

Phase I Desk Study

Land south-west of Smugglers Lane, Barn Green, West Sussex, RH13 0PS

On behalf of Miller Homes

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EXECUTIVE SUMMARY	
PROPOSED DEVELOPMENT	At the time of reporting, September 2025, the proposed development was understood to comprise the development of 51 residential dwellings. The properties are to have private soft landscaped gardens. Other areas across the site include proposed access routes, roads and a SUDS basin in the south of the site.
GEOLOGY AND HYDROGEOLOGY	The site is anticipated to be located on the Weald Clay Formation, classified as Unproductive Bedrock Strata. No areas of Made Ground or Reworked Ground were noted within a 250m radius. The site did not fall within a Groundwater Source Protection Zone. Groundwater is anticipated at depth, below the aquifer; however, perched water may be encountered at shallower depths, within silty/sandy bands, or within the shallow surface soils (i.e. Topsoil, Made Ground etc.), especially after periods of prolonged or intense rainfall. It was considered that groundwater was flowing in a south-easterly direction toward the River Wandle in line with local topography. No signs of springs and/or ponds were present onsite.
POTENTIAL SOURCES OF CONTAMINATION	Full details can be seen in sections 6.3 and 6.4 of this report. Onsite - The Desk study has revealed no potential sources of contamination onsite. Offsite - The Desk study has revealed no potential sources of contamination offsite.
RECOMMENDATIONS / PHASE II OBJECTIVES	It is recommended that an intrusive ground investigation is undertaken at the site to test for sulphates in order to determine the concrete class for foundations. Waste acceptance/management classification testing should be carried out across the site for any materials to be removed from site. This should determine the underlying ground and groundwater conditions and include an assessment of the level of contamination to enable the quantification of the ground-related risks associated with the proposed redevelopment. Site investigation should also be undertaken to determine soil strength to inform both foundation design and offset of soakaways from the proposed structures.

1. INTRODUCTION

1.1. General

Ground and Water Limited were instructed by Miller Homes (the Client) on 26th August 2025 to conduct a Phase I Desk Study on the site at Land south-west of Smugglers Lane, Barn Green, West Sussex, RH13 0PS (the Site). The scope of the investigation was detailed within the fee proposal GW-1776, dated 17th July 2025.

1.2. Aims of the Investigation

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

This Phase I Desk Study comprises a Tier 1 Preliminary Risk Assessment, under Land Contamination Risk Management (LCRM).

1.3. Conditions and Limitations

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

1.4. Technical Glossary

Generic technical terms and their description can be viewed within the glossary provided within Appendix B.

2. SITE SETTING

2.1. Site Location

The site comprised a 3.285ha plot of land, immediately south-west of Smugglers Lane and north-west of Chapel Road. The site was located in Barnes Green, a mainly residential Village in West Sussex within Horsham District Council. A site location plan has been provided within Figure 1.

The site comprised a large undeveloped field. A view of the site development area has been provided within Figure 2, with an aerial view of the site provided in Figure 3.

The national grid reference for the centre of the site was approximately TQ 12469 27037. A site location plan is given within Figure 1.

2.2. Site Description

A Site Walkover was undertaken on 4th September 2025. A description of the site, as noted during the Site Walkover, is tabulated below. Photographs can be seen in Appendix C.

Site Description Sheet	
Use of site	At the time of the site walkover, 4 th September 2025, the site was an open undeveloped green field.
Site topography	The site was noted to be sloping gently towards the southeast.
Area topography	The area topography is gently sloping to the southeast.
Structures onsite	The site is an open undeveloped agricultural field.
Structures off-site	Residential dwellings are present to the east of the site. Agricultural fields surround the site to the north and west of the site. A small caravan park is present to the south of the site.
Use of surrounding ground	Agricultural land to the north and west, residential housing to the east and ponds to the south.
Boundary features	Northern Boundary: A hedge line of bush and trees leading on Smugglers Lane Eastern Boundary: : A hedge line of bush and trees leading on Chapel Road. Southern Boundary: : A hedge line of bush and trees Western Boundary: : A hedge line of bush and trees
Site covering	The site was lain to grass at the time of the walkover
Contamination sources onsite	None noted.
Contamination sources off-site	None noted.
Vegetation onsite	The site is bordered in mature to semi mature trees. The site is grazed grass.
Vegetation off-site	Southwest of the site mature ~2 – 12m high trees were noted.
Services	A telecommunication mass is noted on site.

2.3. Proposed Development

At the time of reporting, September 2025, the proposed development was understood to comprise the development of 51 residential dwellings. The properties are to have private soft landscaped gardens. Other areas across the site include proposed access routes, roads and a SUDS basin in the south of the site.

The proposed development plan can be seen within Figure 2.

2.4. Geology

The British Geological Survey (BGS) revealed that the site was underlain by bedrock deposits of the Weald Clay Formation. No areas of Made Ground or Reworked Ground were noted within a 250m radius. No superficial deposits were noted to be present on site or within a 500m radius.

Weald Clay Formation

The Weald Clay is predominantly an argillaceous; fine grained deposit, mainly clays with a silvery lustre. Sub-ordinate silt, sand, limestone and ironstone units do occur in distinctive rock units. When un-weathered the sediments are pale to dark grey, brownish grey, greenish grey and red. The deposits weather to a yellow and buff brown colour.

A BGS borehole (TQ12NW15) located ~231m south-west of the site revealed a 0.50m capping of Topsoil over a yellow clay to 4.50m bgl followed by a grey clay with hard mudstone layers to 35.00m bgl.

2.5. Hydrogeology and Hydrology

A study of the aquifer maps on the DEFRA website revealed the site was underlain by **Unproductive Strata** comprising bedrock deposits of the Weald Clay Formation.

Examination of the Environment Agency records showed that the site **did not** fall within a Groundwater Source Protection Zone (SPZ) as classified in the Policy and Practice for the Protection of Groundwater.

The nearest surface water feature was an unnamed pond located ~46m west of the site. An unnamed river was located 16.00m south of the site, running in a west to east direction feeding into the Adur West River located 583.00m south-east of the site. More lakes associated with Sumners Lake park, are located approximately 240.0m south of the site. A further larger lake (Match Lake) is noted to be present 302.60m west of the site.

From analysis of hydrogeological and topographical maps the actual groundwater table was anticipated to be encountered at depth below the Weald Clay Formation. Some amounts of groundwater however may be present at shallower depths within silty/sandy pockets of the Weald Clay Formation. It was considered that groundwater was flowing in a south-westerly direction toward a small unnamed river in line with local topography.

Examination of the Environment Agency records showed that the site was located within a river and coastal Flood Zone 1, i.e. an area with a very low probability of flooding. For surface water flood risk, the site had a high risk in relation to a 1 in 30 year flooding event.

The Groundsure Datasheets revealed the site was at a low risk of flooding from rivers and the sea. The datasheets also revealed the southeastern portion of the site had a 1 in 30 year risk of surface water flooding.

There are five large ponds located to the northwest, west, southwest and south of the site. These are known as Match Lake (northwest), Bettys Lake (west), Ribbon Lake (southwest), Farm pond and Sumners Lake (south). The lakes were constructed between 2001 and 2024.

Drawings provided by the civil engineer show the presence of a natural spring feeding into a nearby lake. A hydrogeological review of the drawings indicate that the spring feeds into Match Lake, located approximately 330.00m northwest of the site. From topographic maps, it would suggest that the overflow of this manmade lake, feeds into the small river that travels south of the sites southern boundary in a west to east direction. No maps or drawings indicate the presence of a spring onsite, however this will be confirmed following site works consisting of trial pits.

2.6. Radon

A review of the freely available UK Health Security Agency radon database, UK Radon, indicated that the site was located within a 1km grid square, where the maximum radon potential of less than 1% was recorded for above ground structures. The neighbouring 1km grid square was noted to have a maximum radon potential of less than 1%. Basic radon protection measures are required in areas where more than 3% of houses are at or above the Action Level.

2.7. Internet Search (Site Setting)

2.7.1. Available Unexploded Ordnance (UXO) Map Review

A review of the data available on www.zeticauxo.com/ revealed the site was located within a low-risk area associated with unexploded ordnance (UXO), as indicated by having <15 bombs dropped per 1000 acres. A total of 1No. known Luftwaffe Bombing Target sites was located ~ 1.00km Northeast of the site.

2.7.2. Historical Landfill Tool Review

A review of the data available on www.groundsure.io/ revealed that no areas of Historical Landfilling were located within 500m of the site.

3. HISTORICAL REVIEW

3.1. Historical Map Review

The object of this search was to report on the history of the site and its environs from available County Series and Ordnance Survey Maps dating from the mid to late 19th Century to the present day and downloaded from Groundsure. In the following sections dealing with individual maps, only features considered to have a potential contaminative impact on the site and usually within a notional 250 metre radius of the site boundaries are discussed. Any distances quoted for features remote from the site have been scaled from the maps and are only approximate. The north point and approximate extent of the site are indicated on each figure. The historical maps referred to are given within Appendix D. The implications of the map search are discussed later within this report.

Environmental Significance of Data from Historical Maps		
Maps Dated Between	Site	Environs
1876– 1897	The site comprised a vacant agricultural field bordered by Smugglers Lane to the north, Chapel road to the east and agricultural land to the west and south.	The site environs generally comprised undeveloped agricultural land/fields and residential houses to the east of the site along Chapel Road.
1897 – 1911	No significant change recorded.	Small changes to neighboring residential buildings including extensions and construction of new dwellings in the areas.
1911– 1977	No significant change recorded.	Large residential development took place in the land east of Chapel Road to the east of the site, and northeast of the site.
1977 – 1993	No significant change recorded.	Further residential development southeast of the site.
2001– 2010	No significant change recorded.	Two large ponds appear to the northwest and south of the site. The southern pond is known as Sumners Lake
2010 - 2024	No significant change recorded.	Roading and infrastructure was built to the south, southwest and west of the site. Connecting the ponds/lakes. A large pond appeared west of the site.

3.2. Historical Aerial Photography Review

The object of this search was to report on the history of the site and its immediate environs from available Aerial Photography dating from the late-20th Century to the present day and downloaded from Google Earth and Groundsure. Any distances quoted for features remote from the site have been scaled from the photography and are only approximate.

At the time of the earliest aerial photography, 1999, the site appears to be vacant and used for agricultural purposes. The western and southern boundaries are bordered with hedges and trees, backing onto fields, while the eastern boundary backs onto Chapel Road. The western boundary backs onto Smugglers Lane occupied by a building along the eastern boundary.

The 2005 aerial photography indicates that the site has remained unchanged, still used for agriculture. South of the site a small caravan park/campsite is present.

The 2012 image shows a large pond has been dug southwest of the site. The site remains unchanged. In 2018 the large pond west of the site appears, indicating it was dug sometime between 2012 and 2018. The site and surrounds then remain unchanged until the present day.

4. ENVIRONMENTAL AND GEOLOGICAL INSIGHT

4.1. Groundsure Datasheets

Groundsure Environmental and Geological Datasheets were obtained for the site. Unless the data indicates a significant risk, only information within a 250m buffer zone has been included. The GroundSure Datasheets are also presented in Appendix E and a summary is given below and overleaf(s).

Environmental Insight	
Source	Nearest Distance from Site/Dated/Type
Past Land Use	
Historical industrial land uses	12 off-site records within a 250m radius: 2x unspecified heap, 21m southwest (1913-1956), 150m southwest 1956 6x Smithy 37m west, 88m, 124m, 189m, 198m, 237m east (1896-1913) 3x saw pit 55m, 103m, 104m east (1913 – 1956) 1x electrical substation 160m northeast (1981)
Historical Tank Database	None within a 250m radius.
Historical Energy Features Database	3x off-side records within a 250m radius: 3x records of electricity substations 155m north-east, 228m, 229m southeast (1977 – 1993).
Historical Petrol Stations Database	None within a 250m radius.
Historical Garages Database	None within a 250m radius.
Historical Military Land	None within a 250m radius.
Waste and Landfill	
Active or recent landfill	None within a 250m radius.
Historical landfill (BGS records)	None within a 250m radius.
Historical landfill (LA/mapping records)	None within a 250m radius.
Historical landfill (EA/NRW records)	None within a 250m radius.
Historical waste sites	None within a 250m radius.
Licensed waste sites	None within a 250m radius.
Waste exemptions	14x records within a 250m radius: All records were associated with disposing of waste exemption or using waste exemption on a farm.
Current Industrial Land Use	
Recent Industrial Land Uses	1x record onsite 1x telecommunication mast 7x records offsite 1x unspecified factory works 108m east 1x curtain and blind manufacturing 116m southeast. 1x metal works including blacksmiths 121m east 3x electricity substation 131m south, 161m northeast, 230m southeast 1x distribution and haulage 193m southeast.
Current or recent petrol stations	None within a 250m radius.
Sites determined as Contaminated Land	None within a 250m radius.
Control of Major Accident Hazards (COMAH)	None within a 250m radius.
Regulated explosive sites	None within a 250m radius.
Hazardous substance storage/usage	None within a 250m radius.
Licensed pollutant release (Part A(2)/B)	None within a 250m radius.
Radioactive Substance Authorisations	None within a 250m radius.
Licensed Discharges to controlled waters	5x records within a 250m radius. 100m, 112m, 127m, 158m, 239m southeast.

Pollutant release to surface waters (Red List)	None within a 250m radius.
Pollutant release to public sewer	None within a 250m radius.
List 1 Dangerous Substances	None within a 250m radius.
List 2 Dangerous Substances	None within a 250m radius.
Pollution Incidents (EA/NRW)	1x record offsite 1x incident other oil and fuel, 242m northwest (2003), no impact to minor impact.
Pollution inventory substances	None within a 250m radius.
Pollution inventory waste transfers	None within a 250m radius.
Pollution inventory radioactive waste	None within a 250m radius.
Hydrogeology	
Superficial Aquifer	None within a 250m radius.
Bedrock Aquifer	1 record onsite: 1x Unproductive Aquifer
Groundwater Vulnerability	1 record onsite: 1x Unproductive Aquifer – leaching class: high.
Groundwater Vulnerability – Soluble Rock Risk	None within a 250m radius.
Groundwater Vulnerability - local information	None within a 250m radius.
Groundwater Abstractions	None within a 250m radius.
Surface Water Abstractions	None within a 250m radius.
Potable Abstraction	None within a 250m radius.
Source Protection Zones	None within a 250m radius.
Hydrology	
Water Network (OS MasterMap)	15x records offsite 15x Inland river not influenced by normal tidal action, 16m, 22m, 40m southwest, 28m, 29m, 31m, 89m, 102m, 235m southeast, 28m, 32m, 33m, 37m south, 247m west
Surface Water Features	13x records within 205m radius
WFD Surface Water Body Catchments	1 record onsite: 1x Adur West River catchment.
WFD Surface Water Bodies	None within a 250m radius.
WFD Groundwater Bodies	None within a 250m radius.
Environmental Designations	
Sites of Special Scientific Interest (SSSI)	None within a 250m radius.
Conserved wetland sites (Ramsar sites)	None within a 250m radius.
Special Areas of Conservation (SAC)	None within a 250m radius.
Special Protection Areas (SPA)	None within a 250m radius.
National Nature Reserves (NNR)	None within a 250m radius.
Local Nature Reserves (LNR)	None within a 250m radius.
Designated Ancient Woodland	1x record onsite unknown name, ancient and semi natural woodland.
SSSI Units	None within a 250m radius.
Visual and Cultural Designations	
Areas of Outstanding Natural Beauty (AONB)	None within a 250m radius.
National Parks	None within a 250m radius.
Registered Parks and Gardens	None within a 250m radius.
Agricultural Designations	
Agricultural Land Classification	1x record on site 1x on site grade 3 1x on site grade 4.
Habitat Designation	
Priority Habitat Inventory	7x records within a 250m radius: 7x Deciduous woodland 22m, 32m, 128m southwest, 86m, 248m north, 247m west.

Geological Insight	
Source	Nearest Distance from Site/ Type
Artificial and Made Ground (1:10,000 Scale)	None within a 250m radius.
Superficial Geology (1:10,000 Scale)	None within a 250m radius
Landslip (1:10,000 Scale)	None within a 250m radius.
Bedrock Geology (1:10,000 Scale)	1 on-site records: 1x Weald Clay Formation - Mudstone.
Bedrock Faults and Other Linear Features (1:10,000 Scale)	None within a 250m radius.
Artificial ground and permeability (1:50,000 scale)	None within a 250m radius.
Superficial Geology and Permeability (1:50,000 scale)	None within a 250m radius.
Landslip Permeability (1:50,000 scale)	None within a 250m radius.
Bedrock Geology and Permeability (1:50,000 scale)	1 record onsite: 1x Weald Clay Formation - Mudstone. Flow Type – Fracture, Maximum Permeability – Low, Minimum Permeability – Very Low.
Bedrock faults and other linear features (60k)	None within a 250m radius.
Boreholes	
BGS recorded boreholes	1 records within a 250m radius: 231m southwest (54.0m depth),
Natural Hazard Findings	
Shrink-Swell Clay	Low hazard onsite.
Running Sands	Negligible hazard onsite.
Compressible Deposits	Negligible hazard onsite.
Collapsible Deposits	Very Low hazard onsite.
Landslides	Very Low hazard onsite.
Ground Dissolution of Soluble Rocks	Negligible hazard onsite.
Mining, Ground Working and Natural Cavities	
Records of BritPits	None within a 250m radius.
Records of Surface Ground Workings	15x records within a 250m radius: 3x unspecified heap 21m, 28m, 150m southwest (1913-1956) 7x fish ponds 22m, 92m, 99m, 118m, 130m, 149m southwest (1876 – 1956). 4x sawpit 55m, 103m, 104m, east 1x pond 222m south.
Records of Underground Workings	None within a 250m radius.
Records of Underground mining extents	None within a 250m radius.
Records of Historical Mineral Planning Areas	None within a 250m radius.
Records of Non-coal Mining	1x record onsite 1x iron ore mine, class B
Records of JPB Mining Areas	None within a 250m radius.
The Coal Authority non coal mining	None within a 250m radius.
Researched mining	None within a 250m radius.
Mining Record office Plans	None within a 250m radius.
BGS mine plans	None within a 250m radius.
Records of Coal Mining	None within a 250m radius.
Records of Brine areas	None within a 250m radius.
Records of Gypsum Areas	None within a 250m radius.
Records of Tin Mining	None within a 250m radius.
Records of Clay Mining	None within a 250m radius.
Natural Cavities	None within a 250m radius.
Mining Cavities	None within a 250m radius.
Reported recent incidents	None within a 250m radius.
Historical incidents	None within a 250m radius.

National Karst Database	None within a 250m radius.
Radon	
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.
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.
Estimated Background Soil Chemistry	
Records of BGS estimated background soil chemistry	On-site (x4) Arsenic: 15-25mg/kg Lead 100mg/kg (60mg/kg bioaccessible) Cadmium: 1.8mg/kg Chromium: 60 – 90mg/kg Nickel: 15 – 30mg/kg
Records of BGS Estimated Urban Soils Chemistry	None within a 250m radius.
Records of BGS Measured Urban Soil Chemistry	None within a 250m radius.
Railway Infrastructure and Projects	
Records of Underground railways (London)	None within a 250m radius.
Records of Underground railways (Non-London)	None within a 250m radius.
Records of Railway Tunnels	None within a 250m radius.
Records of Historical Railway and Tunnel Features	None within a 250m radius.
Records of Royal Mail Tunnels	None within a 250m radius.
Records of Historical Railways	None within a 250m radius.
Records of Railways	None within a 250m radius.

5. ONLINE REVIEW AND HISTORICAL INVESTIGATIONS

5.1. Online Council Planning Database

A review of the West Sussex Council Planning Database revealed no planning applications had been filed for the land west of Smugglers Lane

5.2. Internet Search

An internet search did not identify any other information pertinent to this report.

5.3. Land Use (UXO) Enquiry

1No. on-site record of a Luftwaffe target was located ~1.0km northwest of the site.

6. PRELIMINARY RISK ASSESSMENT

6.1. Contaminant Source-Pathway-Receptor Model

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

This Phase 1 Desk Study has been used to identify potential on-site and off-site sources of contamination, which are summarised in this section of the report. Additional potential sources of contamination identified within the Desk Study have been discounted based on the absence of a realistic SPR linkage (i.e. the distance from the site or the nature or age of any potential contamination sources).

In line with the requirements of BS 21365:2020, *Soil Quality – Conceptual site models for potentially contaminated sites*, the Conceptual Site Model (CSM) can be described in text, tabulated or presented as a figure. A tabulated CSM is provided in Section 6.6 of this report, where each component is discussed in the following sections.

6.2. Potential On-site Sources of Contaminants

This Desk Study revealed that at the time of the earliest historical mapping (1876) the site comprised undeveloped fields until present day. The surrounding area has undergone various stages of development with residential developments occurring east of the site in 1977 and various ponds constructed between 2005 and 2018 south and southwest of the site.

The Phase 1 Desk Study revealed no on-site sources of contamination:

6.3. Potential Off-site Sources of Contaminants

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

Blacksmith

Likely contaminants associated with a Blacksmiths include oil/fuel hydrocarbons, PAHs, namely benzo (a) pyrene, and heavy metals. Due to the distance from site and the time since the last recorded blacksmith the risk of contamination to the site is negligible.

Electrical Sub-Station

PCB oils and other cable/transformer oils, together with a series of waxes are commonly used in mainly high voltage applications. PCBs are generally toxic; however, newer forms of non-toxic oils and waxes have replaced the use of PCBs. All cable oils are extremely viscous and adhere strongly to soil particles and do not tend to migrate far from the point of leakage or spillage. Due to the distance from site, the potential risk of encountering PCBs on the site was negligible.

Made ground from unspecified heaps

Unspecified heaps were located near the site 24m southwest. As a result, various thicknesses of Made Ground resulting from these activities may be present. These appear to have been created as a result of a field drain installed within the fish pond field, southwest of the site. These unspecified heaps are likely constructed from reworked natural soils.

Contaminants of concern associated with reworked natural ground are volatile organic compounds (VOCs) and ground gases. Due to the time elapsed from 1957 and the distance from site, the risk of contamination to the site was deemed to be negligible.

General Industrial Works/Factory

The Groundsure Datasheets identified seven records of current industrial sites within a 250m radius of the site including: two records for unspecified works or factories (108m east); one record for a curtains and blinds industry (116m southeast).

Likely contaminants associated with these various industrial works include metals and semi-metals, asbestos, aromatic hydrocarbons, oil/fuel hydrocarbons, solvents, PAHs, chlorinated aliphatic hydrocarbons and PCBs (R&D Publication CLR 8, 2002).

None of these sources were located up anticipated groundwater gradient and in a close proximity to the site. Consequently, these were considered to have little or no potential risk of affecting the soil or groundwater quality underlying the site. These sources have therefore been discounted.

6.4. Potential Receptors

At the time of reporting, September 2025, the proposed development was understood to comprise the development of 51 residential dwellings. The properties are to have private soft landscaped gardens. Other areas across the site include proposed access routes, roads and a SUDS basin in the south of the site. The proposed development plan can be seen within Figure 2.

Based on the proposed development, the potential receptors are presented below and comprise:

Human Health

- End users of the site (Residents/Future site visitors);
- Construction workers during redevelopment;
- Site operatives during maintenance works; and
- Neighbours and members of the public.

Flora and Fauna

- Vegetation within soft landscaped areas;
- Ecological Receptor (Ancient and semi natural woodland).

Building Materials and Services

- Buildings;
- Buried concrete;
- Confined spaces; and
- Underground services (Water Pipes).

Controlled Waters

- River Adur West (~583m southeast).

6.5. Contaminant Absorption Pathways

The potential pathways for contaminant absorption between the identified sources and the identified receptors are as follows:

Human Health:

- Direct ingestion of soil and soil derived dust;
- Dermal contact of soil and soil derived dust;
- Inhalation of dust (indoors and outdoors) with elevated concentration of determinands;
- Ingestion of home-grown produce, and soil attached;
- Direct ingestion of groundwater;
- Inhalation of volatile vapour (indoors and outdoors);
- Inhalation of ground gases.; and
- Explosion.

Flora and Fauna

- Direct uptake of groundwater; and
- Direct uptake of contaminants in the soil.

Building Materials and Services

- Direct contact;
- Explosion.

6.6. Tabulated Conceptual Site Model

The tabulated Conceptual Site Model developed as part of this Desk Study is outlined overleaf. For ease of reference and understanding, the risks have been classified within this risk assessment against four possible levels / categories, summarised in the table below. Any risk that has been deemed to be negligible under section 6.2 and 6.3 of this report have been dismissed from the CSM.

Risk Categories used in the Tabulated CSM	
Negligible	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is no plausible risk. Therefore, there is no need to further assess this potential source of contamination.
Low Risk	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is not considered to be an unacceptable risk to receptors. However, it is considered that further investigation to confirm this is recommended.
Moderate Risk	Regarding this potential SPR linkage, the site may not be suitable for the proposed end-use in its current condition and there may be an unacceptable risk to receptors. Further investigation is required to confirm this.
High Risk	Regarding this potential SPR linkage, the site is probably or certainly not suitable for proposed end-use and there is likely to be an unacceptable risk to receptors. Contaminants probably or certainly present and urgent action required in the short term.

Tabulated Conceptual Site Model – Pollutant Linkage Summary			(On-Site Sources)
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Made Ground from construction/ demolition activities: - Asbestos, - PAHs, - TPHs, - VOCs, - Sulphates, and - Metals.	- Direct ingestion of soil and soil derived dust - Dermal contact of soil and soil derived dust - Inhalation of dust (indoors and outdoors) with elevated concentration of determinands - Ingestion of home-grown produce, and soils attached - Direct ingestion of groundwater - Inhalation of volatile vapour (indoors and outdoors)	Human Health - End Users (Site workers/Future site visitors) - Construction workers during development - Site operatives during maintenance works - Neighbours and public	Negligible
	- Direct uptake of groundwater - Direct uptake of determinands in the soil	Flora and Fauna - Vegetation within soft landscaped areas - Ecological Receptor	Negligible
	- Anthropogenic (man-made) pathways - Vertical and lateral migration in permeable strata - Surface water runoff	Controlled Waters River Adur West	Negligible
Aggressive ground conditions with Made Ground and natural ground, including groundwater: Sulphates,	Direct contact with aggressive ground conditions	Building Materials and Services Buried Concrete	Moderate
Aggressive ground conditions with Made Ground and natural ground, including groundwater: PAH/TPH.	Direct contact with aggressive ground conditions	Building Materials and Services Underground services (water pipes)	Low
Ground gases generated by Made Ground: - Methane, - Carbon Dioxide, - Hydrogen Sulphide, and - Carbon Monoxide.	- Migration through anthropogenic & natural pathways - Inhalation of Asphyxiating gases - Explosion (methane only)	Human Health - End Users (Residents/Future site visitors) - Construction workers during development (especially in confined spaces) - Site operatives during maintenance works in confined spaces - Neighbours and public	Negligible
	- Migration through anthropogenic & natural pathways - Explosion (methane only)	Building Materials and Services - Buildings - Confined spaces - Underground services	Negligible

Tabulated Conceptual Site Model – Pollutant Linkage Summary			(Off-Site Sources)
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Made Ground from nearby works: - Asbestos, - PAHs, - TPHs, - VOCs, - Sulphates, and - Metals.	- Direct ingestion of soil and soil derived dust - Dermal contact of soil and soil derived dust - Inhalation of dust (indoors and outdoors) with elevated concentration of determinands - Direct ingestion of groundwater - Inhalation of volatile vapour (indoors and outdoors)	Human Health - End Users (Residents/Future site visitors) - Construction workers during development - Site operatives during maintenance works	Negligible
	Direct uptake of groundwater	Flora and Fauna Vegetation within soft landscaped areas	Negligible
Aggressive ground conditions with Made Ground and natural ground, including groundwater: Sulphates,	Direct contact with aggressive ground conditions	Building Materials and Services Buried Concrete	Moderate
Aggressive ground conditions with Made Ground and natural ground, including groundwater: PAH/TPH.	Direct contact with aggressive ground conditions	Building Materials and Services Underground services (water pipes)	Low
Ground gases generated by Made Ground: - Methane, - Carbon Dioxide, - Hydrogen Sulphide, and - Carbon Monoxide.	- Migration through anthropogenic & natural pathways - Inhalation of Asphyxiating gases - Explosion (methane only)	Human Health - End Users (Residents/Future site visitors) - Construction workers during development (especially in confined spaces) - Site operatives during maintenance works in confined spaces	Negligible
	- Migration through anthropogenic & natural pathways - Explosion (methane only)	Building Materials and Services - Buildings - Confined spaces - Underground services	Negligible

7. RECOMMENDATIONS AND PHASE II OBJECTIVES

This section of the report will present recommendations for the further investigation of each plausible pollutant linkage identified by the Conceptual Site Model.

It is recommended that an intrusive ground investigation is undertaken at the site to evaluate the risk that sub-surface concrete might be subjected too. This should determine the underlying ground and groundwater conditions and include an assessment of the level of sulphate to enable the quantification of the ground-related risks associated with the proposed redevelopment.

Consideration should be given to the testing of soil samples recovered from exploratory holes for chemical laboratory testing for waste classification. The testing should be for a broad range of contaminants in accordance with DEFRA / CLEA methodologies and include the contaminants of concern identified within the Conceptual Site Model.

7.1. Soils

An asbestos management strategy should be implemented to ensure that any asbestos uncovered during the investigation does not pose a risk to members of the public that use the site.

Sub-surface concrete may be damaged due to being in contact with aggressive ground conditions. Sampling should be undertaken where the proposed foundations will be in contact with Made Ground and/or natural ground and tested for aggressive ground conditions (sulphates/pH). Classification should then be undertaken of the ground conditions in accordance with Building Research Establishment Special Digest 1, 2005, 'Concrete in Aggressive Ground'. It is also prudent to carry out waste classification testing for any materials to be removed from site.

The CSM does not imply that these determinands are present on-site or that they are likely to cause contamination issues at the site. The ground investigation will be used to prove the presence or absence of these contaminants. The sampling and testing strategy must be in line with current standards. Random sampling should be adopted across the site. Results should be assessed against suitable assessment criteria to be protective of human health as well as vegetation.

7.2. Services

The CSM has identified a low for aggressive ground conditions that may affect water supply pipes as part of the development. Consideration should be given to the targeted sampling (0.75 – 1.50m bfgl) and scheduling for contaminants of concern: TPH, Naphthalene, Phenols, BTEX, VOCs and SVOCs.

7.3. Ground-gas

The CSM has identified a negligible risk from ground gases at the site as a result of limited Made Ground on-site or within the site's environs. Analysis of soil samples should include Total Organic Carbon (TOC) testing in order to enable a pragmatic ground gas risk assessment to be undertaken at the site. This approach will only quantify the risk associated with on-site sources.

7.4. Vapours

No significant on or off-site vapour risk has been identified. Analysis of soil samples should include BTEX compounds (used as a marker compound for VOCs) as an initial screen. This approach will only quantify the risk associated with on-site sources. It is not considered that the risk is such in order to consider monitoring on site.

7.5. Geotechnical Review

7.5.1. General

The BGS have identified the following natural hazards on-site and within a 50m buffer.

Natural Hazards	
Shrink-Swell Clay	Low hazard onsite.
Running Sands	Negligible hazard onsite.
Compressible Deposits	Negligible hazard onsite.
Collapsible Deposits	Very Low hazard onsite.
Landslides	Very Low hazard onsite.
Ground Dissolution of Soluble Rocks	Negligible hazard onsite.

No pits/quarrying or mining features were identified on-site or within the site's close environs from the historical mapping.

When designing foundations, the potential presence of aggressive ground conditions should be taken into consideration. Further investigation may be required in accordance with the guidance established in BRE Special Digest 1 (SD1) (2005) 'Concrete in aggressive ground'. The BGS do not record any details regarding the potential for aggressive ground conditions within shallow units identified at the site.

It is recommended that as part of the site-specific ground investigation on-site, geotechnical testing is undertaken to determine the underlying ground conditions and to evaluate any geotechnical related risks associated with the proposed redevelopment of the site. Due to the presence of near by ponds and a spring 330.00m northwest of the site, include visual inspection of any groundwater and/or springs will be carried out as part of the onsite geotechnical investigation.

FIGURES



Site boundary

Not to Scale

Land south-west of Smugglers Lane, Barn Green, West Sussex, RH13 0PS

Miller Homes

September 2025

Figure 1: Site Location Plan

GWPR6728





Land south-west of Smugglers Lane, Barn Green, West Sussex, RH13 0PS

Miller Homes

September 2025

Figure 2: Site Development Area

GWPR6728





Site boundary

Not to Scale

Land south-west of Smugglers Lane Barn Green West Sussex RH13 0PS

Miller Homes

September 2025

Figure 3: Aerial View of the Site

GWPR6728



APPENDIX A: Conditions and Limitations

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

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

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

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

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

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

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

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground

conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist.

The conclusions and recommendations relate to Land south-west of Smugglers Lane, Barn Green, West Sussex, RH13 0PS

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

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

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

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

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

APPENDIX B:

Technical Glossary

TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

HYDROGEOLOGY:

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary (A) Aquifers consist of deposits with permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Secondary (B) Aquifers consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Aquifers (Undifferentiated) are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

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

FLOOD ZONES:

Environment Agency Flood Zone 2, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Environment Agency Flood Zone 3 shows the extent of a river flood with a 1 in 100 (1%0 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.

Environment Agency Flood Zone 3 area that benefits from flood defences, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

GROUNDWATER SOURCE PROTECTION ZONES (SPZS):

Inner Zone (SPZ1): This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

Outer Zone (SPZ2): This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

Total Catchment (SPZ3): This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

Zone of Special Interest (SPZ4): This zone is where local conditions require additional protection.

IN-SITU STRENGTH GEOTECHNICAL TESTING:

Windowless Sample and/or Cable Percussion and/or Rotary Boreholes provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

Dynamic Probing involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

APPENDIX C: Site Photographs

Photograph 1.



Photograph 2.



Photograph 3.



Photograph 4.



Land south-west of Smugglers Lane, Barn Green,
West Sussex, RH13 0PS

Miller Homes

September 2025

Site Photos

GWPR6728



Photograph 4



Photograph 5.



Photograph 6.



Photograph 7.



Land south-west of Smugglers Lane, Barn Green,
West Sussex, RH13 0PS

Miller Homes

September 2025

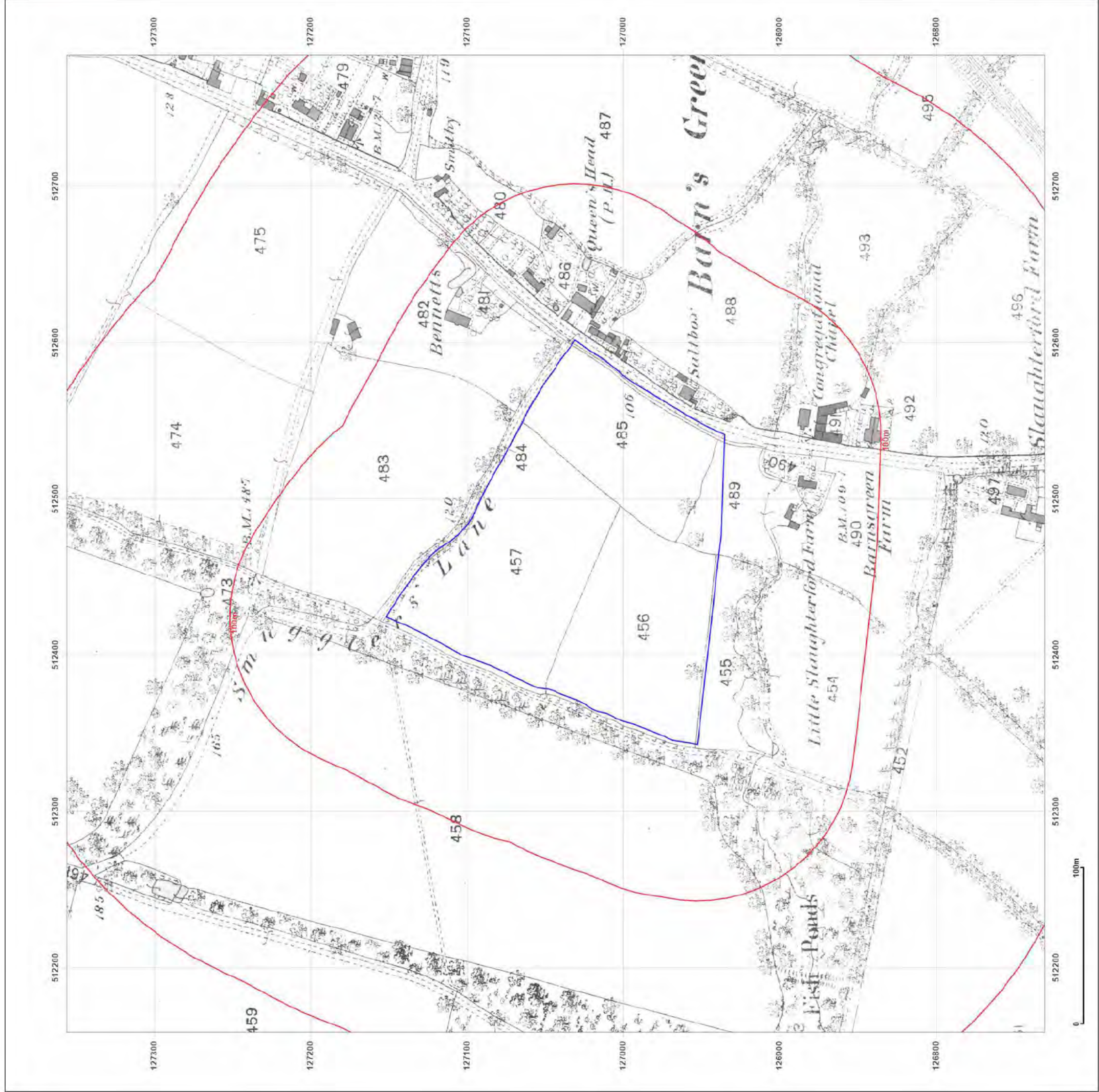
Site Photos

GWPR6728



APPENDIX D:

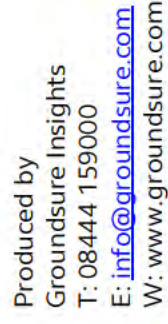
Historical Maps



Land south-west of Smugglers
Lane Barn Green Horsham,
West Sussex RH13 0PS, RH13
0PS

Map Name: County Series

Scale: 1:2,500



Production date: 22 August 2024

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

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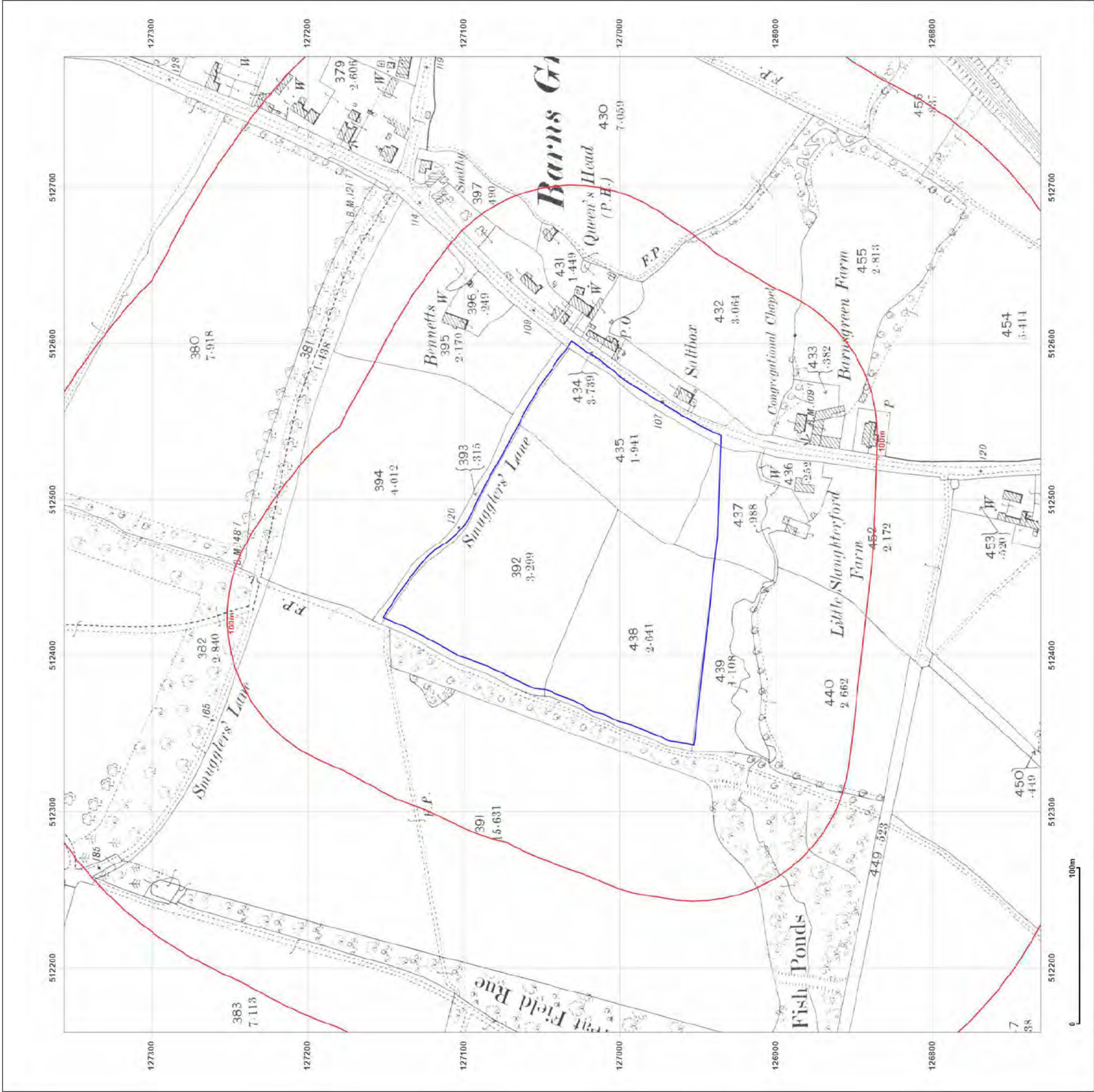


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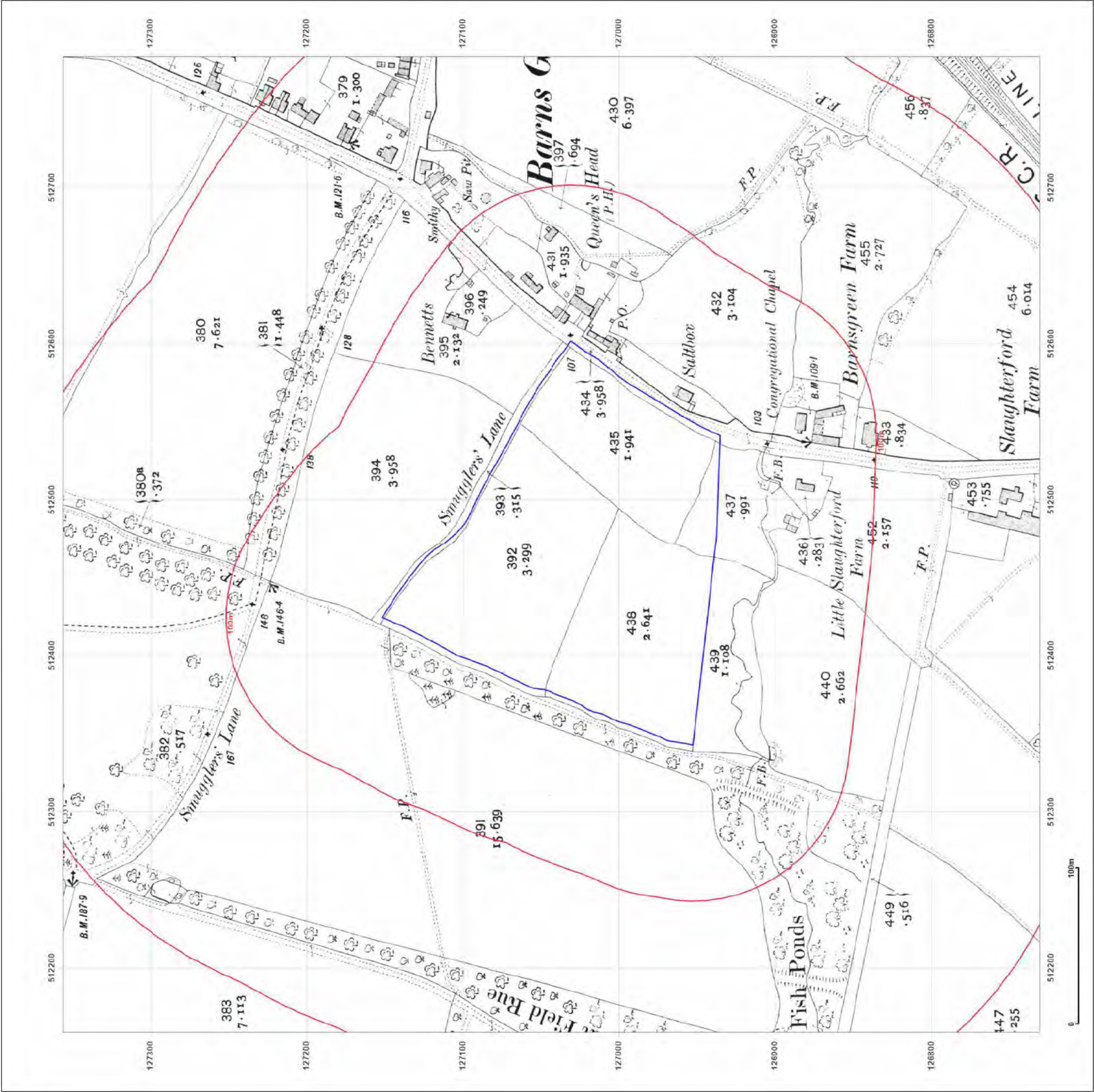


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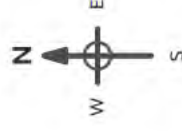


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Map Name: National Grid



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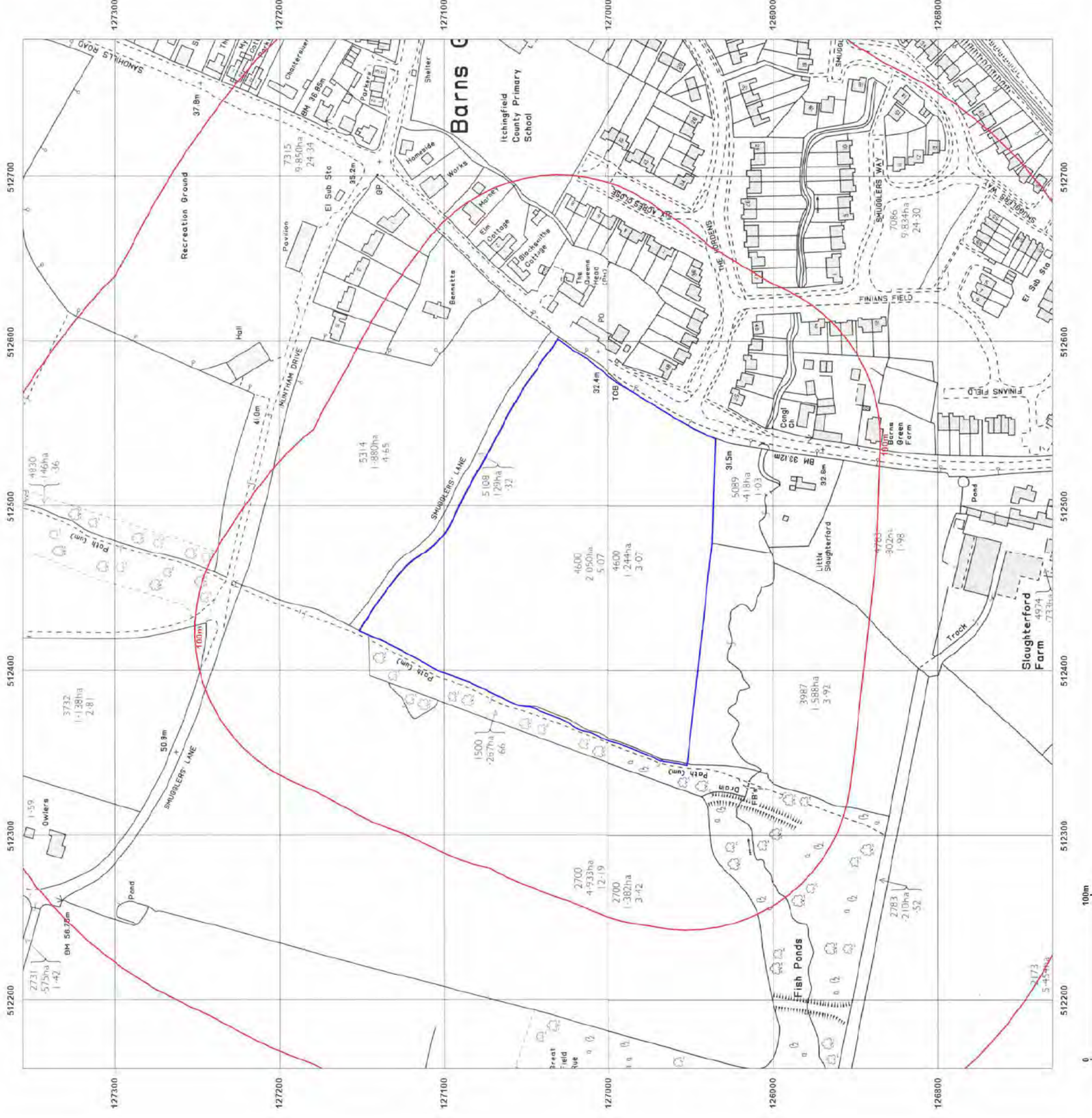


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Lane Barn Green Horsham,
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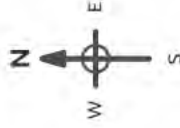
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Revised N/A
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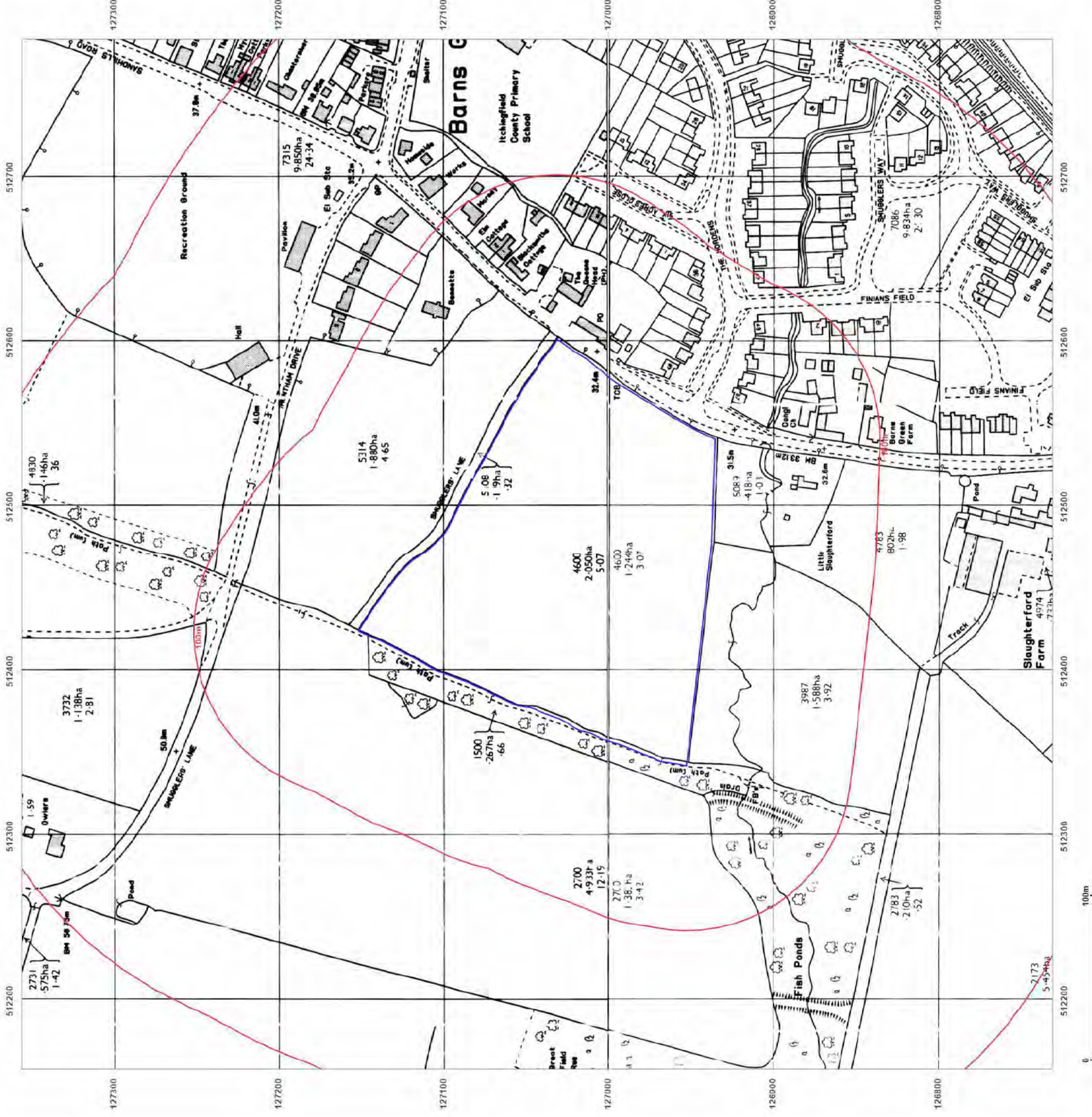


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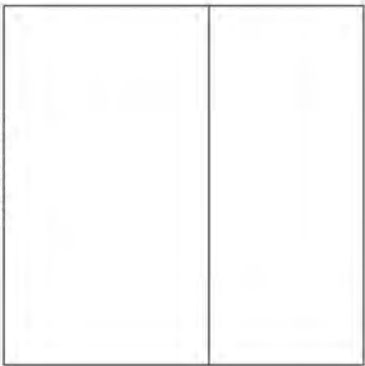
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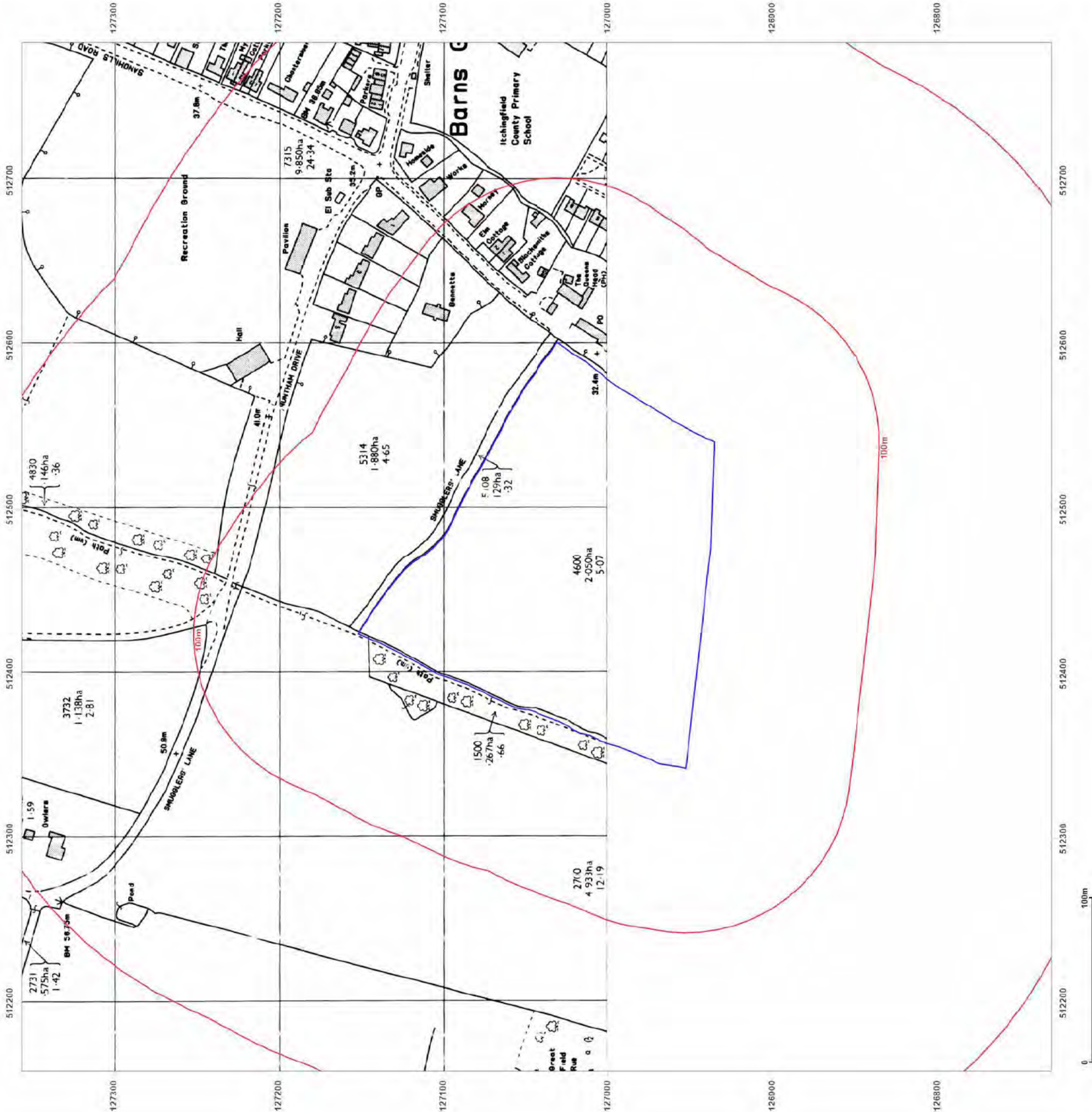


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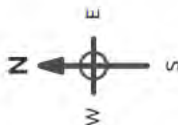
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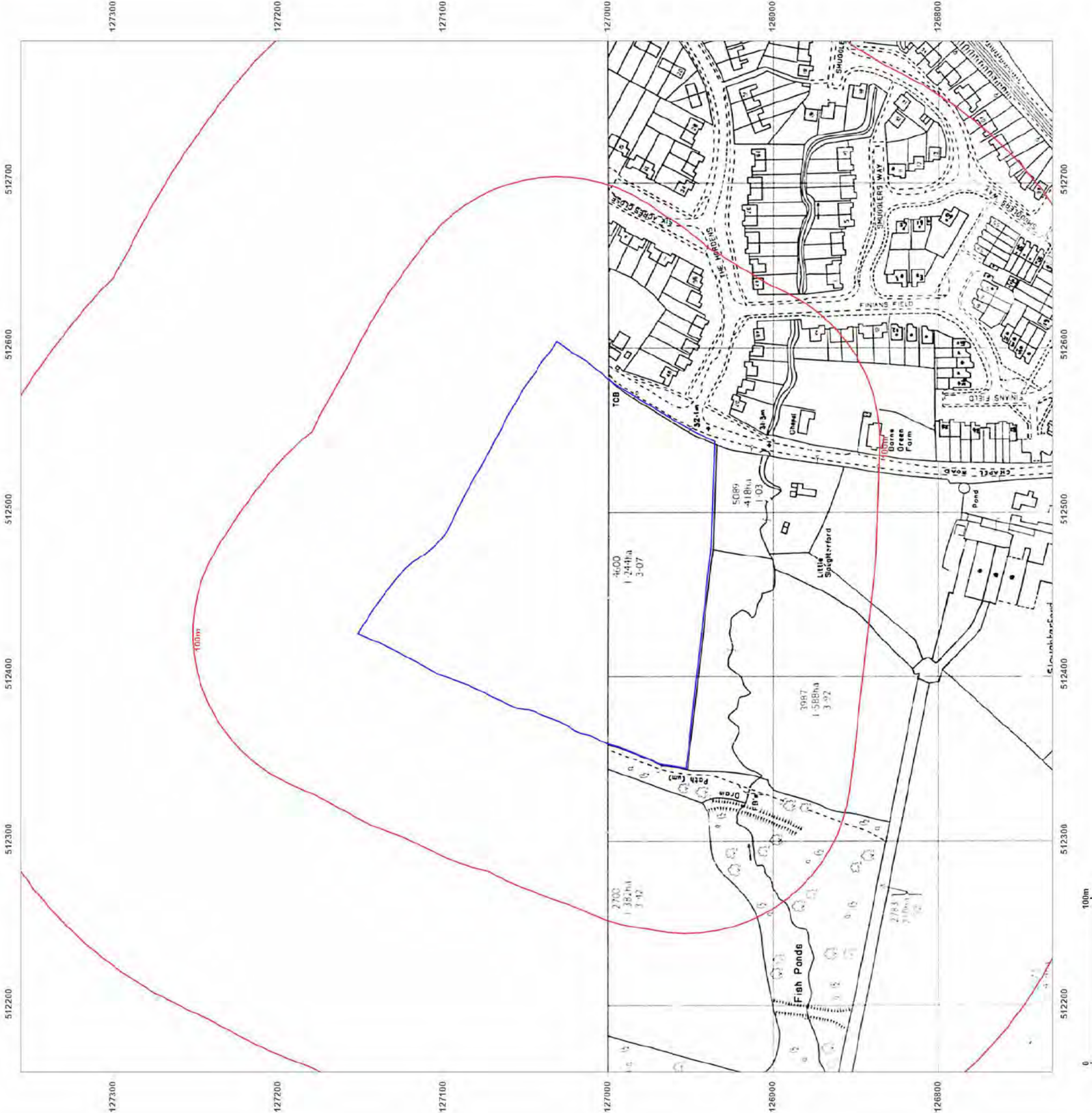


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Report Ref: GS-88F-LRD-1UJ-5T7
Grid Ref: 512471, 127043

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

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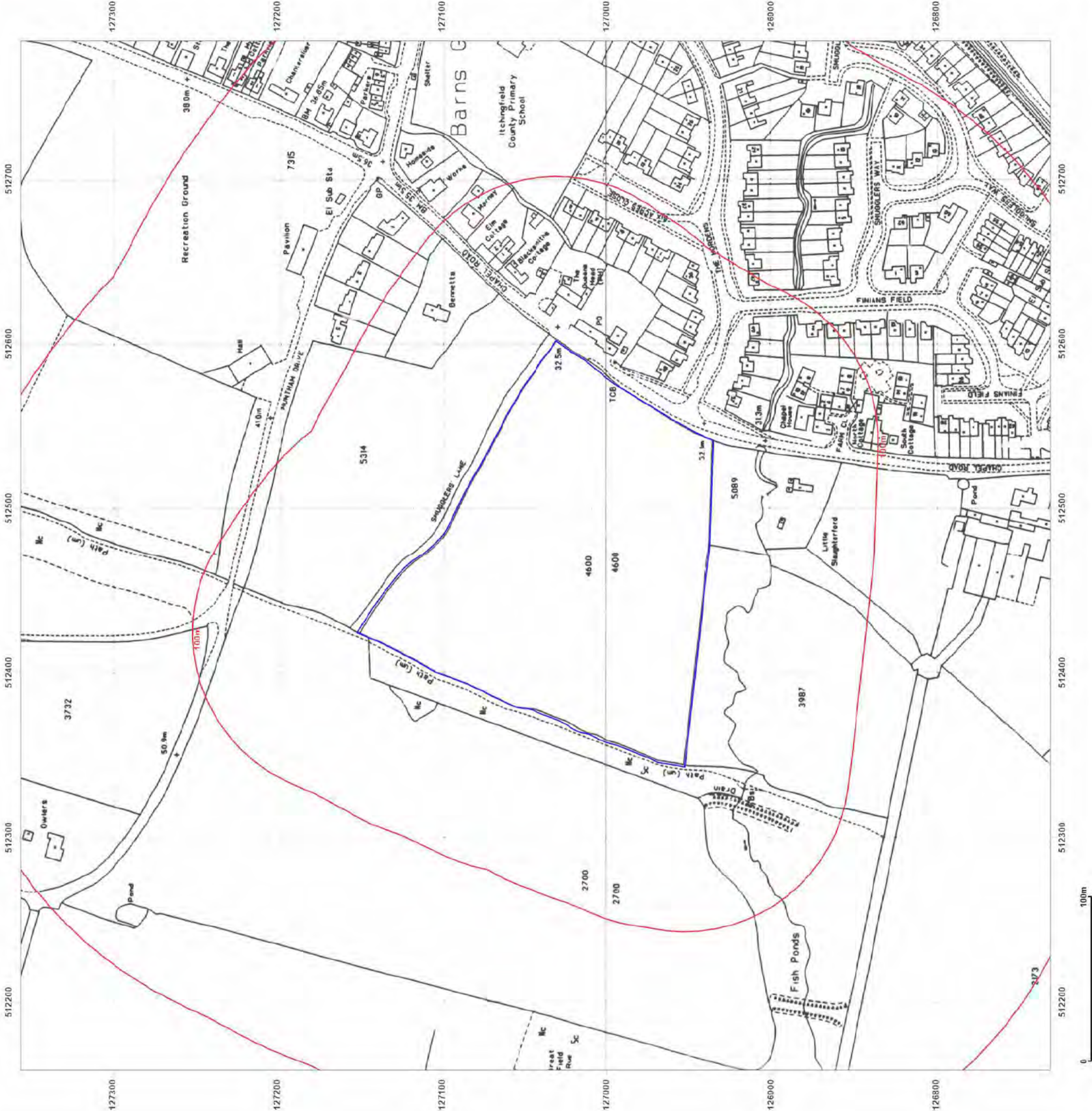


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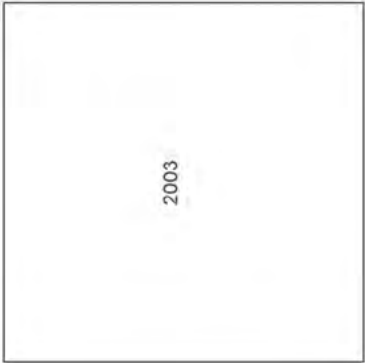


Site Details:

Land south-west of Smugglers Lane
Lane Barn Green Horsham,
West Sussex RH13 0PS, RH13
OPS

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Report Ref: GS-88F-LRD-1UJ-5T7
Grid Ref: 512471, 127043

Map Name: LandLine
Map date: 2003
Scale: 1:1,250
Printed at: 1:1,250



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APPENDIX E: GroundSure EnviroInsight and GeoInsight Datasheets

Land south-west of Smugglers Lane Barn Green Horsham, West Sussex RH13 0PS, RH13 0PS

Order Details

Date: 22/08/2024
Your ref: GWPR6192
Our Ref: GS-659-UZE-H3X-8RP

Site Details

Location: 512541 127032
Area: 3.29 ha
Authority: [Horsham District Council](#) ↗



[Summary of findings](#)

[p. 2 >](#)

[Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 >](#)

[Insight User Guide](#) ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	2	10	2	-
16 >	1.2 >	Historical tanks >	0	0	0	1	-
17 >	1.3 >	Historical energy features >	0	0	3	0	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	3	12	3	-
20 >	2.2 >	Historical tanks >	0	0	0	1	-
21 >	2.3 >	Historical energy features >	0	0	4	0	-
21	2.4	Historical petrol stations	0	0	0	0	-
21	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
23	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
23 >	3.7 >	Waste exemptions >	0	0	14	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	4.1 >	Recent industrial land uses >	1	0	7	-	-
26	4.2	Current or recent petrol stations	0	0	0	0	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
27	4.5	Sites determined as Contaminated Land	0	0	0	0	-



27	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
27	4.7	Regulated explosive sites	0	0	0	0	-
27	4.8	Hazardous substance storage/usage	0	0	0	0	-
27	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
28	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
28	4.12	Radioactive Substance Authorisations	0	0	0	0	-
28 >	4.13 >	Licensed Discharges to controlled waters >	0	0	5	3	-
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	1	4	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
33	5.1	Superficial aquifer	None (within 500m)				
34 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
35 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	5.6	Groundwater abstractions	0	0	0	0	0
37	5.7	Surface water abstractions	0	0	0	0	0
37	5.8	Potable abstractions	0	0	0	0	0
37	5.9	Source Protection Zones	0	0	0	0	-
38	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
39 >	6.1 >	Water Network (OS MasterMap) >	0	10	5	-	-



41 >	6.2 >	Surface water features >	0	6	7	-	-
41 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
41 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
42	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
43	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
43	7.2	Historical Flood Events	0	0	0	-	-
43	7.3	Flood Defences	0	0	0	-	-
44	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
44	7.5	Flood Storage Areas	0	0	0	-	-
45	7.6	Flood Zone 2	None (within 50m)				
45	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
46 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
48 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
49	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
50	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
50	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
50	10.4	Special Protection Areas (SPA)	0	0	0	0	0
50	10.5	National Nature Reserves (NNR)	0	0	0	0	0
51	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
51 >	10.7 >	Designated Ancient Woodland >	1	0	0	5	46
53	10.8	Biosphere Reserves	0	0	0	0	0
53	10.9	Forest Parks	0	0	0	0	0
53	10.10	Marine Conservation Zones	0	0	0	0	0
54	10.11	Green Belt	0	0	0	0	0
54	10.12	Proposed Ramsar sites	0	0	0	0	0

54	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
54	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
54	10.15	Nitrate Sensitive Areas	0	0	0	0	0
55 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	3
56 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
57	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
58	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59 >	11.4 >	Listed Buildings >	0	3	3	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
61 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62	12.4	Environmental Stewardship Schemes	0	0	0	-	-
63	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	13.1 >	Priority Habitat Inventory >	0	2	5	-	-
65	13.2	Habitat Networks	0	0	0	-	-
65	13.3	Open Mosaic Habitat	0	0	0	-	-
65	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	14.1 >	10k Availability >	Identified (within 500m)				
67	14.2	Artificial and made ground (10k)	0	0	0	0	-
68	14.3	Superficial geology (10k)	0	0	0	0	-

68	14.4	Landslip (10k)	0	0	0	0	-
69 >	14.5 >	Bedrock geology (10k) >	1	0	0	0	-
70	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	15.1 >	50k Availability >	Identified (within 500m)				
72	15.2	Artificial and made ground (50k)	0	0	0	0	-
72	15.3	Artificial ground permeability (50k)	0	0	-	-	-
73	15.4	Superficial geology (50k)	0	0	0	0	-
73	15.5	Superficial permeability (50k)	None (within 50m)				
73	15.6	Landslip (50k)	0	0	0	0	-
73	15.7	Landslip permeability (50k)	None (within 50m)				
74 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
75 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
75	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	Natural ground subsidence >					
77 >	17.1 >	Shrink swell clays >	Low (within 50m)				
78 >	17.2 >	Running sands >	Negligible (within 50m)				
79 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
80 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
81 >	17.5 >	Landslides >	Very low (within 50m)				
82 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
84	18.1	BritPits	0	0	0	0	-
85 >	18.2 >	Surface ground workings >	0	3	12	-	-
85	18.3	Underground workings	0	0	0	0	0
86	18.4	Underground mining extents	0	0	0	0	-
86	18.5	Historical Mineral Planning Areas	0	0	0	0	-

86 >	18.6 >	Non-coal mining >	1	0	0	0	0
86	18.7	JPB mining areas	None (within 0m)				
87	18.8	The Coal Authority non-coal mining	0	0	0	0	-
87	18.9	Researched mining	0	0	0	0	-
87	18.10	Mining record office plans	0	0	0	0	-
87	18.11	BGS mine plans	0	0	0	0	-
88	18.12	Coal mining	None (within 0m)				
88	18.13	Brine areas	None (within 0m)				
88	18.14	Gypsum areas	None (within 0m)				
88	18.15	Tin mining	None (within 0m)				
88	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
89	19.1	Natural cavities	0	0	0	0	-
89	19.2	Mining cavities	0	0	0	0	0
89	19.3	Reported recent incidents	0	0	0	0	-
89	19.4	Historical incidents	0	0	0	0	-
90	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
91 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
93 >	21.1 >	BGS Estimated Background Soil Chemistry >	4	0	-	-	-
93	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
94	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
95	22.1	Underground railways (London)	0	0	0	-	-
95	22.2	Underground railways (Non-London)	0	0	0	-	-
95	22.3	Railway tunnels	0	0	0	-	-
95	22.4	Historical railway and tunnel features	0	0	0	-	-
95	22.5	Royal Mail tunnels	0	0	0	-	-



96	22.6	Historical railways	0	0	0	-	-
96	22.7	Railways	0	0	0	-	-
96	22.8	Crossrail 1	0	0	0	0	-
96	22.9	Crossrail 2	0	0	0	0	-
96	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 24/04/2021

Site Area: 3.29ha



Recent site history - 2018 aerial photograph



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Capture Date: 14/05/2018

Site Area: 3.29ha



Recent site history - 2012 aerial photograph



Capture Date: 31/08/2012

Site Area: 3.29ha



Recent site history - 2005 aerial photograph



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Capture Date: 17/07/2005

Site Area: 3.29ha



Recent site history - 1999 aerial photograph



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Capture Date: 29/08/1999

Site Area: 3.29ha



OS MasterMap site plan



Site Area: 3.29ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

14

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

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

ID	Location	Land use	Dates present	Group ID
1	21m SW	Unspecified Heap	1913 - 1956	2212995



ID	Location	Land use	Dates present	Group ID
A	37m E	Smithy	1913	2263888
A	55m E	Saw Pit	1913	2240779
A	88m E	Smithy	1876 - 1896	2283275
A	103m E	Saw Pit	1956	2228160
A	104m E	Saw Pit	1913	2321826
A	124m E	Smithy	1913	2309464
2	150m SW	Unspecified Heap	1956	2187099
A	160m NE	Electric Substation	1981	2169421
B	189m E	Smithy	1913	2306581
B	198m E	Smithy	1896	2329994
B	237m E	Smithy	1913	2296698
D	476m N	Unspecified Tanks	1913	2263574
D	480m N	Unspecified Tanks	1913 - 1956	2262452

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

1

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

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

ID	Location	Land use	Dates present	Group ID
D	480m N	Tanks	1911	379535

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

3

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

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

ID	Location	Land use	Dates present	Group ID
A	155m NE	Electricity Substation	1977 - 1993	314256
C	228m SE	Electricity Substation	1977	278507
C	229m SE	Electricity Substation	1993	294627

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

18

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
A	21m SW	Unspecified Heap	1913	2212995
A	28m SW	Unspecified Heap	1956	2212995
B	37m E	Smithy	1913	2263888



ID	Location	Land Use	Date	Group ID
B	55m E	Saw Pit	1913	2240779
B	88m E	Smithy	1896	2283275
B	90m E	Smithy	1876	2283275
B	103m E	Saw Pit	1956	2228160
B	104m E	Saw Pit	1913	2321826
B	104m E	Saw Pit	1913	2321826
B	124m E	Smithy	1913	2309464
1	150m SW	Unspecified Heap	1956	2187099
B	160m NE	Electric Substation	1981	2169421
C	189m E	Smithy	1913	2306581
C	198m E	Smithy	1896	2329994
C	237m E	Smithy	1913	2296698
E	476m N	Unspecified Tanks	1913	2263574
E	480m N	Unspecified Tanks	1913	2262452
E	483m N	Unspecified Tanks	1956	2262452

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

1

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
E	480m N	Tanks	1911	379535

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

4

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
B	155m NE	Electricity Substation	1993	314256
B	157m NE	Electricity Substation	1977	314256
D	228m SE	Electricity Substation	1977	278507
D	229m SE	Electricity Substation	1993	294627

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

14

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

Features are displayed on the Waste and landfill map on [page 22](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
A	69m E	2 Elm Cottages, Chapel Road, Barns Green, Horsham, Rh13 Ops	WEX036742	Disposing of waste exemption	On a farm	Burning waste in the open



ID	Location	Site	Reference	Category	Sub-Category	Description
A	69m E	2 Elm Cottages, Chapel Road, Barns Green, Horsham, Rh13 Ops	WEX191586	Disposing of waste exemption	On a farm	Burning waste in the open
B	117m S	Slaughterford Farm, Chapel Road, Barns Green, West Sussex, Rh13 Opr	WEX161155	Using waste exemption	On a farm	Use of waste in construction
B	117m S	Slaughterford Farm, Chapel Road, Barns Green, West Sussex, Rh13 Opr	WEX161155	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	117m S	Slaughterford Farm, Chapel Road, Barns Green, West Sussex, Rh13 Opr	WEX161155	Disposing of waste exemption	On a farm	Burning waste in the open
C	161m S	Slaughterford Farm, Chapel Road, Barns Green, Horsham, Rh13 Opr	WEX000987	Using waste exemption	On a farm	Use of waste in construction
C	161m S	Slaughterford Farm, Chapel Road, Barns Green, Horsham, Rh13 Opr	WEX000987	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	161m S	Slaughterford Farm, Chapel Road, Barns Green, Horsham, Rh13 Opr	WEX000987	Disposing of waste exemption	On a farm	Burning waste in the open
C	161m S	Slaughterford Farm, Chapel Road, Barnes Green, Horsham, Rh13 Opr	WEX008411	Using waste exemption	On a farm	Use of waste in construction
C	165m S	The Barn 1 Slaughterford Farm Chapel Road Horsham West Sussex Rh13 Opr	EPR/RH0716Y X/A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction
D	245m S	-	WEX320739	Using waste exemption	On a farm	Use of waste in construction
D	245m S	-	WEX320739	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
D	245m S	-	WEX320739	Disposing of waste exemption	On a farm	Burning waste in the open
1	247m S	Slaughterford Farm Barnes Green Horsham West Sussex Rh13 Opr	EPR/LE5057FD /A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction

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



4 Current industrial land use



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

4.1 Recent industrial land uses

Records within 250m

8

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 25 >](#)

ID	Location	Company	Address	Activity	Category
1	On site	Mast (Telecomm unication)	West Sussex, RH13	Telecommunications Features	Infrastructure and Facilities
B	108m E	Works	West Sussex, RH13	Unspecified Works Or Factories	Industrial Features



ID	Location	Company	Address	Activity	Category
A	116m SE	Jenny Hainsworth Curtains	43, The Hordens, Barns Green, West Sussex, RH13 OPH	Curtains and Blinds	Consumer Products
B	121m E	D Reynolds & Sons	Forge Engineering, Chapel Road, Barns Green, West Sussex, RH13 OPS	Metalworkers Including Blacksmiths	Construction Services
3	131m S	Electricity Sub Station	West Sussex, RH13	Electrical Features	Infrastructure and Facilities
4	161m NE	Electricity Sub Station	West Sussex, RH13	Electrical Features	Infrastructure and Facilities
A	193m SE	Pykes Express Transport	10, Smugglers Way, Barns Green, West Sussex, RH13 OPP	Distribution and Haulage	Transport, Storage and Delivery
5	230m SE	Electricity Sub Station	West Sussex, RH13	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
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High pressure underground gas transmission pipelines.

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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



4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

8

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

Features are displayed on the Current industrial land use map on [page 25 >](#)

ID	Location	Address	Details	
A	100m SE	REAR OF HORDENS, REAR OF HORDENS, BARNS GREEN, BILLINGSHURST, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01873 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 11/12/1969 Effective Date: 11/12/1969 Revocation Date: 30/05/1997
2	112m SE	NUTHURST FARMS, NUTHURST FARMS, NUTHURST, HORSHAM, WEST SUSSEX	Effluent Type: UNSPECIFIED Permit Number: S01622 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 16/08/1967 Effective Date: 16/08/1967 Revocation Date: 31/03/1997

ID	Location	Address	Details	
A	127m SE	BARNS GREEN FARM, BARNS GREEN FARM, BARNS GREEN WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01621 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 04/08/1967 Effective Date: 04/08/1967 Revocation Date: 30/05/1997
A	158m SE	SEWAGE DISPOSAL PLANT, SEWAGE DISPOSAL PLANT, BARNS GREEN FARM ESTATE, BILLINGSHURST, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: S01014 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/03/1965 Effective Date: 15/03/1965 Revocation Date: 20/03/1996
A	239m SE	REAR OF HORDENS, REAR OF HORDENS, BARNS GREEN, BILLINGSHURST, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01873 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 11/12/1969 Effective Date: 11/12/1969 Revocation Date: 30/05/1997
A	266m SE	REAR OF HORDENS, REAR OF HORDENS, BARNS GREEN, BILLINGSHURST, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01873 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 11/12/1969 Effective Date: 11/12/1969 Revocation Date: 30/05/1997
7	301m SE	SEWAGE DISPOSAL PLANT, SEWAGE DISPOSAL PLANT, BARNS GREEN FARM ESTATE, BILLINGSHURST, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01014 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/03/1965 Effective Date: 15/03/1965 Revocation Date: 20/03/1996
9	398m SW	WOODPECKERS, WOODPECKERS, VALEWOOD LANE, BARNS GREEN, HORSHAM WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: P02828 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1990 Effective Date: 19/03/1990 Revocation Date: -

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



4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

5

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

Features are displayed on the Current industrial land use map on [page 25 >](#)

ID	Location	Details	
6	242m NW	Incident Date: 17/06/2003 Incident Identification: 166507 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	263m SE	Incident Date: 13/11/2002 Incident Identification: 120398 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
A	274m SE	Incident Date: 10/11/2002 Incident Identification: 119858 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
8	382m NE	Incident Date: 24/07/2001 Incident Identification: 18759 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	482m SE	Incident Date: 19/04/2007 Incident Identification: 487380 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0
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The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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

4.20 Pollution inventory waste transfers

Records within 500m	0
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The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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

4.21 Pollution inventory radioactive waste

Records within 500m

0

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

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



5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

0

Aquifer status of groundwater held within superficial geology.

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 34](#) >

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on [page 35](#) >



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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

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

5.5 Groundwater vulnerability- local information

Records on site	0
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

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

Abstractions and Source Protection Zones

5.6 Groundwater abstractions

Records within 2000m

0

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

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

5.7 Surface water abstractions

Records within 2000m

0

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

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

5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

15

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

Features are displayed on the Hydrology map on [page 39](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
A	16m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
B	22m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	28m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	28m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	29m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	31m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	32m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	33m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	37m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	40m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	89m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	102m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	235m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	247m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
G	247m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	13
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Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 39](#) >

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
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The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 39](#) >

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Adur West	GB107041012290	Adur Upper	Adur and Ouse

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

6.4 WFD Surface water bodies

Records identified	1
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Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.



Features are displayed on the Hydrology map on [page 39](#) >

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	583m SE	River	Adur West	GB107041012290 ↗	Poor	Fail	Poor	2019

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

6.5 WFD Groundwater bodies

Records on site	0
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Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0
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Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

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

7.7 Flood Zone 3

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

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



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on [page 46](#) >

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

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

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



Site Outline
Search buffers in metres (m)

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

9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

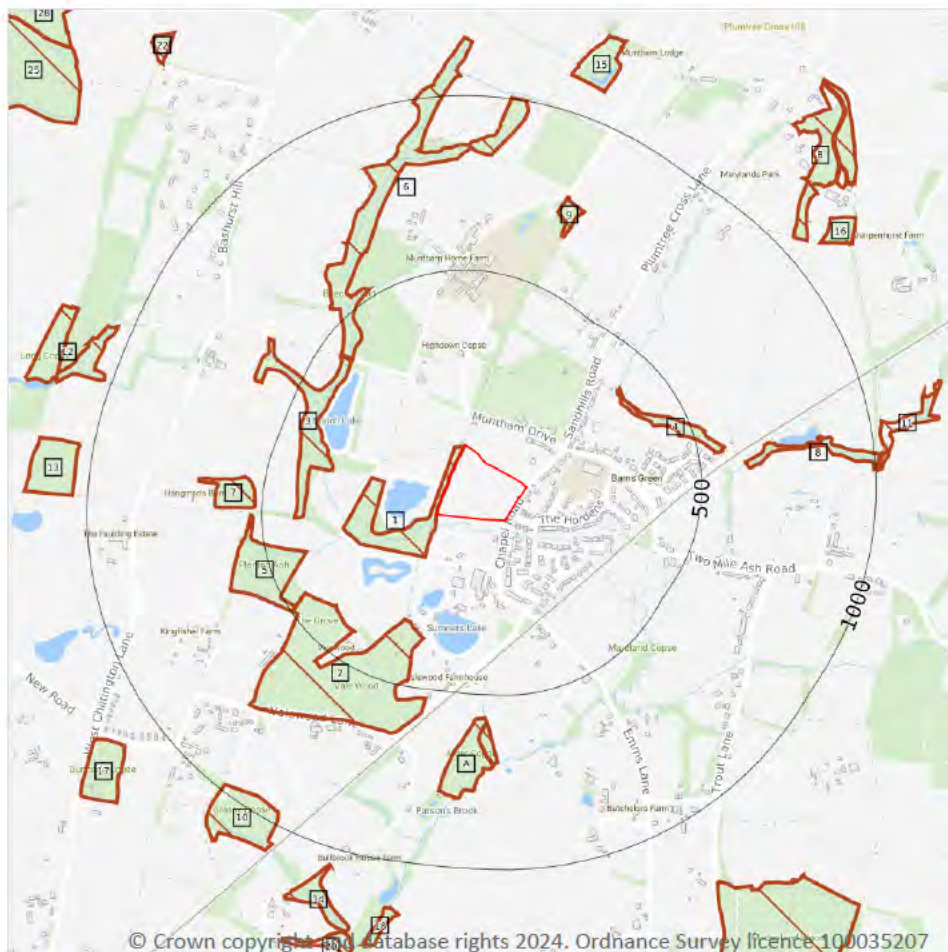
Negligible

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

Features are displayed on the Groundwater flooding map on [page 48](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

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



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

52

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

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

ID	Location	Name	Woodland Type
1	On site	Unknown	Ancient & Semi-Natural Woodland
2	314m SW	Vale Wood	Ancient & Semi-Natural Woodland
3	320m W	Unknown	Ancient & Semi-Natural Woodland
4	361m NE	Unknown	Ancient & Semi-Natural Woodland
5	387m W	Unknown	Ancient & Semi-Natural Woodland
6	405m NW	Unknown	Ancient & Semi-Natural Woodland
7	521m W	Unknown	Ancient & Semi-Natural Woodland
A	567m S	Alder Copse	Ancient & Semi-Natural Woodland
A	580m S	Unknown	Ancient & Semi-Natural Woodland
8	629m E	Unknown	Ancient & Semi-Natural Woodland
9	659m N	Unknown	Ancient & Semi-Natural Woodland
10	954m SW	Unknown	Ancient & Semi-Natural Woodland
11	1008m E	Unknown	Ancient & Semi-Natural Woodland
12	1023m W	Unknown	Ancient & Semi-Natural Woodland
13	1039m W	Unknown	Ancient & Semi-Natural Woodland
B	1048m NE	Unknown	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
14	1049m S	Unknown	Ancient & Semi-Natural Woodland
15	1087m N	Unknown	Ancient & Semi-Natural Woodland
16	1094m NE	Unknown	Ancient & Semi-Natural Woodland
17	1111m SW	Unknown	Ancient & Semi-Natural Woodland
18	1133m S	Unknown	Ancient & Semi-Natural Woodland
19	1200m SE	Madgeland Wood	Ancient Replanted Woodland
20	1227m S	Unknown	Ancient & Semi-Natural Woodland
B	1244m NE	Unknown	Ancient & Semi-Natural Woodland
B	1265m NE	Unknown	Ancient & Semi-Natural Woodland
-	1328m S	Unknown	Ancient & Semi-Natural Woodland
22	1392m NW	Unknown	Ancient & Semi-Natural Woodland
-	1402m W	Unknown	Ancient & Semi-Natural Woodland
-	1425m SW	Unknown	Ancient & Semi-Natural Woodland
25	1444m NW	Unknown	Ancient & Semi-Natural Woodland
-	1554m W	Unknown	Ancient & Semi-Natural Woodland
-	1585m S	Unknown	Ancient & Semi-Natural Woodland
28	1598m NW	Unknown	Ancient Replanted Woodland
-	1610m SW	Unknown	Ancient & Semi-Natural Woodland
-	1646m NW	Unknown	Ancient & Semi-Natural Woodland
-	1646m N	Unknown	Ancient & Semi-Natural Woodland
-	1710m NW	Unknown	Ancient & Semi-Natural Woodland
-	1717m W	Unknown	Ancient & Semi-Natural Woodland
-	1726m SW	Unknown	Ancient & Semi-Natural Woodland
-	1740m NE	Shelleys Wood	Ancient & Semi-Natural Woodland
-	1802m W	Unknown	Ancient & Semi-Natural Woodland
-	1808m W	Unknown	Ancient & Semi-Natural Woodland
-	1821m W	Unknown	Ancient & Semi-Natural Woodland
-	1834m N	Unknown	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
-	1884m NW	Unknown	Ancient & Semi-Natural Woodland
-	1906m W	Unknown	Ancient & Semi-Natural Woodland
-	1910m N	Unknown	Ancient & Semi-Natural Woodland
-	1930m SE	Unknown	Ancient Replanted Woodland
-	1931m SE	Unknown	Ancient & Semi-Natural Woodland
-	1964m NE	Hunters Wood	Ancient & Semi-Natural Woodland
-	1981m NW	Unknown	Ancient & Semi-Natural Woodland
-	1985m N	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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



10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was



closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

3

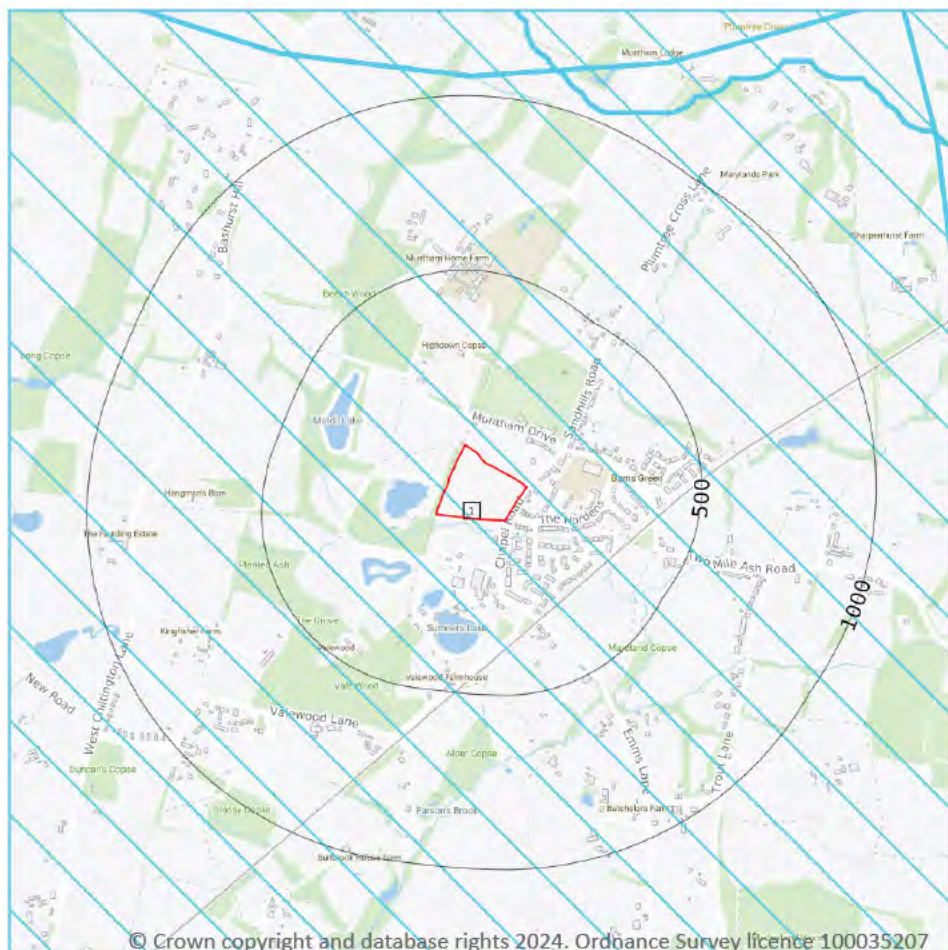
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1165m NE	River Arun (u/s Pallingham) NVZ	Surface Water	523	Existing
1868m NE	River Arun (u/s Pallingham) NVZ	Surface Water	523	Existing
1870m NE	River Arun (u/s Pallingham) NVZ	Surface Water	523	Existing

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 56 >](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Notes: SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

6

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

Features are displayed on the Visual and cultural designations map on [page 58](#) >

ID	Location	Name	Grade	Reference Number	Listed date
1	18m E	Barns Green Village Store	II	1027044	28/11/1980
2	30m E	The Queen's Head Public House	II	1193788	28/11/1980
3	50m E	Blacksmith's Cottage	II	1354176	22/09/1959
4	55m S	Little Slaughterford Farmhouse	II	1193795	28/11/1980
5	73m NE	Bennetts	II	1286000	22/09/1959
6	222m NE	Old Home	II	1027043	28/11/1980



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

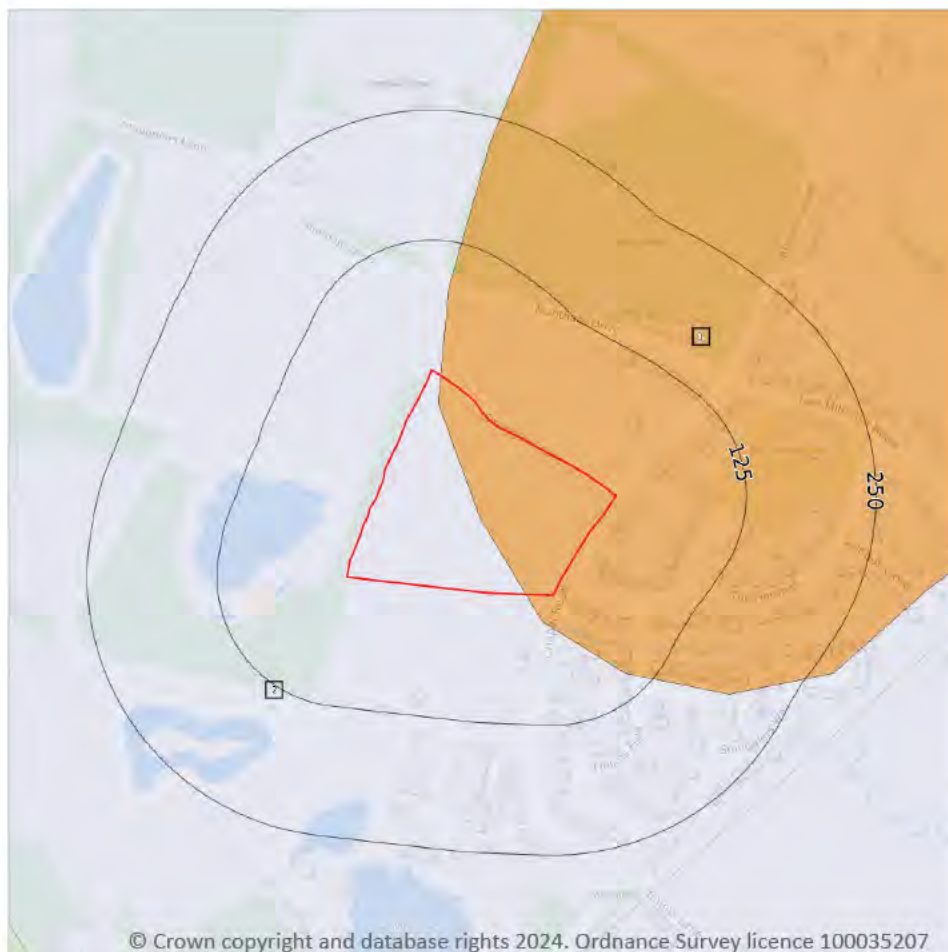
Records within 250m

0

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

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

12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 61](#) >

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



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

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0
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The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

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

12.3 Tree Felling Licences

Records within 250m	0
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Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0
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Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.



13 Habitat designations



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

13.1 Priority Habitat Inventory

Records within 250m

7

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

Features are displayed on the Habitat designations map on [page 64](#) >

ID	Location	Main Habitat	Other habitats
A	22m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
1	32m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	86m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	86m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
A	128m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	247m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	248m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 66](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	TQ12NW

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 69](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 71](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW302_horsham_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

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

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

15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 74](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Low	Very Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



16 Boreholes



Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

1

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

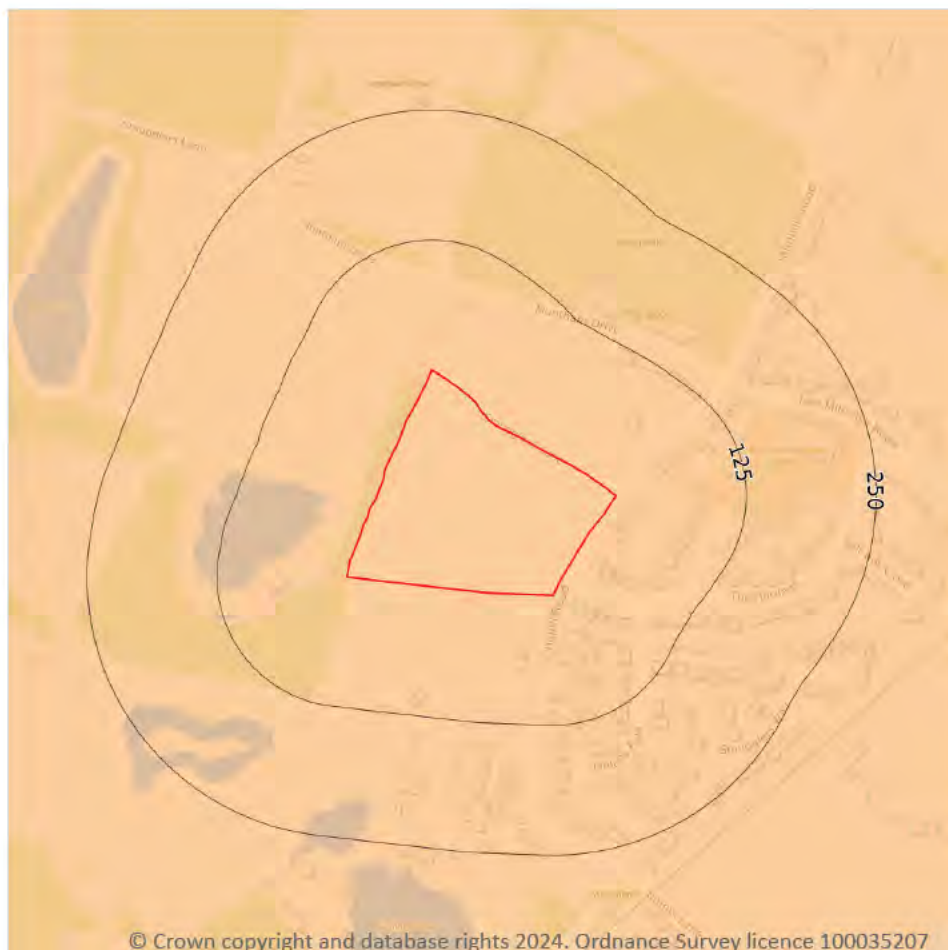
Features are displayed on the Boreholes map on [page 76](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	231m SW	512140 126841	SUMNERS POND CHAPEL ROAD BARNES GREEN HORSHAM	54.0	N	21527266 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 77 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 78 >](#)

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 79 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

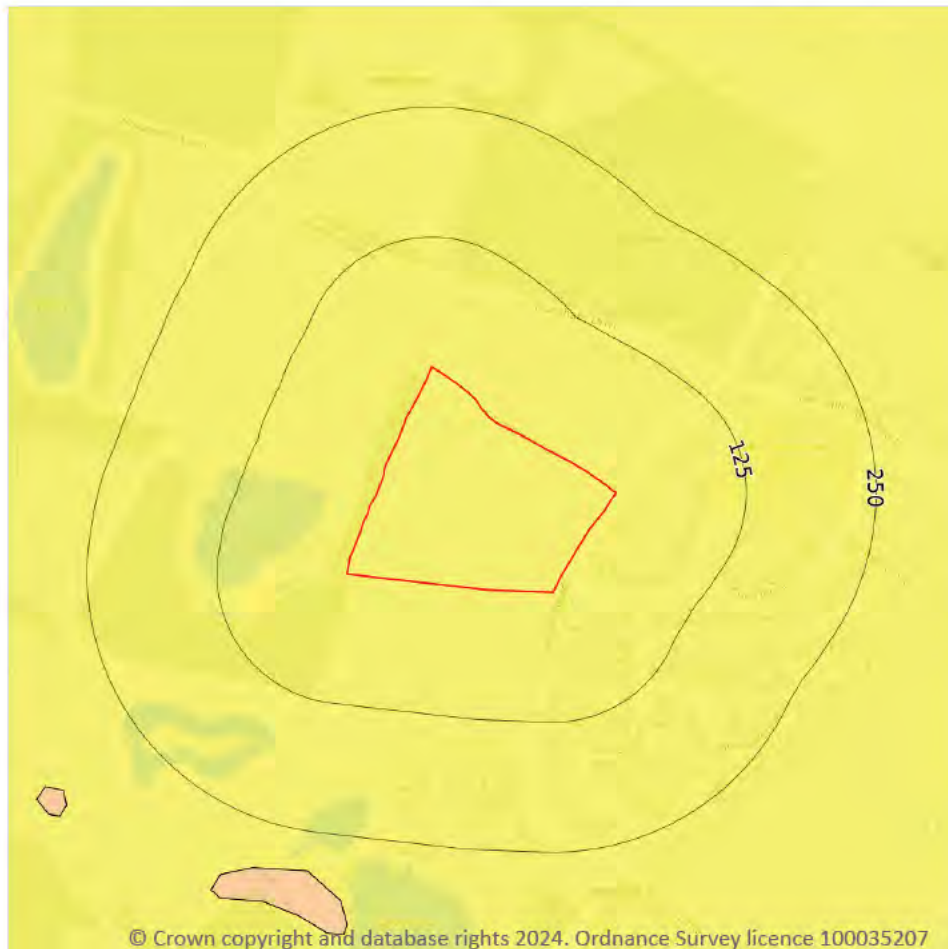
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 80](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Landslides map on [page 81](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 82](#)

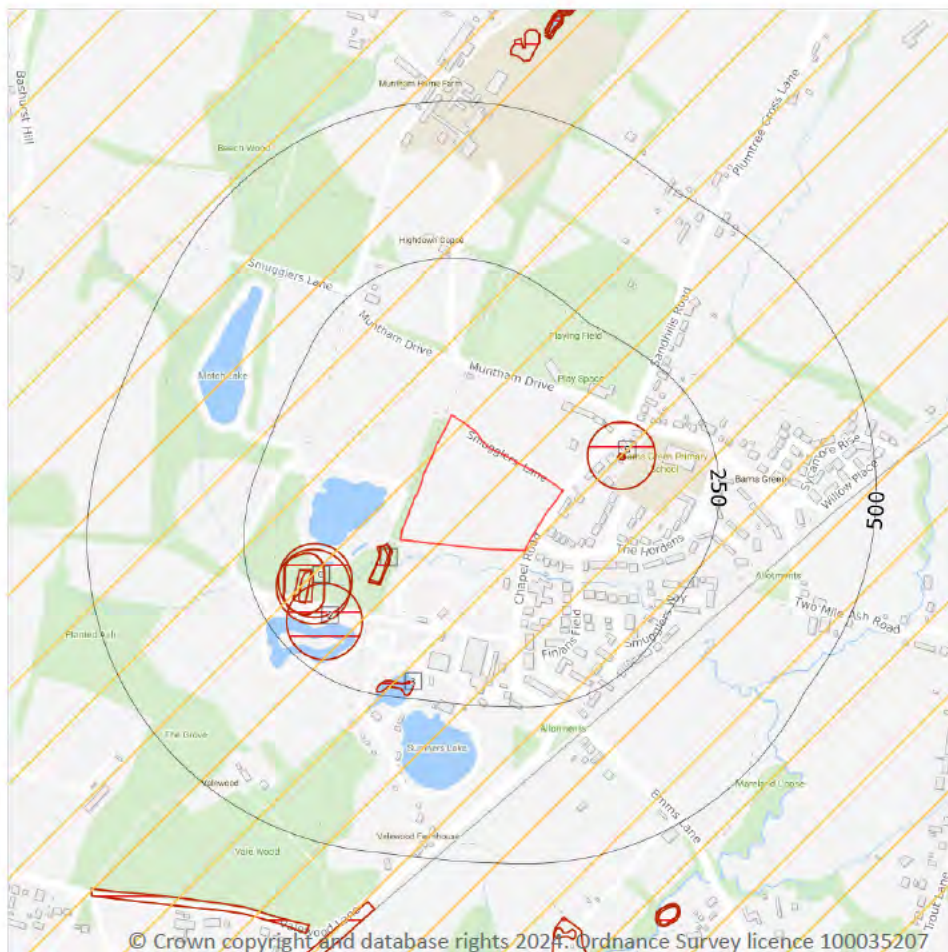
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

15

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

Features are displayed on the Mining and ground workings map on [page 84](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	21m SW	Unspecified Heap	1913	1:10560
A	22m SW	Fish Ponds	1913	1:10560
A	28m SW	Unspecified Heap	1956	1:10560
B	55m E	Saw Pit	1913	1:10560
C	92m SW	Fish Ponds	1876	1:10560
C	99m SW	Fish Ponds	1956	1:10560
B	103m E	Saw Pit	1956	1:10560
B	104m E	Saw Pit	1913	1:10560
B	104m E	Saw Pit	1913	1:10560
2	118m SW	Fish Ponds	1981	1:10000
C	130m SW	Fish Ponds	1913	1:10560
C	130m SW	Fish Ponds	1896	1:10560
C	149m SW	Fish Ponds	1913	1:10560
C	150m SW	Unspecified Heap	1956	1:10560
3	222m S	Ponds	1981	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.



18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

1

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

Features are displayed on the Mining and ground workings map on [page 84](#) >

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Iron Ore	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.



18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.



18.12 Coal mining

Records on site	0
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Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

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

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

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

18.14 Gypsum areas

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

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

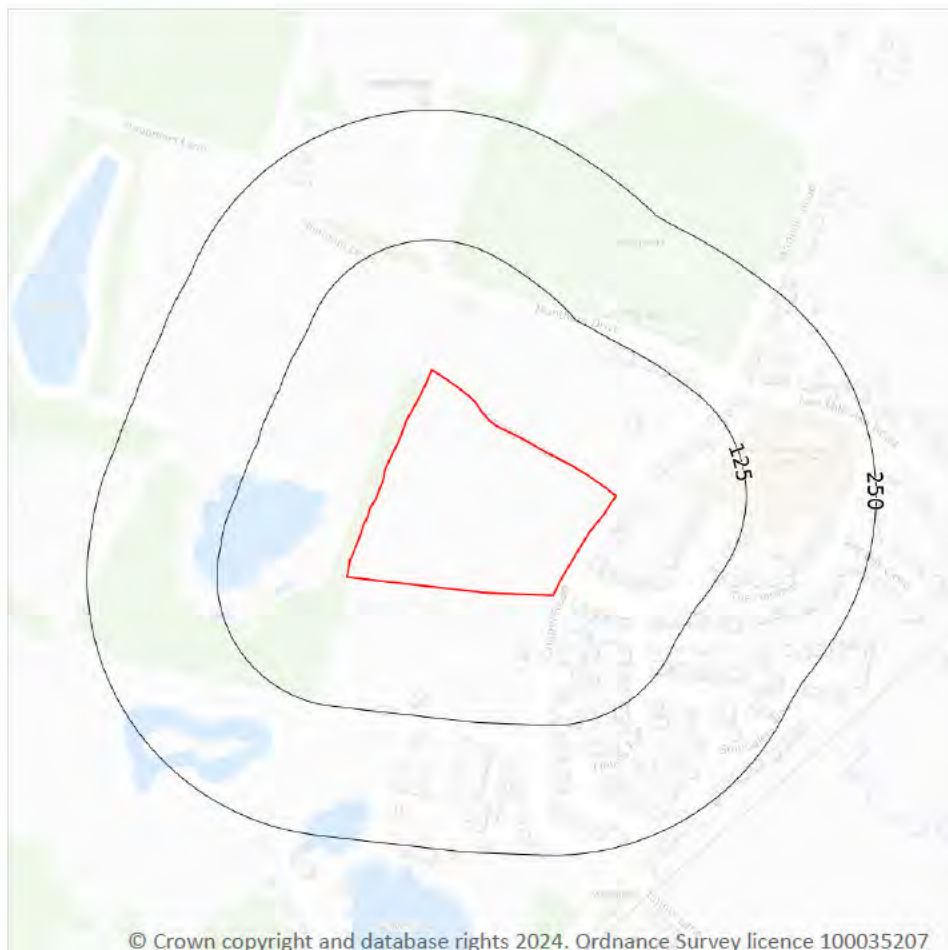
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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

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

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 91](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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