southern side of the exiting property showing the area where the trees once were



Photograph 4: General view north of the rear garden area. Note service cover near the goalposts in the picture



Photograph 5: View northwest across the garden area, note former demolished structure in the background and service cover in the foreground



Photograph 5: View southwest from garden towards existing structure, also showing rockery area



Photograph 6: Close up view of demolished structure in the northwest corner of the site



Photograph 7: View east along northern boundary of the site



Photograph 8: General view south from northwest corner of the site showing existing property



Photograph 9: View southwest along southern side of the site where the trees used to be

APPENDIX D

Groundsure EnviroInsite Report

(Historical Maps & Environmental Data on the Site and Surrounding Land Use)



Terra Consult

Bold Business Centre, Bold Lane,
Bold Lane,
Sutton, WA9 4TX

Groundsure
Reference:

HMD-147-3850571

Your Reference: 68_Ringley_Road

Report Date 4 May 2017

Report Delivery Method: Email - pdf

Groundsure Enviro Insight

Address: 68, RINGLEY ROAD, MANCHESTER, M45 7LN

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

A handwritten signature in black ink, appearing to be "D. J. O.", followed by a period.

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address: 68, RINGLEY ROAD, MANCHESTER, M45 7LN

Date: 4 May 2017

Reference: HMD-147-3850571

Client: Terra Consult

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 11-Jun-2015

Grid Reference: 379408,405467

Site Size: 0.20ha

Report Reference: HMD-147-3850571

Client Reference: 68_Ringley_Road

Contents Page

Contents Page	3
Overview of Findings	6
Using this report	10
1. Historical Land Use	11
1. Historical Industrial Sites	12
1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping	12
1.2 Additional Information – Historical Tank Database	12
1.3 Additional Information – Historical Energy Features Database	13
1.4 Additional Information – Historical Petrol and Fuel Site Database	14
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	14
1.6 Potentially Infilled Land	14
2. Environmental Permits, Incidents and Registers Map	16
2. Environmental Permits, Incidents and Registers	17
2.1 Industrial Sites Holding Licences and/or Authorisations	17
2.1.1 Records of historic IPC Authorisations within 500m of the study site	17
2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site	17
2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site	17
2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site	17
2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site	17
2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site	18
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	18
2.1.8 Records of Licensed Discharge Consents within 500m of the study site	18
2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site	18
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	18
2.2 Dangerous or Hazardous Sites	18
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents	19
2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site	19
2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site	19
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	19
3. Landfill and Other Waste Sites Map	20
3. Landfill and Other Waste Sites	21
3.1 Landfill Sites	21
3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site	21
3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site	21
3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site	22
3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site	23
3.2 Other Waste Sites	23
3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site	23
3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site	23
4. Current Land Use Map	25
4. Current Land Uses	26
4.1 Current Industrial Data	26
4.2 Petrol and Fuel Sites	26
4.3 National Grid High Voltage Underground Electricity Transmission Cables	26
4.4 National Grid High Pressure Gas Transmission Pipelines	27

5. Geology	28
5.1 Artificial Ground and Made Ground.....	28
5.2 Superficial Ground and Drift Geology	28
5.3 Bedrock and Solid Geology	28
6 Hydrogeology and Hydrology	29
6a. Aquifer Within Superficial Geology	29
6b. Aquifer Within Bedrock Geology and Abstraction Licences	30
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences	31
6d. Hydrogeology – Source Protection Zones within confined aquifer	32
6e. Hydrology – Detailed River Network and River Quality	33
6.Hydrogeology and Hydrology	34
6.1 Aquifer within Superficial Deposits.....	34
6.2 Aquifer within Bedrock Deposits.....	34
6.3 Groundwater Abstraction Licences.....	35
6.4 Surface Water Abstraction Licences.....	37
6.5 Potable Water Abstraction Licences.....	37
6.6 Source Protection Zones.....	38
6.7 Source Protection Zones within Confined Aquifer.....	38
6.8 Groundwater Vulnerability and Soil Leaching Potential.....	39
6.9 River Quality.....	39
6.9.1 Biological Quality:.....	40
6.9.2 Chemical Quality:.....	40
6.10 Detailed River Network.....	40
6.11 Surface Water Features.....	40
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)	41
7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS)	42
Map	42
7 Flooding	43
7.1 River and Coastal Zone 2 Flooding.....	43
7.2 River and Coastal Zone 3 Flooding.....	43
7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating.....	43
7.4 Flood Defences.....	43
7.5 Areas benefiting from Flood Defences.....	43
7.6 Areas benefiting from Flood Storage.....	44
7.7 Groundwater Flooding Susceptibility Areas.....	44
7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes.....	44
7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?.....	44
7.8 Groundwater Flooding Confidence Areas.....	44
8. Designated Environmentally Sensitive Sites Map	45
8. Designated Environmentally Sensitive Sites	46
8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:.....	46
8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:.....	46
8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:.....	46
8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:.....	46
8.5 Records of Ramsar sites within 2000m of the study site:.....	46
8.6 Records of Ancient Woodland within 2000m of the study site:	47
8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:.....	47
8.8 Records of World Heritage Sites within 2000m of the study site:.....	47
8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:	47

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:	48
8.11 Records of National Parks (NP) within 2000m of the study site:	48
8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:.....	48
8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:.....	48
8.14 Records of Green Belt land within 2000m of the study site:.....	48
9. Natural Hazards Findings	50
9.1 Detailed BGS GeoSure Data.....	50
9.1.1 Shrink Swell.....	50
9.1.2 Landslides.....	50
9.1.3 Soluble Rocks.....	50
9.1.4 Compressible Ground.....	51
9.1.5 Collapsible Rocks.....	51
9.1.6 Running Sand.....	51
9.2 Radon.....	51
9.2.1 Radon Affected Areas.....	51
9.2.2 Radon Protection.....	52
10. Mining	53
10.1 Coal Mining.....	53
10.2 Non-Coal Mining.....	53
10.3 Brine Affected Areas	53
Contact Details	54
Standard Terms and Conditions	56

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	2	2	18
1.2 Additional Information – Historical Tank Database	0	0	0	5
1.3 Additional Information – Historical Energy Features Database	0	0	14	14
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	0	2	2	41
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	0
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	1	2	5
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	6
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	2	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	3	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology						
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No					
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes					
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.						

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	9	5
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	2	4	Not searched	Not searched

Section 6: Hydrogeology and Hydrology	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	1	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding						
7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	No					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High					

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	1	2	3
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	2
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	1	0	1	0
8.14 Records of Green Belt land	1	0	0	0	0	3

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

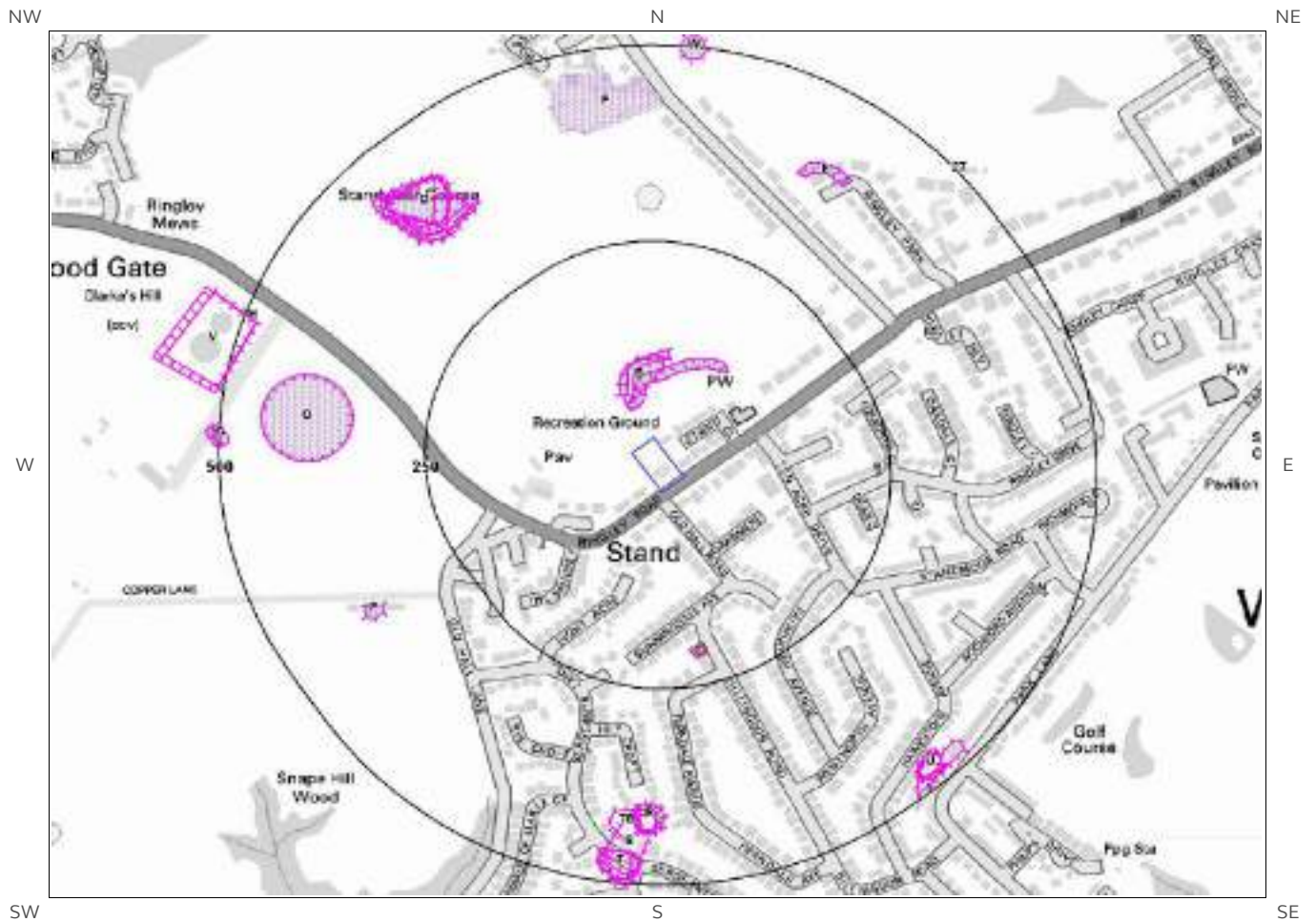
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

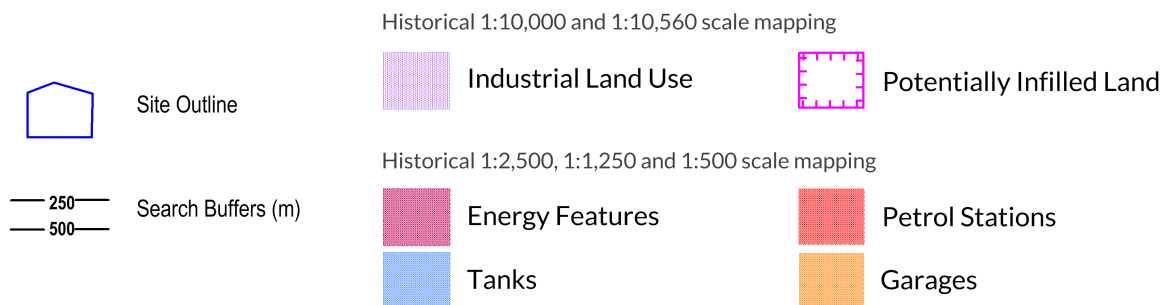
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 22

ID	Distance [m]	Direction	Use	Date
1A	43	NW	Refuse Heap	1927
2A	43	NW	Refuse Heap	1938
3B	52	NW	Unspecified Heap	1977
4B	58	NW	Unspecified Ground Workings	1965
5C	278	E	Unspecified Tank	1923
6C	278	E	Unspecified Tank	1915
7C	278	E	Unspecified Tank	1907
8O	340	W	Sand Pit	1891
9D	358	NW	Unspecified Ground Workings	1927
10D	358	NW	Unspecified Ground Workings	1938
11P	358	SW	Sand Pit	1851
12D	360	NW	Unspecified Pit	1965
13D	360	NW	Unspecified Pit	1977
14E	379	NE	Unspecified Ground Workings	1965
15E	379	NE	Unspecified Ground Workings	1977
16F	394	N	Nursery	1927
17F	394	N	Nursery	1938
18F	397	N	Nursery	1955
19W	484	N	Unspecified Pit	1851
20G	488	W	Refuse Heap	1955
21G	497	W	Refuse Heap	1927
22G	497	W	Refuse Heap	1938

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

5

ID	Distance (m)	Direction	Use	Date
23H	485	W	Tanks	1955
24H	485	W	Tanks	1961
25H	486	W	Tanks	1968
26H	486	W	Tanks	1955
27	499	NE	Unspecified Tank	1987

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

28

ID	Distance (m)	Direction	Use	Date
28I	156	SW	Electricity Substation	1990
29I	157	SW	Electricity Substation	1987
30J	194	S	Electricity Substation	1968
31J	194	S	Electricity Substation	1967
32J	194	S	Electricity Substation	1955
33J	194	S	Electricity Substation	1955
34J	200	S	Electricity Substation	1987
35J	200	S	Electricity Substation	1990
36K	229	E	Electricity Substation	1992
37K	231	E	Electricity Substation	1968
38K	231	E	Electricity Substation	1989
39K	231	E	Electricity Substation	1968
40K	232	E	Electricity Substation	1987
41K	232	E	Electricity Substation	1978
42L	340	S	Electricity Substation	1987
43L	340	S	Electricity Substation	1990
44M	344	NE	Electricity Substation	1992
45M	344	NE	Electricity Substation	1987
46M	345	NE	Electricity Substation	1968
47M	345	NE	Electricity Substation	1989
48M	345	NE	Electricity Substation	1968
49N	449	E	Electricity Substation	1968
50N	449	E	Electricity Substation	1968
51N	449	E	Electricity Substation	1989
52N	449	E	Electricity Substation	1967
53N	449	E	Electricity Substation	1978

54N	449	E	Electricity Substation	1987
55N	449	E	Electricity Substation	1992

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

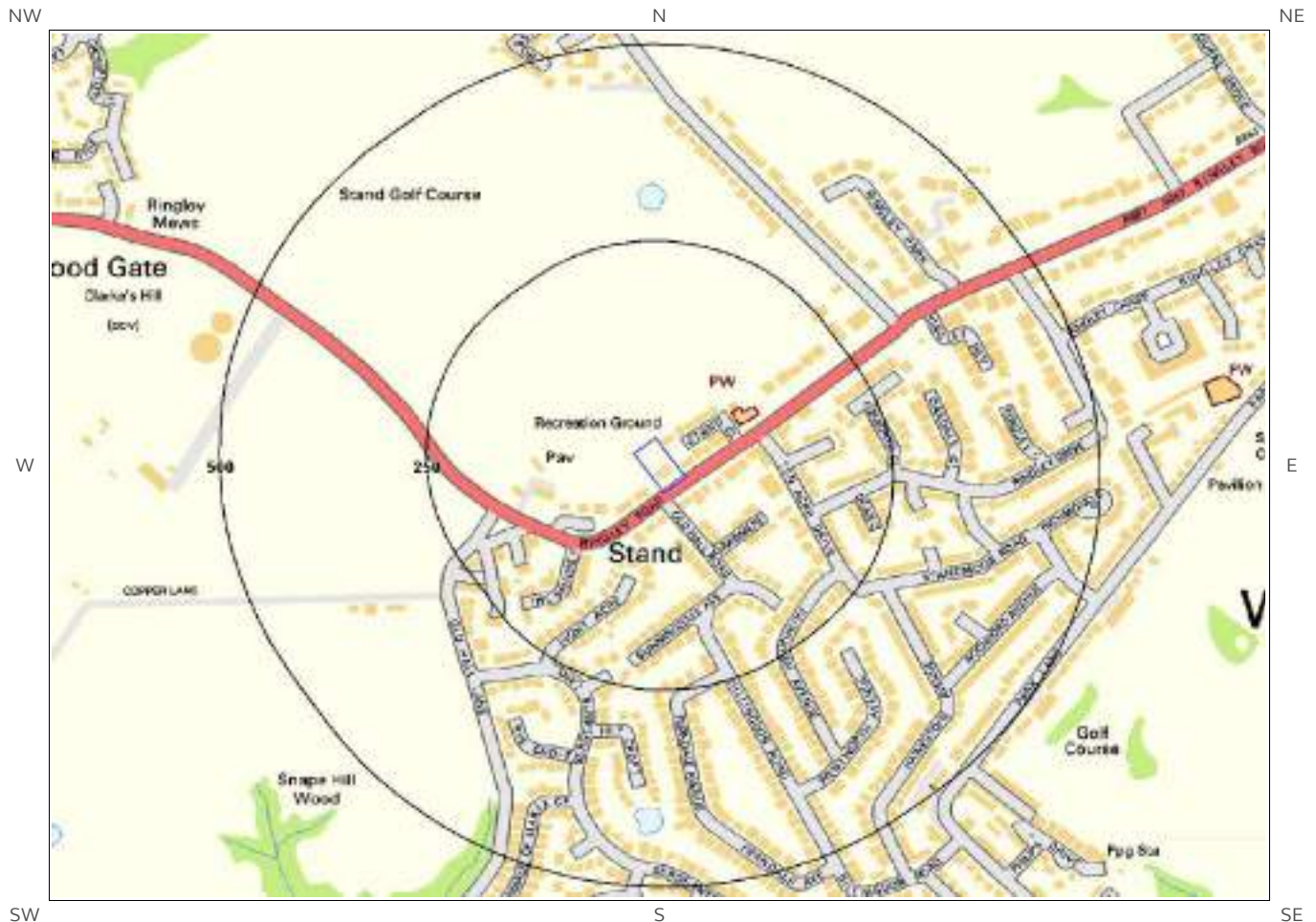
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 45

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

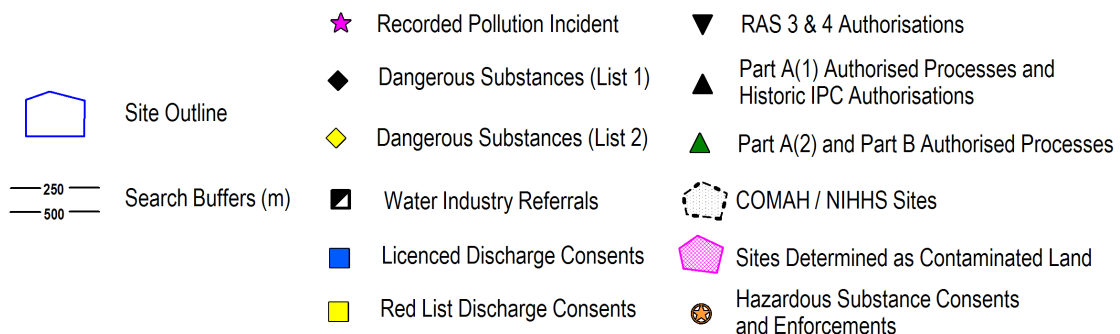
ID	Distance(m)	Direction	Use	Date
56A	43	NW	Refuse Heap	1927
57A	43	NW	Refuse Heap	1938
58B	52	NW	Unspecified Heap	1977
59B	58	NW	Unspecified Ground Workings	1965
60O	340	W	Sand Pit	1891
61D	354	NW	Pond	1955
62D	358	NW	Unspecified Ground Workings	1938
63D	358	NW	Unspecified Ground Workings	1927
64P	358	SW	Sand Pit	1851
65D	360	NW	Unspecified Pit	1965
66D	360	NW	Unspecified Pit	1977
67Q	370	NW	Pond	1891
68Q	373	NW	Pond	1908
69Q	378	NW	Pond	1851

70E	379	NE	Unspecified Ground Workings	1977
71E	379	NE	Unspecified Ground Workings	1965
72R	396	S	Pond	1965
73R	401	S	Pond	1955
74S	404	S	Ponds	1927
75S	404	S	Ponds	1908
76R	404	S	Pond	1938
77R	404	S	Pond	1891
78	405	S	Pond	1851
79T	458	S	Pond	1938
80T	459	S	Ponds	1967
81T	459	S	Ponds	1956
82T	459	S	Ponds	1973
83U	459	SE	Pond	1965
84U	460	SE	Pond	1938
85U	463	SE	Pond	1955
86U	463	SE	Ponds	1851
87T	470	S	Ponds	1891
88V	483	W	Covered Reservoir	1991
89V	483	W	Reservoir	1965
90V	483	W	Covered Reservoir	1988
91V	483	W	Reservoir	1955
92V	483	W	Reservoir	1977
93W	484	N	Unspecified Pit	1851
94V	484	W	Reservoir	1938
95V	484	W	Reservoir	1891
96V	484	W	Reservoir	1908
97V	484	W	Reservoir	1927
98G	488	W	Refuse Heap	1955
99G	497	W	Refuse Heap	1927
100G	497	W	Refuse Heap	1938

2. Environmental Permits, Incidents and Registers Map



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2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

0

Database searched and no data found.

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

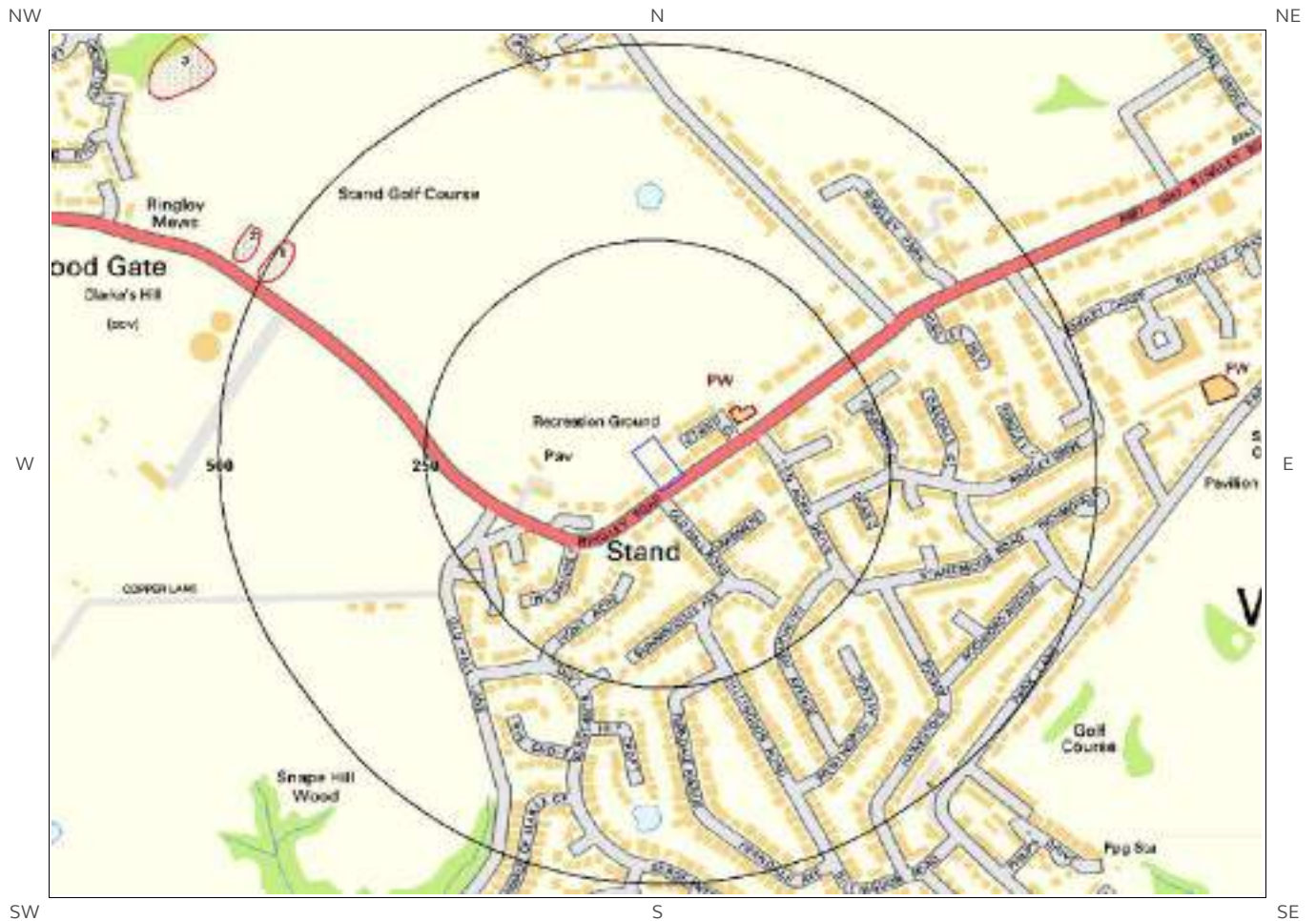
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

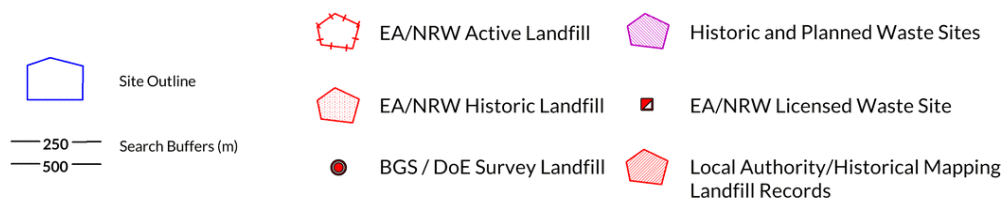
0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

8

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
1	478	NW	378900 405700	Site Address: Stand Golf Course, Ringley Road, Stand, Radcliffe, Greater Manchester Waste Licence: - Site Reference: C064, C64c Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
2	522	NW	378900 405700	Site Address: Stand Golf Course, Ringley Road, Stand, Radcliffe, Greater Manchester Waste Licence: - Site Reference: C64b, C064 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
3	698	NW	378800 405900	Site Address: Stand Golf Course, Hawthorne Avenue, Stand, Radcliffe, Greater Manchester Waste Licence: - Site Reference: C64a, C064 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1099	W	378200 405200	Site Address: Land South Of Ringley Road, Whitefield, Bury, Greater Manchester Waste Licence: Yes Site Reference: RD/LIC/481/87, C040 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 16-Dec-1987 Licence Surrendered: Licence Holder Address: 115 Radcliffe New Road, Whitefield Operator: - Licence Holder: T J Murphy Limited First Recorded: 31-Dec-1987 Last Recorded: 31-Dec-1994
Not shown	1109	N	379700 406700	Site Address: Theodore St. Justs, Radcliffe New Road, Lilly Hill, Radcliffe, Greater Manchester Waste Licence: - Site Reference: C076 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1170	NW	378200 406200	Site Address: King George V Playing Fields, Outwood Road, Radcliffe, Bury, Greater Manchester Waste Licence: - Site Reference: C068 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1291	N	379600 407100	Site Address: Tower Farm, Off Church Street East, Radcliffe, Bury, Greater Manchester Waste Licence: Yes Site Reference: C010, RD/LIC/201/80, RD/LIC/018/76 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid, sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 13-Jun-1978 Licence Surrendered: 10-Mar-1993 Licence Holder Address: The Octagon, 143, Derby Road, Nottingham Operator: - Licence Holder: P D Pollution Control Limited First Recorded: 31-Dec-1980 Last Recorded: 31-Dec-1992
Not shown	1463	NW	378000 406200	Site Address: Land at Freightman Hillock Farm, Off Outwood Road, Radcliffe, Bury, Greater Manchester Waste Licence: Yes Site Reference: RD/LIC/025/76, C020 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 19-Oct-1978 Licence Surrendered: 29-Apr-1994 Licence Holder Address: Johnson Street, Radcliffe, Bury Operator: - Licence Holder: The Radcliffe Paper Mill Company First Recorded: 31-Dec-1934 Last Recorded: 31-Dec-1993

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

6

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1297	N	379694 406895	Refuse Tip	1974 mapping	Polygon
Not shown	1397	NE	380741 405966	Refuse Tip	1969 mapping	Polygon
Not shown	1441	NW	378255 406446	Refuse Tip	1972 mapping	Polygon
Not shown	1466	NW	378107 406302	Refuse Tip	1972 mapping	Polygon
Not shown	1491	N	379421 407070	Refuse Tip	1996 mapping	Polygon
Not shown	1495	NW	378055 406453	Refuse Tip	1972 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

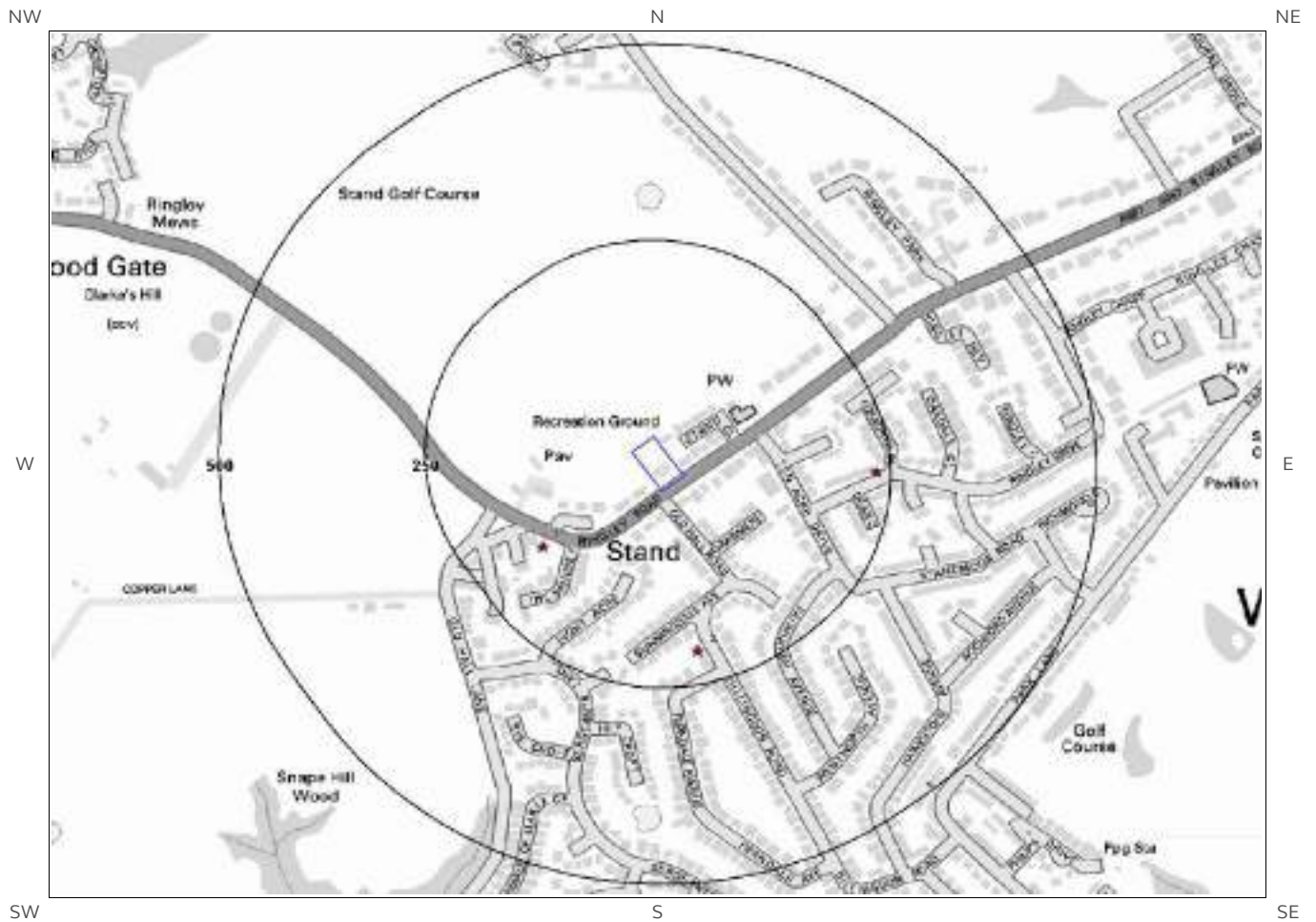
2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	767	NW	378983 406157	Site Address: Barlow Mill Transfer Station, Stand Lane, Radcliffe, Manchester, M26 1JT Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PML002 EPR reference: - Operator: Progress Motors Ltd Waste Management licence No: 53833 Annual Tonnage: 5200.0 Issue Date: 30/09/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Progress Motors Ltd Correspondence Address: 369, Ainsworth Road, Radcliffe, Manchester, M26 4HF

ID	Distance (m)	Direction	NGR	Details
Not shown	767	NW	378983 406157	Site Address: Units 3 & 4 Barlows Mill, Off Stand Lane, Radcliffe, Manchester, M26 1JT Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: AWR002 EPR reference: EA/EPR/WP3596CC/V002 Operator: A W R Rent A Skip Ltd Waste Management licence No: 53833 Annual Tonnage: 24999.0 Issue Date: 30/09/1992 Effective Date: 08/05/2003 Modified: 07/05/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: A W R Rent A Skip Ltd Correspondence Address: -

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 3

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	158	SW	Electricity Sub Station	379259 405369	Electricity Sub Station, M45	Electrical Features	Infrastructure and Facilities
2	207	S	Electricity Sub Station	379447 405236	Electricity Sub Station, M45	Electrical Features	Infrastructure and Facilities
3	232	E	Electricity Sub Station	379662 405464	Electricity Sub Station, M45	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

5.3 Bedrock and Solid Geology

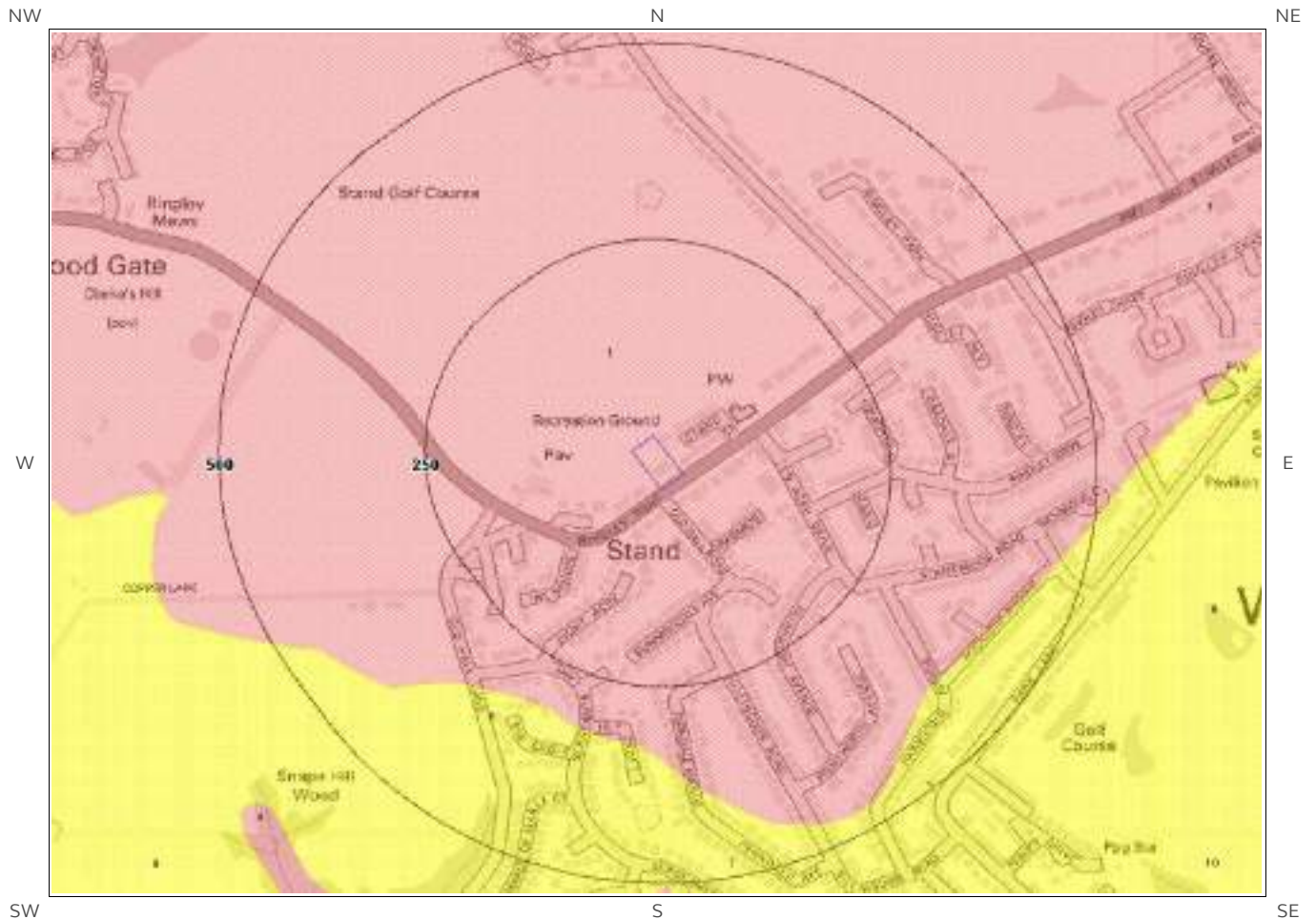
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
CHES-SDST	CHESTER FORMATION	SANDSTONE
NHSS-SDST	NEWTON HEATH SANDSTONE	SANDSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

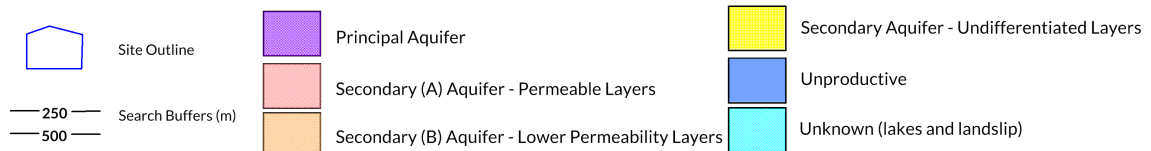
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



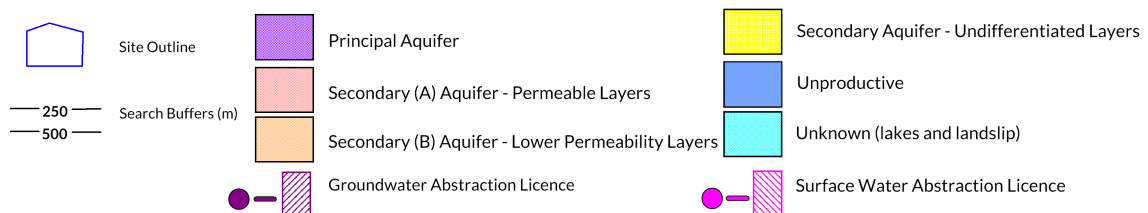
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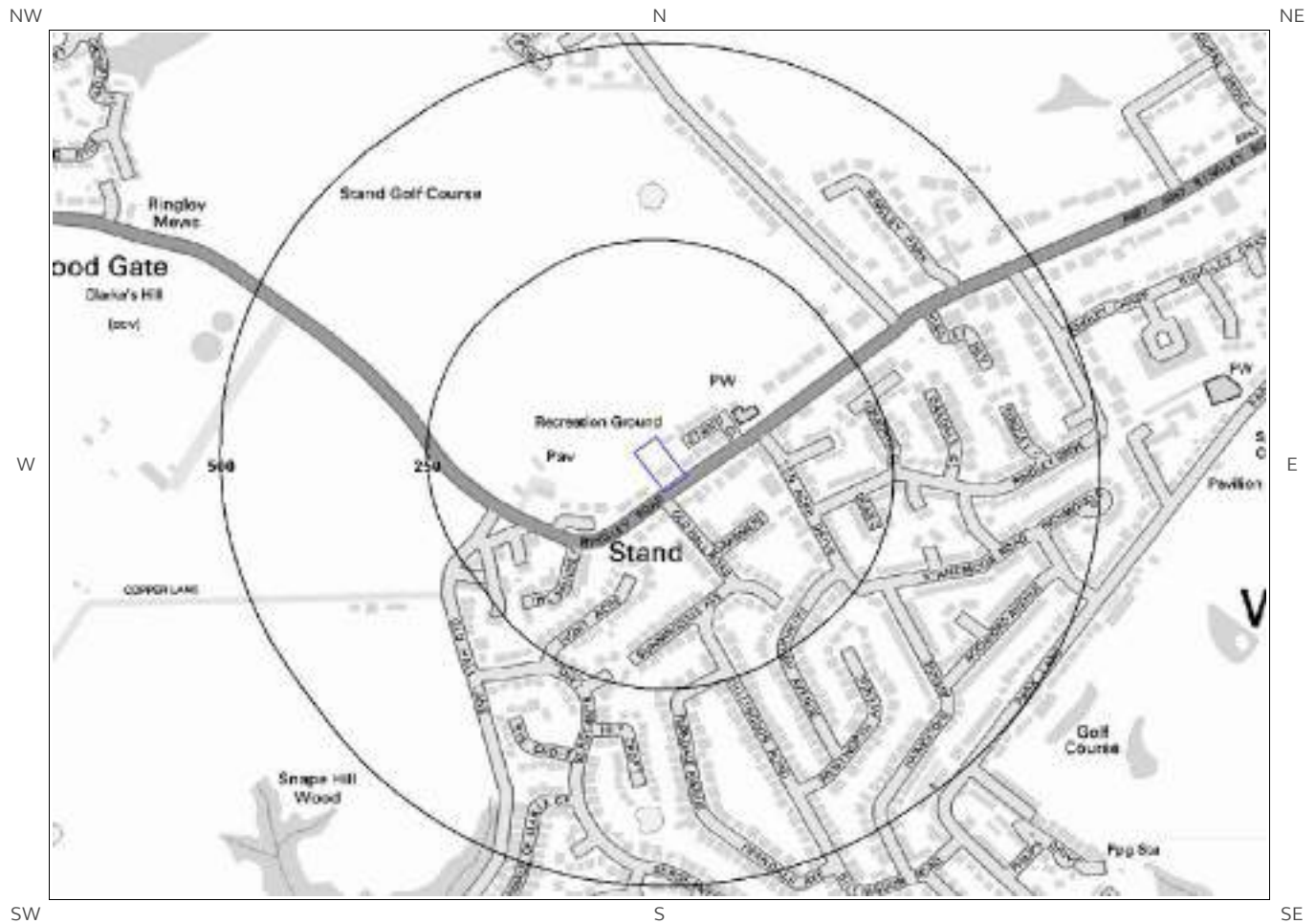
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



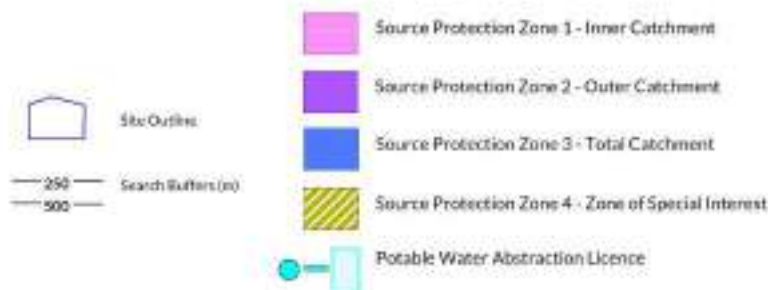
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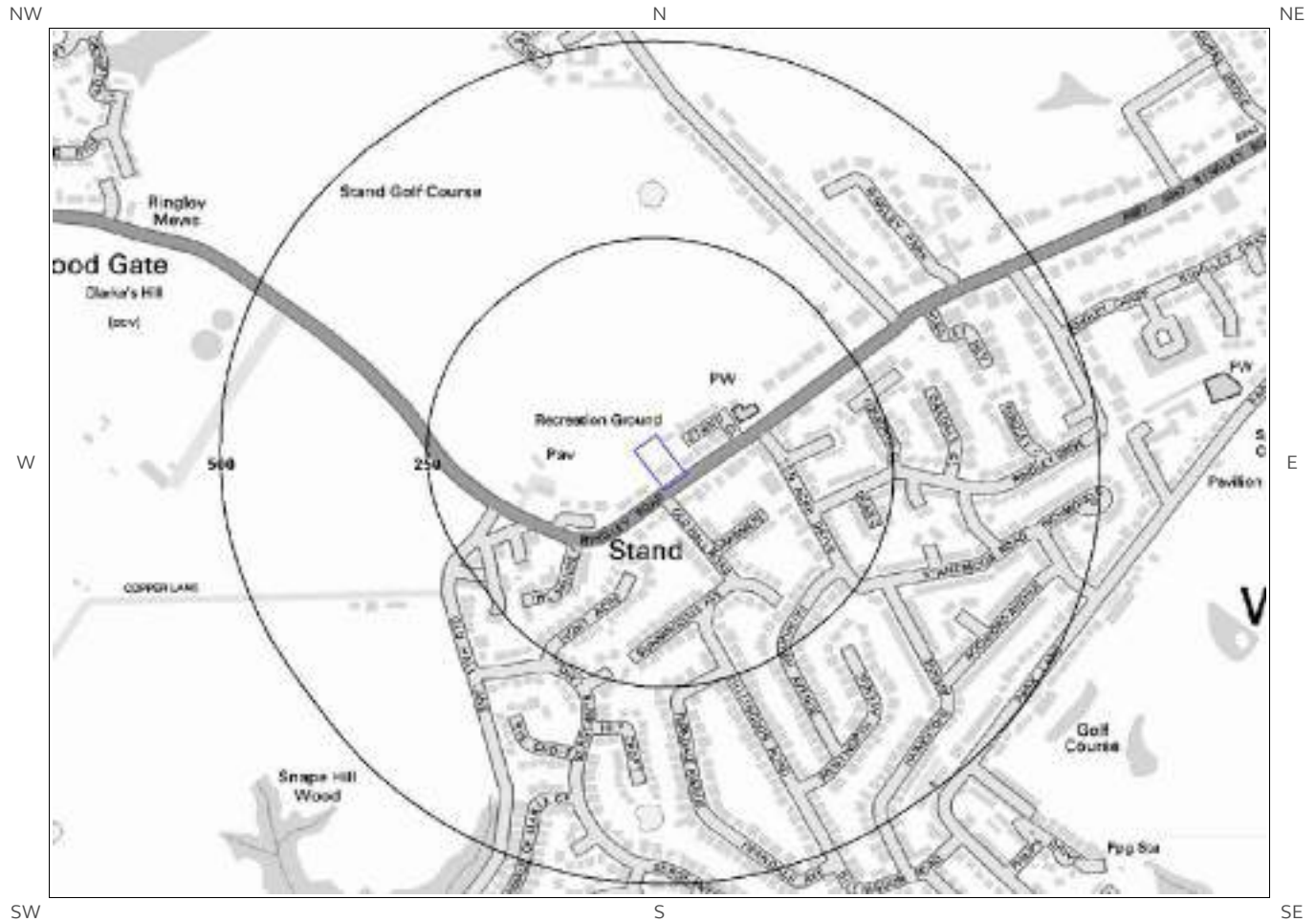
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



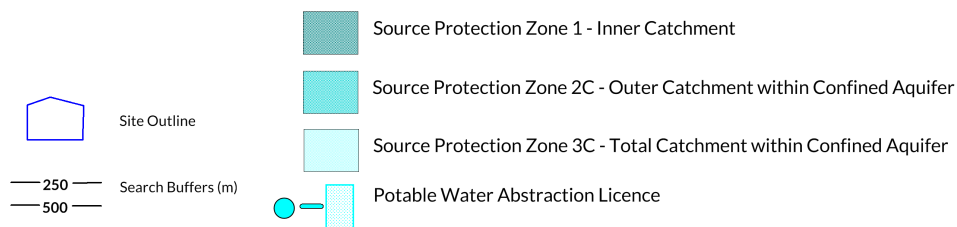
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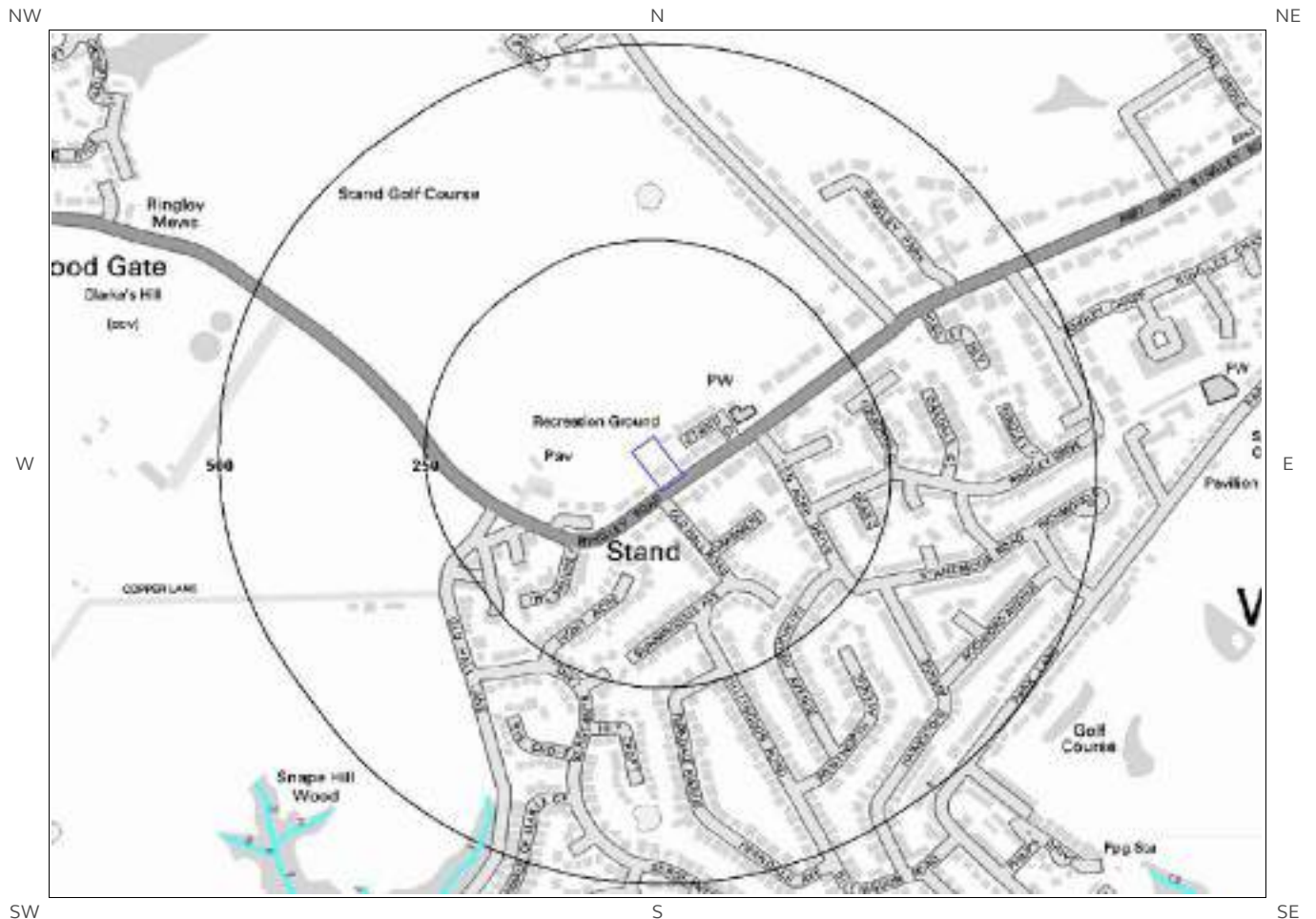
6d. Hydrogeology – Source Protection Zones within confined aquifer



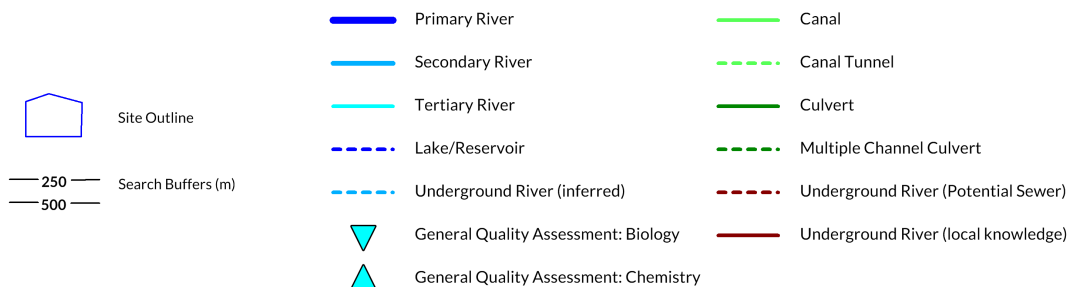
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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	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
6	311	SW	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
7	438	S	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

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
5	0	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
1	55	SW	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	414	NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
3	438	S	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
6	500	SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
12A	502	NE	379754 405858	Status: Active Licence No: 2569004053 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: Borehole At Stand Golf Club Data Type: Point Name: Stand Golf Club Limited Annual Volume (m³): 9000 Max Daily Volume (m³): 55 Original Application No: NPS/WR/018926 Original Start Date: 28/5/1997 Expiry Date: - Issue No: 102 Version Start Date: 12/5/2015 Version End Date:
13A	508	NE	379760 405860	Status: Historical Licence No: 2569004053 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: A Borehole At Stand Golf Club, Whitefield Data Type: Point Name: STAND GOLF CLUB Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 7385 Original Start Date: 28/5/1997 Expiry Date: - Issue No: 100 Version Start Date: 28/5/1997 Version End Date:
14A	508	NE	379760 405860	Status: Historical Licence No: 2569004053 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "a Borehole At Stand Golf Club, Whitefield" Data Type: Point Name: STAND GOLF CLUB Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 7385 Original Start Date: 28/5/1997 Expiry Date: - Issue No: 100 Version Start Date: 28/5/1997 Version End Date:
15A	508	NE	379760 405860	Status: Historical Licence No: 2569004053 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: Borehole At Stand Golf Club Whitefield Data Type: Point Name: THE TRUSTEES OF STAND GOLF CLUB Annual Volume (m³): 9000 Max Daily Volume (m³): 55 Original Application No: 7385 Original Start Date: 28/5/1997 Expiry Date: - Issue No: 101 Version Start Date: 7/9/2005 Version End Date:
Not shown	818	N	379600 406300	Status: Historical Licence No: 2569004030 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Wellpoint System At Premises, Radcliffe Data Type: Point Name: POLYFLOR LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 1052 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/3/2000 Version End Date:
Not shown	818	N	379600 406300	Status: Historical Licence No: 2569004030 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "wellpoint System At Premises, Radcliffe" Data Type: Point Name: JAMES HALSTEAD LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 1052 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/1/1995 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	818	N	379600 406300	Status: Active Licence No: 2569004030 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Well Point System At Premises Radcliffe Data Type: Point Name: POLYFLOR LTD	Annual Volume (m³): 68200 Max Daily Volume (m³): 382 Original Application No: 1052 Original Start Date: 18/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/3/2000 Version End Date:
Not shown	993	E	380420 405380	Status: Historical Licence No: 2569004052 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "borehole At Whitefield Golf Club, Higher Lane, Whitefield" Data Type: Point Name: WHITEFIELD GOLF CLUB	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 7349 Original Start Date: 10/10/1996 Expiry Date: - Issue No: 100 Version Start Date: 19/4/1999 Version End Date:
Not shown	993	E	380420 405380	Status: Active Licence No: 2569004052 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: Borehole At Whitefield Golf Club, Higher Lane, Whitefield Data Type: Point Name: WHITEFIELD GOLF CLUB LTD	Annual Volume (m³): 8000 Max Daily Volume (m³): 100 Original Application No: 7349 Original Start Date: 10/10/1996 Expiry Date: - Issue No: 101 Version Start Date: 9/11/2005 Version End Date:
Not shown	1369	NE	380450 406380	Status: Historical Licence No: 2569004056 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Land At Total Fitness, Bury New Road, Whitefield, Bury Data Type: Point Name: TOTAL FITNESS UK LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 7543 Original Start Date: - Expiry Date: 31/3/2011 Issue No: 1 Version Start Date: 17/2/2005 Version End Date:
Not shown	1369	NE	380450 406380	Status: Historical Licence No: 2569004056 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Land At Total Fitness Bury New Road Whitefield Bury Data Type: Point Name: TOTAL FITNESS UK LTD	Annual Volume (m³): 24000 Max Daily Volume (m³): 166 Original Application No: 7543 Original Start Date: 17/2/2005 Expiry Date: 31/3/2011 Issue No: 1 Version Start Date: 17/2/2005 Version End Date:
Not shown	1370	NE	380450 406381	Status: Active Licence No: NW/069/0004/004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Whitefield, Manchester Data Type: Point Name: Total Fitness Health Clubs Limited	Annual Volume (m³): 24000 Max Daily Volume (m³): 166 Original Application No: NPS/WR/014114 Original Start Date: 29/1/2014 Expiry Date: 31/3/2020 Issue No: 1 Version Start Date: 29/1/2014 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1694	NE	380900 406300	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 Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 2396 Original Start Date: 18/7/1973 Expiry Date: - Issue No: 100 Version Start Date: 1/7/1986 Version End Date:
Not shown	1694	NE	380900 406300	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 Annual Volume (m³): 7000 Max Daily Volume (m³): 21 Original Application No: 2396B Original Start Date: 18/7/1973 Expiry Date: - Issue No: 102 Version Start Date: 1/4/2008 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
Not shown	1369	NE	380450 406380	Status: Historical Licence No: 2569004056 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Land At Total Fitness Bury New Road Whitefield Bury Data Type: Point Name: TOTAL FITNESS UK LTD Annual Volume (m³): 24000 Max Daily Volume (m³): 166 Original Application No: 7543 Original Start Date: 17/2/2005 Expiry Date: 31/3/2011 Issue No: 1 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1369	NE	380450 406380	Status: Historical Licence No: 2569004056 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Land At Total Fitness, Bury New Road, Whitefield, Bury Data Type: Point Name: TOTAL FITNESS UK LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 7543 Original Start Date: - Expiry Date: 31/3/2011 Issue No: 1 Version Start Date: Version End Date:
Not shown	1370	NE	380450 406381	Status: Active Licence No: NW/069/0004/004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Whitefield, Manchester Data Type: Point Name: Total Fitness Health Clubs Limited Annual Volume (m³): 24000 Max Daily Volume (m³): 166 Original Application No: NPS/WR/014114 Original Start Date: 29/1/2014 Expiry Date: 31/3/2020 Issue No: 1 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
171	NW	Major Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.
171	NW	Minor Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.
438	SW	Minor Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.
441	SW	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
467	NE	Major Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.
470	NE	Major Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details
1	441	SW	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined

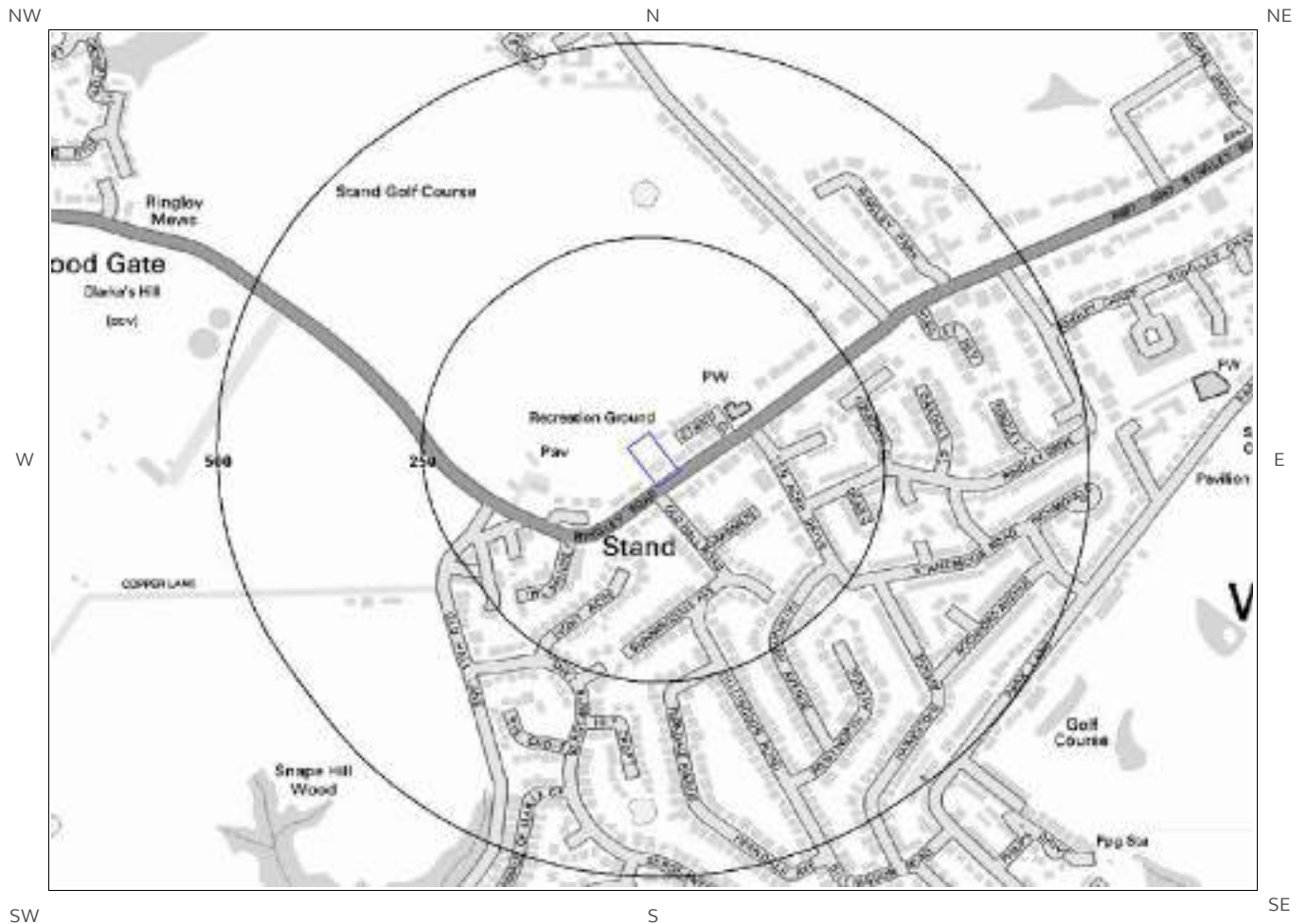
6.11 Surface Water Features

Are there any surface water features within 250m of the study site?

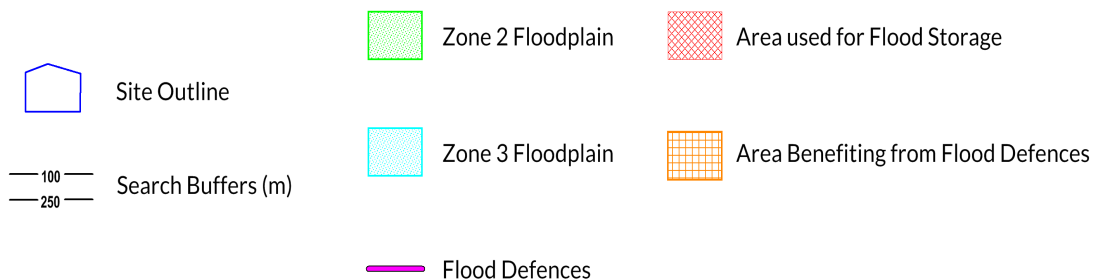
No

Database searched and no data found.

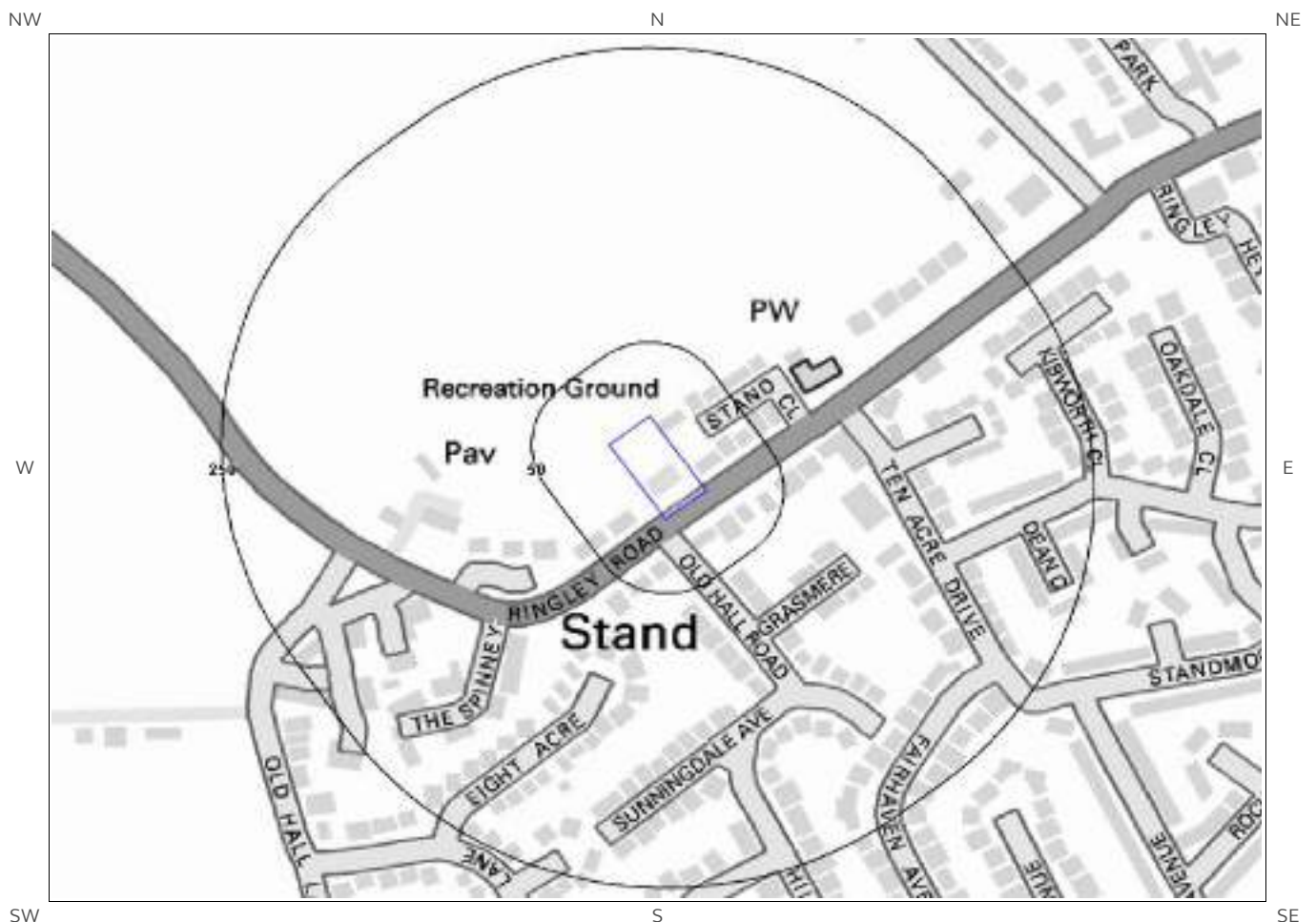
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



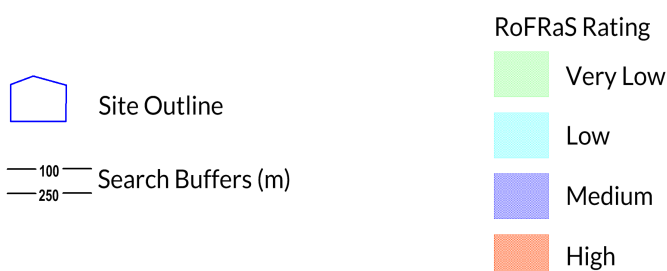
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? No

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

7.8 Groundwater Flooding Confidence Areas

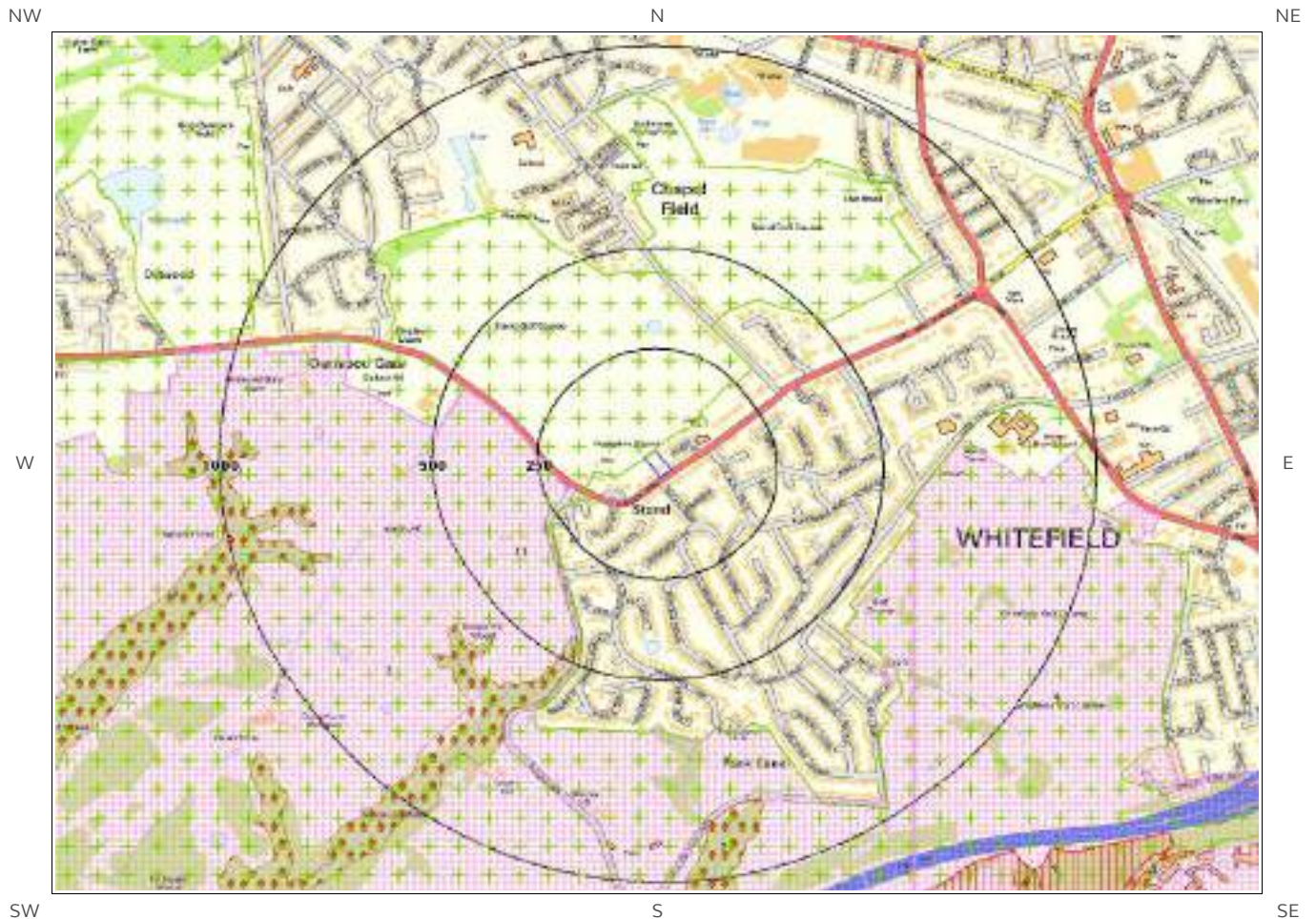
What is the British Geological Survey confidence rating in this result?

High

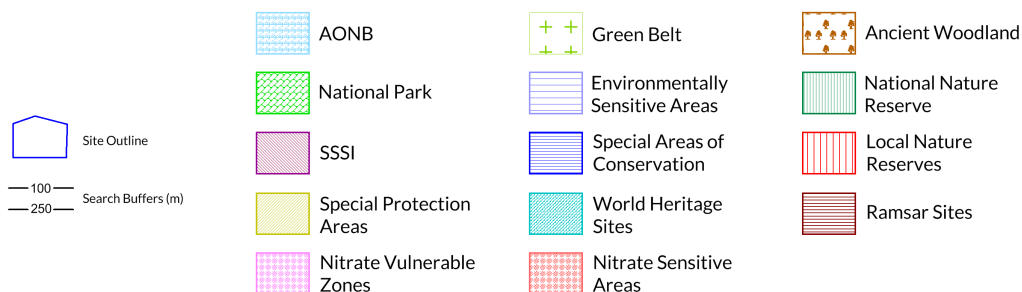
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

6

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
5	438	SW	UNKNOWN	Ancient and Semi-Natural Woodland
6	776	W	UNKNOWN	Ancient and Semi-Natural Woodland
7	823	S	UNKNOWN	Ancient and Semi-Natural Woodland
8	1274	SE	UNKNOWN	Ancient and Semi-Natural Woodland
9A	1476	SE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1600	W	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

2

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	1151	S	Philip's Park	Natural England
2A	1482	SE	Mere Clough	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
3	195	SW	Existing	DEFRA
4	574	E	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

4

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
11	0	On Site	Liverpool, Manchester and West Yorks Greenbelt	Bury District (B)
Not shown	1106	N	Liverpool, Manchester and West Yorks Greenbelt	Bury District (B)
Not shown	1855	SW	Liverpool, Manchester and West Yorks Greenbelt	Bolton District (B)
Not shown	1965	S	Liverpool, Manchester and West Yorks Greenbelt	Salford District (B)

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our **website**. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary?

No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

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Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506

Web: www.environment-agency.gov.uk

Email: enquiries@environment-agency.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe

Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane
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DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey

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SO16 0AS
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Authority: Bury Metropolitan Borough Council
Phone: 01612 535 000

Web: <http://www.bury.gov.uk/>

Address: Town Hall, Knowsley Street, Bury, Lancashire, BL9 OSW

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<https://www.groundsure.com/terms-and-conditions-sept-2016>



Terra Consult

Bold Business Centre, Bold Lane,
Bold Lane,
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Groundsure
Reference:

HMD-147-3850572

Your Reference: 68_Ringley_Road

Report Date 4 May 2017

Report Delivery Method: Email - pdf

Groundsure Geo Insight

Address: 68, RINGLEY ROAD, MANCHESTER, M45 7LN

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Groundsure Geo Insight

Address: 68, RINGLEY ROAD, MANCHESTER, M45 7LN
Date: 4 May 2017
Reference: HMD-147-3850572
Client: Terra Consult



Aerial Photograph Capture date: 11-Jun-2015
Grid Reference: 379408,405467
Site Size: 0.20ha

Contents Page

Contents Page.....	3
Overview of Findings.....	5
1:10,000 Scale Availability.....	8
Availability of 1:10,000 Scale Geology Mapping.....	9
1 Geology (1:10,000 scale).....	10
1.1 Artificial Ground Map (1:10,000 scale).....	10
1. Geology 1:10,000 scale.....	11
1.1 Artificial Ground.....	11
1.2 Superficial Deposits and Landslips Map (1:10,000 scale).....	12
1.2 Superficial Deposits and Landslips.....	13
1.2.1 Superficial Deposits/ Drift Geology.....	13
1.2.2 Landslip.....	13
1.3 Bedrock and Faults Map (1:10,000 scale).....	14
1.3 Bedrock and Faults.....	15
1.3.1 Bedrock/ Solid Geology.....	15
1.3.2 Faults.....	15
2 Geology 1:50,000 Scale.....	17
2.1 Artificial Ground Map.....	17
2. Geology 1:50,000 scale.....	18
2.1 Artificial Ground.....	18
2.1.1 Artificial/ Made Ground	18
2.1.2 Permeability of Artificial Ground.....	18
2.2 Superficial Deposits and Landslips Map (1:50,000 scale).....	19
2.2 Superficial Deposits and Landslips.....	20
2.2.1 Superficial Deposits/ Drift Geology.....	20
2.2.2 Permeability of Superficial Ground	20
2.2.3 Landslip.....	20
2.2.4 Landslip Permeability.....	21
2.3 Bedrock and Faults Map (1:50,000 scale).....	22
2.3 Bedrock, Solid Geology & Faults.....	23
2.3.1 Bedrock/Solid Geology.....	23
2.3.2 Permeability of Bedrock Ground.....	23
2.3.3 Faults.....	23
3 Radon Data.....	25
3.1 Radon Affected Areas.....	25
3.2 Radon Protection.....	25
4 Ground Workings Map.....	26
4 Ground Workings.....	27
4.1 Historical Surface Ground Working Features derived from Historical Mapping.....	27
4.2 Historical Underground Working Features derived from Historical Mapping.....	27
4.3 Current Ground Workings.....	27
5 Mining, Extraction & Natural Cavities.....	30
5.1 Historical Mining.....	30
5.2 Coal Mining.....	30
5.3 Johnson Poole and Bloomer.....	30
5.4 Non-Coal Mining.....	30
5.5 Non-Coal Mining Cavities.....	31
5.6 Natural Cavities.....	31
5.7 Brine Extraction.....	31
5.8 Gypsum Extraction.....	31
5.9 Tin Mining.....	31
5.10 Clay Mining.....	32
6 Natural Ground Subsidence.....	33
6.1 Shrink-Swell Clay Map.....	33
6.2 Landslides Map.....	34
6.3 Ground Dissolution of Soluble Rocks Map.....	35
6.4 Compressible Deposits Map.....	36
6.5 Collapsible Deposits Map.....	37
6.6 Running Sand Map.....	38

6 Natural Ground Subsidence.....	39
6.1 Shrink-Swell Clays.....	39
6.2 Landslides.....	39
6.3 Ground Dissolution of Soluble Rocks.....	40
6.4 Compressible Deposits.....	40
6.5 Collapsible Deposits.....	40
6.6 Running Sands.....	40
7 Borehole Records.....	42
8 Estimated Background Soil Chemistry.....	43
9 Railways and Tunnels Map.....	44
9 Railways and Tunnels.....	45
9.1 Tunnels	45
9.2 Historical Railway and Tunnel Features	45
9.3 Historical Railways.....	46
9.4 Active Railways.....	46
9.5 Railway Projects.....	46

Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslide within 500m of the study site boundary at 1:10,000 scale?	Yes
1.3 Bedrock, Solid Geology and Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of faults within 500m of the study site boundary at 1:10,000 scale?	Yes

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslide within 500m of the study site boundary?	Yes
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and Faults

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

Yes

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings

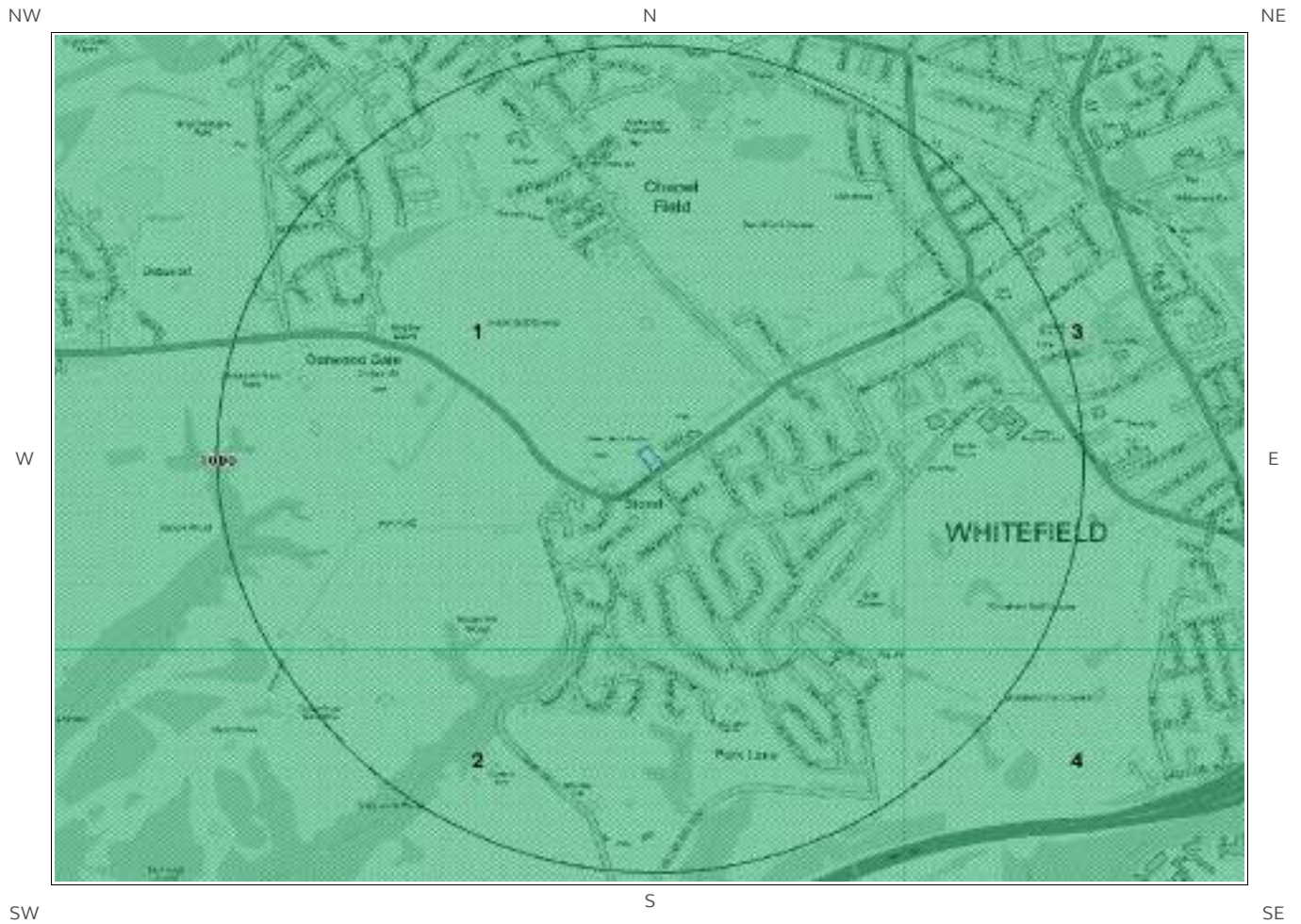
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	2	2	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	1	6

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	1	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	1	0	0	3	2
5.4 Non-Coal Mining*	0	0	0	0	0
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

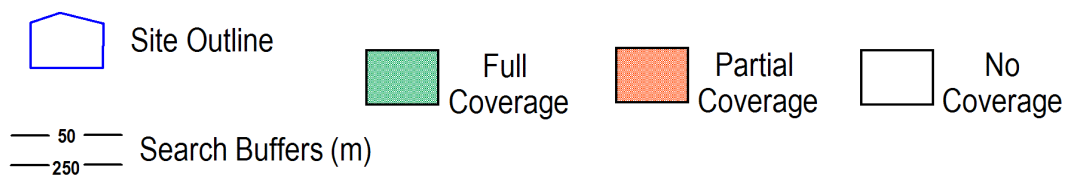
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	0		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	3	1	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	Some deposits are mapped
2	438.0	Some deposits are mapped	Full	Full	Some deposits are mapped
3	570.0	Some deposits are mapped	Full	Full	Some deposits are mapped
4	731.0	Some deposits are mapped	Full	Full	Some deposits are mapped

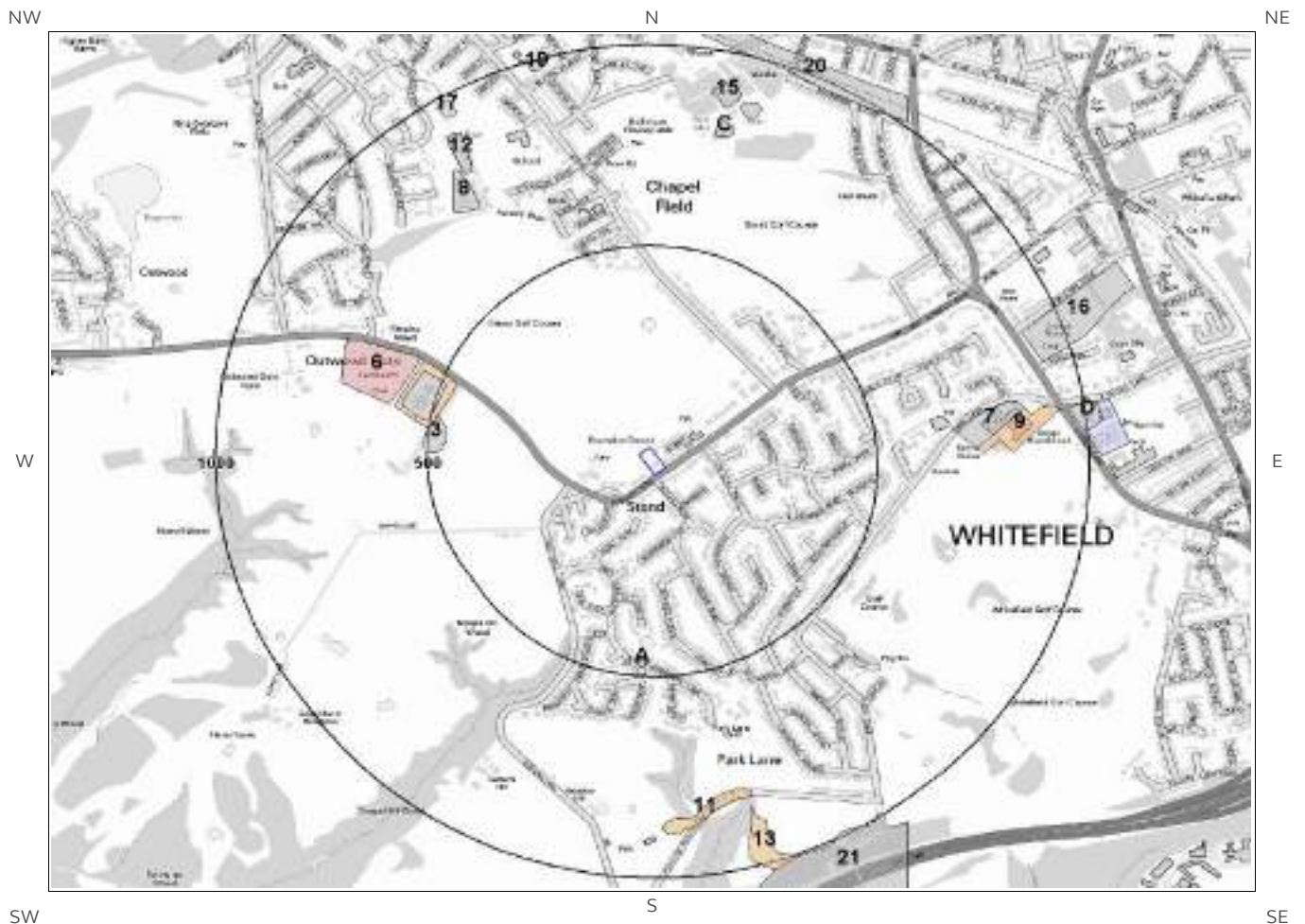
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

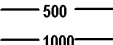
1 Geology (1:10,000 scale).

1.1 Artificial Ground Map (1:10,000 scale)



Artificial Ground Legend

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	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

1. Geology 1:10,000 scale

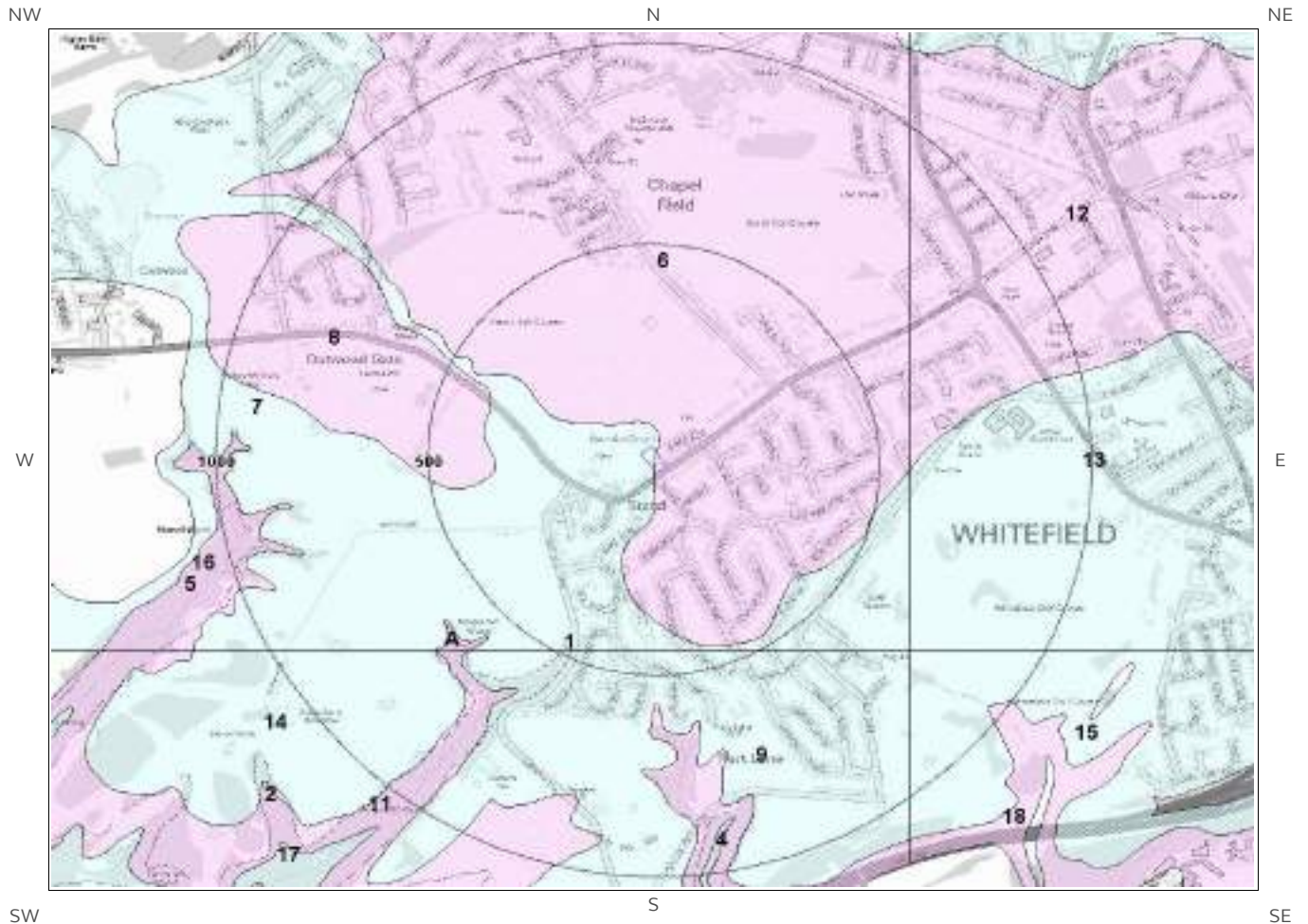
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

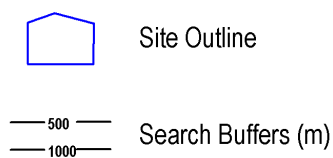
ID	Distance	Direction	LEX Code	Description	Rock Description
1A	453.0	S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2A	456.0	S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	457.0	W	WGR-VOID	Worked Ground (Undivided)	Void
4B	464.0	W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5B	487.0	W	WGR-VOID	Worked Ground (Undivided)	Void

1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
6	0.0	On Site	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
7	0.0	On Site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
8	343.0	W	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
9	438.0	S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

1.2.2 Landslip

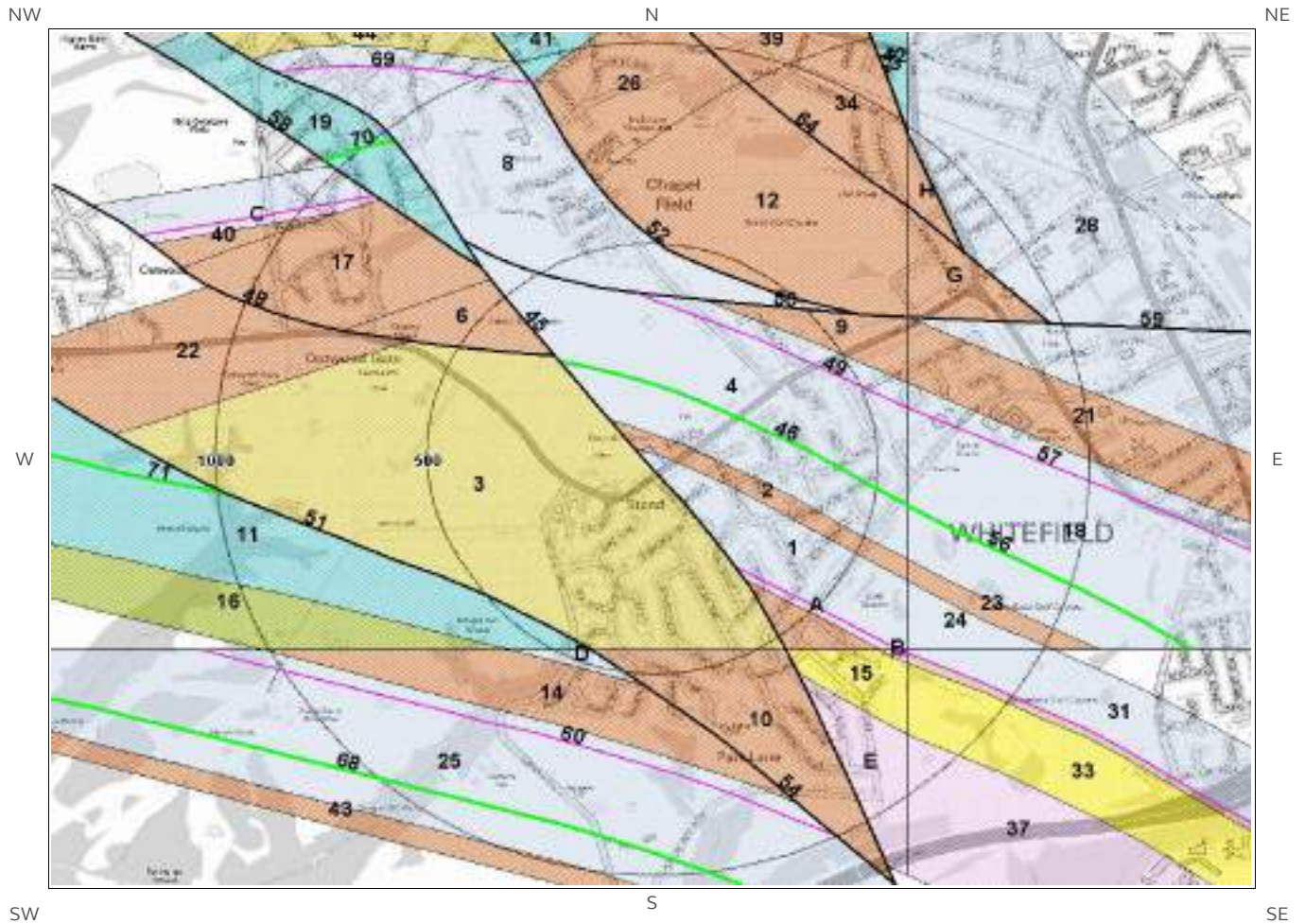
Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	470.0	SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
2	480.0	SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and Faults Map (1:10,000 scale)

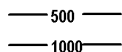


Bedrock and Faults Legend

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Site Outline



Search Buffers (m)

1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
2	0.0	On Site	NHSS-SDST	Newton Heath Sandstone - Sandstone	Bolsovian Sub-age
3	0.0	On Site	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
4	27.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
5A	296.0	SE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
6	313.0	NW	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
7A	334.0	SE	WDR-SDST	Worsley Delf Rock - Sandstone	Bolsovian Sub-age
8	372.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
9	381.0	NE	NR-SDST	Nob End Rock - Sandstone	Bolsovian Sub-age
10	438.0	S	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
11	454.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
12	460.0	N	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
13D	463.0	S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
45	0.0	On Site	FAULT	Normal fault, inferred; crossmarks on downthrow side
46	145.0	N	ROCK	Coal seam, inferred
47A	296.0	SE	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
48	313.0	NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
49	338.0	N	FOSSIL_HORIZON	Fossil horizon, marine band
50	372.0	N	FAULT	Normal fault, inferred; crossmarks on downthrow side
51	454.0	SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

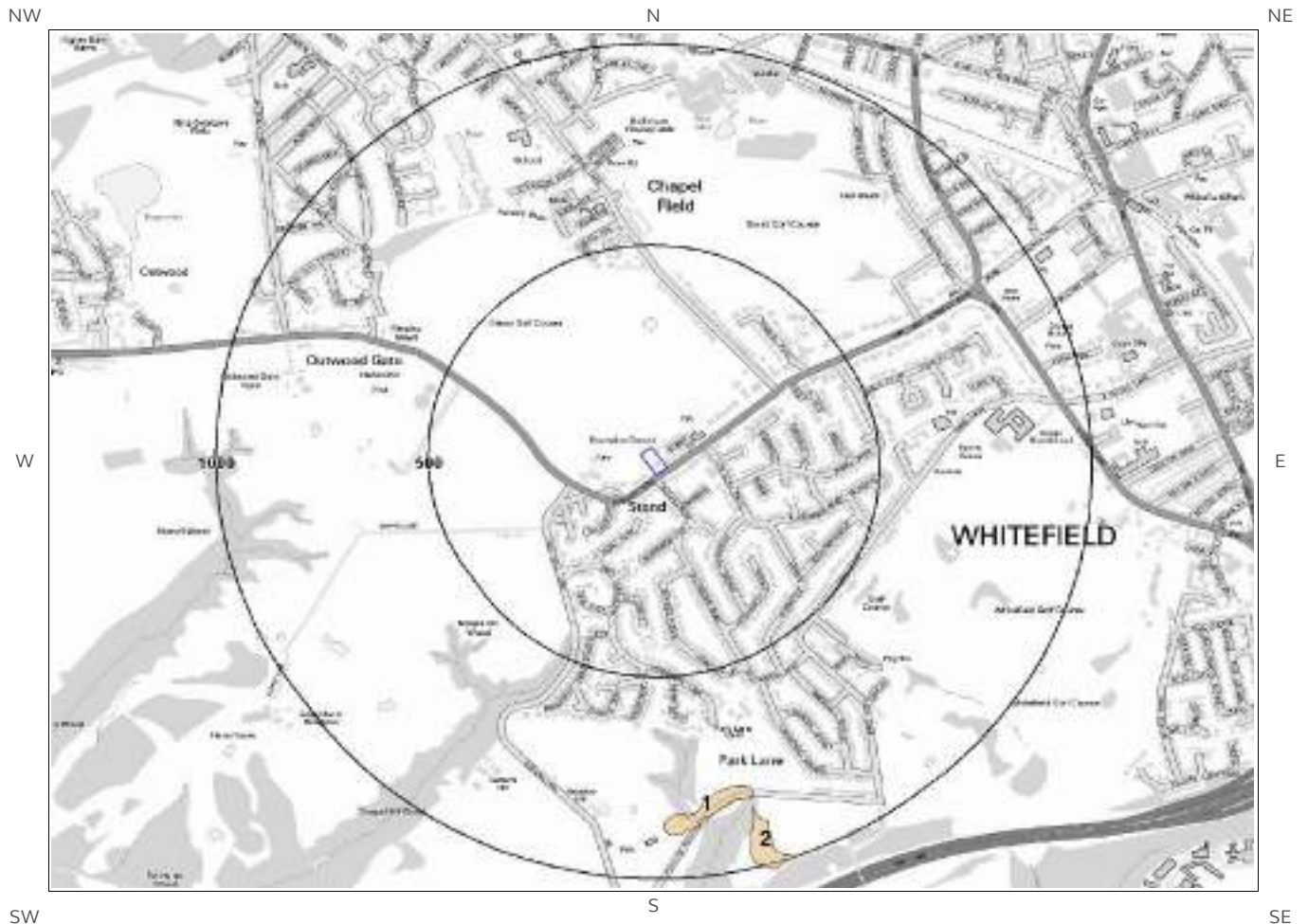
ID	Distance (m)	Direction	Category Description	Feature Description
52	460.0	N	FAULT	Normal fault, inferred; crossmarks on downthrow side
53D	463.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
54	463.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

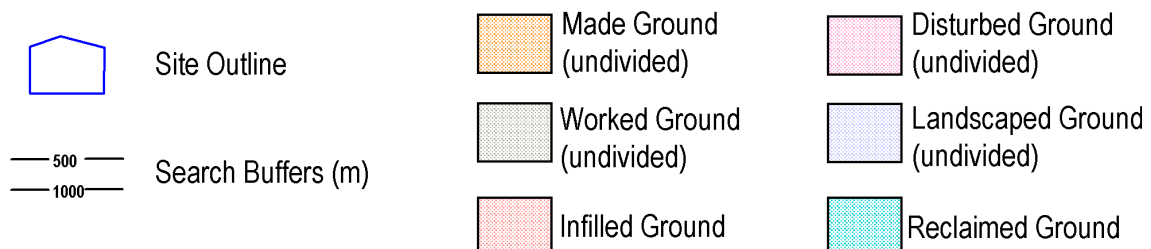
2 Geology 1:50,000 Scale

2.1 Artificial Ground Map



Ground Workings Legend

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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 085

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? No

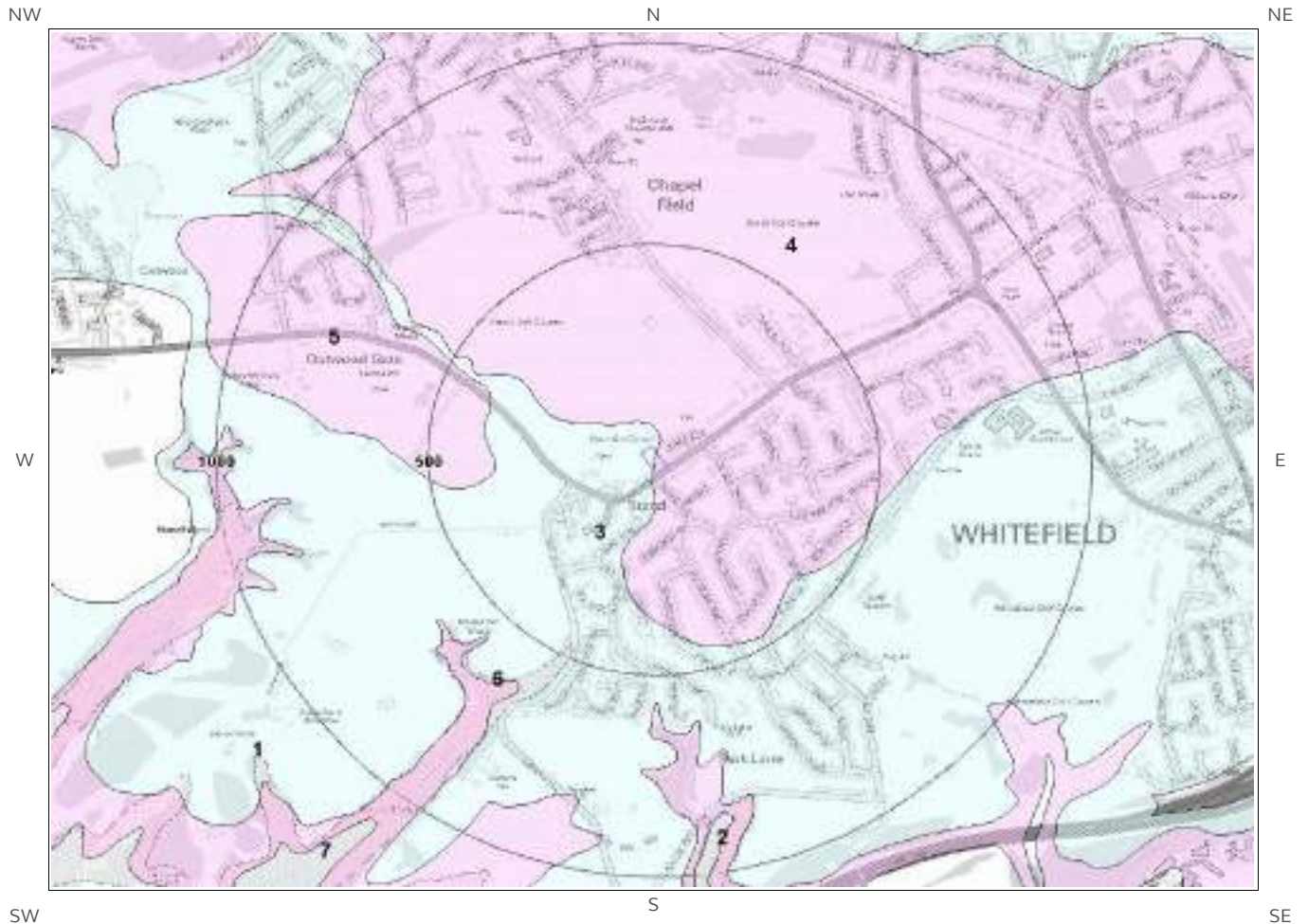
Database searched and no data found.

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

2.2 Superficial Deposits and Landslips Map (1:50,000 scale)

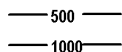


Ground Workings Legend

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Site Outline



Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
3	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
4	0.0	On Site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
5	343.0	W	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	High
0.0	On Site	Mixed	High	Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	469.0	SW	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

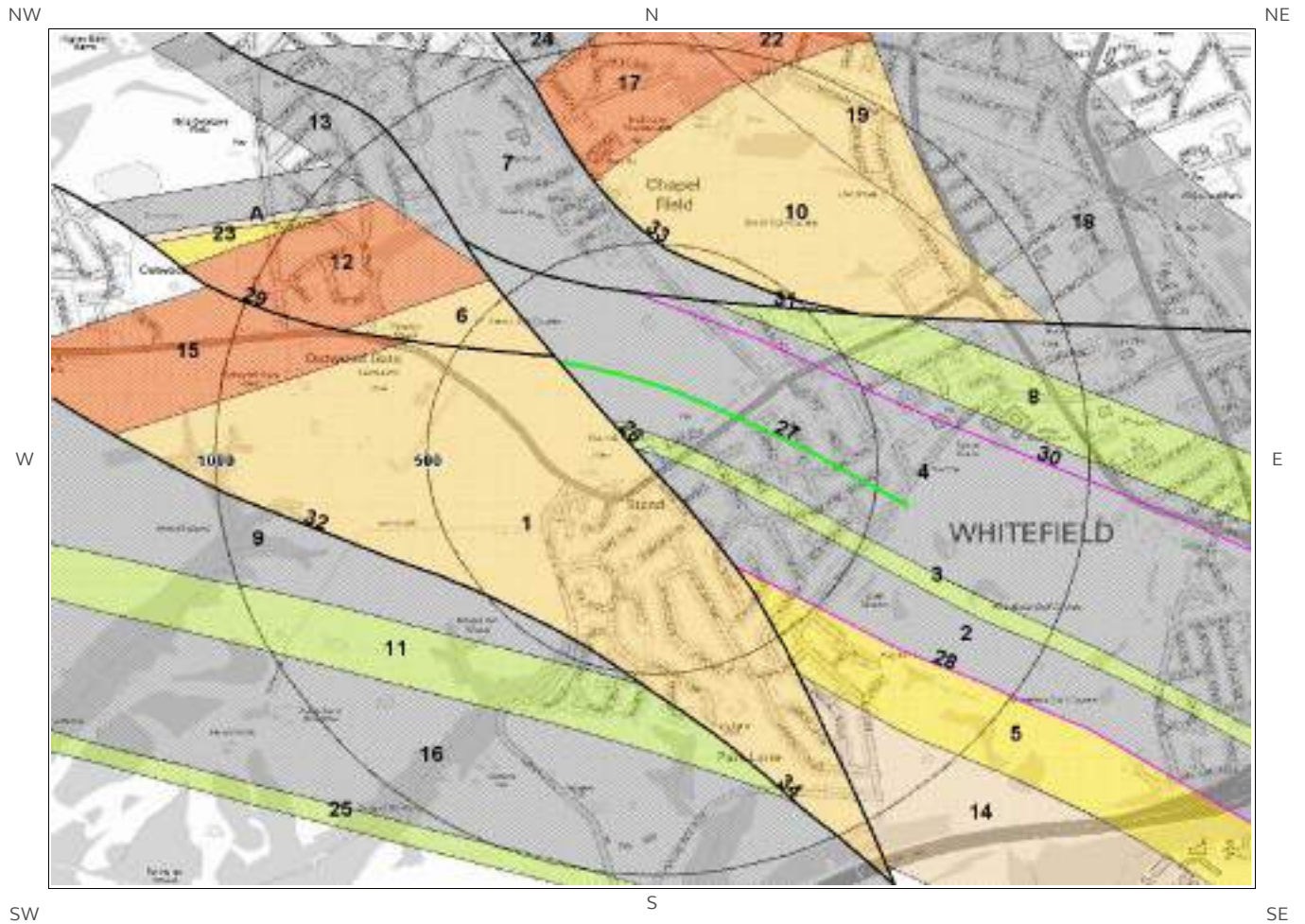
2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

No

Database searched and no data found.

2.3 Bedrock and Faults Map (1:50,000 scale)



2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 085

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
2	0.0	On Site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	0.0	On Site	NHSS-SDST	NEWTON HEATH SANDSTONE - SANDSTONE	WESTPHALIAN
4	27.0	N	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	297.0	SE	WDR-SDST	WORSLEY DELF ROCK - SANDSTONE	WESTPHALIAN
6	312.0	NW	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
7	372.0	N	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	381.0	NE	NR-SDST	NOB END ROCK - SANDSTONE	WESTPHALIAN
9	455.0	SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	459.0	N	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Low
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Mixed	High	Moderate
27.0	N	Fracture	Moderate	Low

2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance	Direction	Category Description	Feature Description
26	0.0	On Site	FAULT	Fault, inferred
27	145.0	N	ROCK	Coal seam, inferred
28	297.0	SE	FOSSIL_HORIZON	Marine band

ID	Distance	Direction	Category Description	Feature Description
29	312.0	NW	FAULT	Fault, inferred
30	338.0	N	FOSSIL_HORIZON	Marine band
31	372.0	N	FAULT	Fault, inferred
32	455.0	SW	FAULT	Fault, inferred
33	459.0	N	FAULT	Fault, inferred
34	463.0	S	FAULT	Fault, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

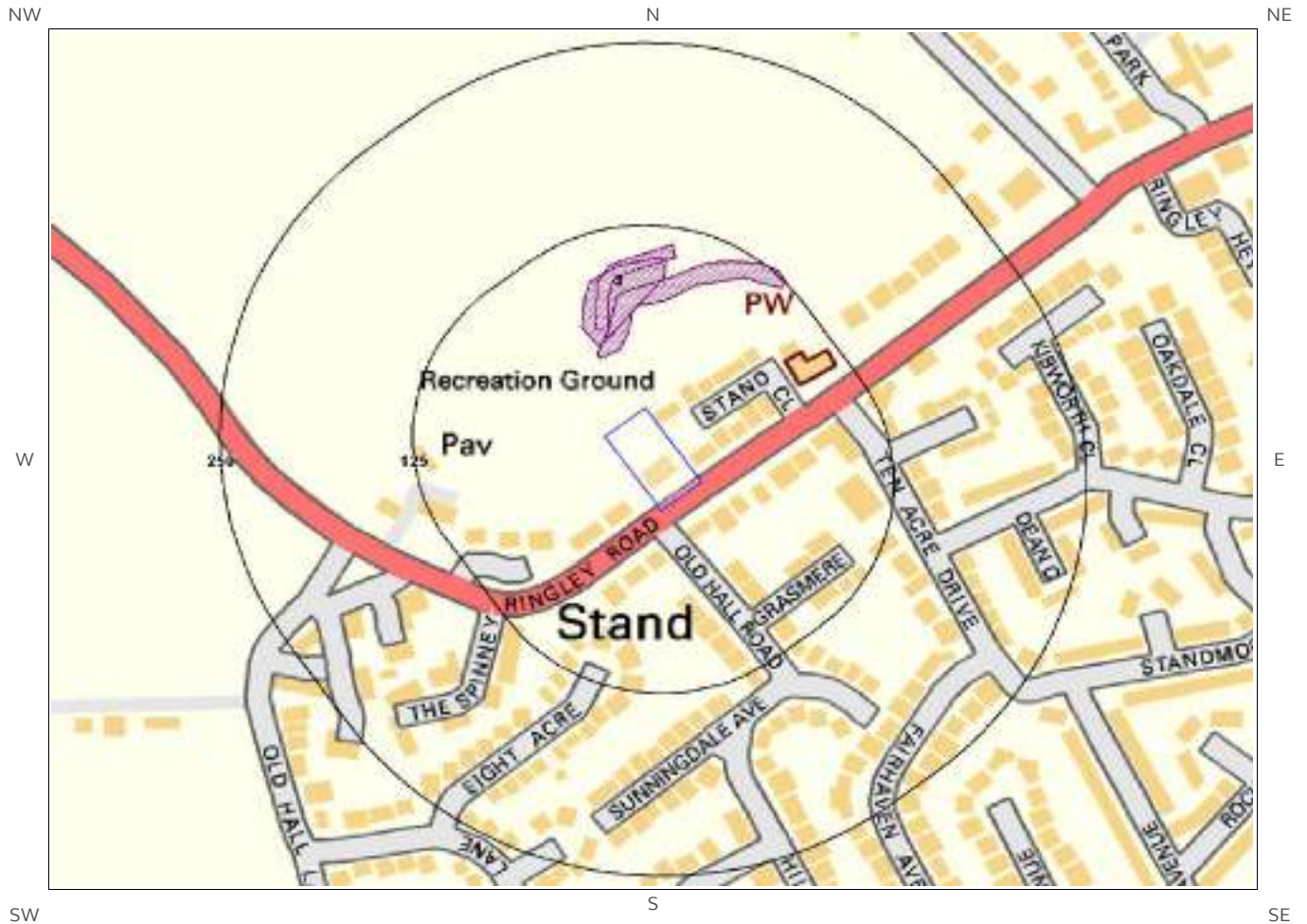
3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

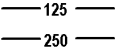
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings Map



Ground Workings Legend

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- | | | | |
|---|--------------------|---|----------------------------------|
|  | Site Outline |  | Historic Surface Ground Workings |
|  | Search Buffers (m) |  | Historic Underground Workings |
| | |  | Current Ground Workings |

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	43.0	NW	379379 405576	Refuse Heap	1927
2A	43.0	NW	379379 405576	Refuse Heap	1938
3	52.0	NW	379379 405581	Unspecified Heap	1977
4	58.0	NW	379367 405591	Unspecified Ground Workings	1965

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

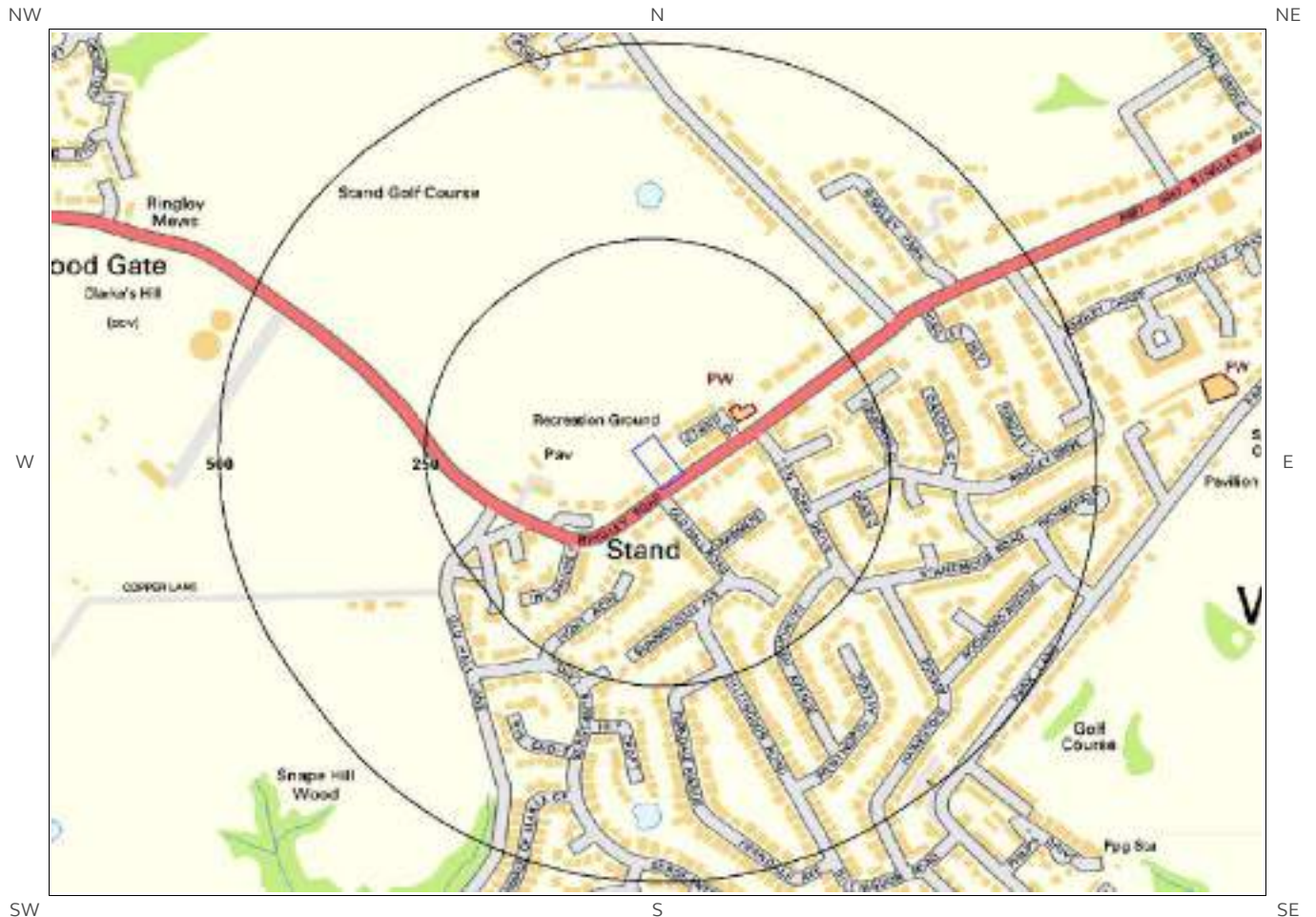
Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	480.0	W	378890 405538	Sand	Clarke's Hill Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	625.0	E	380050 405537	Sand	Sand Hole Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	627.0	W	378775 405695	Sand & Gravel	Stoneclough Sand Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	935.0	N	379700 406392	Sand	The Dales Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	950.0	N	379182 406435	Sand	Chapel Field Sand Pits	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	957.0	SE	380052 404731	Clay & Shale	Philips Park Road Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	983.0	SE	380258 404929	Sand	Hole Bottom Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? Yes

The following information provided by JPB is not represented on mapping: In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

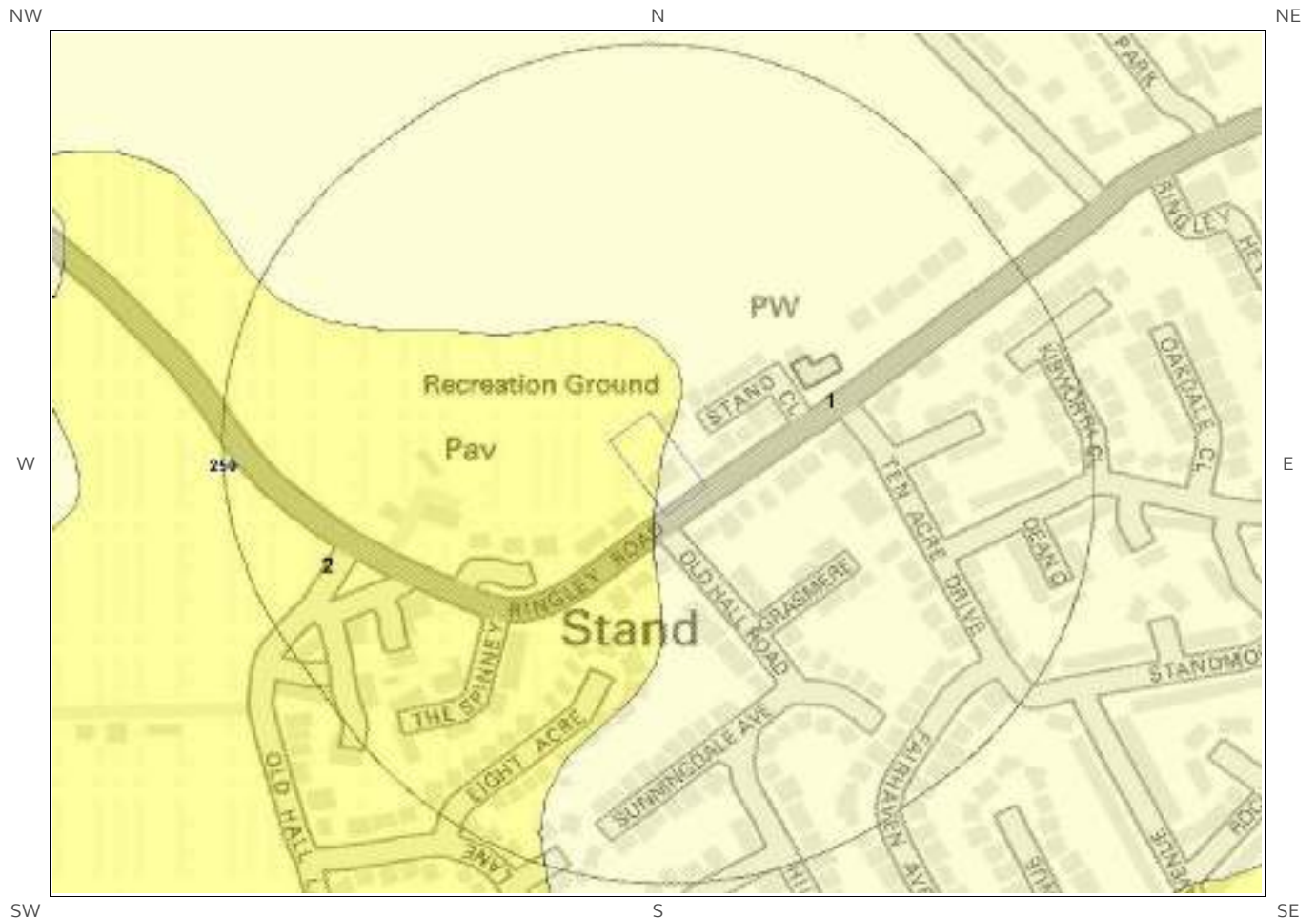
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay Map

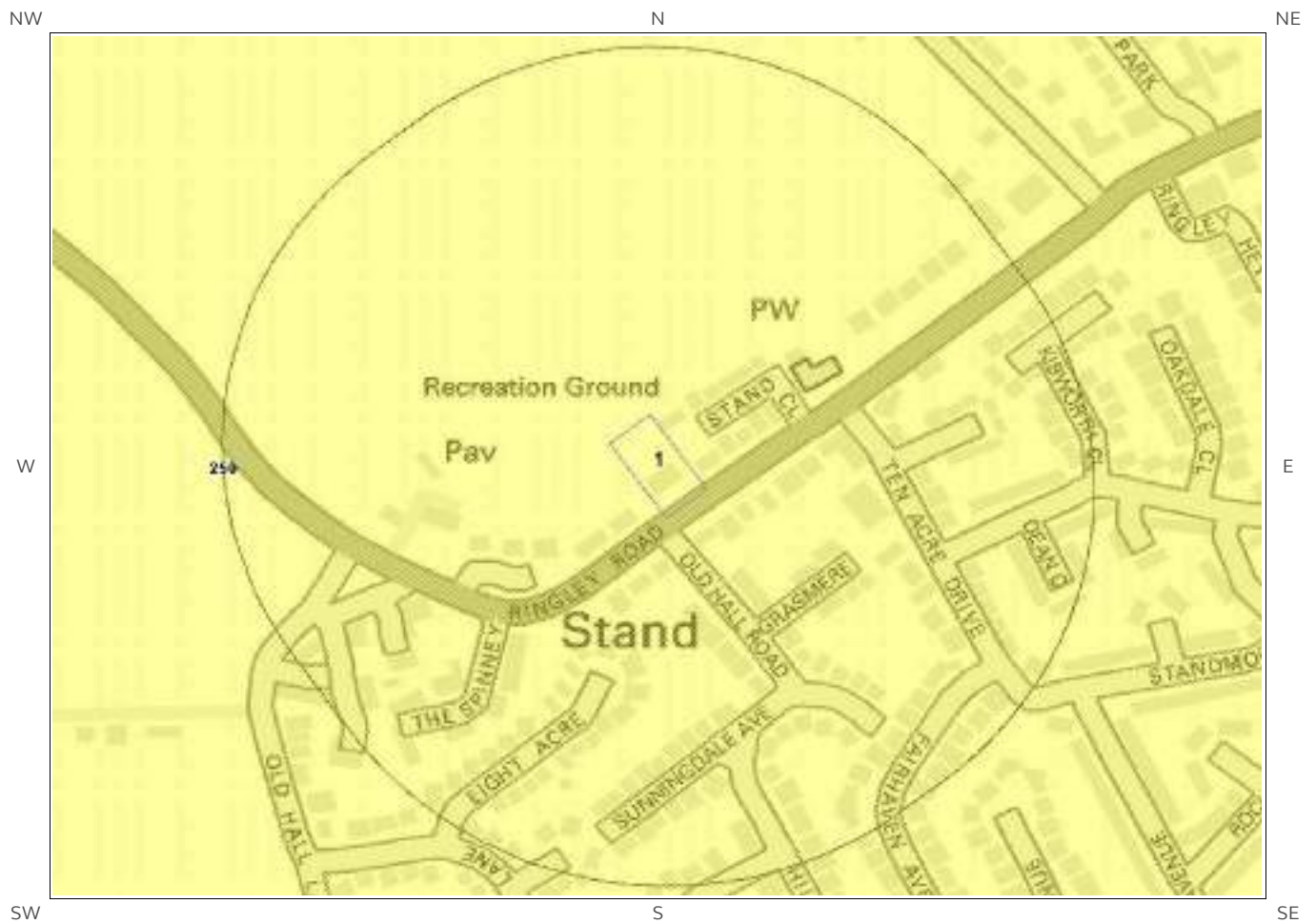


Shrink Swell Clay Legend

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6.2 Landslides Map



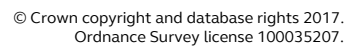
Landslides Legend

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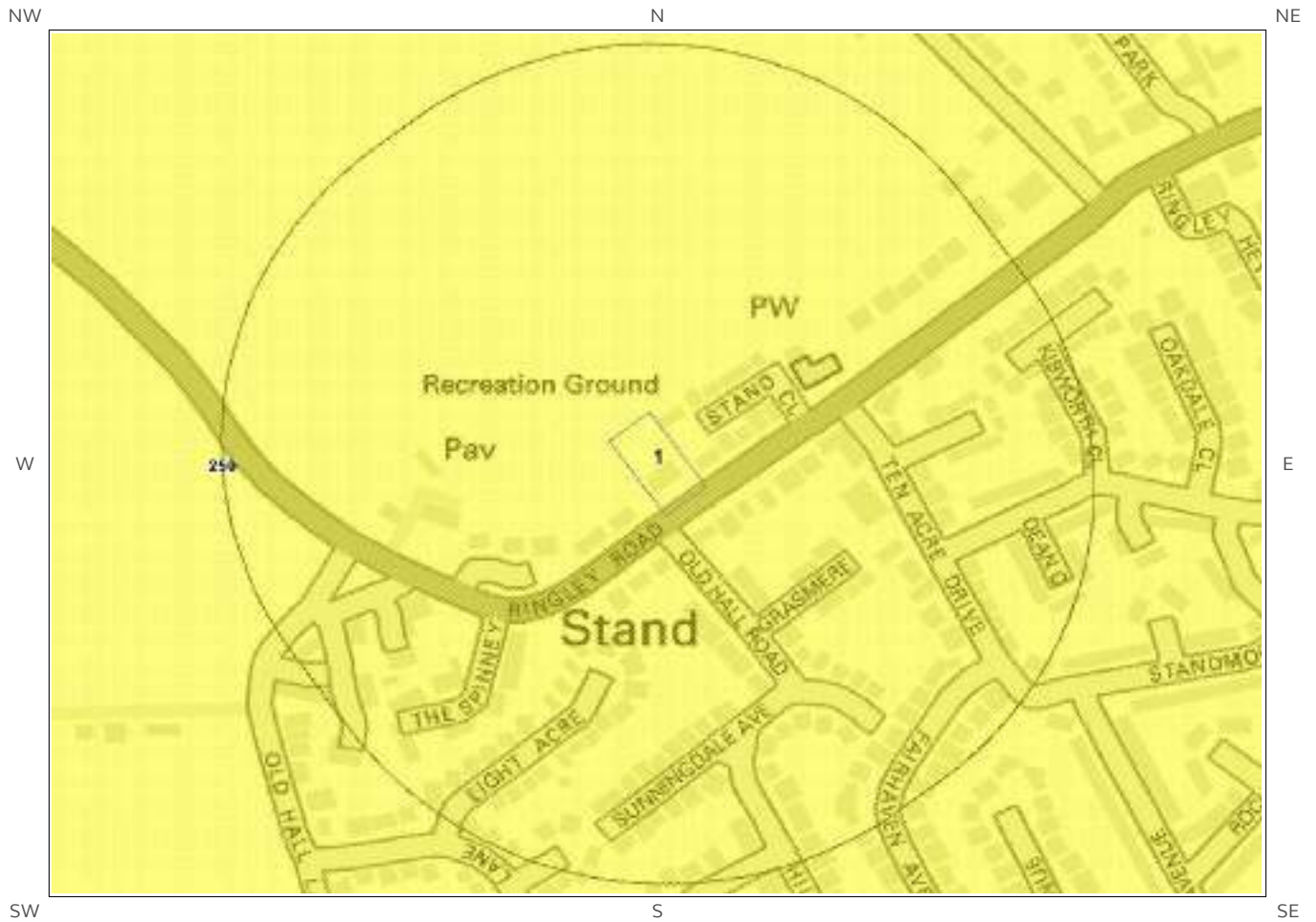


6.3 Ground Dissolution of Soluble Rocks Map





6.5 Collapsible Deposits Map

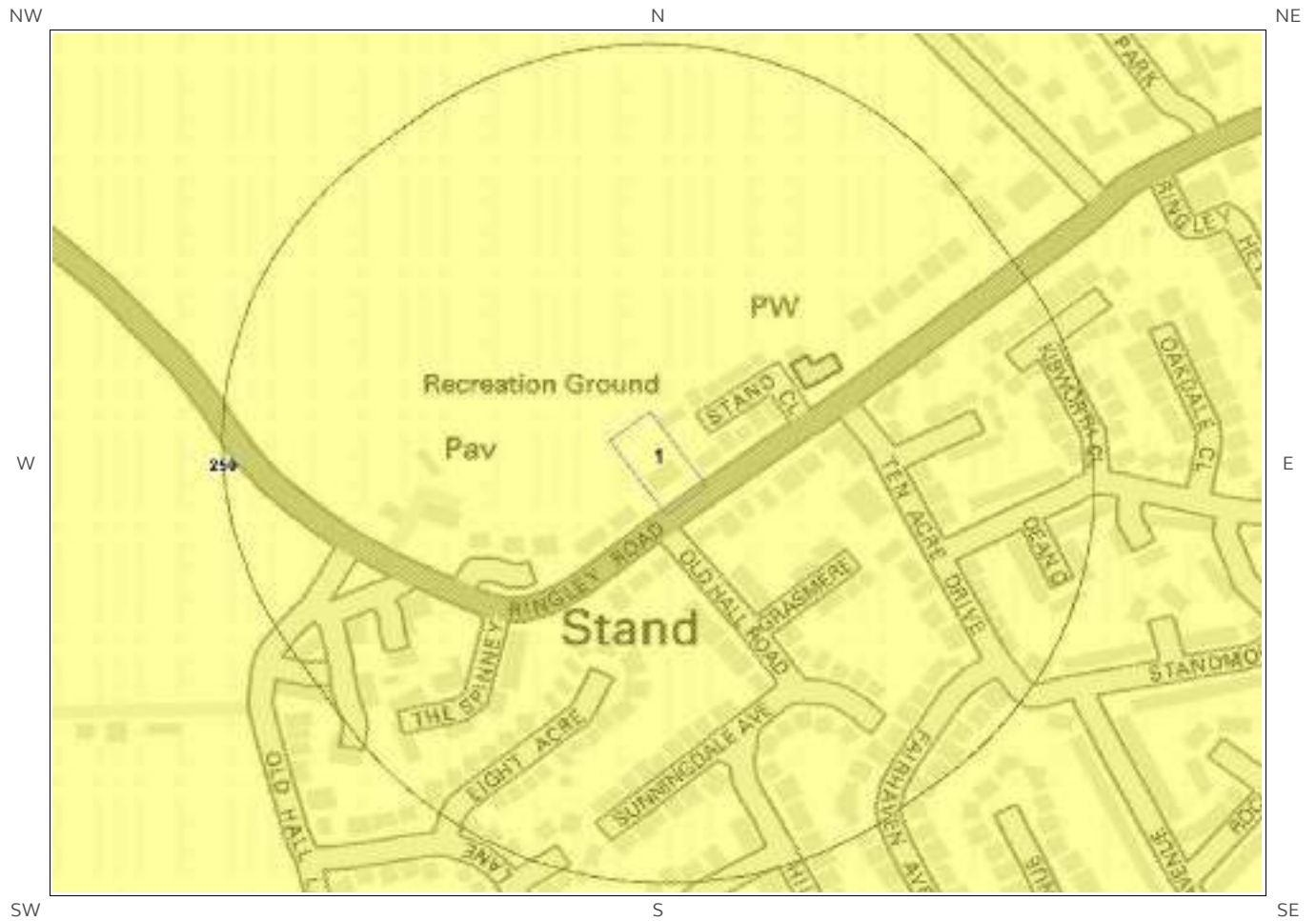


Collapsible Deposits Legend

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6.6 Running Sand Map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Very Low**

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

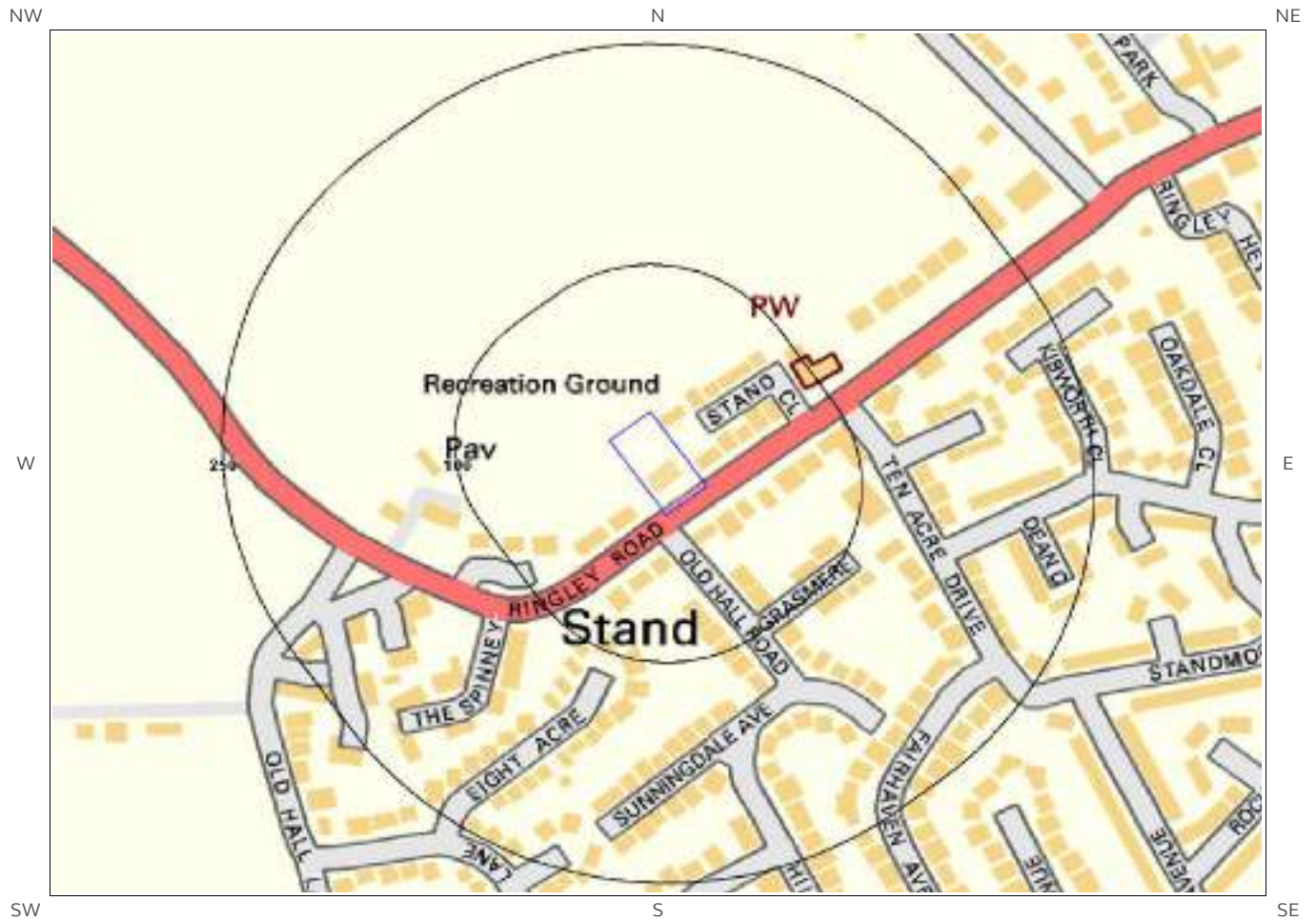
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

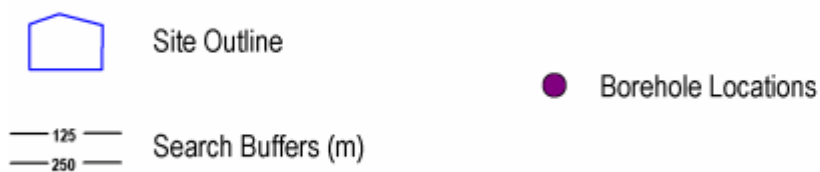
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records Map



Borehole Records Legend

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7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

0

Database searched and no data found.

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

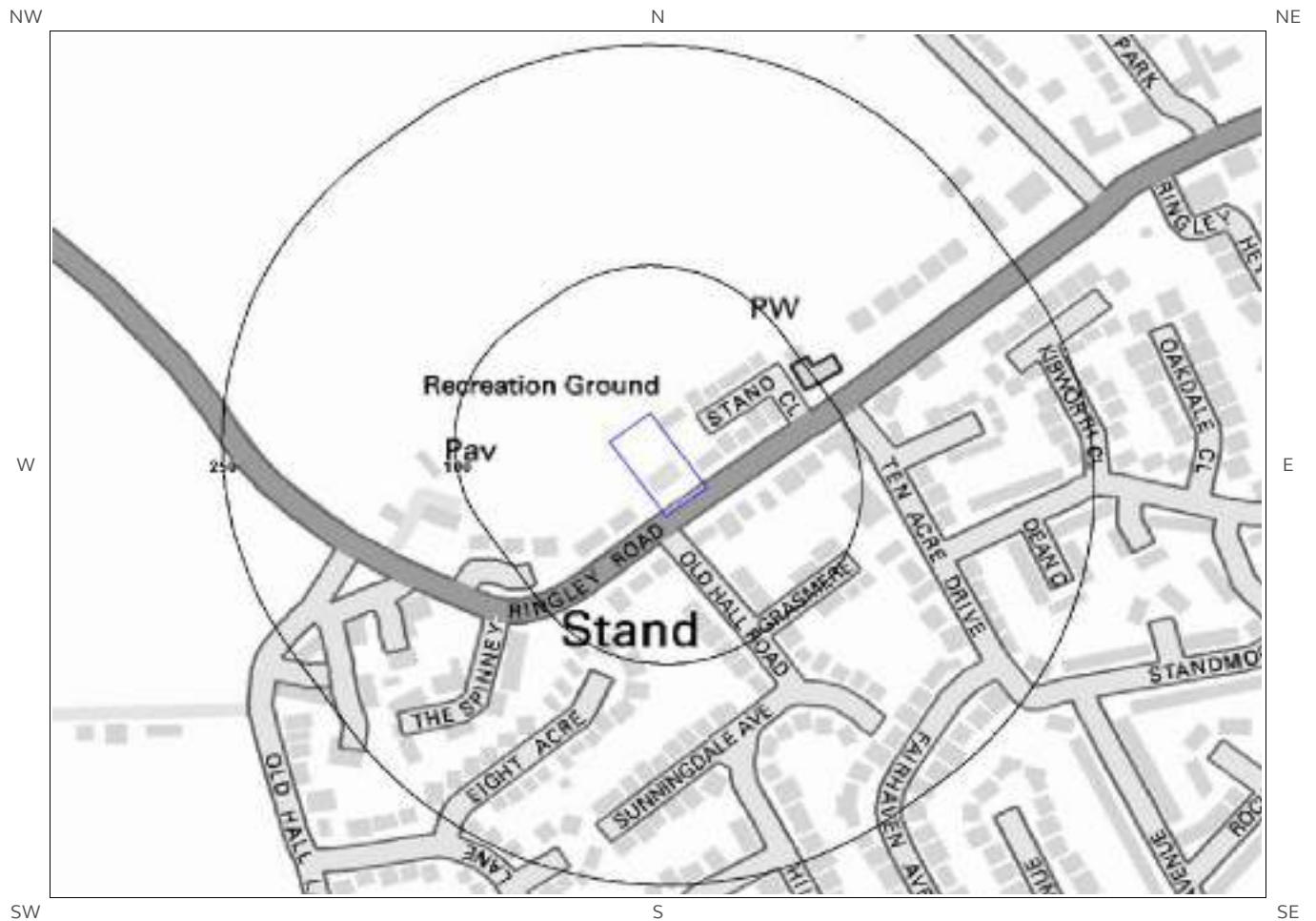
4

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuSoilExAs	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	200 - 300 mg/kg
0.0	On Site	RuSoilExAs	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuSoilExAs	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	200 - 300 mg/kg
10.0	S	RuSoilExAs	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	200 - 300 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels Map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

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Telephone: 08444 159 000
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Loughborough
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The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



The Coal
Authority

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



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Site Details:

68, RINGLEY ROAD,
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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1848-1850

Scale: 1:10,560

Printed at: 1:10,560



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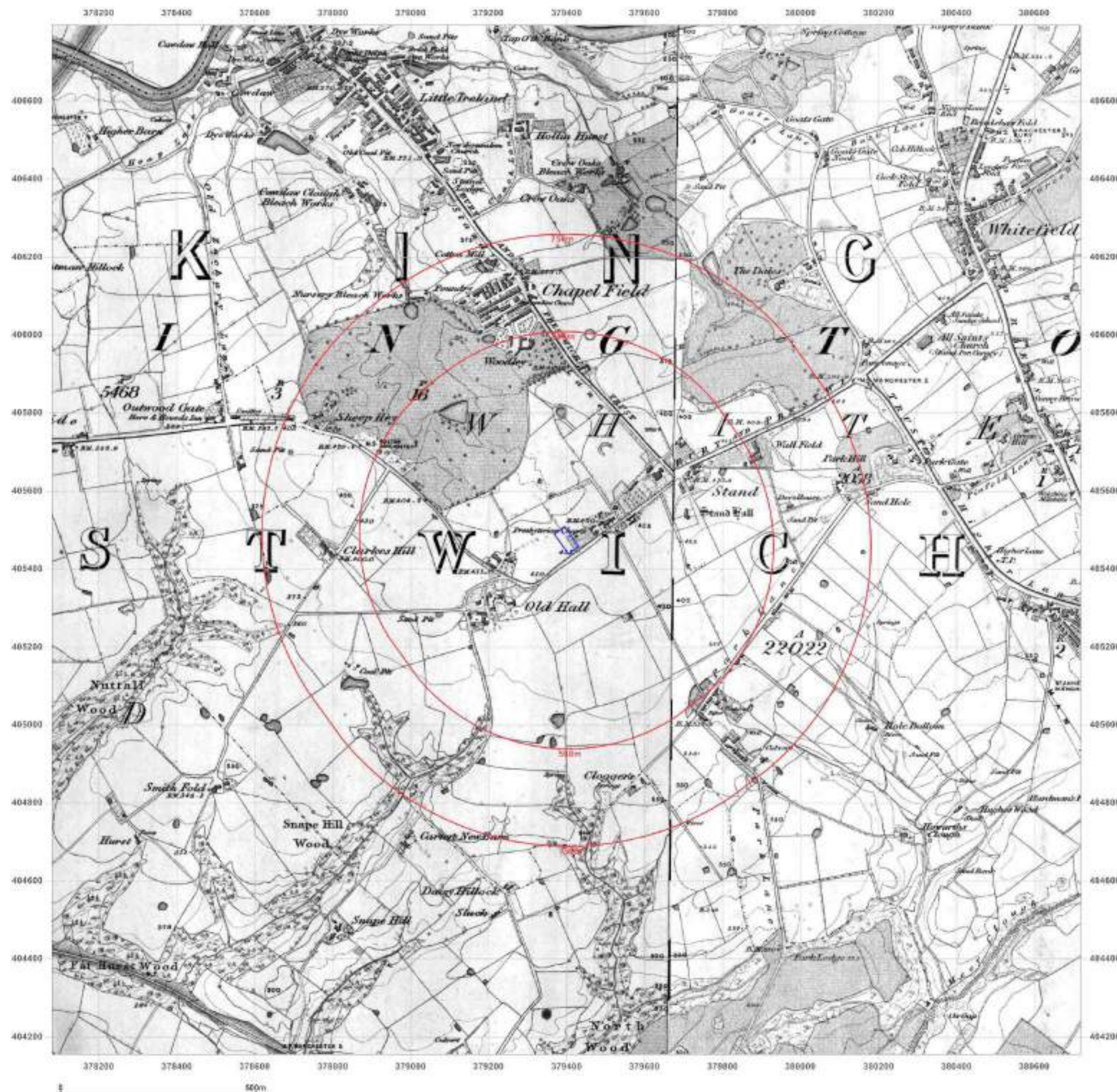


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1891

Scale: 1:10,560

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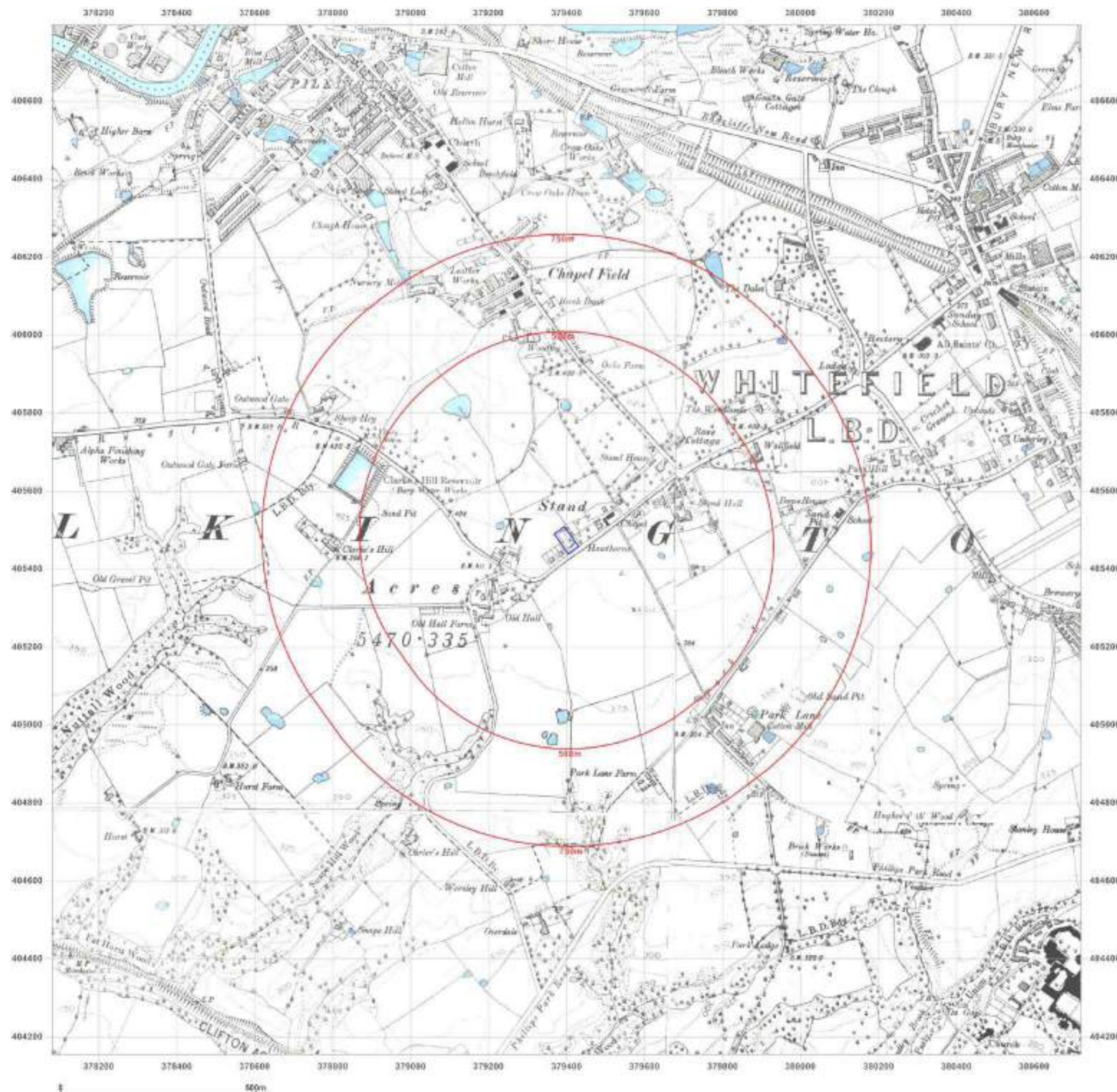


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1907-1908

Scale: 1:10,560

Printed at: 1:10,560



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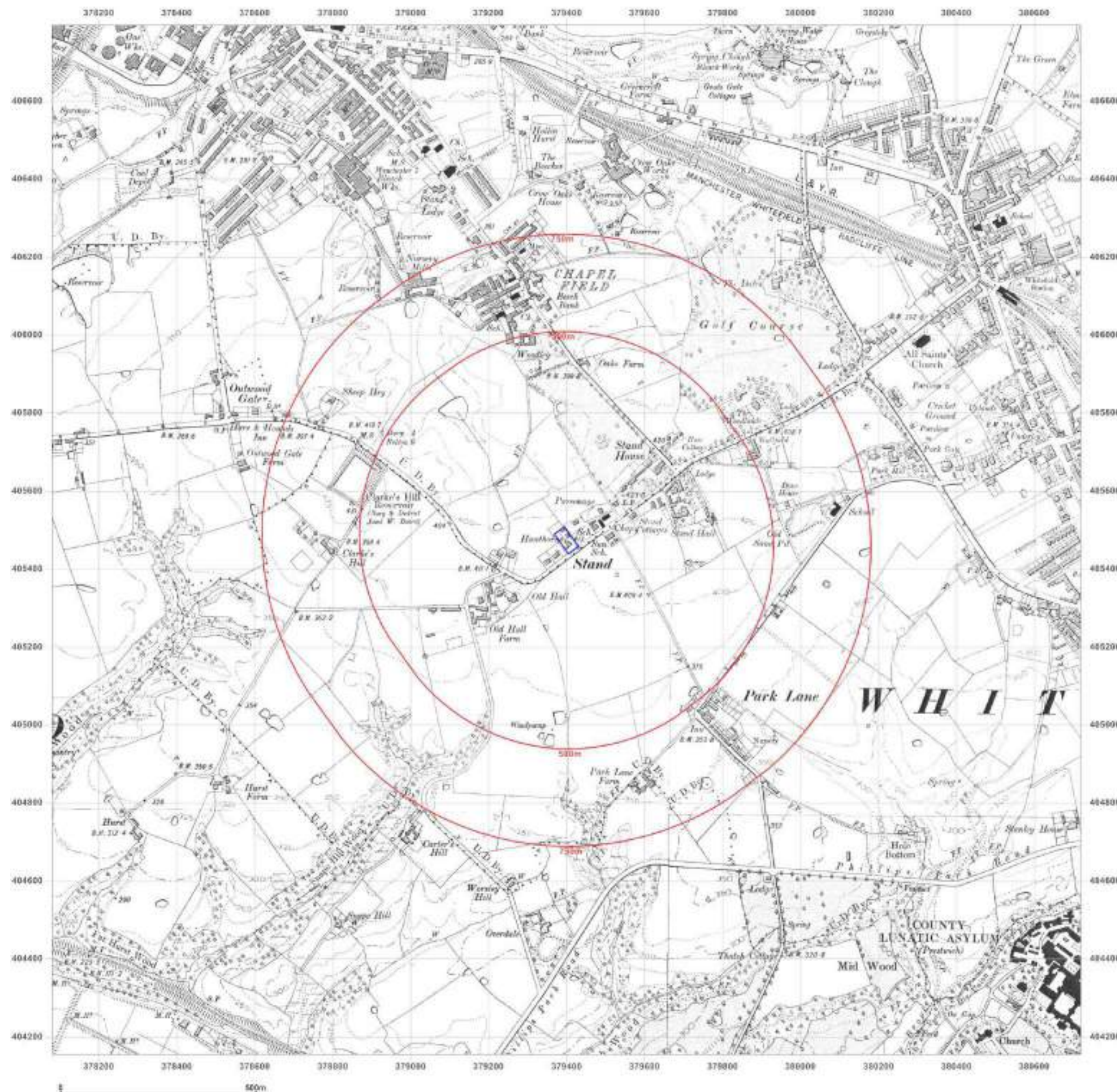


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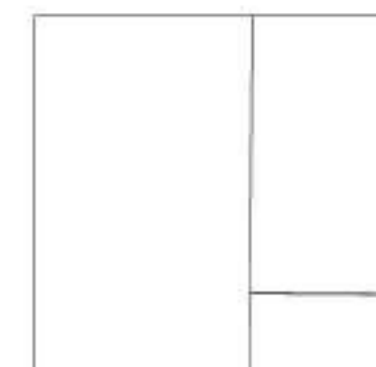
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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1915

Scale: 1:10,560

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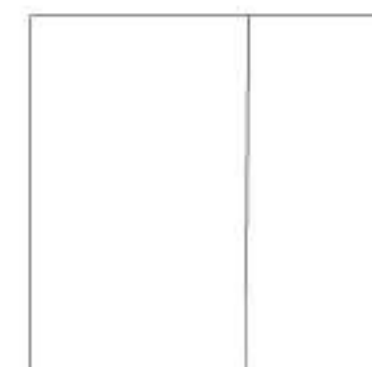
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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



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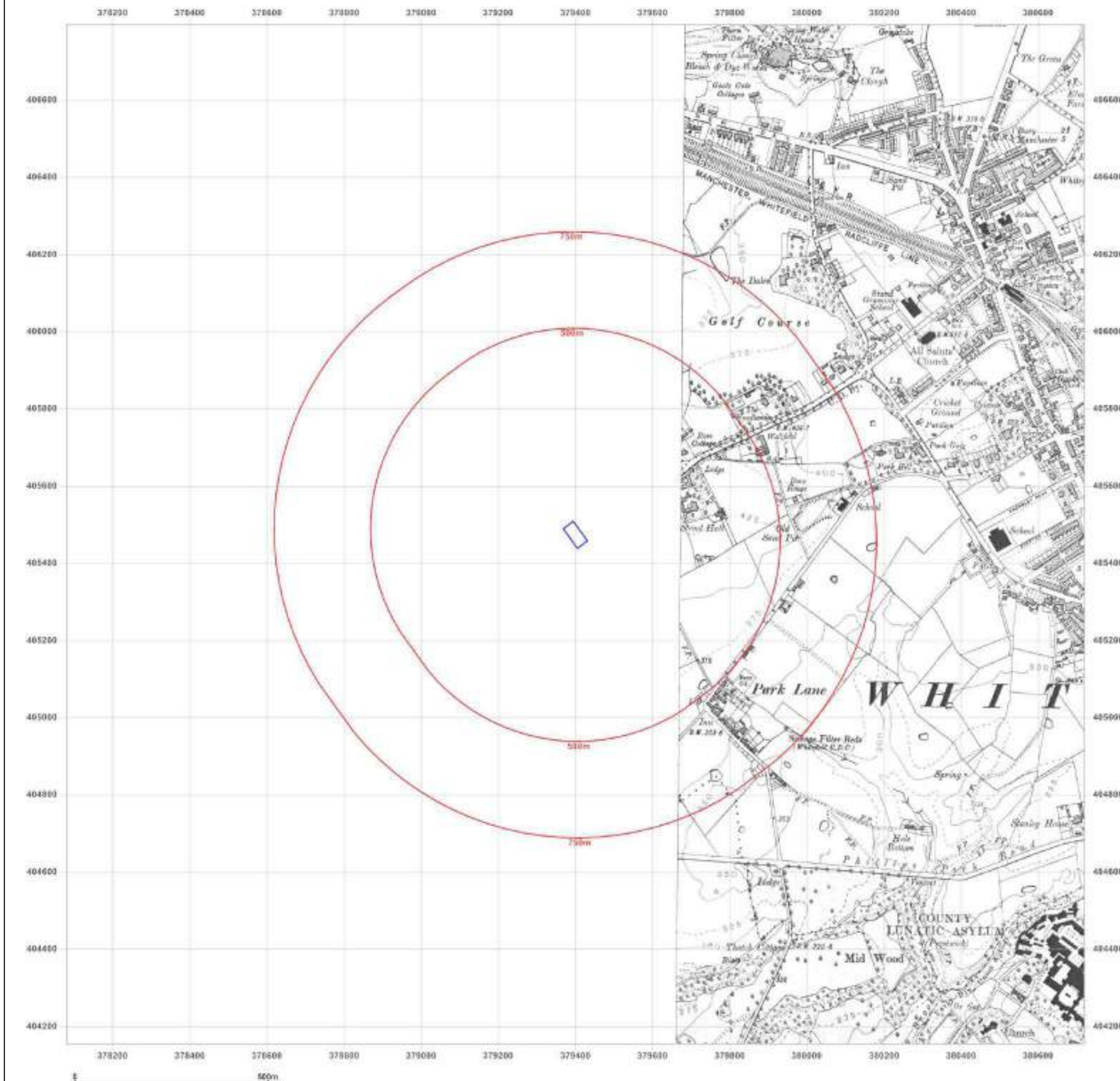


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1927-1932

Scale: 1:10,560

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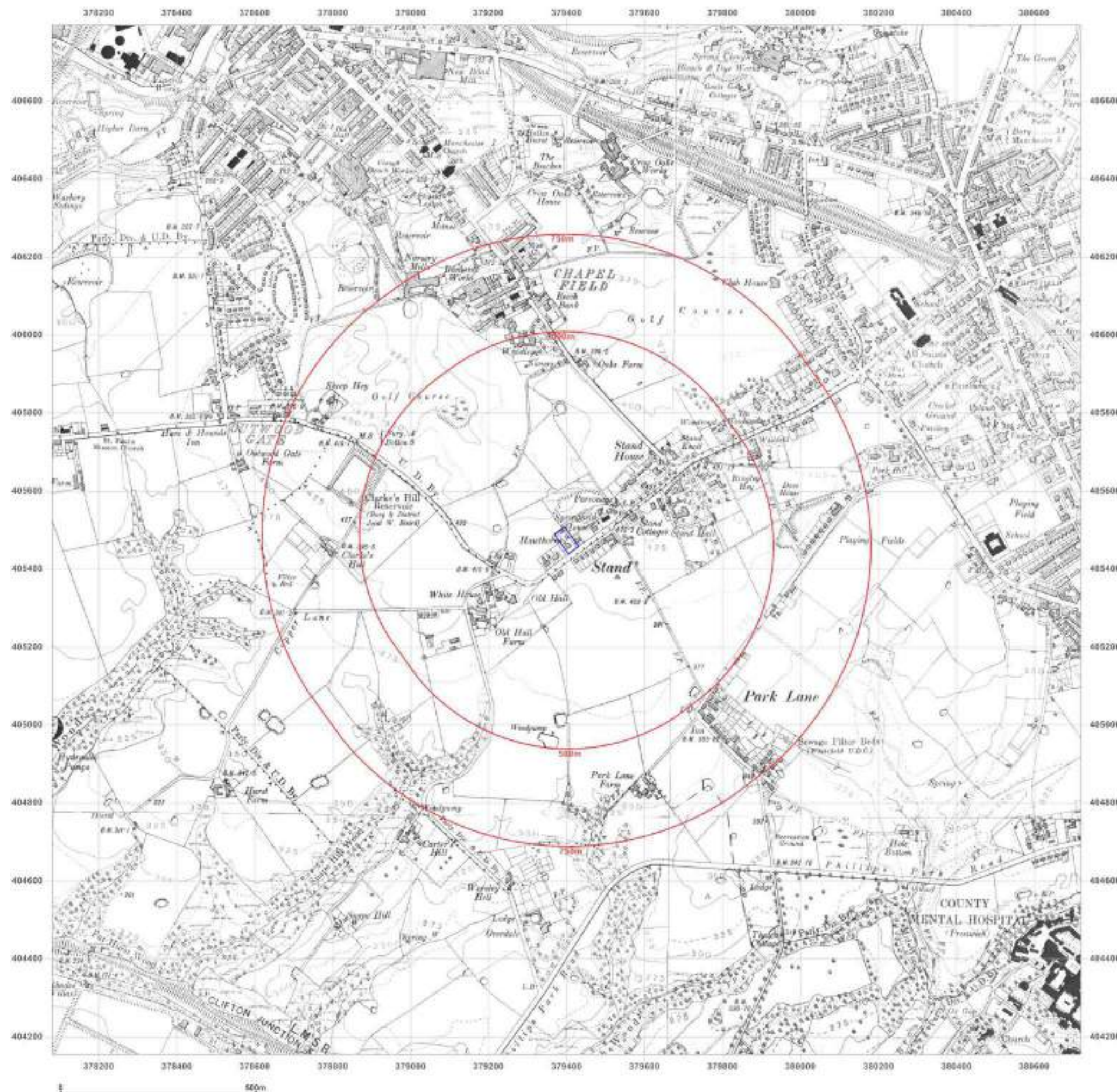


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Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1937-1938

Scale: 1:10,560

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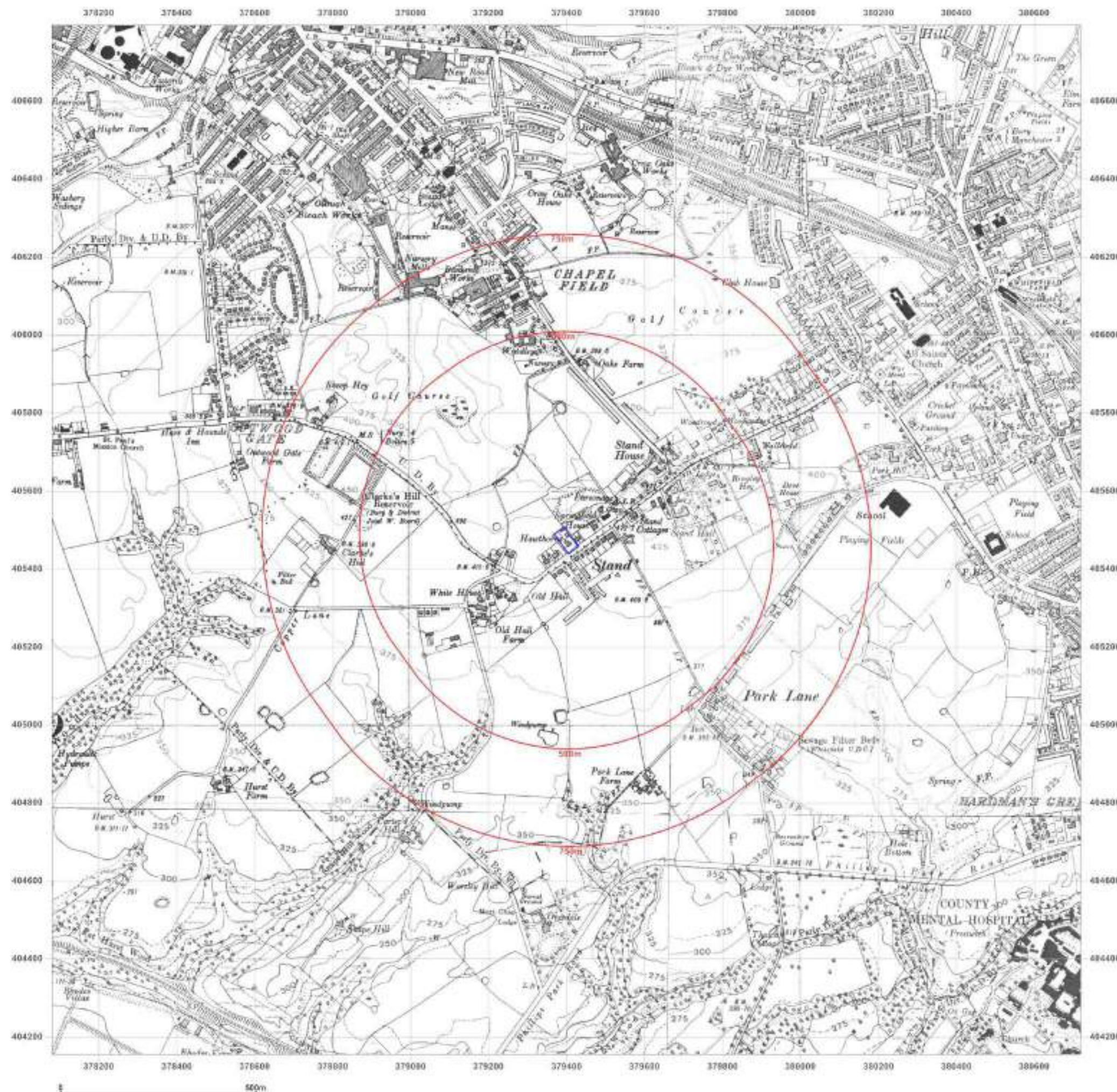


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: Provisional

Map date: 1955-1956

Scale: 1:10,560

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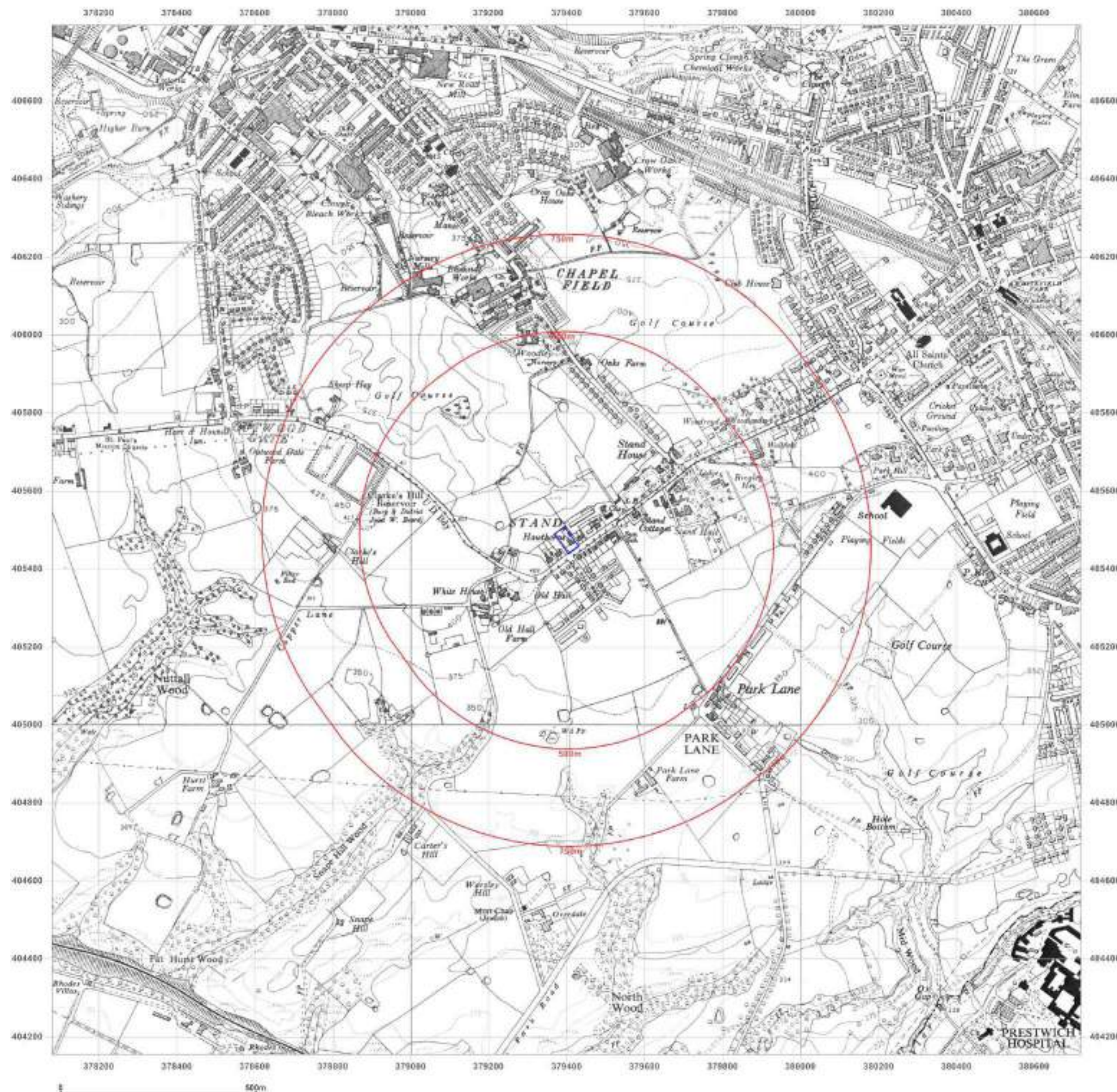


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Grid Ref: 379399, 405474

Map Name: Provisional

Map date: 1965-1968

Scale: 1:10,560

Printed at: 1:10,560



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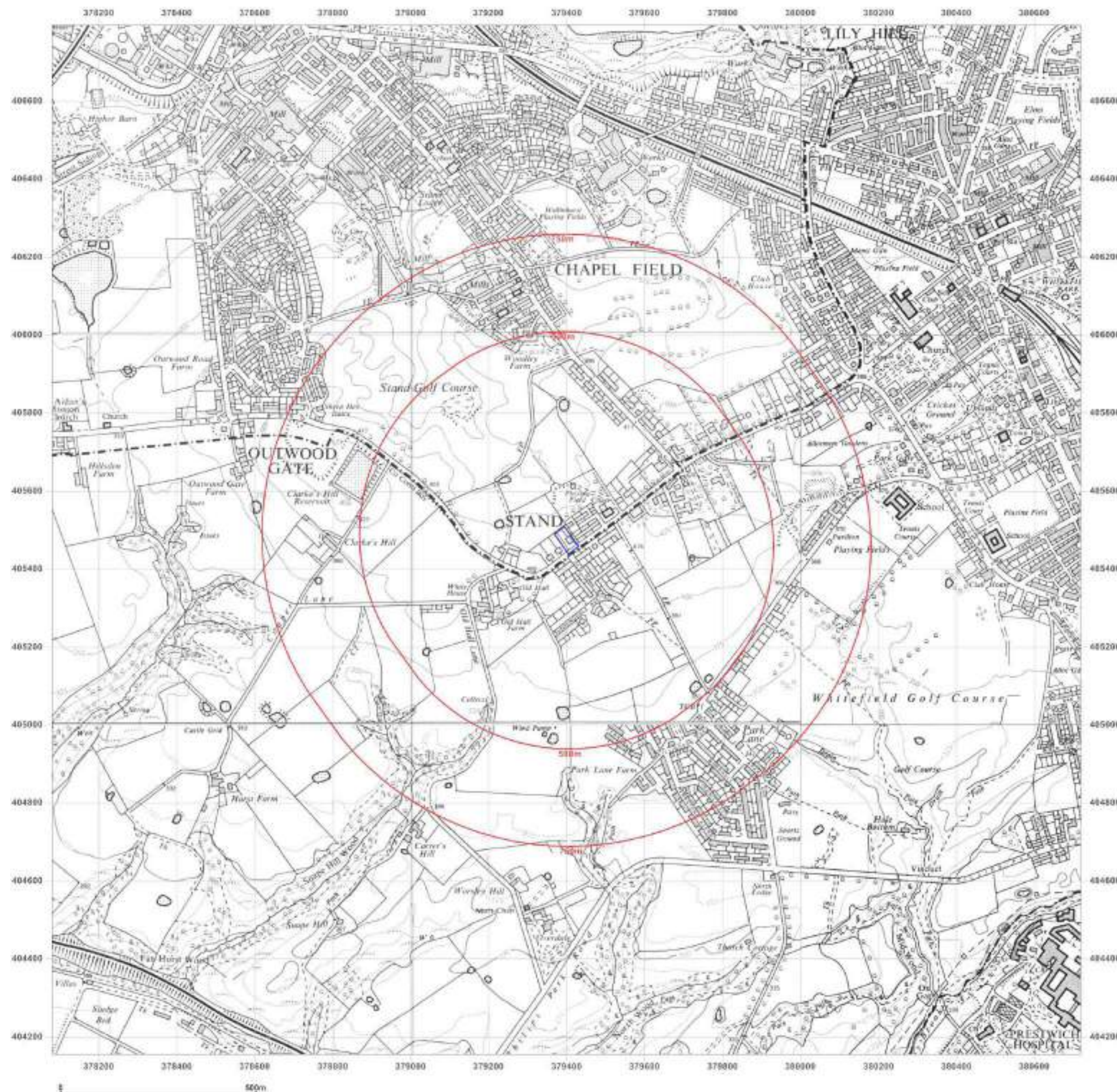


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Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1973-1977

Scale: 1:10,000

Printed at: 1:10,000



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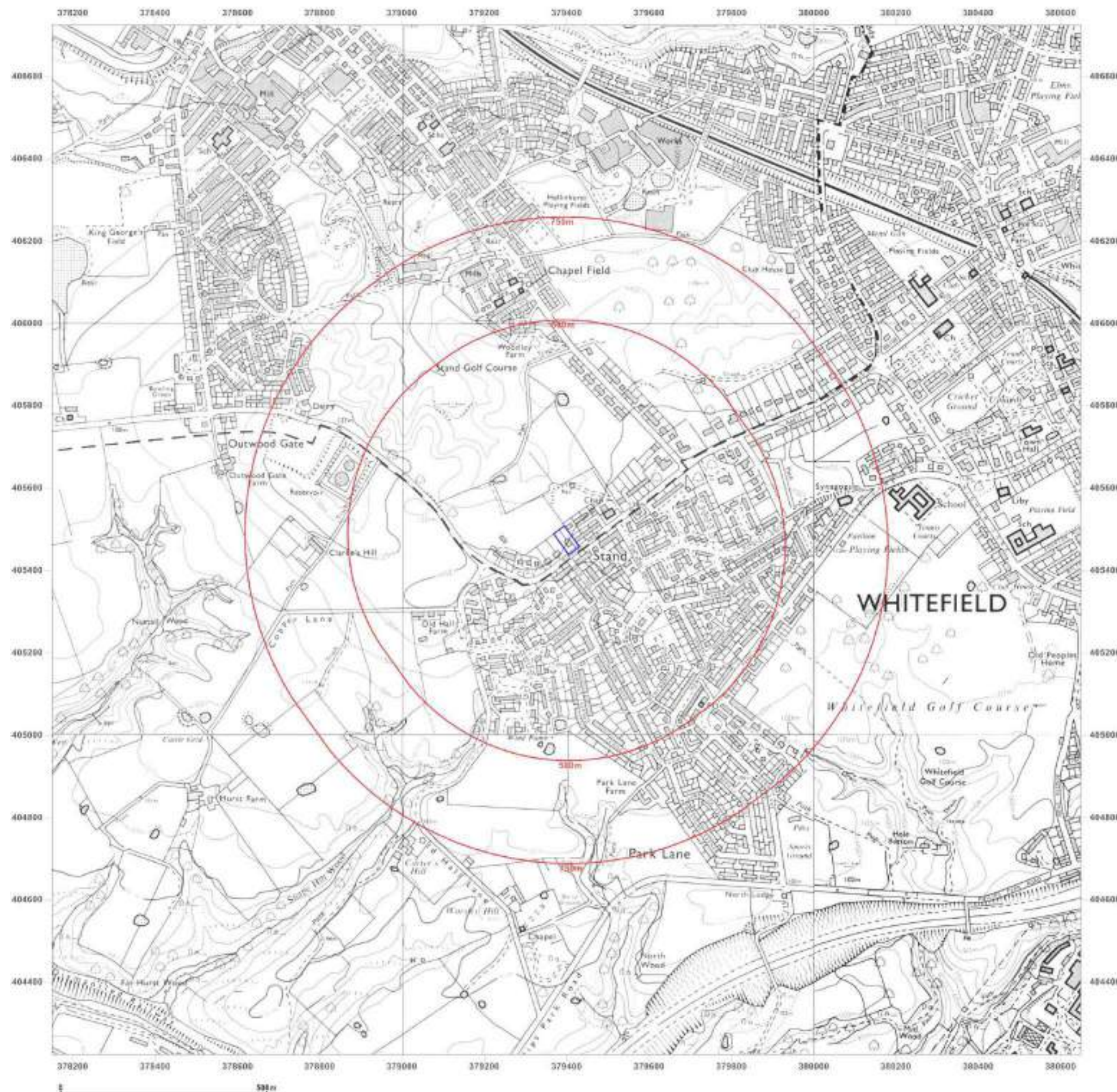


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Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1981-1988

Scale: 1:10,000

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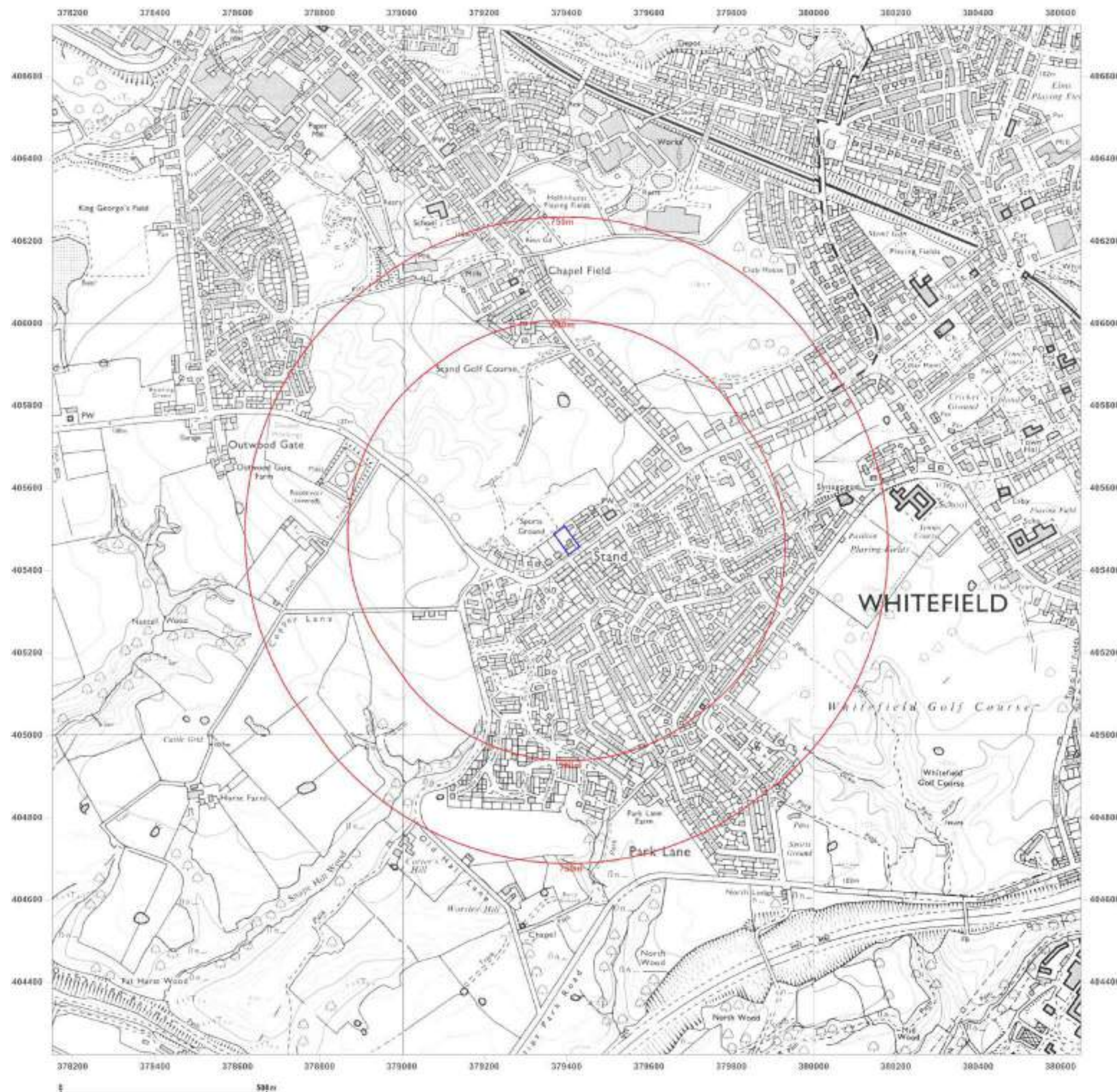


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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

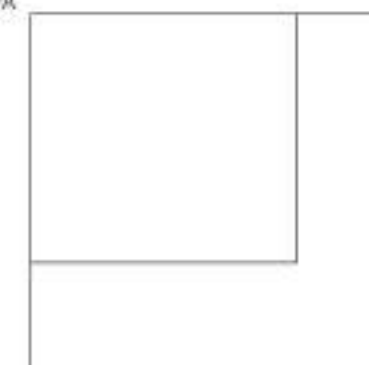
Map date: 1991

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1987
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

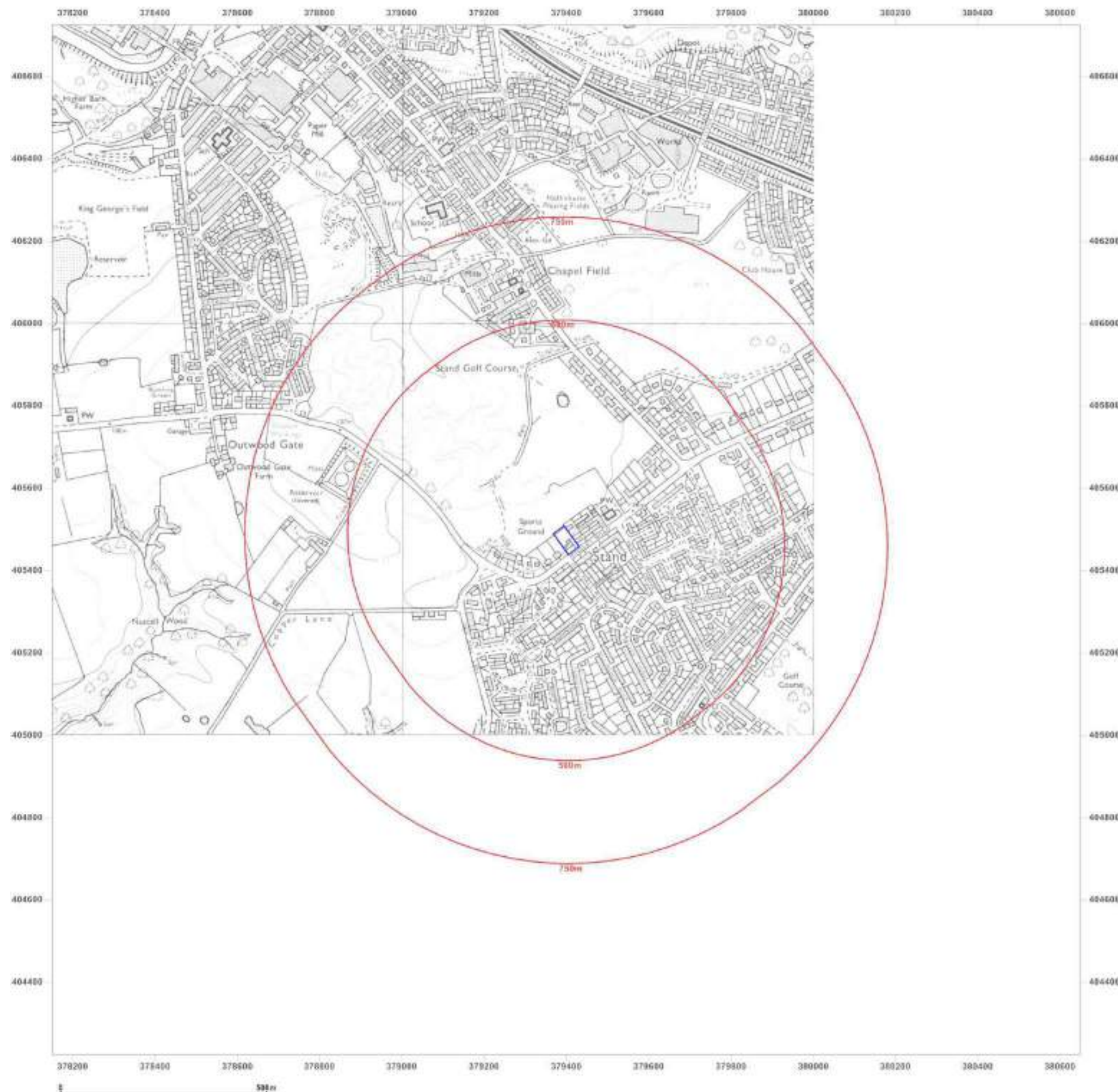


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

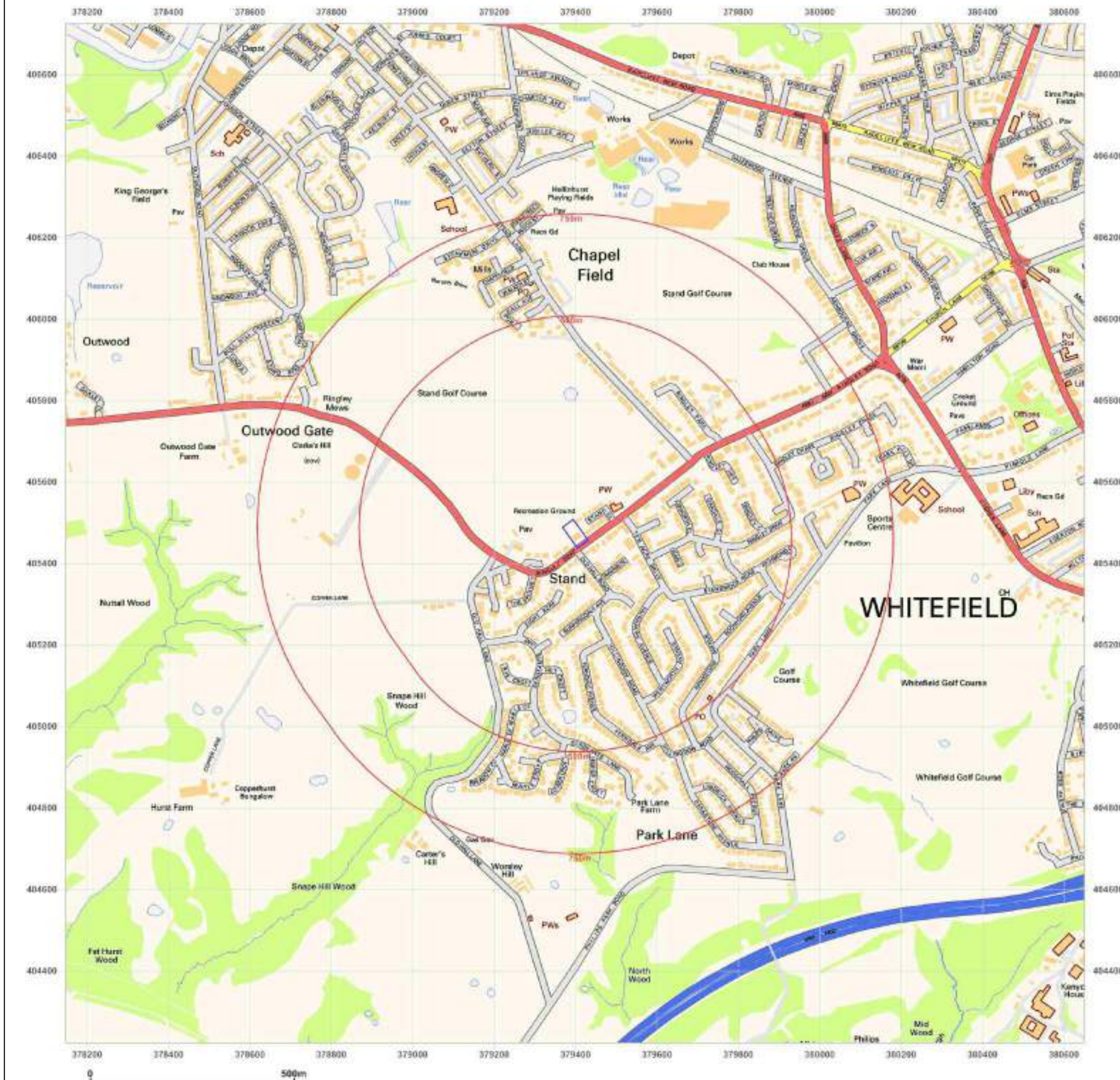


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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000

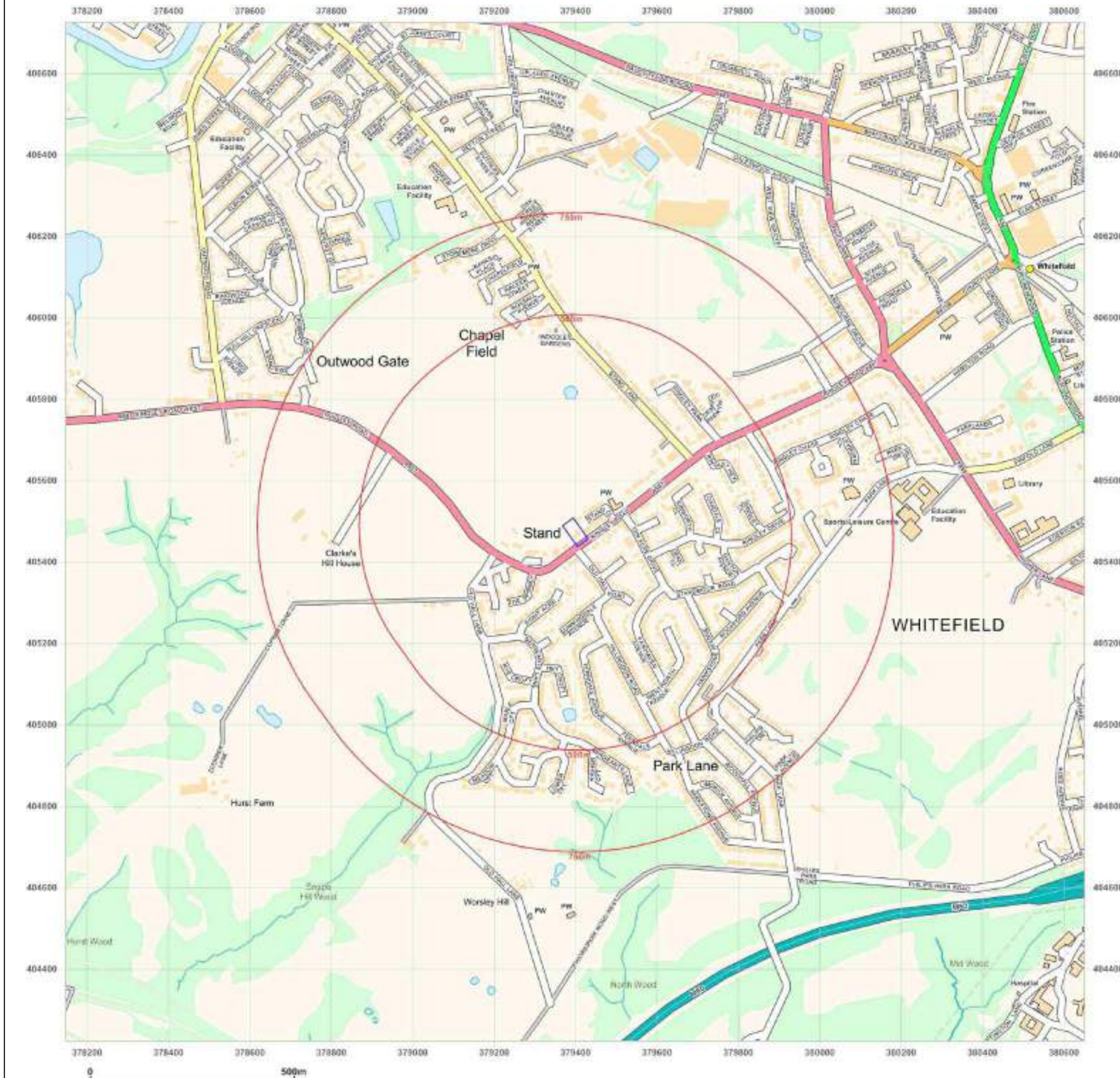


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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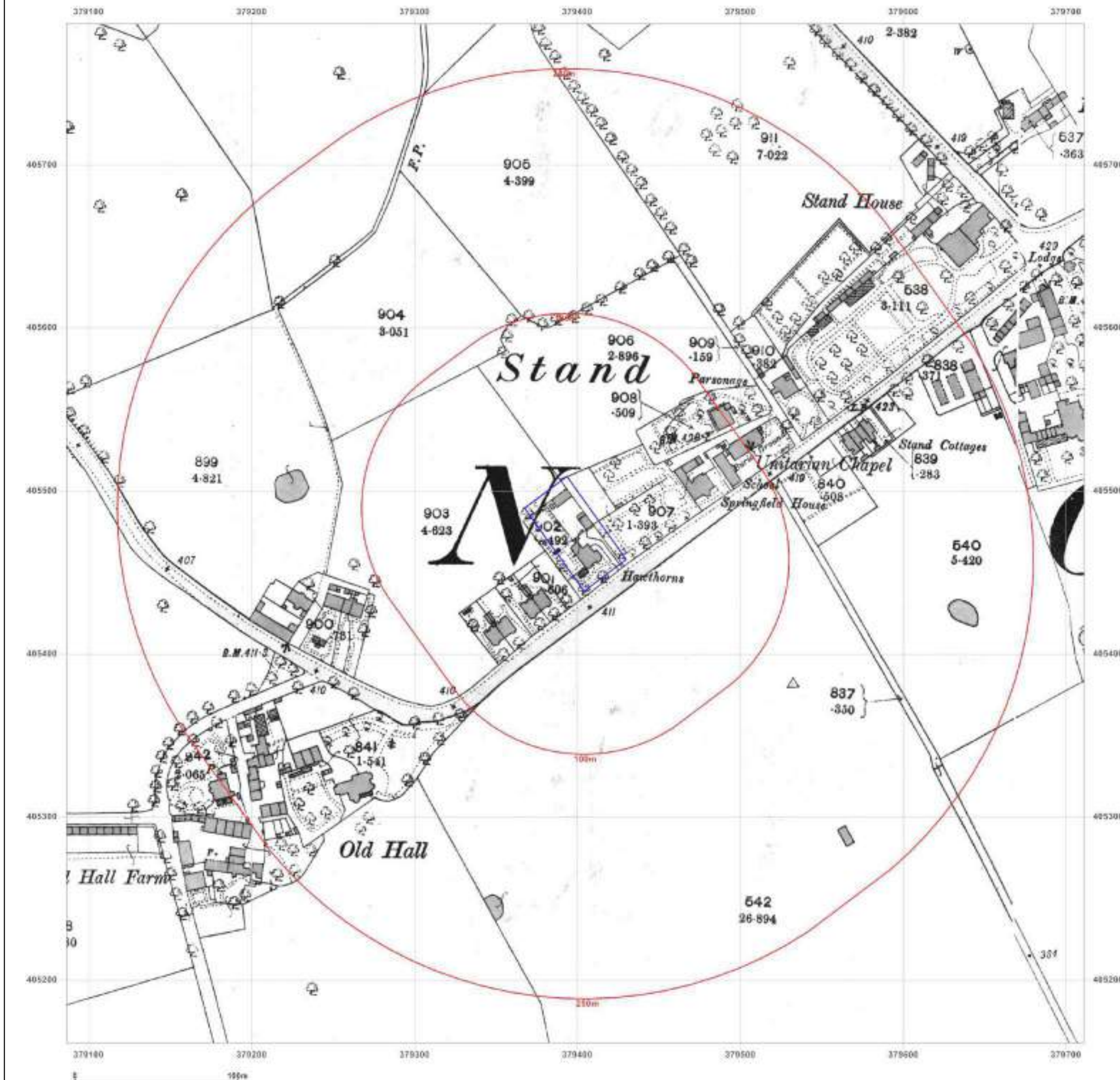


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Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1909

Scale: 1:2,500

Printed at: 1:2,500



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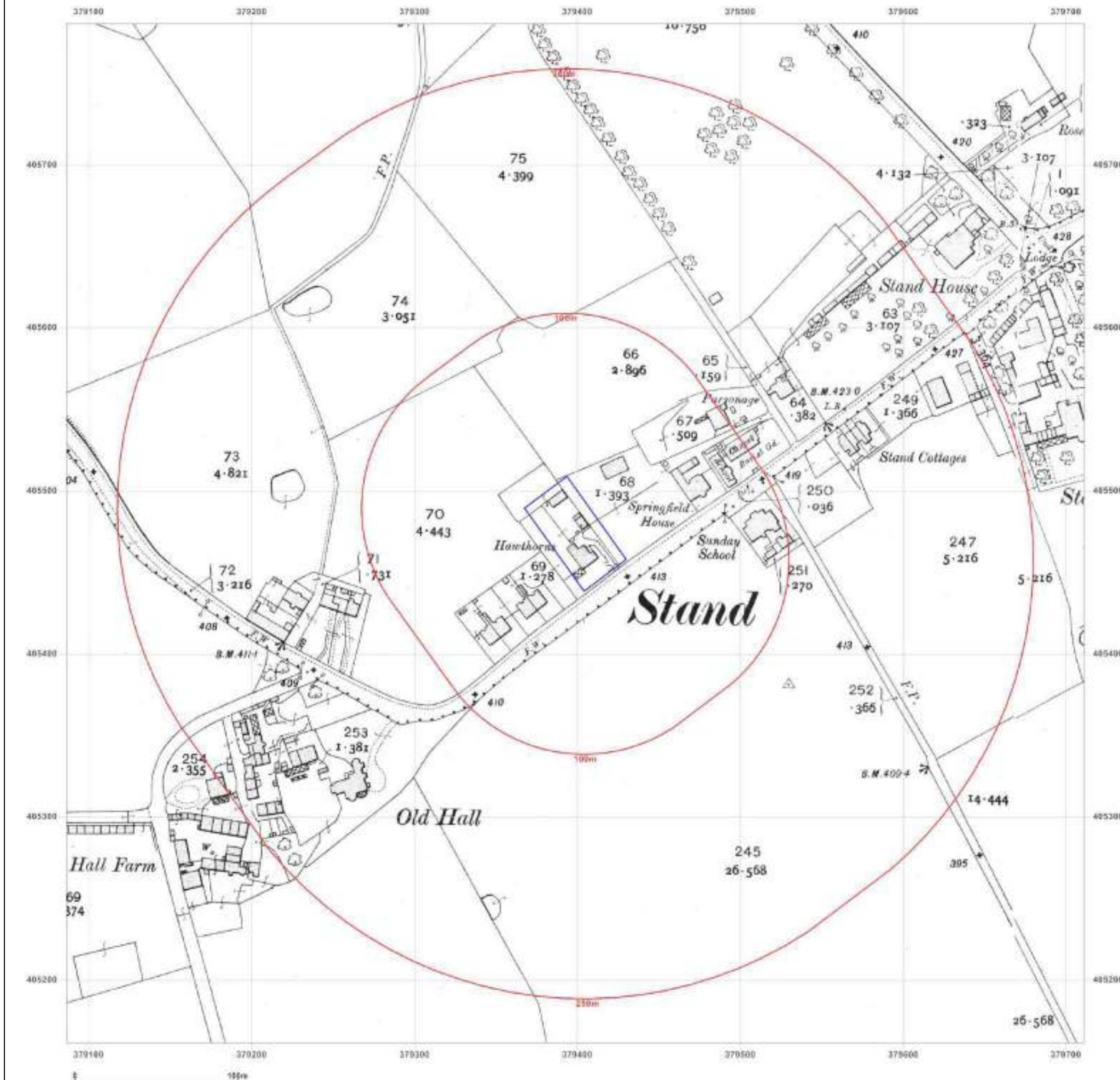


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Site Details:

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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1929-1932

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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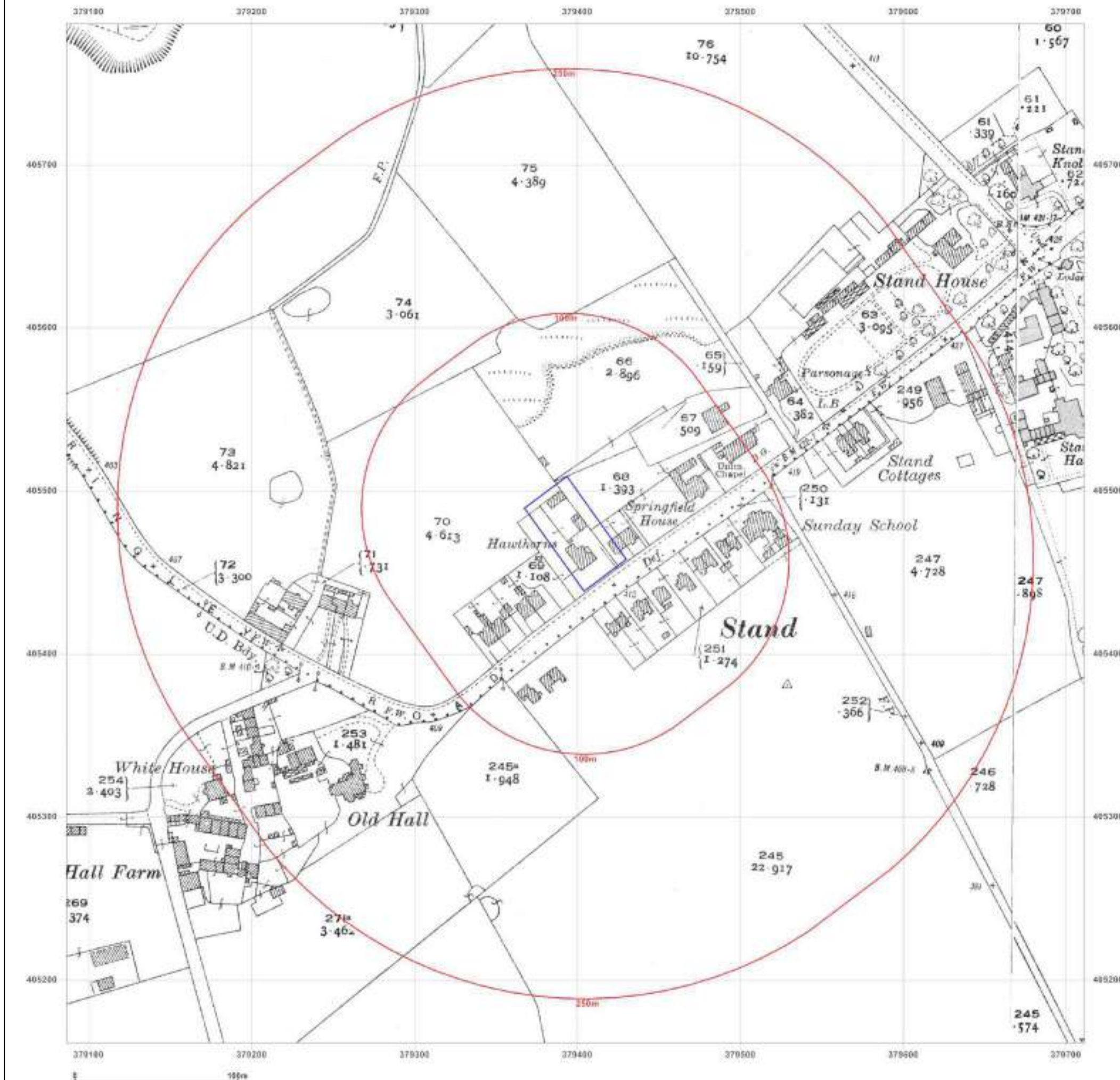


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Client Ref: 68_Ringley_Road
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Grid Ref: 379399, 405474

Map Name: County Series

Map date: 1937

Scale: 1:2,500

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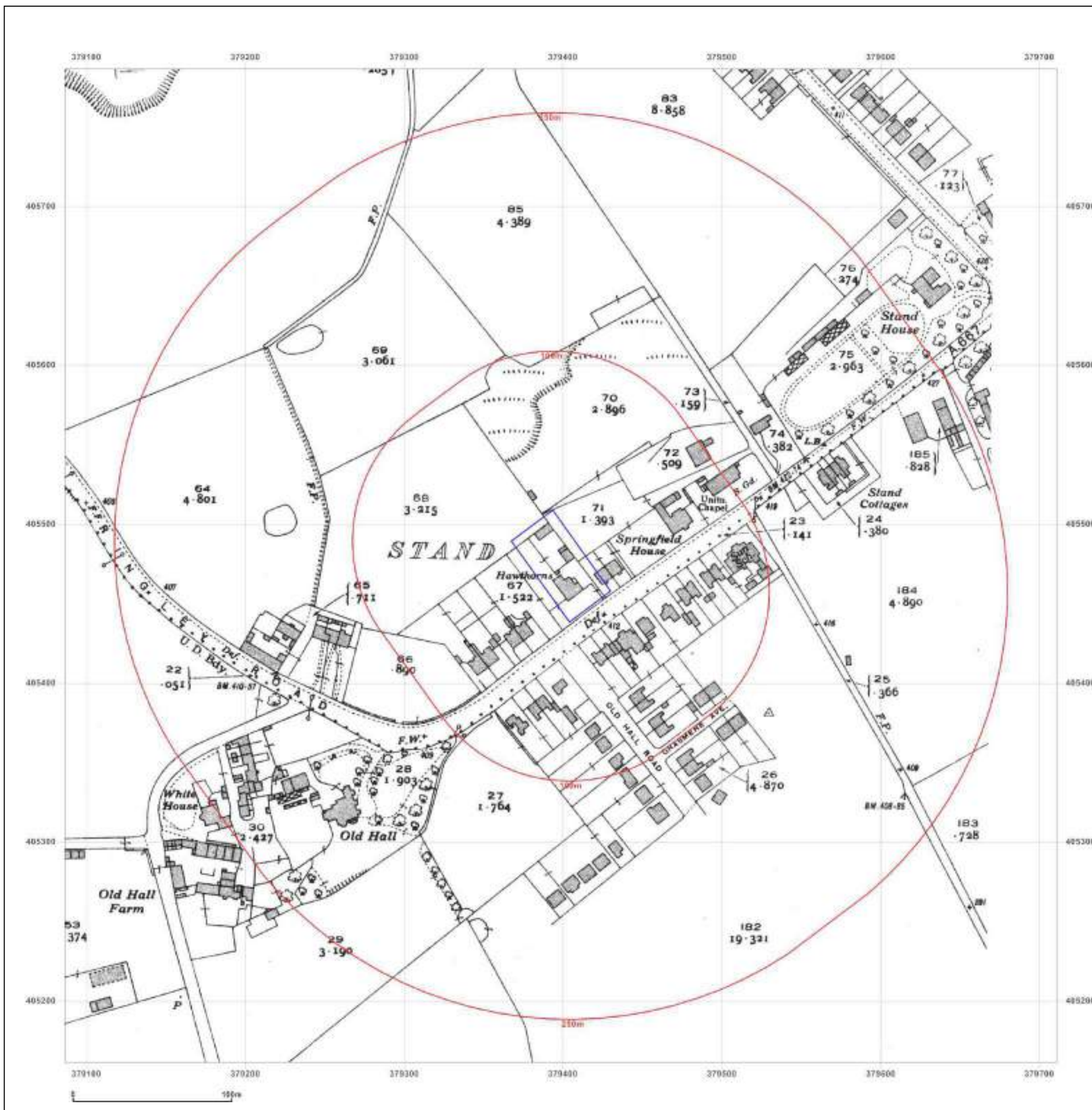


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Client Ref: 68_Ringley_Road
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Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



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Map Name: National Grid

Map date: 1955

Scale: 1:2,500

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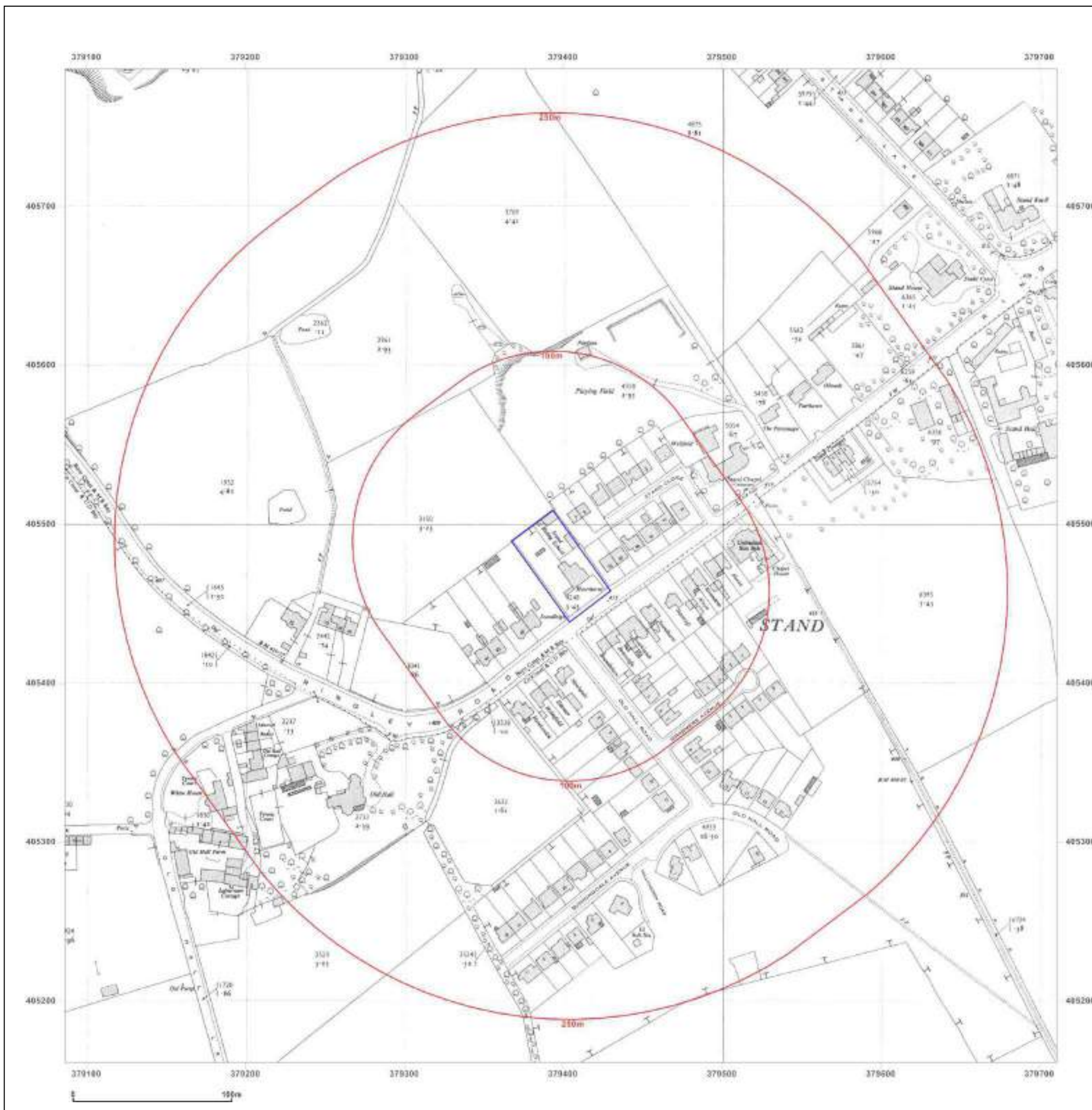


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Map Name: National Grid

Map date: 1956

Scale: 1:1,250

Printed at: 1:2,000



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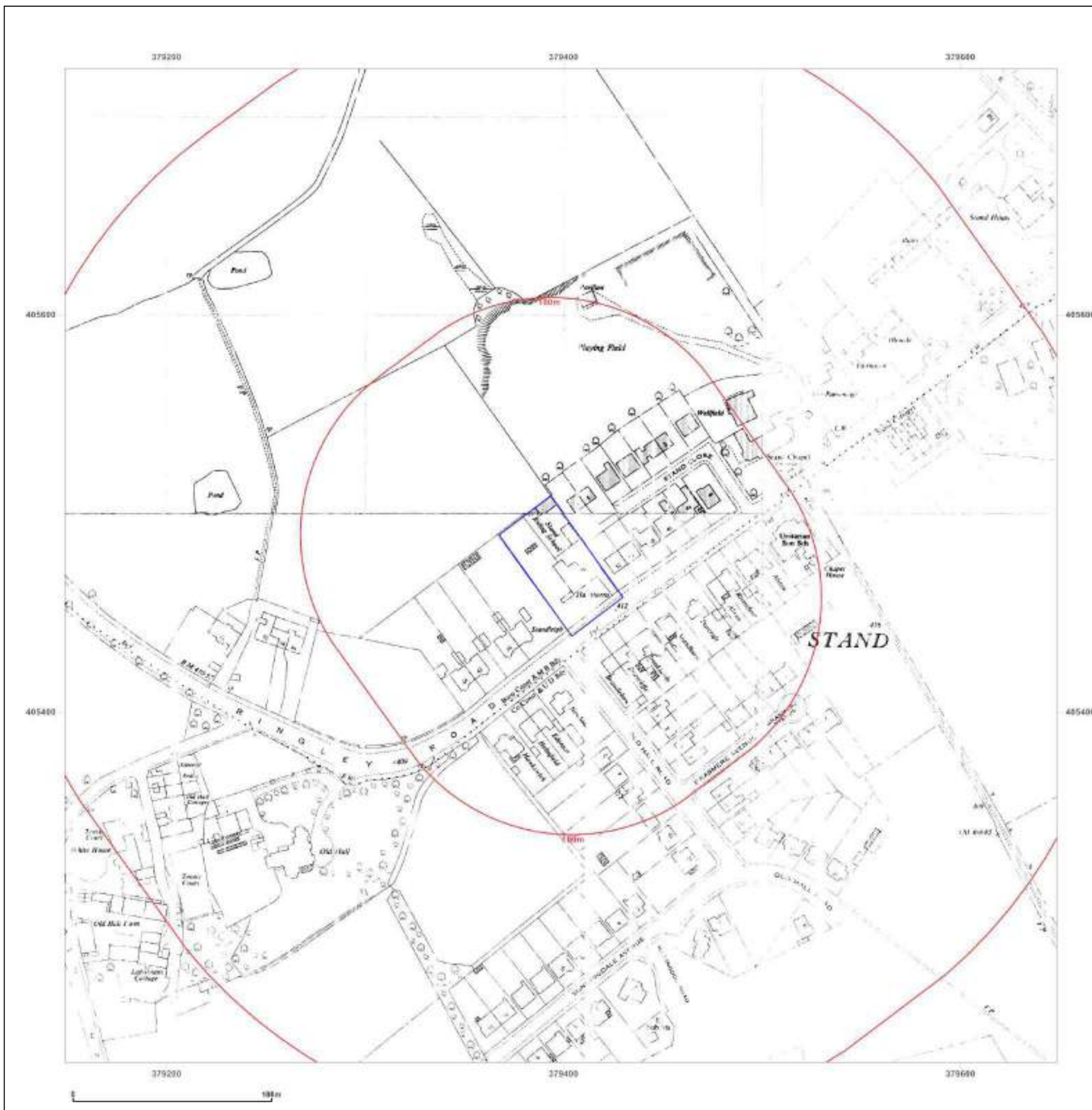


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Site Details:

68, RINGLEY ROAD,
MANCHESTER, M45 7LN

Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1967-1968

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1968
Edition N/A
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Edition N/A
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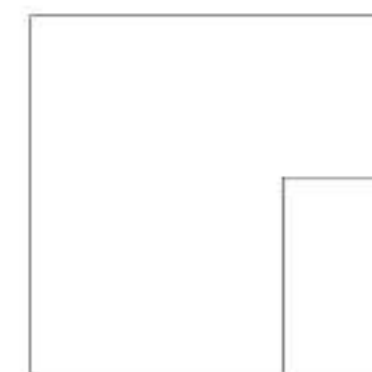
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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1968

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1968
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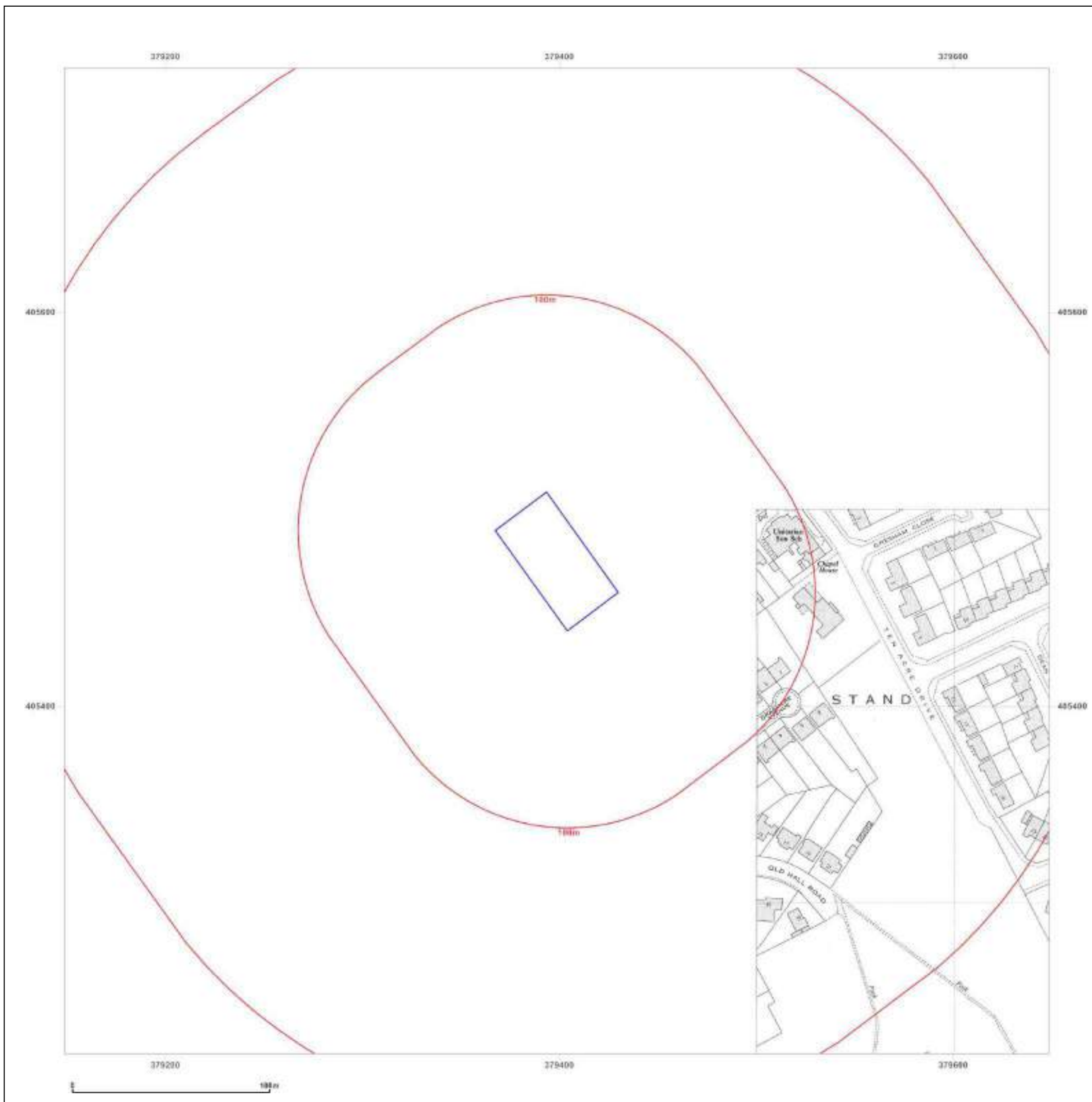


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



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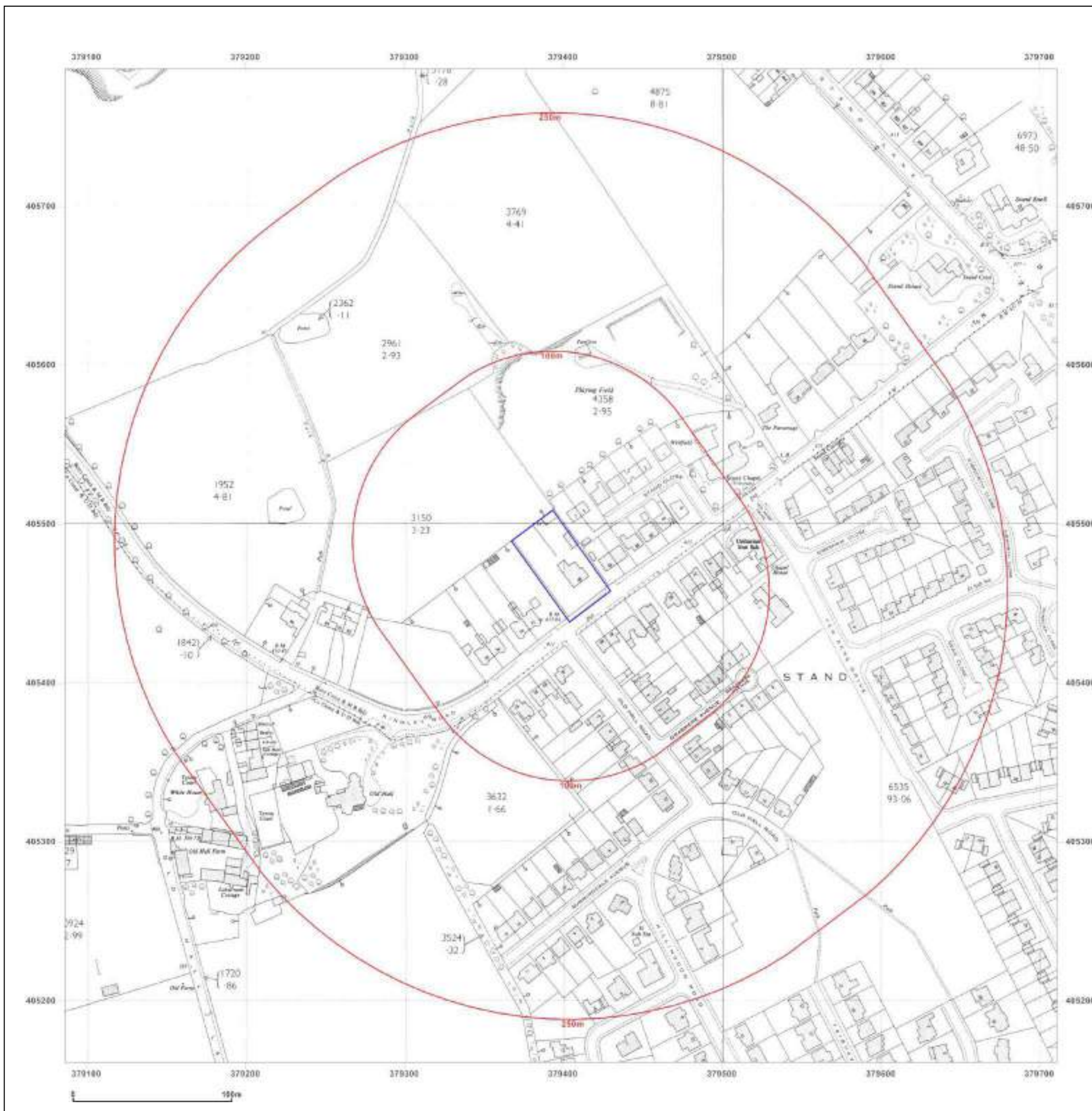


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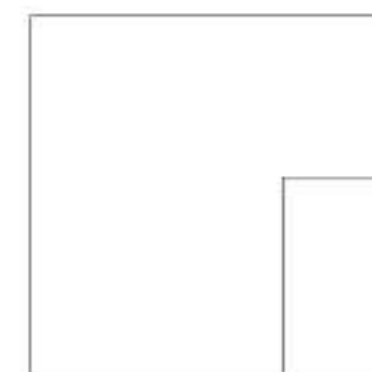
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Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1978

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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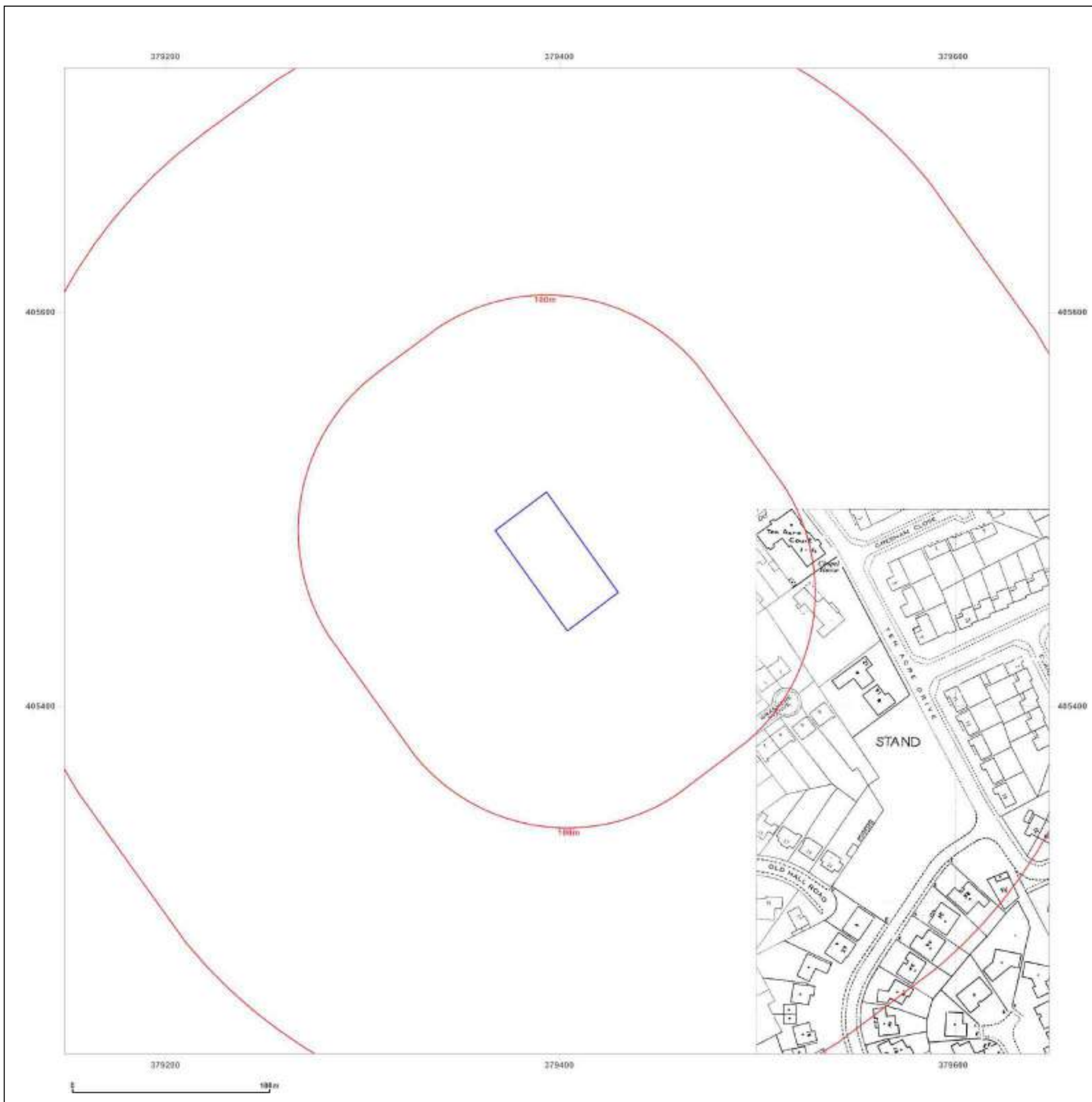


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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1987

Scale: 1:1,250

Printed at: 1:2,000



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Revised 1987
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Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1989-1992

Scale: 1:1,250

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Client Ref: 68_Ringley_Road
Report Ref: HMD-147-3850573
Grid Ref: 379399, 405474

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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

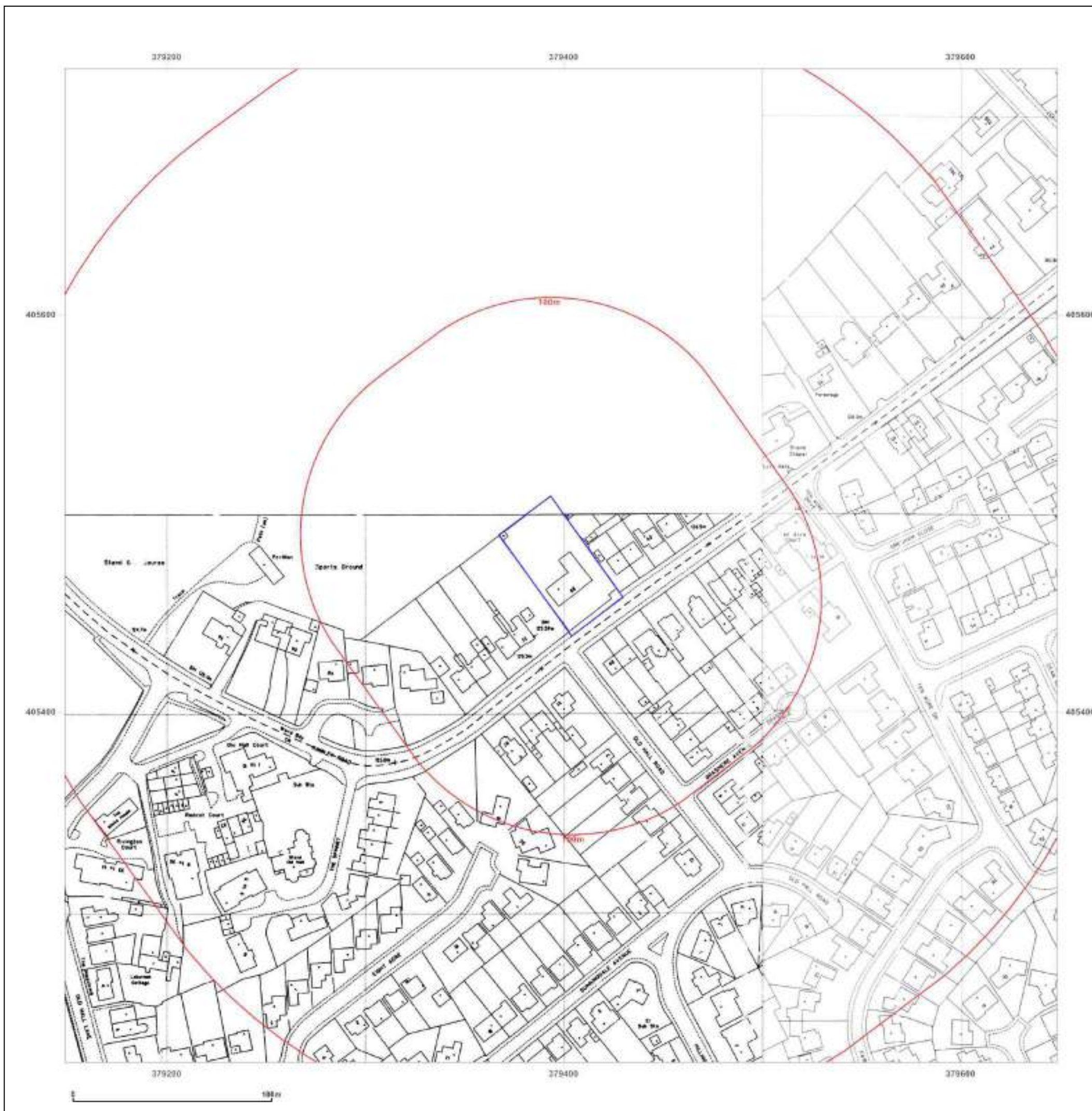


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APPENDIX C

Coal Authority Coal Mining Report



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

68
RINGLEY ROAD MANCHESTER
LANCASHIRE
M45 7LN



Date of enquiry:	16 May 2017
Date enquiry received:	16 May 2017
Issue date:	16 May 2017

Our reference:	51001457469001
Your reference:	HMD-147-3881851

CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

GROUNDSURE LIMITED

Enquiry address

68, RINGLEY ROAD, MANCHESTER, LANCASHIRE,
M45 7LN

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Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 2 seams of coal at 450m to 530m depth, and last worked in 1971.

Any movement in the ground due to coal mining activity should have stopped.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, 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.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is in an area where a notice to withdraw support was given in 1959.

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.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. 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.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

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In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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Enquiry boundary

Key

Approximate position of enquiry boundary shown



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