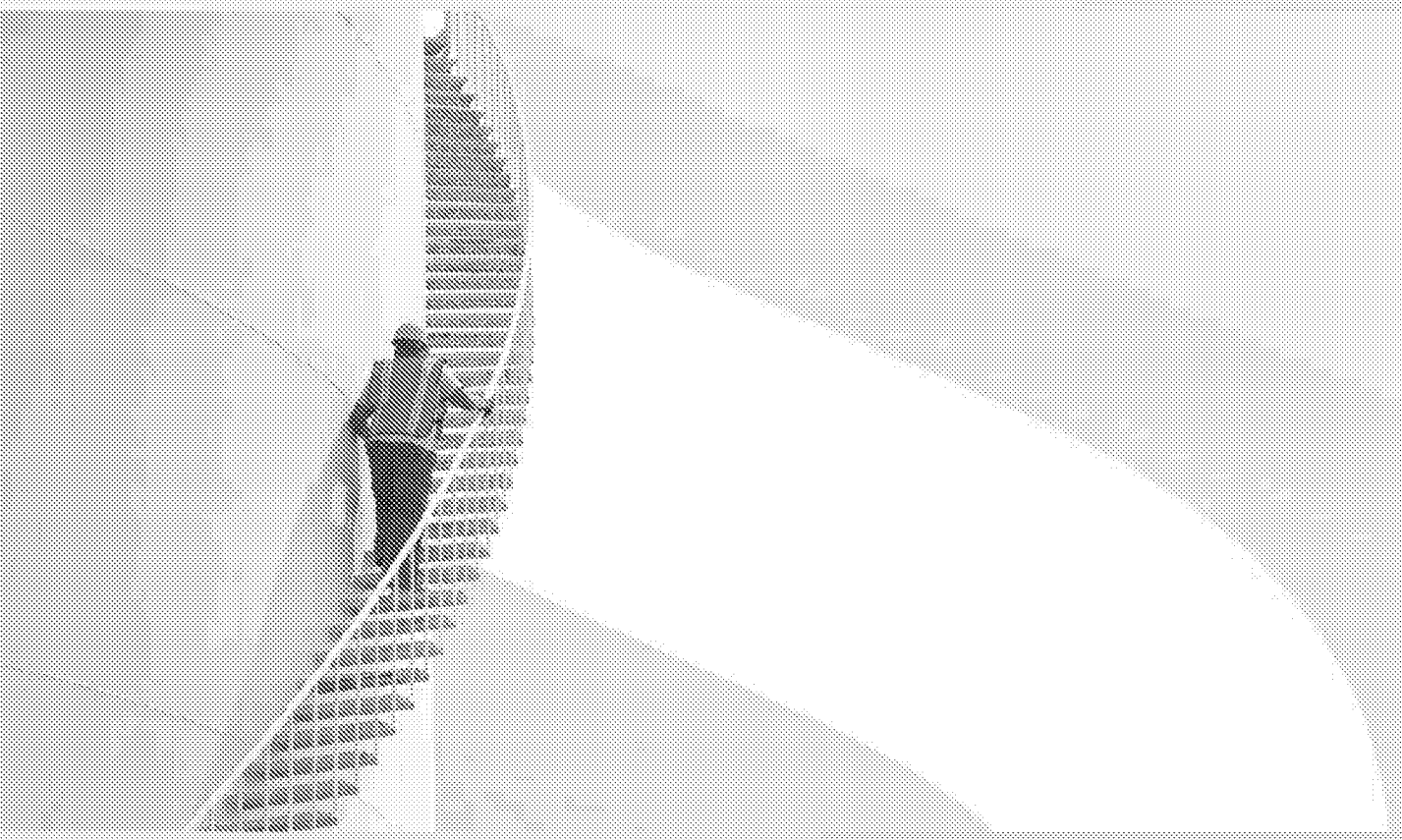
Hallam Land Management Limited

BOGNOR REGIS - SITE A - EXISTING GOLF COURSE

Phase I Preliminary Geo-Environmental Risk Assessment



70088068-GW1
DECEMBER 2021

FINAL (CONFIDENTIAL)

ARUN DISTRICT COUNCIL LITIGATION

Hallam Land Management Limited

BOGNOR REGIS - SITE A - EXISTING GOLF COURSE

Phase I Preliminary Geo-Environmental Risk Assessment

FINAL (CONFIDENTIAL)

PROJECT NO. 70088068

OUR REF. NO. 70088068-GW1

DATE: DECEMBER 2021

ARUN DISTRICT COUNCIL M/16/22/PL

Hallam Land Management Limited

BOGNOR REGIS - SITE A - EXISTING GOLF COURSE

Phase I Preliminary Geo-Environmental Risk Assessment

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EXECUTIVE SUMMARY

Background	WSP UK Ltd has been instructed by Hallam Land Management Limited to undertake a Geo-Environmental Preliminary Risk Assessment (PRA) of Bognor Regis Golf Course, Downview Road, Felpham, Bognor Regis, PO22 8JD (the 'Site'). This PRA has been produced to identify the likely ground conditions at the Site in association with a proposed plan to redevelop the golf course and club into residential use.
Site Location and Setting	The Site is located in the north-eastern outskirts of Bognor Regis. To the east of the Site are residential properties; to the north are arable fields; to the west is the Lidsey Rife, beyond which is an airfield, subsequently followed by a railway line and a trading estate. The land to the south of the Site comprises agricultural land, public open space, residential properties and a school. The Site is approximately 40 ha.
Site Use and Operational History	The Site is a golf course, with associated club house and maintenance facilities/storage yard. Prior to this land use, the Site was shown on available historical maps to be undeveloped land or in agricultural use.
Environmental Setting	The Lidsey Rife (Water Framework Directive (WFD)) flows along the western boundary of the Site and various drains and ditches are present across the Site, which outfall into the WFD waterbody. The Site is within the WFD Lidsey Rife Waterbody catchment area. The Site is underlain by superficial River Terrance Deposits and Raised Marine Deposits, which overlie the White Chalk Subgroup. The superficial deposits are an Environment Agency designated Secondary A aquifer and the bedrock is classified as a Principal aquifer. Part of the Site is within a Flood Zone and is also considered to be at risk from groundwater flooding, One groundwater abstraction point is present 750m east of the Site, however this has a 'historical' licence status. The Site is not within a groundwater Source Protection Zone (SPZ). Five surface water abstractions licences are registered within 1 km of the site. No designated sites of ecological interest are present on the Site or in the vicinity.
Preliminary Contaminated Land Assessment	With regards to on-site sources of potential contamination, the maintenance facilities/storage yard are a potential source of contamination, and due to the age of the golf course, areas of localised unknown made ground to raise levels or as foundations may be present, along with the longstanding use of chemicals to achieve the required soft landscaping. Off-site sources of potential contamination include: adjacent airfield, historical electricity substation, unspecified tanks, pumping station, railway line (with associated building and sidings), sludge storage, trading estate, petrol station, historical landfilling and refuse heap. Historical Gas Works and Water Treatment Works were identified in the wider vicinity, however,

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	these are beyond 400 m of the Site, on the opposing side of the Lidsey Rife and unlikely to have a pathway from the potential contamination source onto the Site. Receptors identified are current users of the golf course, off-site residents, future on-site construction workers and residents, on-site and off-site property including buried services (existing and proposed) and controlled waters (surface water and Secondary A/Principal aquifers) and abstractions. Overall, risks to receptors from potential contamination were conservatively considered to be between very low and moderate due to unknown, localised potential contamination on the Site from the identified sources.
Conclusions and Recommendations	On the basis of the findings of this PRA, it is recommended that the following is carried out: » A flood risk assessment to better understand how the Site is likely to be impacted by flooding; » A detailed desk study for unexploded ordnance (UXO) to assess and zone the UXO hazard levels on Site; » A ground investigation to obtain geotechnical and contaminated land data to confirm baseline ground conditions and inform the development design.

This sheet is intended as a summary only.

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1 INTRODUCTION

1.1 AUTHORISATION

WSP UK Limited (WSP) was instructed by Hallam Land Management Limited (the Client) to undertake a desk-based geo-environmental PRA. This is to inform the Client of the likely ground conditions at the Site, associated with plans to redevelop for residential use. As part of the wider development project, a new golf course is proposed on land approximately 3.2 km east of the existing golf course.

This PRA reviews the Site of the existing golf course, located at Bognor Regis Golf Club, Downview Road, Felpham, Bognor Regis, PO22 8JD (herein referred to as 'the Site'). The PRA for the proposed location of a new golf course is provided in Doc. Ref. 70088068-GW2.

1.2 OBJECTIVES

The overall aims and objectives of this PRA are to:

- Provide baseline information of the Site and study area (relevant features present up to 1 km from the Site), including geology, ground conditions and hydrogeology;
- Detail the geo-environmental setting of the Site, including the surrounding land use and historical land use;
- Assess the potential for contaminant linkages based on land use to develop a preliminary conceptual site model (CSM) for the proposed development works; and
- Make recommendations for any further action that needs to be taken to manage these potential risks or constraints.

The assessment has been carried out with reference to relevant UK legislation and guidance documents, including Land Contamination: Risk Management (LC:RM)[1] (superseding Model Procedures for the Management of Land Contamination (CLR11)[2], CIRIA C552[3] and CIRIA C665[4].

1.3 SCOPE OF WORKS

In order to meet the objectives listed above, the following scope of works was undertaken:

- A walkover of the Site, conducted on the 7th of September 2021;
- A review of the readily available Ordnance Survey (OS) historical maps to highlight historical land uses and potential sources of contamination;

[1] Environment Agency (2019). Land contamination risk management. How to assess and manage the risks from land contamination. Accessed on 30/11/2021 from https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[2] Defra, Environment Agency (2019). Model Procedures for the Management of Land Contamination
[3] Construction Industry Research and Information Association (2001). Contaminated land risk assessment. A guide to good practice (C552).
[4] Construction Industry Research and Information Association(2007). Assessing risks posed by hazardous ground gases to buildings (C665)

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- A review of the available published information relating to geology, hydrological features, hydrogeology, neighbouring land use and ecologically sensitive sites; and
- Development of a Preliminary CSM utilising the source-pathway-receptor contaminant-linkage model[1,3].

1.4 SOURCES OF INFORMATION

This assessment is based upon information presented in Table 1-1.

Table 1-1 - Summary of sources of information

Information Type	Details
Site Reconnaissance	WSP Site Walkover on 7th September 2021
Public Information	- British Geological Survey (BGS) Map no. 317/332 (Chichester and Bognor) Solid and Drift (1:50,000 Series), 1996; - British Geological Survey GeoIndex Onshore, available [https://mapapps2.bgs.ac.uk/geoindex/home.html], accessed 20th October 2021; - British Geological Survey Lexicon of Named Rock Units, available [https://www.bgs.ac.uk/technologies/the-bgs-lexicon-of-named-rock-units/], accessed 20th October 2021; - The Coal Authority Interactive Map Viewer, available [https://mapapps2.bgs.ac.uk/coalauthority/home.html], accessed 20th October 2021; - Environment Agency Catchment Data Explorer, available [https://environment.data.gov.uk/catchment-planning/], accessed 20th October 2021; - Environment Agency Main River Map, available [https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386], accessed 15th September 2021; - MAGIC Interactive Maps (DEFRA and Natural England), available [https://magic.defra.gov.uk/MagicMap.aspx], accessed 20th October 2021; - Soil Survey of England and Wales. Soils and their use in South East England. 250k; - UK Flood Risk Maps for Planning, available [https://flood-map-for-planning.service.gov.uk/confirm-location?easting=495157&northing=100813&placeOrPostcode=PO22%208JD], accessed 20th October 2021; and - Zetica UXB Risk Maps, available [https://zeticauxo.com/downloads-and-resources/risk-maps/], accessed 20th October 2021.
Third Party Reports	Groundsure Report (ref: GS-8275626)

1.5 LIMITATIONS

This report is addressed to and may be relied upon by Hallam Land Management Limited. It may not be relied upon or transferred to any other parties without the express written agreement of WSP. The report should be read and used in full. No responsibility will be accepted where this report is used, either in its entirety, or in part, by any other party. WSP cannot be held liable for third party information. Full detailed of the limitations are provided as **Appendix B**.

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In support of the Groundsure Report associated with this report (**Appendix E**), local authorities have been consulted. Information requests have been sent out to the Environment Agency, and to the Local Authority (contaminated land officer, and building control officer). To date no additional information has been received.

1.6 UNDERSTANDING RISK

It is important to recognise that any risks identified during PRA, such as that presented below, are perceived risks based on the recorded information reviewed. A more detailed assessment requires site specific data obtained from intrusive investigation. The preliminary assessments presented herein are qualitative based on professional judgments following review of the available data and within the context of the existing/proposed use. Those risk categories presented (Very Low, Low, Low to Moderate, Moderate, High, and very High) follow guidance practice outlined in CIRIA C552, Contaminated Land Risk Assessment- A Guide to Good Practice. CIRIA states that risk levels should be based on an understanding of both the probability (likelihood) of a risk occurring and the magnitude of the potential consequences (severity) of a risk. CIRIA defines four levels of probability with four levels of severity with relation to contaminated land, as presented in **Appendix H**.

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2 SUMMARY OF THE SITE AND THE SURROUNDING AREA

2.1 SITE LOCATION AND DESCRIPTION

The Site is located in the north-eastern outskirts of Bognor Regis. A Site Location Plan is presented as Figure 1 in **Appendix A**, and an aerial photograph is provided as Figure 2, **Appendix A**.

WSP undertook a Site walkover on 7th September 2021. Pertinent information relating to the present-day condition of the Site is presented ain **Table 2-1** below.

Table 2-1 - Pertinent Site Information

Item	Description
Location	Bognor Regis Golf Club, Downview Road, Felpham, Bognor Regis, PO22 8JD
Grid reference	E: 495065 N: 100881
Area in hectares (ha)	Approximately 40 ha
Site Layout and Structures	The Site is mostly soft landscaping, comprising rows of trees separating areas of managed lawn. A number of sand bunkers are distributed across the Site. Additionally, the Site is covered with numerous small tracks, pathways and drainage ditches and a pond. On-Site structures are present on the centre (maintenance facilities/storage yard) and south-east (clubhouse and car park), comprising a two-storey building. The Site is approximately 40 hectares.
Site access	Access to the Site is via the club house, accessed from Shirley Drive to the south-east of the Site.
Boundaries	North: the northern boundary of the Site is with agricultural land which is proximal to the A259; East: the eastern boundary is marked primarily by residential properties; South: the southern border is marked in part by agricultural land, a school and residential properties; and West: this border is marked primarily by the Lidsey Rife, beyond which is Bognor Regis gliding club and associated airfield.
Site elevation and topography	The Site is generally flat and level, ranging from 0 m above ordnance datum (AOD) to 3 m AOD. As the Site is a golf course, small mounds are common across the Site, typically on a scale of approximately a metre in height.
Current land use	The land is used as a golf course, with associated club house and maintenance facilities/storage yard.
Ground cover	The ground is covered by managed grass lawn, one small pond, isolated sand areas and frequent trees of various species. Hard standing is present across the car park, maintenance facilities /storage yard and access tracks.

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Item	Description
Current surrounding land use	To the east of the Site lies residential housing. The land use to the south of the Site comprises agricultural land, a school and public open space. Beyond the aforementioned Lidsey Rife and airfield to the west of the Site is a railway line, fuel station and a trading estate. The land use to the south of Site A comprises agricultural land, public open space, residential properties and a school.
Asbestos	No information concerning asbestos on the Site has been made available to WSP for review.
Storage of potentially contaminative fluids	No storage of potentially contaminative fluids was identified during the walkover.
Waste	No storage or processing of waste was identified during the walkover.
Drainage	Drainage of the Site is provided by a network of culverts and drainage ditches, connected to the Lidsey Rife. As the Site is covered by predominantly soft landscaping, it is anticipated that any rainfall onto the Site will infiltrate directly into the soil and/or run-off into the Lidsey Rife.
Invasive species and pests	During the walkover, no invasive species were positively identified, however, this report does not purport to be findings of an ecological survey.
Utilities	No utilities survey has been carried out for the purpose of this PRA and no detailed plans have been made available for review.

2.2 SITE HISTORY

The land use history of the Site and the surrounding area has been reviewed using publicly available aerial imagery and historical OS maps, and is summarised in Table 2-2 below. Historical maps are provided in **Appendix C**.

Table 2-2 - Pertinent Site history

Date	On-Site	Off-Site (<500 m)	Scale
1876	The Site comprises undeveloped land, covered with a network of tree lines, drainage ditches, and tracks. A small pond is present on the east of the site. In the south-east of the Site, in the same location as the present club house, is a building labelled the Clap Barn.	The land surrounding the Site is primarily agricultural land, including three labelled building complexes, Hoe Farm (400m north east), Oldlands Farm (480m east), and the Sack Barn (450m north). The other notable feature is the Bognor Branch of the London-Brighton South Coast Rail which runs north-south approximately 200m west of the Site. The Lidsey Rife is in is present day location on the western boundary of the Site.	1:10,560

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Date	On-Site	Off-Site (<500 m)	Scale
1896	Establishment of some footpaths, on the west and north of the Site.	An additional building complex has been marked, Brook Gate (400m south west).	1:10,560
1910	No significant change.	No significant change	1:10,560
1932-1934	The Site is now marked as a Golf Links, indicating a possible use change.	The surrounding area has seen significant change, which includes: Expansions to the road network, which includes a row of terraced houses 400m south east (an expansion to the town of Felpham), and three buildings immediately south of the Site. A gas works is mapped 480m to the south-west of the Site. This includes at least four silos, and seven warehouses. A brickfield is present 300m east.	1:10,560
1938-1940	No significant change.	The surrounding area has seen significant changes, which includes: Expansion to local housing network, primarily a row of terraced housing, approximately 350m south of the Site, and additional houses added to Outerwyke Road, 300m south east of the Site. A tank and pumping station are present 20m southeast of the club house. The gasworks is no longer marked (it reappears in later editions, indicating an attempt to conceal it during WW2).	1:10,560
1957-1961	A small wooded area is present on the southern extent of the Site.	More houses have been constructed, particularly adjacent to the south of the Site and 150m to 250m south-east of the Site. The gas works south west of the Site have been expanded further, including the addition of several warehouses.	1: 1,250 1:10,560
1967	No significant change.	No significant change	1:10,560

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Date	On-Site	Off-Site (<500 m)	Scale
1971	No significant change.	A hanger has been constructed, 50m west of the Site, indicating that the local glider club and the associated airfield has been established.	1:1,250
1979-1980	No significant change.	The town of Felpham has been expanded greatly, with a now continuous urban area. The industrial area south-west of the Site has seen a couple of additional warehouses added, although the use is still unspecified. The brickfield workings are no longer shown. A pumping station is present 300m northeast. The airfield associated with the gliding club has been constructed, adjacent to the west of the Site	1:10,000
1985	No significant change.	A pumping station has been installed approximately 400m west of the Site.	1:2,000
1993	No significant change.	No change to the development of Felpham. The industrial estate has been identified as the Southern Cross Industrial Estate, and has been expanded further, with an additional seven warehouses within 500m of the Site.	1:10,000
2001	No significant change.	No significant change	1:10,000
2010	No significant change.	No significant change	1:10,000
2012	No significant change.	Development of housing estates, from adjacent up to 500m east of the Site, and construction works for the A259 begins	Google Earth Aerial Imagery
2015	No significant change.	Construction of the first of two Rolls Royce warehouses is completed approximately 400m west of the Site, with a second under construction 315m west of the Site	Google Earth Aerial Imagery
2021	A small pond is now shown on the centre of the Site.	Construction of the A259 is complete as close as 140m north of the Site.	1:10,000

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2.3 REGULATORY INFORMATION

Further to the review of historical maps, additional land uses and features identified in the Groundsure Report as (**Appendix C)** have been summarised below in Table 2-3 below:

Table 2-3 - Pertinent regulatory information

Information	On-Site	0-250 m	251-500 m	Details
Past Land Use				
Historical industrial land use	-	8	15	The nearest identified significant land use is the airfield (adjacent west). Other nearby uses include: pumping stations, railway sidings, unspecified works, electricity substations and unspecified pits.
Historical tanks	-	1	12	The nearest tank is an unspecified tank 53m south of the Site, initially recorded in 1939.
Historical energy features	-	1	24	The nearest identified electricity feature is a substation, 95m south west. The remaining No.24 features are all substations, typically 260-490m south to west, with an additional substation 274m south east.
Historical garages	-	-	3	There has been one identified garage, 440m west of the Site. It has been noted from dates 1971 to 1996.
Waste and Landfill				
Historical landfill (LA/Mapping records)	-	1	-	The nearest identified landfill site has been identified 110m west of the Site.
Historical landfill (EA records	-	2	-	The Environment Agency has identified two historical landfill sites, 100m north-west, and the second 230m west, which are recorded to have been operated under the same license. They were used for inert industrial waste, and liquid sludge, operating from 1970 to 1983.
Waste exemptions	-	5	2	The nearest waste exemption is 46m north-east, covering the storage of waste on a farm. The remaining waste exemptions cover the storage of waste on a farm, the storage of waste not on a farm, and storage or treatment of non-agricultural waste only.

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Information	On-Site	0-250 m	251-500 m	Details
Current industrial land uses				
Recent industrial land uses	1	7	-	The Groundsure Report has identified a telecommunications mast along the southern boundary of the Site. The remaining seven nearby industrial land uses include three electricity substations, an electricity pole, the airfield, and two pumping stations.
Current or recent petrol stations	-	-	1	The nearest identified petrol station is identified 400m west of the Site.
Licensed pollutant release (Part A(2)/B)	-	-	5	The nearest identified licensed pollutant release is located 345m north-west of the Site. Other pollutant releases identified include: di-isocyanate processes, the unloading of petrol into storage, combustion and incineration, and a waste oil burner (0.4 MW).
Licensed Discharges to controlled waters	1	5	5	One historical discharge to controlled waters has been identified on-Site, for the release of surface waters into the controlled sea, this discharge was from 1962 to 1997. Other water company and non-water company discharges in the vicinity include: trade discharge (process effluent), sewage discharges (pumping station, final/treated effluent and unspecified sewage discharge).
Pollutant release to surface waters (red List)	-	1	-	The single pollutant release to surface waters identified is process effluent- not water company, for the discharge of undefined effluent approximate 120 to the west.
List 2 Dangerous Substances	-	1	-	The neatest List 2 Dangerous Substance covers the landfill site 120m west, for the authorised substances; Chromium, Copper, Lead, and Zinc. The receiving water body is the Lidsey Rife.
Pollution Incidents (EA)	-	1	1	The nearest identified incident was the discharge of sewage materials (final effluent), resulting in a Category 2 (Significant) Water Impact and Land Impact, alongside a Category 3 (Minor) Land Impact. This was 240 m north-east of the Site and occurred nearly 20 years ago (2003).

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3 GEO-ENVIRONMENTAL SETTING

3.1 GEOLOGY

A review of the publicly available British Geological Survey (BGS) 1:50,000 scale solid and drift geology map of Chichester and Bognor, England and Wales Sheet 317/332, from 1996, with supplementary information provided by the Groundsure Report (**Appendix C**), indicates that the Site is covered by superficial Quaternary River Terrace Deposits and Raised Marine Deposits - the stratigraphic relationship these units share is not clear in available mapping. The underlying solid geology comprises the White Chalk Subgroup (formerly the Upper Chalk Formation), specifically the Spetisbury and Tarrant chalk members in the south and north of the Site respectively.

No publicly available boreholes are on-Site, however six boreholes associated with nearby developments and industrial uses have been identified through the BGS GeoIndex onshore webtool, and are summarised in Table 3-1 below:

Table 3-1 - Summary of local borehole logs

Log ID	Location and distance from site	Stratum Description	Depth to top of stratum (m bgl)*	Depth to base of stratum (m bgl*)	Water strikes (m bgl)
SU90SE23	90m north-east	Soil	0.00	0.20	No strike
		Brickearth	0.20	1.60	
		Upper Chalk	1.60	4.80**	
SU90SE58	400m east	Topsoil	0.00	0.40	15
		Brown sandy Clay	0.40	3.00	
		Grey sandy Clay	3.00	15.00	
		Chalk with flints	15.00	50.00**	
SU90SW55	70 m south-east	Topsoil	0.00	0.20	1.6
		Brickearth- silt, brown, with particles of peat and a few flint pebbles.	0.20	1.60	
		Raised Beach Deposits	1.60	5.20	
		Upper Chalk	5.20	6.10**	
SU90SW34	250m south-west	Clay	0.00	4.26	1.0
		Chalk with flints	4.26	9.14**	

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Log ID	Location and distance from site	Stratum Description	Depth to top of stratum (m bgl)*	Depth to base of stratum (m bgl*)	Water strikes (m bgl)
SU90SW21	400m west	Topsoil and Made Ground	0.00	1.20	2.4
		Chalk with flints	0.20	135.00	
		Soft chalk with flints	135.00	157.00	
		Chalk with flints	157.00	240.00**	
SU90SW54	450m west	Soil	0.00	0.40	No strike
		Brickearth- clay, brown, silty near top, sandier near base	0.40	1.90	
		Raised Beach Deposits- very clayey pebbly sand	1.90	2.80	
		Upper Chalk- Chalk, rubbly, silty near top	2.80	4.00**	

*m bgl – metres below ground level
** base not proven

3.2 MINING HAZARDS

The Coal Authority Interactive Map viewer indicates that the Site is not in a Development High Risk Zone, nor is it in a coal mining reporting area. No records of past surface coal mining, or shallow coal mine workings are known, and not expected given the local geology.

The BGS GeoIndex indicates that the Site does not lies within an area associated with non-coal mining. The Groundsure Report indicates that some surface ground workings are known within 250m of the Site, but not on the Site. These surface ground workings are an historic quarry extracting clay and shale for brick making-centred 292m east of the Site, and a refuse heap, 240m west of the Site- this is associated with Lec Refrigeration. No other significant ground workings have been identified, and no natural cavities are expected on or near to the Site.

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3.3 GROUND STABILITY HAZARDS

The Groundsure Report provides hazard ratings from the BGS concerning the potential for ground stability hazards at the Site, and within a 50m radius. These are summarised in Table 3-2 below:

Table 3-2 - Potential ground stability hazards

Potential Hazard	BGS Risk Rating (within 50m)
Shrink swell clays	Low
Running sands	Low
Compressible deposits	Negligible
Collapsible deposits	Low
Landslides	Very Low
Ground dissolution of soluble rocks	Very Low

BGS reporting indicates that the Site overlies an area where soluble rocks pose a risk (due to chalk). This is considered low (in the table above) due to the presence of superficial deposits.

3.4 RADON

The Groundsure Report indicates that the Site is located in an area where less than 1% of properties are expected to have radon levels above the action level for radon, with the exception of the southernmost portion of the Site where 1 to 3% of properties are expected to experience greater than the action level for radon gas. In either case, it is expected that no radon protection measures will be required. This is consistent with data available through UKRadon.

3.5 HYDROGEOLOGY

The River Terrace Deposits and Raise Marine Deposits are both designated as Secondary A aquifers, defined by the Environment Agency as "*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*".

The White Chalk Subgroup (former Upper Chalk Formation) is designated a Principal aquifer, defined by the Environment Agency as "*geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale*".

Groundwater vulnerability designations provide an assessment of how vulnerable the groundwater within a 1km square is to pollutant discharge, based on hydrological, hydrogeological, geological data, and soil properties. Within the Groundsure Report this information is provided as the Combined Groundwater Vulnerability Map, and breaks down as follows:

Groundwater in the superficial aquifer beneath the Site spans two classification areas, a High vulnerability in the west, and a Medium vulnerability in the east. A High groundwater vulnerability rating is defined by the Environment Agency as "*areas that can easily transmit pollution to groundwater. They are characterised by high-leaching soils and the absence of low-permeability superficial deposits*". A Medium groundwater vulnerability rating is defined by the EA as "*areas that offer some groundwater protection*".

The Principal aquifer of the White Chalk Subgroup is classified as having Medium vulnerability.

The site is within a Nitrate Vulnerability Zone.

The Site is not within a groundwater SPZ. A groundwater abstraction point is present 750 m east of the Site, for general farming and domestic uses, limited to 9,092 m^3 annually or 27.0 m^3 daily. The status of this licence is historical. No other groundwater abstractions are present within 1km of the Site.

3.6 HYDROLOGY

The Groundsure report has identified 68 water network features, of which eleven are underground, on-Site, all of which are described as an "*inland river not influenced by normal tidal action*". An additional 82 similar features have been identified within 250 m of the Site.

Under the WFD, three water features (water bodies, water body catchments and groundwater bodies) have been identified, these are:

- Lidsey Rife River Waterbody Catchment area;
- Lidsey Rife River; and
- Littlehampton Anticline West groundwater body.

The Groundsure report has identified six surface water abstractions within approximately 1 km of the Site. The nearest active abstraction licence is 7 m to the west, used directly for irrigation.

3.7 FLOODING

A review of the flood risk map for planning published by the UK Government indicates that majority of the Site lies within a Flood Zone 3 (High Risk) area, indicating that it has a greater than 1 in 100 chance of annual flooding from rivers. Additionally, the Site is considered to be at high risk from groundwater flooding.

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3.8 DESIGNATED ECOLOGICAL SITES AND OTHER SENSITIVE LAND USES

No designated sites of ecological interest are present within 500 m of the Site.

3.9 UNEXPLODED ORDNANCE (UXO)

Publicly available risk mapping provided as Zetica UXO indicates that the Site overlaps an area with a Moderate risk from UXO. A Pre-Desk Study Assessment (**Appendix D**) indicates that the Site straddles the boundary between the Urban District of Bognor Regis, and the Rural District of Chichester which have recorded bombing densities from WWII of 40.7 bombs per 405 hectares (ha) and 11.9 bombs per 405 ha respectively, and several high explosive bombs fell within close proximity to the Site. Additionally, a fighter plane (unspecified) crashed on the Site during WWII. No records indicate that this Site was impacted specifically by explosives during WWI. However, a detailed desk study for UXO to assess and zone the Site for UXO risk is recommended.

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4 PRELIMINARY CONCEPTUAL SITE MODEL

4.1 INTRODUCTION

This section of the report summarises the characteristics of the Site and provides a systematic indication of the risks to enable uncertainties and further assessment needs or other actions to be identified. It draws on the information presented in earlier sections of the report to identify plausible contaminant-pathway-receptor contaminant linkages in the context of the proposed development.

The assessment followed a risk-based approach; with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' contaminant linkage concept introduced in the guidance documents (principally the Environment Agency's LC:RM and CIRIA C552) on the practical implementation of the Environmental Protection Act 1990.

Environmental risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existence of a contaminant linkage is primarily dependant on Site usage and environmental conditions. The risk assessment methodology is outlined in **Appendix G**.

The environmental risk assessment has been carried out by identifying and evaluating the significance of the following:

- Potential sources of contamination: these include any historical or current actual or potentially contaminating materials and activities, located either on or in the vicinity of the Site;
- Potential receptors of contamination: these include present and future land users, controlled water receptors or property located either on or in the vicinity of the Site; and
- Potential pathways for contamination migration: these are the routes or mechanisms by which contaminants may migrate from the source to the receptor.

4.2 POTENTIAL SOURCES

Sources of potential contamination are summarised in Table 4-1 below:

Table 4-1 - Summary of potential sources of contamination and contaminants of concern

Source	Contaminants of concern
On-Site	
Maintenance facilities/storage yard (run-off, spills and leaks of fuel, lubricating oils etc), unknown materials in made ground and chemicals applied to the golf course.	ACMs, herbicides and pesticides, metals, polycyclic aromatic hydrocarbons (PAHs); total petroleum hydrocarbons (TPHs); volatile organic compounds (VOCs); semi-organic VOCs; and ground gases.

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Source	Contaminants of concern
Off-Site	
Airfield, historical electricity substation, unspecified tanks, pumping station, railway line (with associated building and sidings), sludge storage, trading estate, historical landfilling (and unknown filling of pits (i.e. brickfield), refuse heap, petrol station/historical petrol station, industrial estate and agricultural activities.	ACMs, herbicides and pesticides, metals, PAHs; TPHs; VOCs; semi-organic VOCs; ground gases; Benzene, Toulene, Ethylbenzene, Xylene (BTEX); Sulphates and Polychlorinated Biphenyls (PCBs).

The identified off-site historical gas works and water treatment works are at a great enough distance away from the Site to not be considered to have a pathway linkage. The Lidsey Rife bisects the Site and these historical features.

4.3 POTENTIAL RECEPTORS

In the context of future residential land use, the following receptors were identified.

Human Health

- Current Site users (visitors/members of the public);
- Future Site users (residents);
- Future Site uses (construction workers); and
- Adjacent Site users (residents, members of the public, workers at nearby commercial/industrial properties and school children).

Construction workers employed during construction works for the development have not been included further in this assessment, as the mitigation of potential risks associated with their works will be covered under the Health and Safety at Work Act 194 and associated regulations.

As the purpose of this CSM is to identify risks which could arise from a proposed redevelopment of the Site from a golf course to residential properties, the risks to current Site users (golf course visitors/members of the public) has also been omitted from this assessment.

Controlled Waters

- Surface water: WFD catchment, Lidsey Rife and numerous surface water features lacing the Site and the wider local area, surface water abstraction points; and
- Groundwater: Groundwater within the superficial deposits (Secondary A aquifers), the bedrock (Principal aquifer) and one (historical) groundwater abstraction point.

The superficial aquifers and bedrock aquifer are anticipated to be hydraulically connected, and therefore risks to these controlled water receptors have been assessed simultaneously.

Infrastructure and Property

- Onsite current and future below ground services and foundations; and
- Off-site below ground services and foundations.

4.4 POTENTIAL PATHWAYS

The following migration pathways are considered relevant to the Site:

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- Pathways to Human Health receptors:
  - Dermal contact with/ingestion of dust or soils;
  - Inhalation of dusts and fibres; and
  - Inhalation of hazardous ground gases/vapours.
- Pathways to Controlled Waters receptors:
  - Runoff to surface water features;
  - Leaching of contaminants through the unsaturated zone and subsequent impact on groundwater/ vertical migration to underlying aquifers;
  - Lateral migration with groundwater to surface water features (baseflow); and
  - Lateral migrations of contaminants within groundwater to Site (off Site sources only).
- Pathways applicable to property receptors:
  - Direct contact with corrosive substances (e.g. hydrocarbons) in the soil, made ground or shallow groundwater; and
  - Migration and accumulation of hazardous gases within structures (explosive risk).

4.5 PLAUSIBLE CONTAMINANT LINKAGES

Table 4-2 provides an evaluation of the potential contaminant linkages and preliminary risk appraisal associated with current Site use and future redevelopment on the basis of the information currently available.

It should be noted this is a conservative CSM as concentrations of contaminants are not known (i.e. assigning consequence for human health is reliant on site-specific testing).

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Table 4-2 - Conceptual Site Model

Sources of potential contamination	Receptors	Pathways	Risk (Consequence, probability)	Comment
On-Site: Maintenance facilities/ storage yard (run-off, spills and leaks of fuel, lubricating oils etc), unknown materials in made ground and chemicals applied to the golf course.	Human health (on-site future residents)	Dermal contact with/ ingestion of contaminated dust or soils	**Moderate** (medium, likely)	Soft landscaping is likely to be included in the design of the development. It is not known whether clean, imported soil will be used for the top 600mm of soft landscaping. Due to the unknown ground conditions, it is possible that harm could arise. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Dermal contact with/ ingestion of contaminated water	**Low/ Moderate** (medium, low likelihood)	It is not likely that future residents will come into contact with perched/shallow groundwater. However, surface water features in the design of the development are not known and therefore it is possible that harm could arise from contact with surface water. It is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Inhalation of dusts and fibres	**Moderate** (medium, likely)	This source-receptor-pathway considers risk from asbestos. Soft landscaping is likely to be included in the design of the development. It is not known whether clean, imported soil will be used for the top 600mm of soft landscaping. Due to the unknown ground conditions (i.e. material buried within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Inhalation of hazardous ground gases/ vapours	**Low/ Moderate** (severe, unlikely)	Hard standing and enclosed spaces will be introduced to the Site where gases and/or vapours could accumulate. Due to the vast amount of permeable surfacing, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface from legacy contamination. Due to the unknown ground conditions (i.e. material buried within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
	Human health (off-site residents,	Dermal contact with/ingestion of migrated	**Low** (medium, unlikely)	A management plan will be required during construction, in order to reduce the possibility of migration of windblow dust to off-site receptors. During operation, there are not anticipated to be any pathways due to the introduction of impermeable surfacing and soft landscaping will reduce the risk of erosion and generating dust. It is not known whether clean, imported soil will

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Sources of potential contamination	Receptors	Pathways	Risk (Consequence, probability)	Comment
	members of the public, workers at nearby commercial/ industrial properties and school children)	contaminated dust or soils		be used for the top 600mm of soft landscaping. Due to the unknown ground conditions, it is possible that harm could arise, albeit unlikely. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Dermal contact with/ingestion of migrated contaminated water	**Very Low** (mild, unlikely)	It is not likely that off-site human health receptors will come into contact with perched/shallow groundwater. Surface water features in the design of the development are not known and therefore it is possible that harm could arise from contact with surface water features which are hydraulically connected to the site. It is unlikely that such harm would be severe due to dilution factors. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Inhalation of migrated contaminated dusts and/or fibres	**Moderate** (medium, likely)	This source-receptor-pathway considers risk from asbestos. A management plan will be required during construction, in order to reduce the possibility of migration of windblow dust to off-site receptors. Soft landscaping is likely to be included in the design of the development-it is not known whether clean, imported soil will be used for the top 600mm of soft landscaping. Due to the unknown ground conditions (i.e. material buried within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Inhalation of migrated hazardous ground gases/vapours	**Low/ Moderate** (severe, unlikely)	Hard standing will be introduced to the Site where gases and/or vapours could accumulate and migrate laterally off-site during operation. Due to the vast amount of permeable surfacing on-site and in the wider vicinity, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface from legacy contamination. Due to the unknown ground conditions (i.e. material buried within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
	WFD Secondary A aquifers and Principal aquifer and abstraction	Leaching of contaminants through the unsaturated zone/vertical migration to	**Moderate** (medium, likely)	Groundwater strikes in the vicinity were encountered from 1.0 m bgl, with expected connectivity to groundwater present in the chalk aquifer. It is not known whether existing hard standing in the car park area/maintenance facilities/storage yard area will be broken and removed, which could create a pathway from leachable contaminants in made ground to the groundwater. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.

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Sources of potential contamination	Receptors	Pathways	Risk (Consequence, probability)	Comment
		underlying aquifers		
	WFD Surface water features and abstractions	Surface water run-off	**Moderate** (medium, likely)	Contaminants may enter surface water drains on Site via run-off and this may discharge into the Lidsey Rife. A management plan will be required during construction, in order to reduce the possibility of migration of leachable contaminants (i.e. run-off from stockpiles). Surface water features in the design of the development are not known. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Lateral migration within groundwater to surface water features (baseflow)	**Moderate** (medium, likely)	Groundwater strikes in the vicinity were encountered from 1.0 m bgl, with expected connectivity to off-site surface water features. It is not known whether existing hard standing in the car park area/maintenance facilities/storage yard will be broken and removed, which could exacerbate a pathway from leachable contaminants in made ground to the shallow groundwater and subsequently, baseflow to the Lidsey Rife. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
	On-site property (current and future below ground services and foundations)	Direct contact with corrosive substances (e.g. sulphates) in the soil, made ground or shallow groundwater	**Very Low** (minor, low likelihood)	There is potential for localised contamination to be present on-site which may pose a risk to new underground services or foundations, or any which may remain in-situ for the development. If present, high sulphate or sulphide contents present a risk to buried concrete. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Migration and accumulation of hazardous gases within	**Low/ Moderate** (severe, unlikely)	Hard standing and enclosed spaces will be introduced to the Site where gases and/or vapours could accumulate. Due to the vast amount of permeable surfacing, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface from legacy contamination. Due to the unknown ground conditions (i.e. material buried

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Sources of potential contamination	Receptors	Pathways	Risk (Consequence, probability)	Comment
		structures (explosive risk)		within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
	Off-site property (below ground services and foundations)	Direct contact with migrated corrosive substances (e.g. sulphates) in shallow groundwater	**Very Low** (minor, low likelihood)	There is potential for localised contamination to be present on-site which may laterally migrate and pose a risk to off-site underground services or foundations. If present, high sulphate or sulphide contents present a risk to buried concrete. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
		Migration and accumulation of hazardous gases within structures (explosive risk)	**Low/ Moderate** (severe, unlikely)	Due to the vast amount of permeable surfacing on-site and in the wider vicinity, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface from legacy contamination. Hard standing will be introduced to the Site for the development, which may allow for ground gases to accumulate and migrate laterally off-site. Due to the unknown ground conditions (i.e. material buried within made ground), it is possible that harm could arise. Investigation is required to clarify the risk. Some remedial works may be required in the longer term.
Off-site: Airfield, historical electricity substation, unspecified tanks, pumping station, railway line (with associated	Human health (on-site future residents)	Dermal contact with/ingestion of migrated contaminated dust or soils	**Very Low** (minor, unlikely)	Off-site sources of potential contamination have been identified, however, it is unlikely that such harm to future on-site residents would be severe, or if any harm were to occur it is more likely that the harm would be mild. The likelihood of this pathway onto the Site is considered to be limited to during off-site construction works.
		Dermal contact with/ ingestion of migrated contaminated water	**Very Low** (minor, unlikely)	Off-site sources of potential contamination have been identified, however, it is unlikely that such harm to future on-site residents would be severe, or if any harm were to occur it is more likely that the harm would be mild. The majority of off-site sources of potential contamination are/were located on the adjacent side of the Lidsey Rife, therefore any perched/contaminated water from these sources are unlikely to reach the Site.

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Sources of potential contaminati on	Receptors	Pathways	Risk (Consequence, probability)	Comment
building and sidings), sludge storage, trading estate, historical landfilling (and unknown filling of pits (i.e. brickfield), refuse heap, petrol station/histori cal petrol station, industrial estate and agricultural activities.		Inhalation of migrated contaminated dusts and/or fibres	**Low** (medium, unlikely)	This source-receptor-pathway considers risk from asbestos. Off-site sources of potential contamination have been identified. The likelihood of this pathway onto the Site is considered to be limited to during off-site construction works.
		Inhalation of migrated hazardous ground gases/vapours	**Low/ Moderate** (severe, unlikely)	Hard standing and enclosed spaces will be introduced to the Site where gases and/or vapours could accumulate. Due to the vast amount of permeable surfacing in the wider vicinity, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface/migrating laterally from off-site contamination.
	On-site WFD Secondary A aquifers and Principal aquifer	Off-site leaching of contaminants through the unsaturated zone/vertical migration to underlying aquifers on-site	**Very Low** (mild, unlikely)	Groundwater strikes in the vicinity were encountered from 1.0 m bgl, with expected connectivity to groundwater present in the chalk aquifer. Groundwater flow direction is not known across the wider area, therefore this pathway cannot be discounted. However, the majority of off-site sources of potential contamination are/were located on the adjacent side of the Lidsey Rife, therefore any perched/contaminated water from these sources are unlikely to reach the Site.
	On-site WFD Surface water features	Surface water run-off	**Very Low** (mild, unlikely)	The majority of off-site sources of potential contamination are/were located on the adjacent side of the Lidsey Rife, therefore any surface water from these sources are unlikely to have reached the Site.
		Lateral migration within groundwater to surface water	**Very Low** (mild, unlikely)	The majority of off-site sources of potential contamination are/were located on the adjacent side of the Lidsey Rife, therefore any perched/contaminated water from these sources are unlikely to have reached the Site.

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Sources of potential contamination	Receptors	Pathways	Risk (Consequence, probability)	Comment
		features (baseflow)		
	On-site property (current and future below ground services and foundations)	Direct contact with migrated corrosive substances (e.g. sulphates) in shallow groundwater	**Very Low** (minor, unlikely)	There is limited potential for off-site contamination to be present on-site which may have laterally migrated on-site to pose a risk to underground services or foundations. If present, high sulphate or sulphide contents present a risk to buried concrete.
		Migration and accumulation of hazardous gases within structures (explosive risk)	**Low/ Moderate** (severe, unlikely)	Hard standing and enclosed spaces will be introduced to the Site where gases and/or vapours could accumulate. Due to the vast amount of permeable surfacing, it is not considered likely that significant quantities of ground gases/vapours are currently accumulating in the sub-surface from off-site sources of potential contamination.

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5 CONCLUSIONS & RECOMMENDATIONS

5.1 SUMMARY

WSP was instructed by Hallam Land Management Ltd. to undertake a desk based geo-environmental PRA for Bognor Regis Golf Club to inform the proposed redevelopment of the golf course into a residential end use.

Based on the findings of the Site walkover (7th September 2021) and a desk-based risk assessment, the risks were considered to generally range from very low to moderate due to unknown ground conditions associated with identified sources of potential contamination.

5.2 CONTAMINATION RISK POTENTIAL AND DEVELOPMENT CONSTRAINTS

The Site and study area contain receptors of medium and high sensitivity, including human health receptors, Secondary A aquifers, a Principal aquifer and surface water receptors.

Land use surrounding the Site is a mixture of arable, residential, industrial and commercial.

Identified sources of potential contamination include on-site: maintenance facilities/storage yard (run-off, spills and leaks of fuel, lubricating oils etc), unknown materials in made ground and chemicals applied to the golf course and off-site: Airfield, historical electricity substation, unspecified tanks, pumping station, railway line (with associated building and sidings), sludge storage, trading estate, historical landfilling (and unknown filling of pits (i.e. brickfield), refuse heap, petrol station/historical petrol station, industrial estate and agricultural activities.

It is not anticipated that these sources could constrain development or programme, however, the following recommendations should be implemented in order to further assess risks and identify remediation/mitigation if required.

5.3 RECOMMENDATIONS

On the basis of the findings of this preliminary risk assessment, WSP makes the following recommendations:

- A flood risk assessment to better understand how the site is likely to be impacted by flooding;
- A detailed desk study for UXO is commissioned to assess and zone the UXO hazard levels on Site;
- A ground investigation including the construction of hand pits, dynamic sampling, and plate load testing across the Site in order to understand how geotechnical parameters can be expected to vary across the Site;
- Qualified person(s) on-site to clear locations for intrusive investigation location of services;
- Bulk and disturbed samples should also be collected as a part of this investigation to aid geo-environmental and geotechnical understanding across the Site (with geo-environmental samples targeting localised areas of potential contamination, such as the maintenance facilities/storage yard);
- Installation of combined groundwater and ground gas monitoring standpipes to assess the hydrogeological and ground gas regime on-site (ground gas required only if ground conditions

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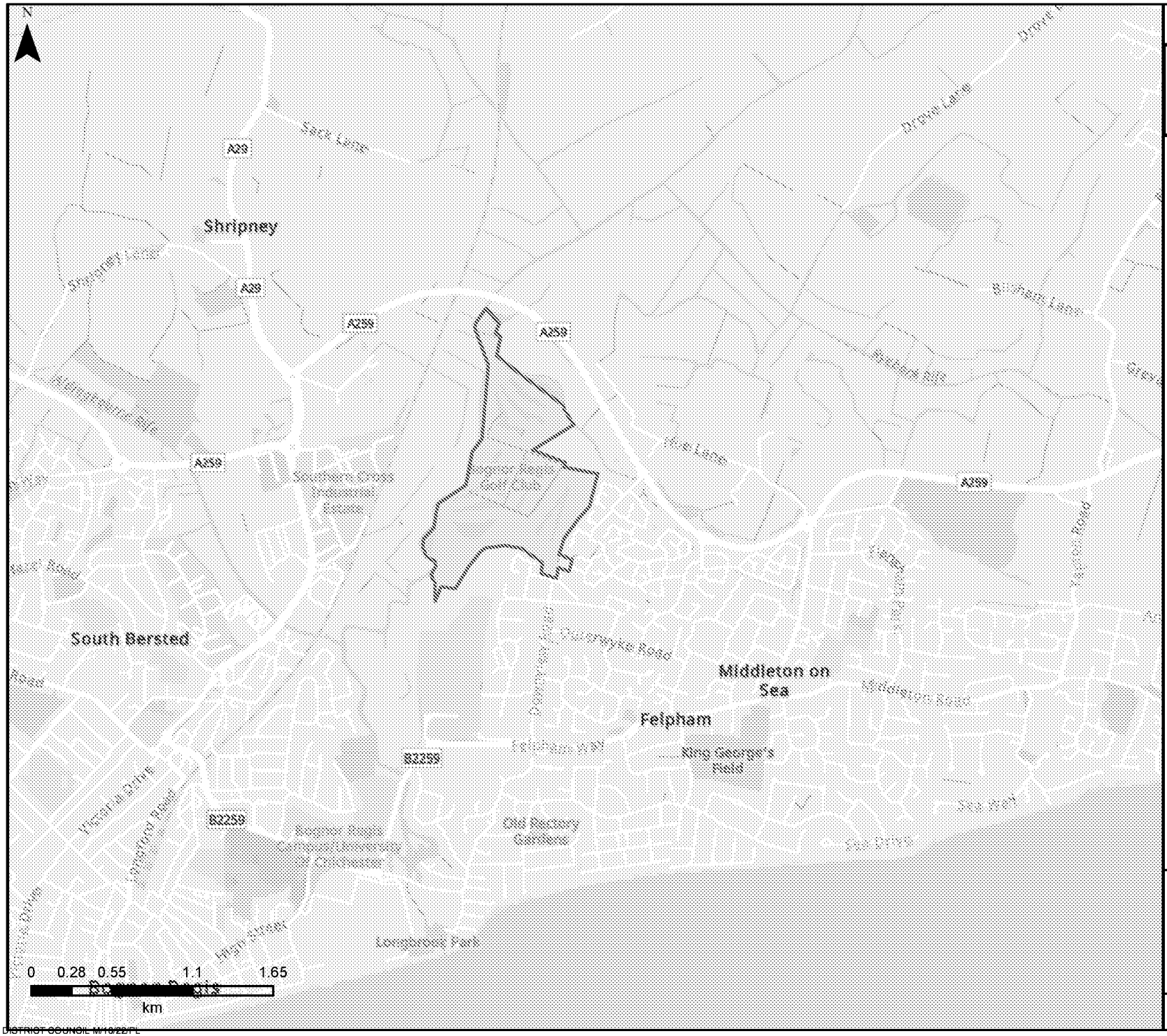
encountered during the ground investigation suggest reason to monitor i.e. substantial made ground is encountered); and

- Return visits to the Site following completion of works to undertake groundwater and ground gas monitoring (if required based on ground investigation findings).

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Appendix A

FIGURES



DO NOT SCALE

Information Classification:

INTERNAL

Information that is only intended for internal distribution among WSP employees, independent consultants, contractors, sub-contractors, clients and authorised third parties.

Legend :

Site Boundary

Title : Figure 1 - Site Location Plan
Author : ArcGIS Web AppBuilder
Scale : 1:36,112
Layout : WSP A4 Landscape
Current Time : 29/10/2021 10:27

© WSP UK Ltd



DO NOT SCALE

Information Classification:

INTERNAL

Information that is only intended for internal distribution among WSP employees, independent consultants, contractors, sub-contractors, clients and authorised third parties.

Legend :

Site Boundary

Title : Figure 2 - Site Layout Plan

Author : ArcGIS Web AppBuilder

Scale : 1:9,028

Layout : WSP A3 Landscape

Current Time : 28/10/2021 16:42

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Appendix B

LIMITATIONS

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:

    i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or

    ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective

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effects of any future changes or amendments to these values. Specific assumptions associated with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

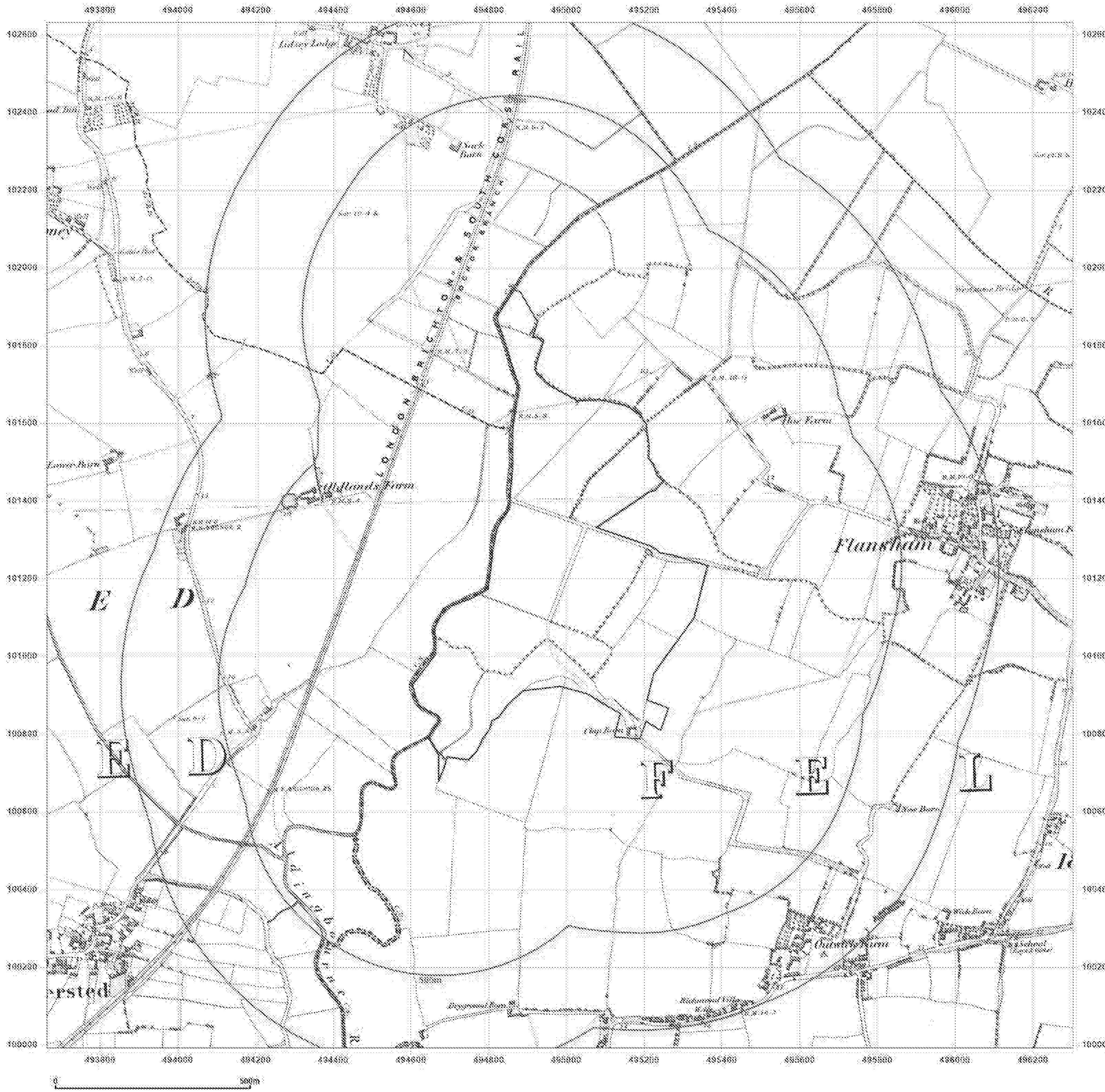
27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

28. The data is presented and will be compared with assessment criteria.

Appendix C

HISTORICAL MAPPING

ARUN DISTRICT COUNCIL M/16/22/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: County Series

Map date: **1876**

Scale: 1:10,560

Printed at: 1:10,560

N W E S

Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
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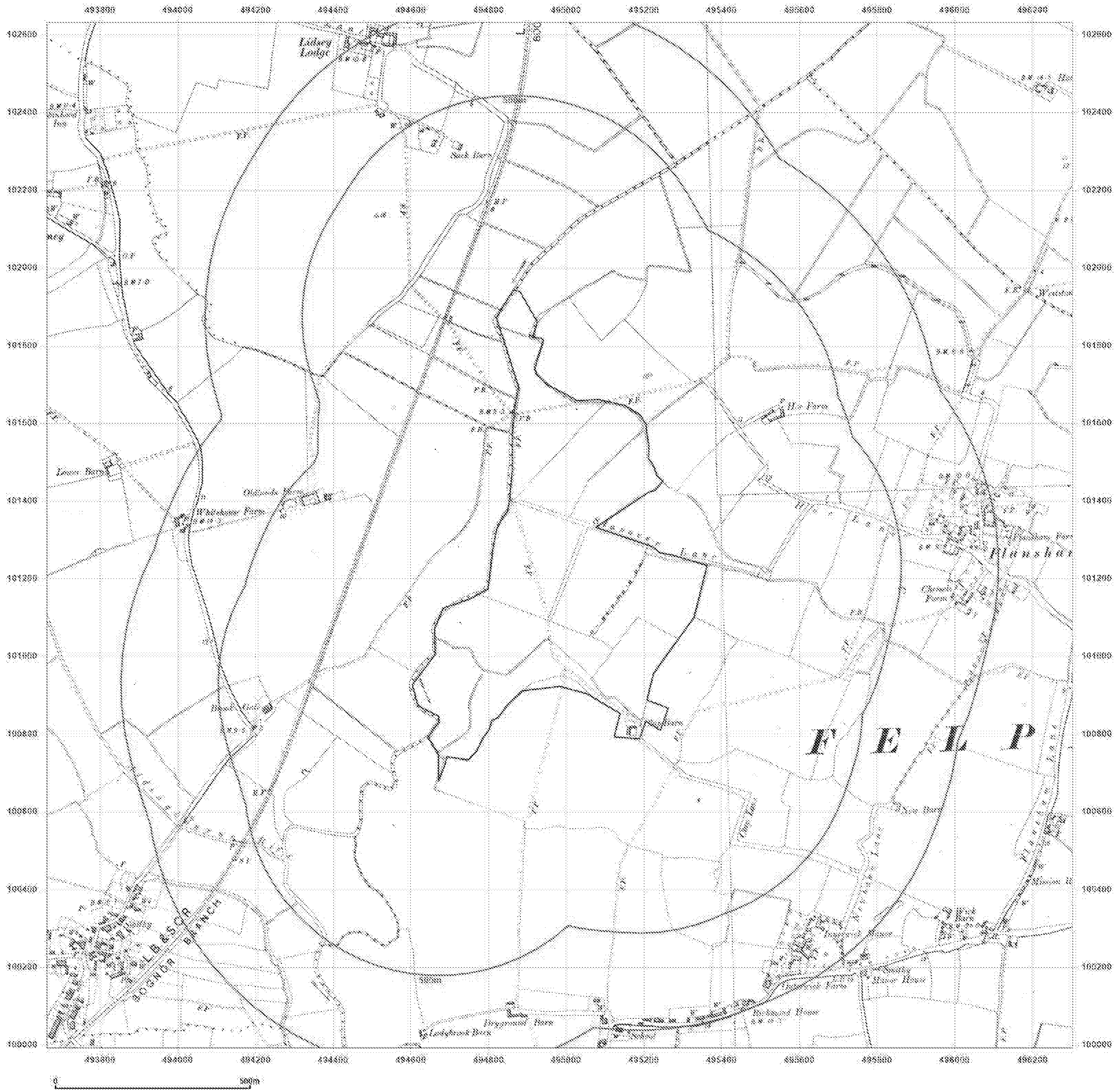
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Production date: 20 October 2021

Map legend available at:
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ARUN DISTRICT COUNCIL M/16/22/PL



Groundsure
INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: County Series

Map date: **1896**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1875
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

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Revised 1896
Edition N/A
Copyright N/A
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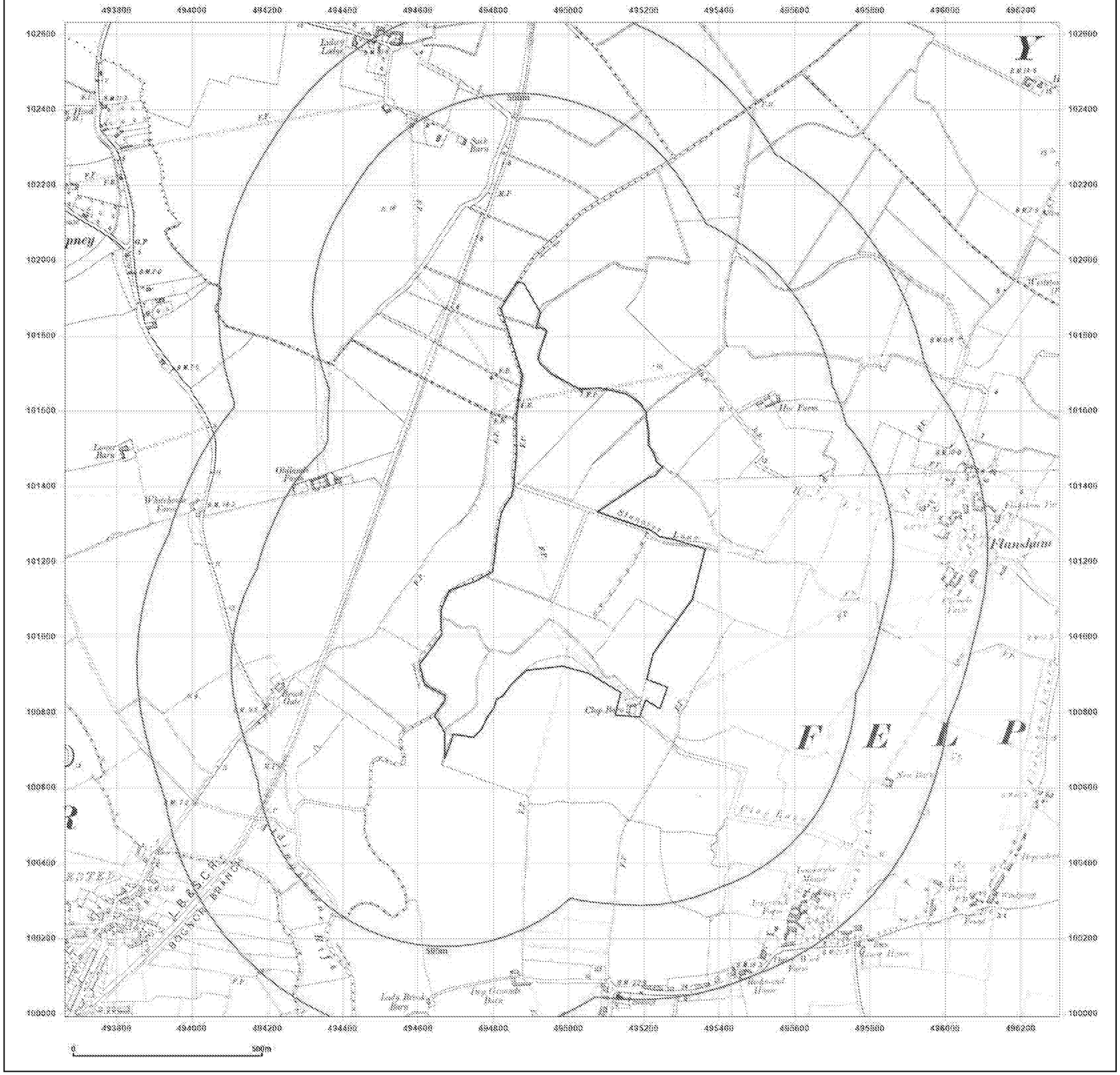
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ARUN DISTRICT COUNCIL M/1622/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: County Series

Map date: **1910**

Scale: 1:10,560

Printed at: 1:10,560

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Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

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Revised 1910
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Revised 1910
Edition N/A
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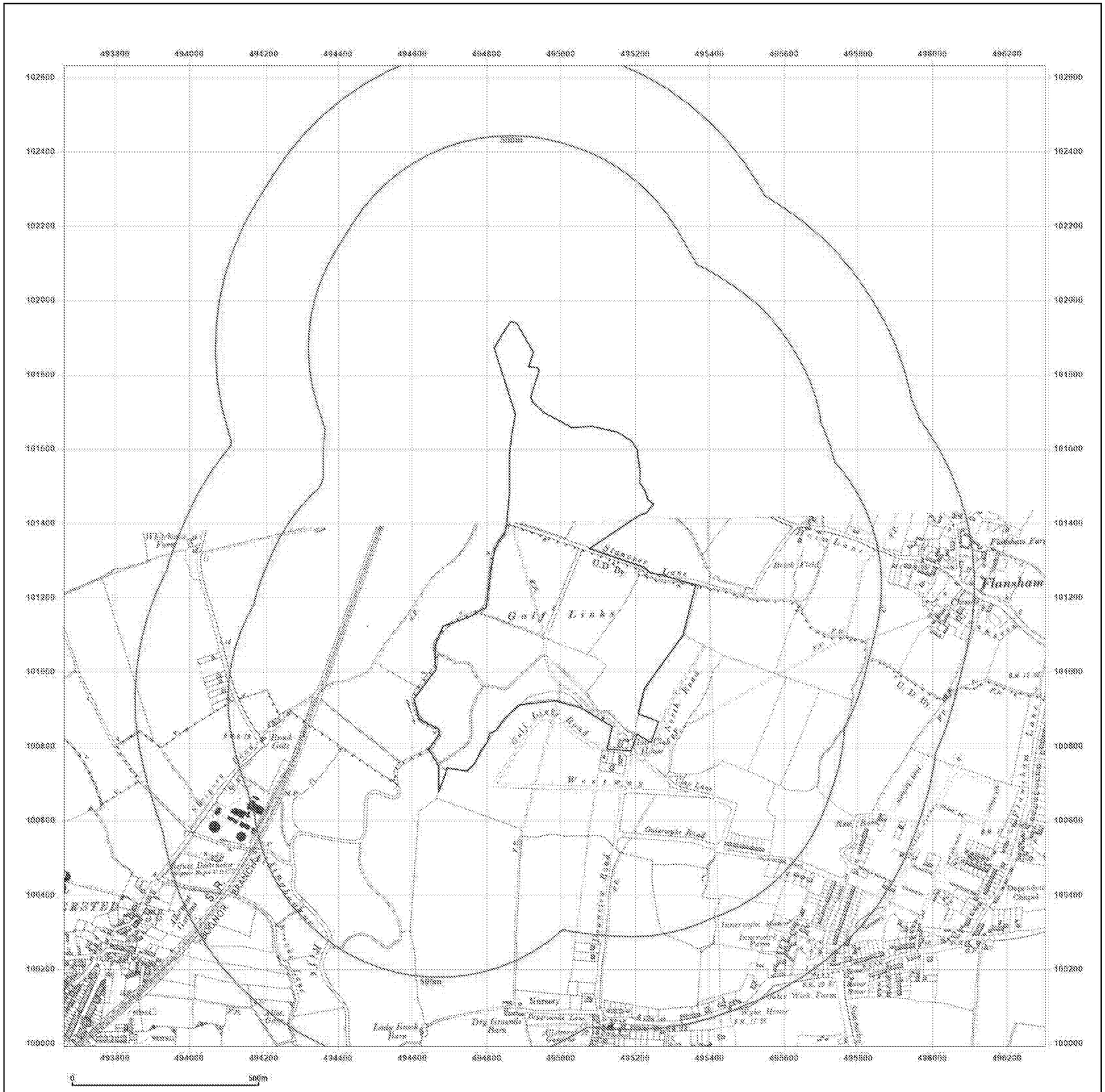
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Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

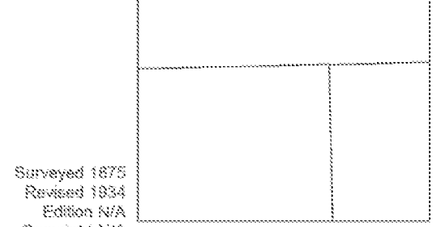
Map Name: County Series

Map date: **1932-1934**

Scale: 1:10,560

Printed at: 1:10,560

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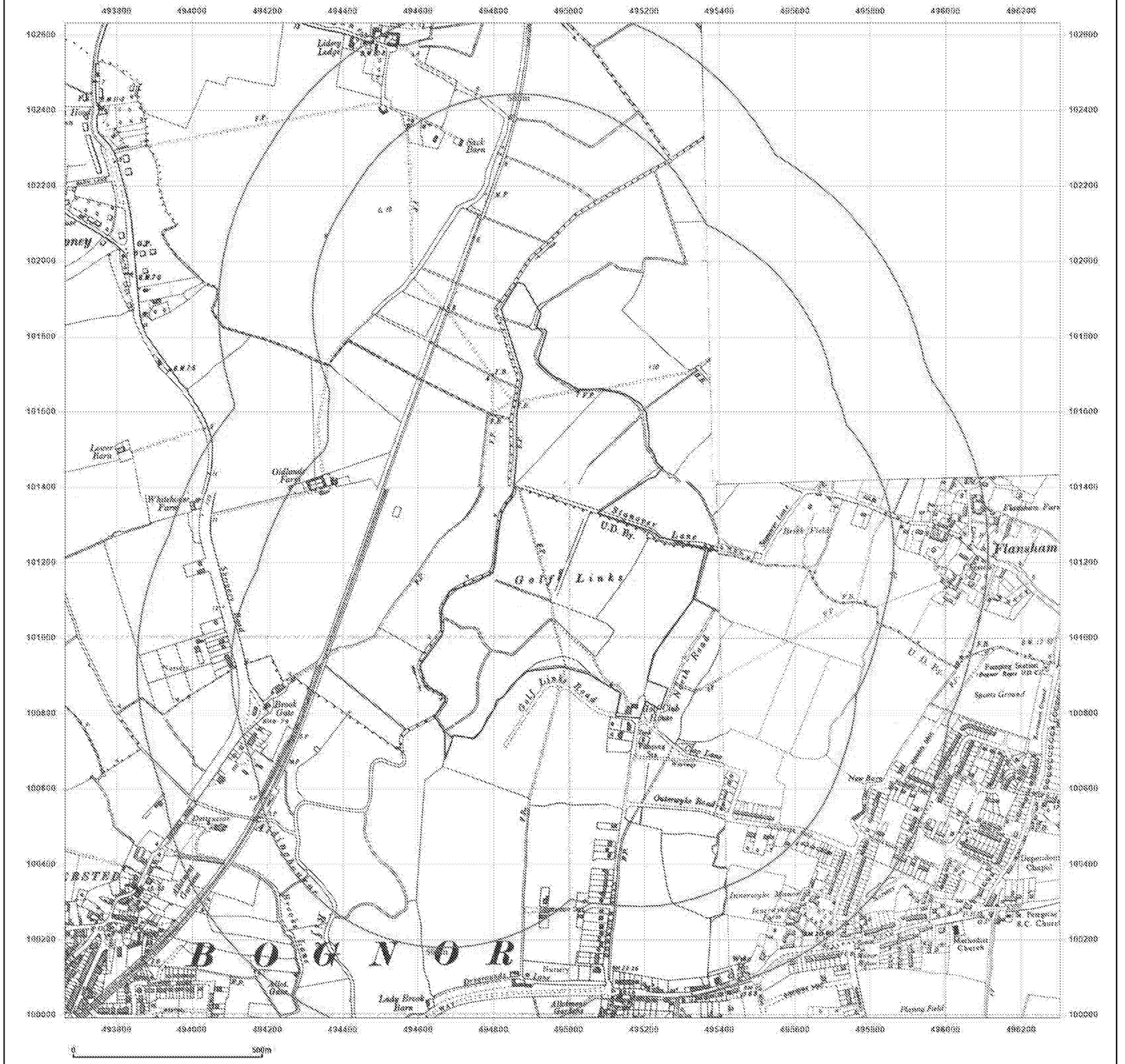
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ARUN DISTRICT COUNCIL M/1622/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: County Series

Map date: **1938-1940**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1874
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1940
Edition N/A
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Levelled N/A

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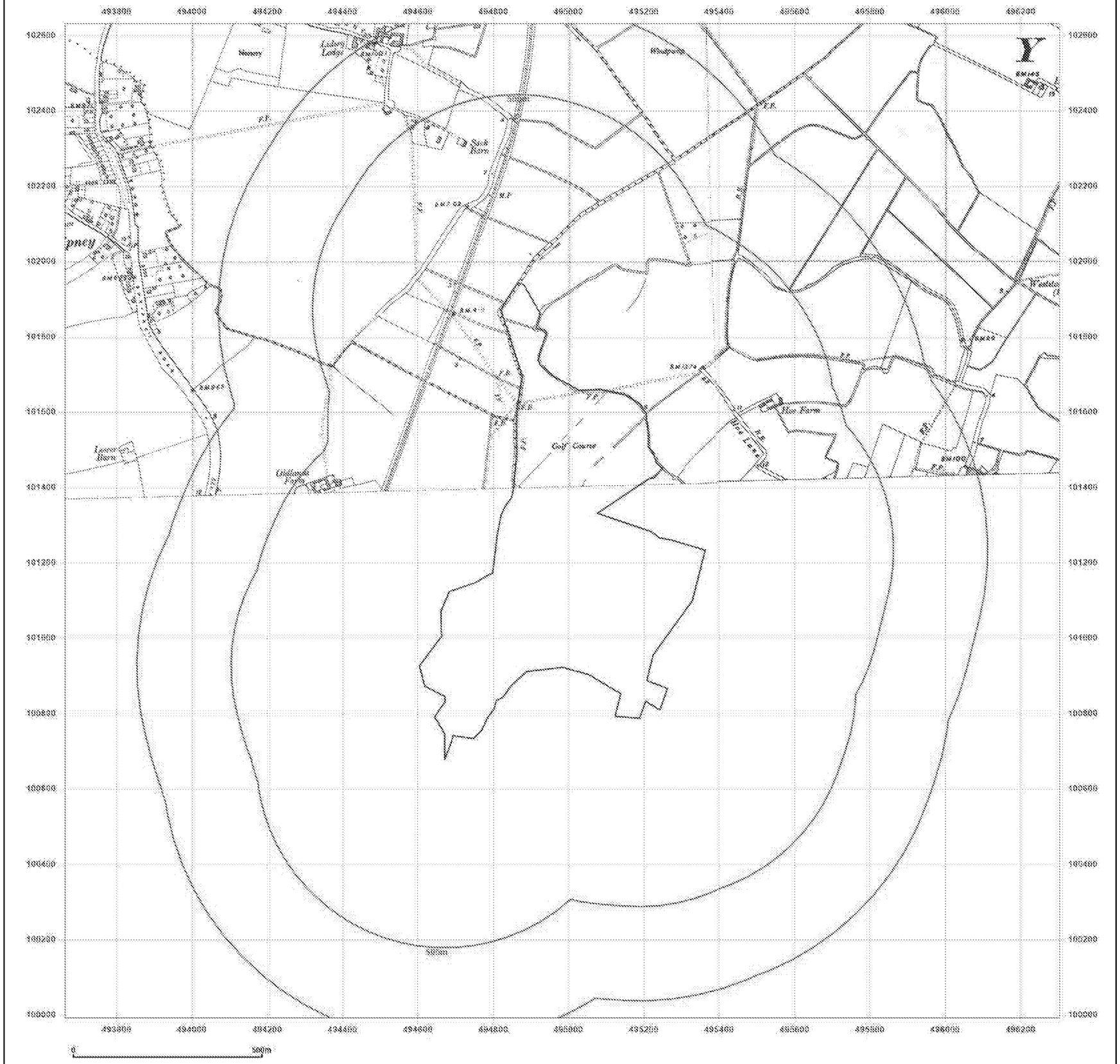
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Production date: 20 October 2021

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Groundsure INSIGHTS

Site Details:

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BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: County Series

Map date: **1950**

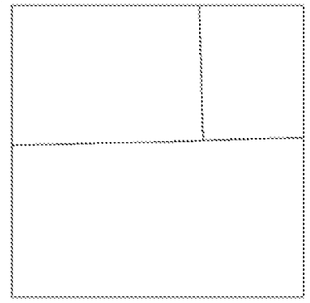
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Revised 1950
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A



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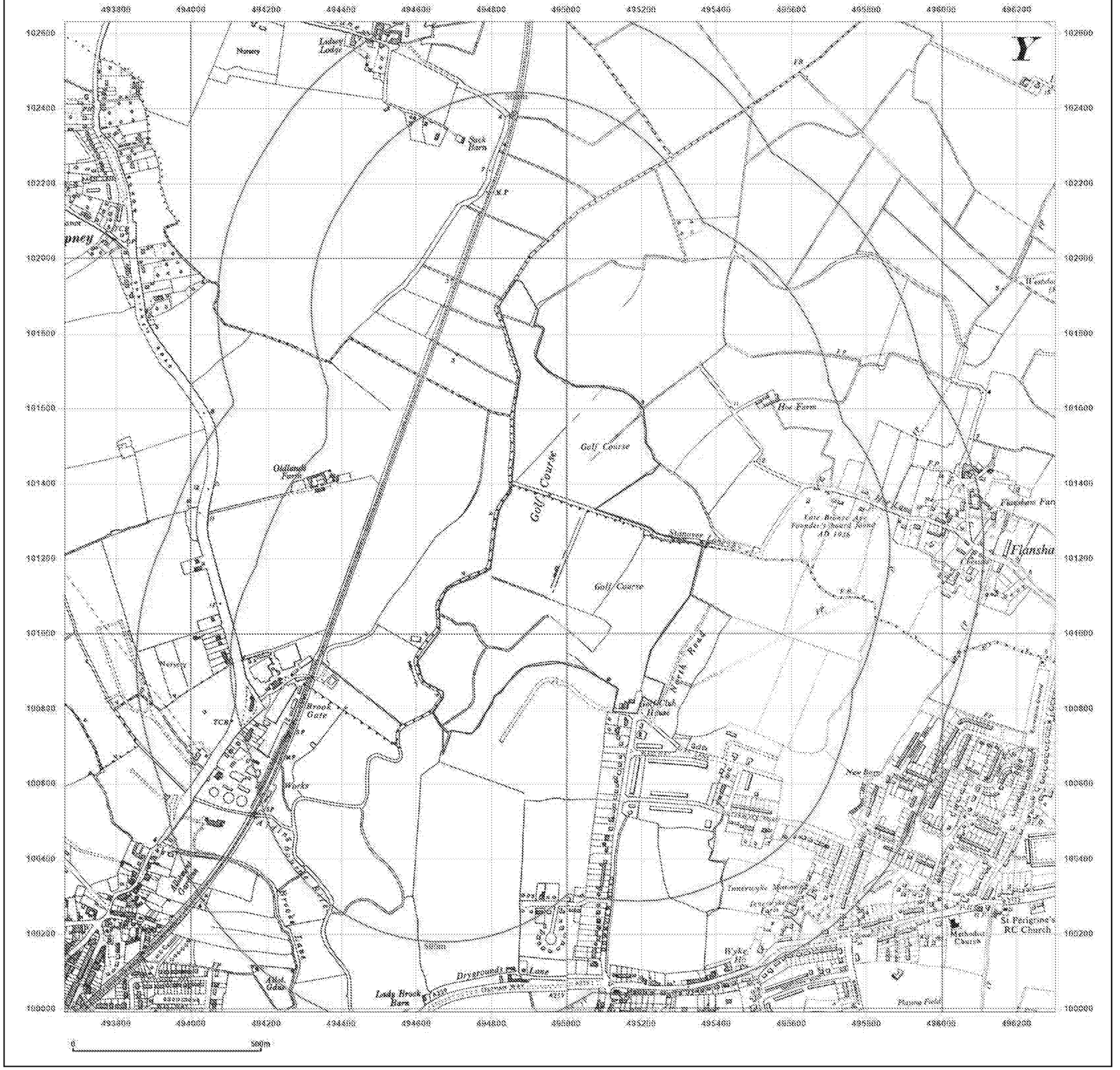
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Production date: 20 October 2021

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ARUN DISTRICT COUNCIL M/1622/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: Provisional

Map date: **1957-1961**

Scale: 1:10,560

Printed at: 1:10,560

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Edition N/A
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Levelled N/A

Surveyed N/A
Revised 1961
Edition N/A
Copyright N/A
Levelled N/A

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Revised 1957
Edition N/A
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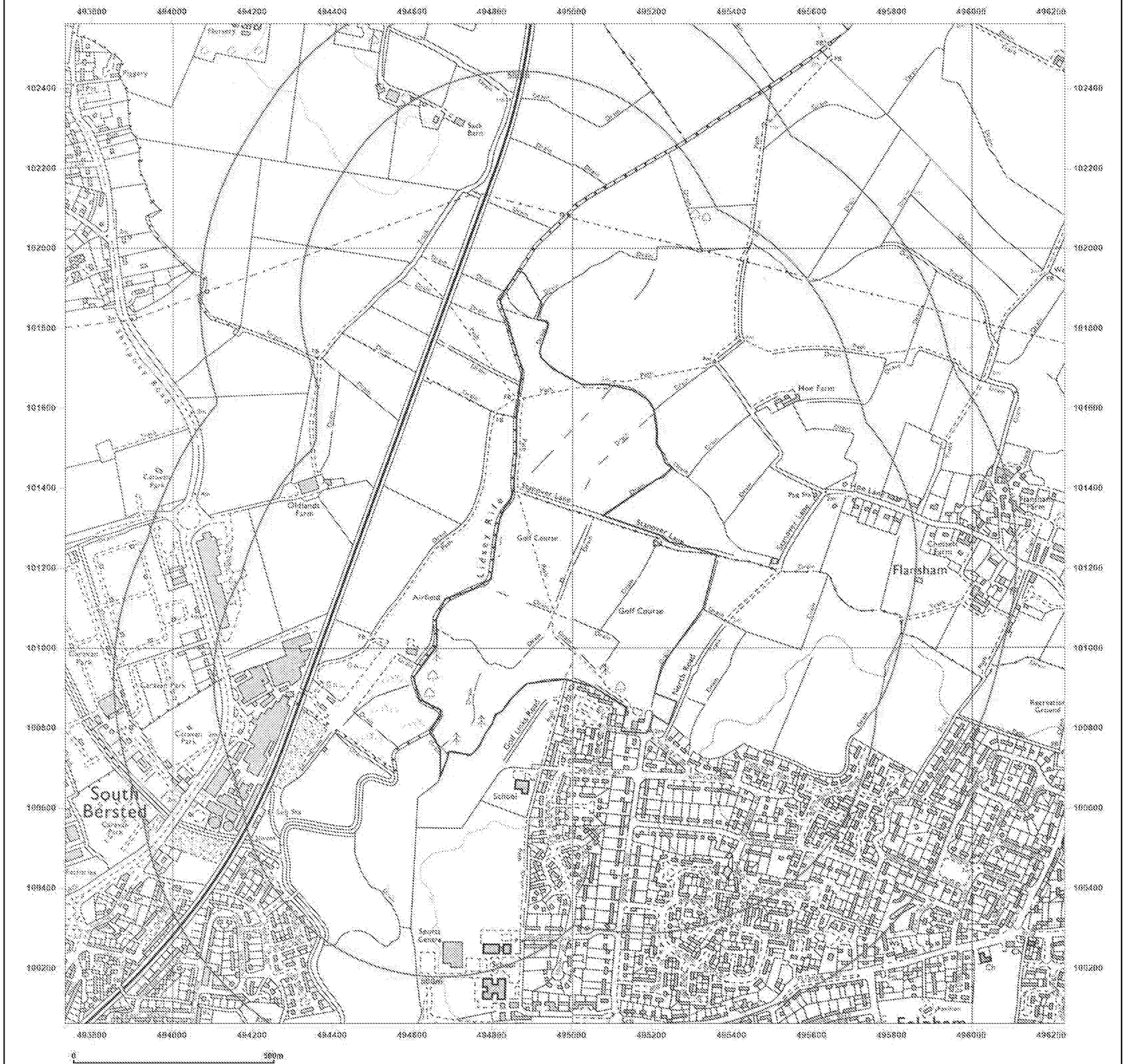
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Groundsure INSIGHTS

Site Details:

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BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: National Grid

Map date: **1979-1980**

Scale: 1:10,000

Printed at: 1:10,000

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Levelled 1975

Surveyed 1978
Revised 1979
Edition N/A
Copyright 1980
Levelled 1975

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ARUN DISTRICT COUNCIL M/16/22/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: National Grid

Map date: **1991-1993**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1992
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Levelled N/A

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

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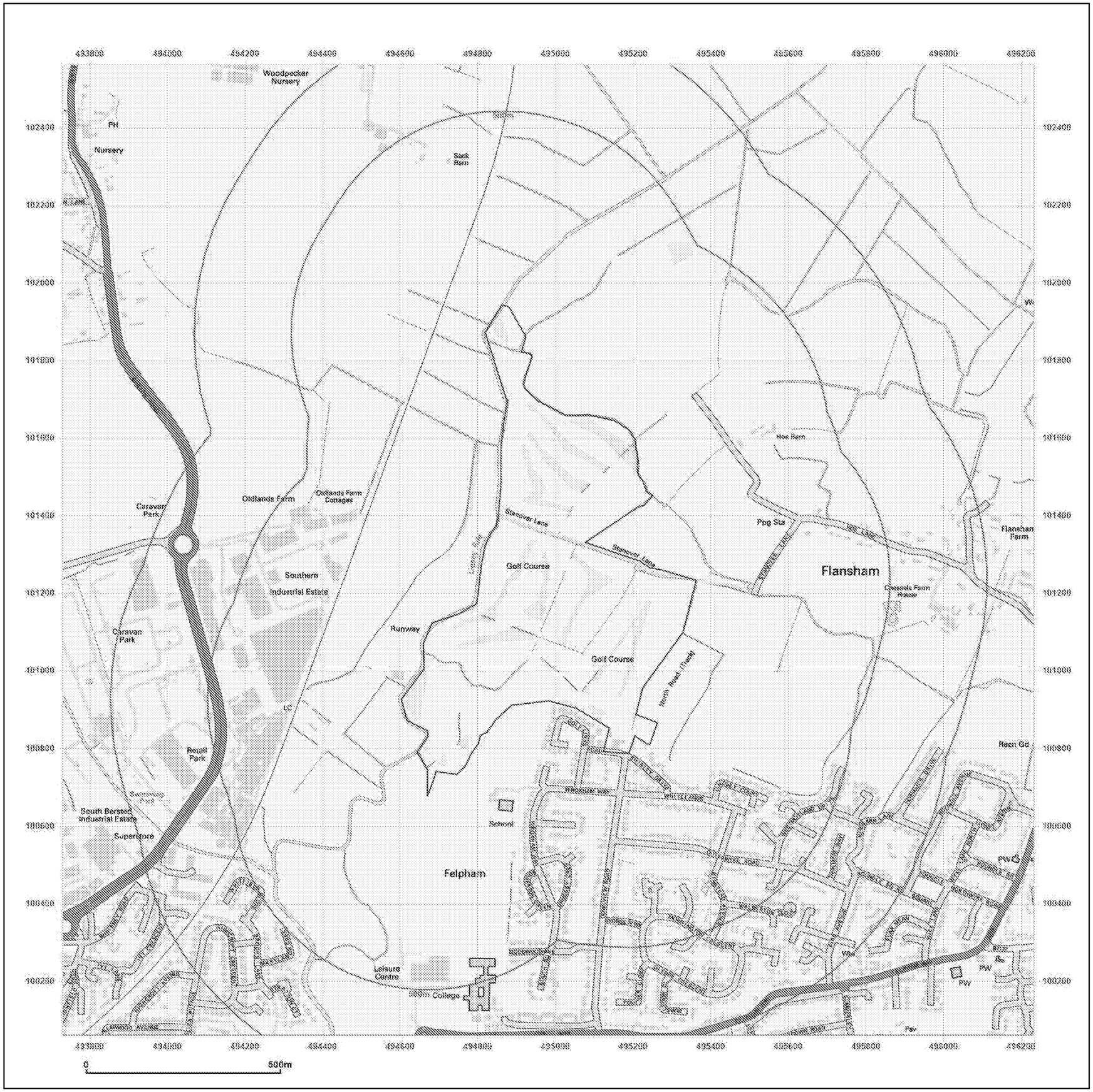
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Production date: 20 October 2021

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ARUN DISTRICT COUNCIL M/16/22/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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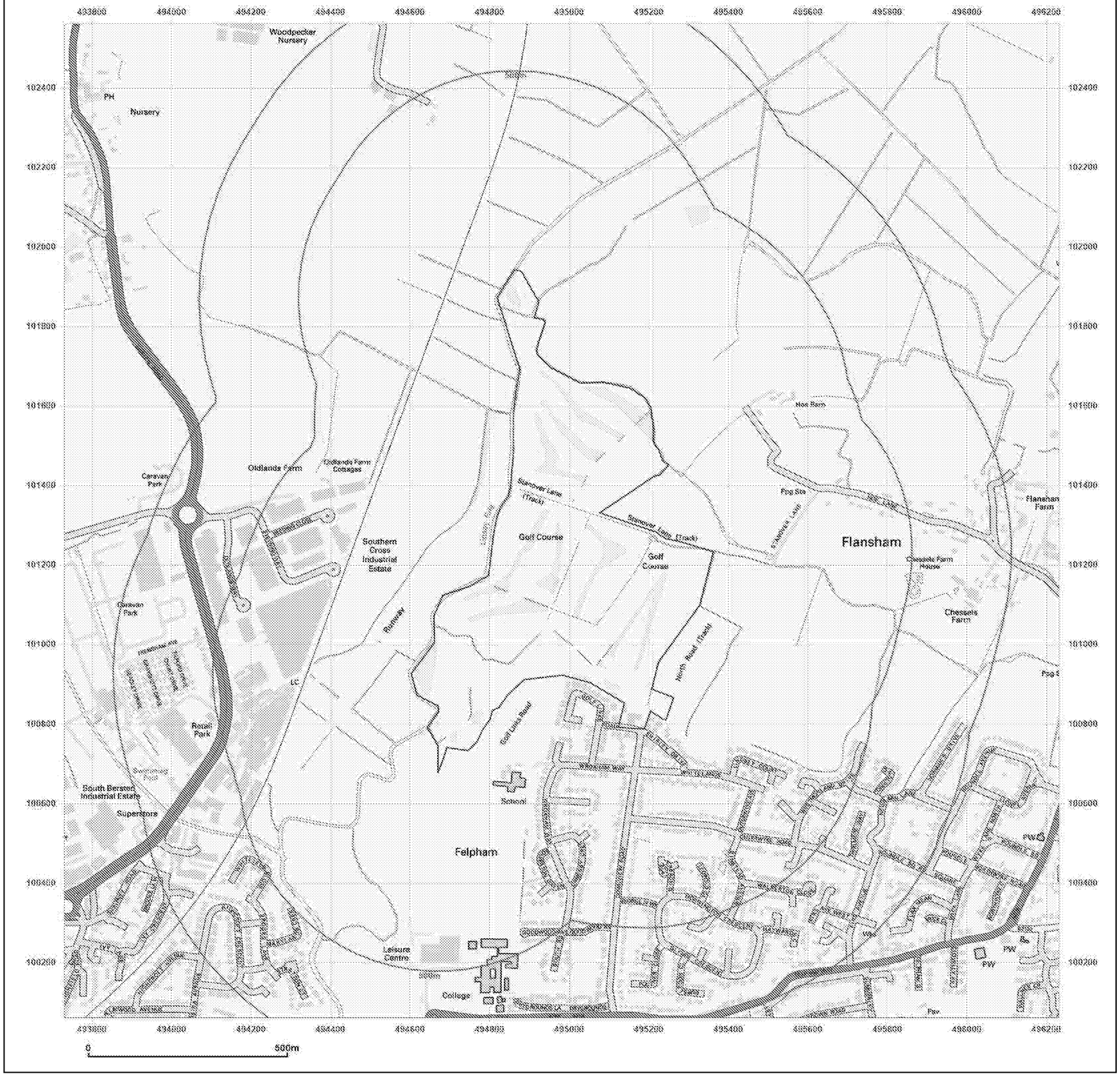
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ARUN DISTRICT COUNCIL M/16/22/PL



Groundsure INSIGHTS

Site Details:

BOGNOR REGIS GOLF CLUB,
BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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Groundsure INSIGHTS

Site Details:

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BOGNOR REGIS GOLF CLUB,
DOWNVIEW ROAD, FELPHAM,
PO22 8JD

Client Ref: 20135078
Report Ref: GS-8275625
Grid Ref: 494982, 101311

Map Name: National Grid

Map date: **2021**

Scale: 1:10,000

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Appendix D

GROUNDSURE REPORT

FINAL (CONFIDENTIAL)

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

BOGNOR REGIS GOLF CLUB, BOGNOR REGIS GOLF CLUB, DOWNVIEW ROAD, FELPHAM, PO22 8JD

Order Details

Date: 20/10/2021

Your ref: 20135078

Our Ref: GS-8275626

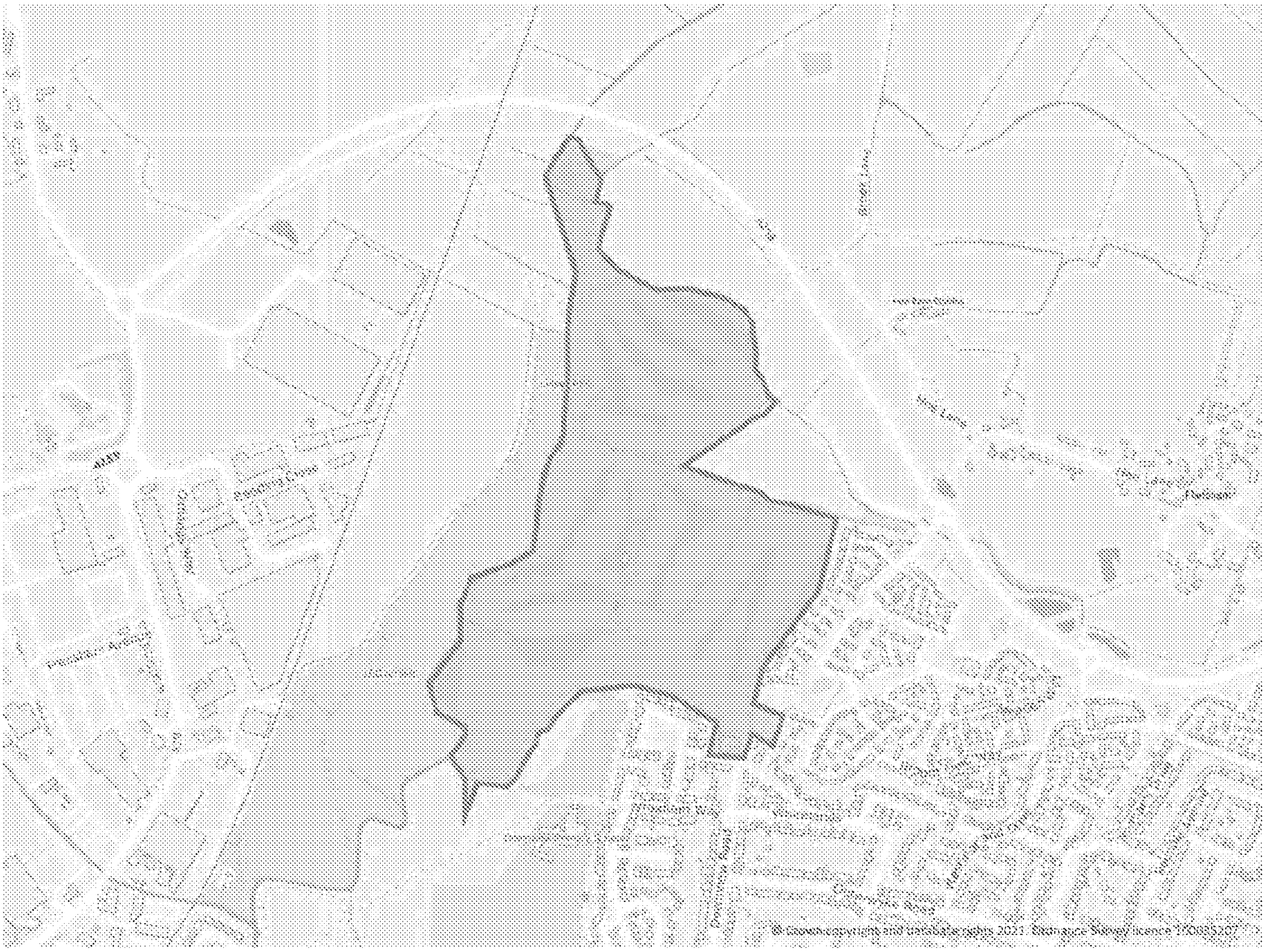
Client: WSP UK Limited

Site Details

Location: 494963 101121

Area: 40.87 ha

Authority: Arun District Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	2	1	5	15	-
14	1.2	Historical tanks	0	0	1	12	-
15	1.3	Historical energy features	0	0	1	24	-
16	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	3	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	2	1	6	17	-
20	2.2	Historical tanks	0	0	1	16	-
21	2.3	Historical energy features	0	0	2	53	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	5	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	1	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	2	0	-
26	3.5	Historical waste sites	0	0	0	0	-
26	3.6	Licensed waste sites	0	0	0	0	-
26	3.7	Waste exemptions	0	2	3	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	Recent industrial land uses	1	1	6	-	-
28	4.2	Current or recent petrol stations	0	0	0	1	-
28	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-

ARUN DISTRICT COUNCIL M/16/22/PL

29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	5	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31	4.13	Licensed Discharges to controlled waters	1	2	3	5	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	1	0	-
33	4.15	Pollutant release to public sewer	0	0	0	0	-
34	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	1	0	-
34	4.18	Pollution Incidents (EA/NRW)	0	0	1	1	-
35	4.19	Pollution inventory substances	0	0	0	0	-
35	4.20	Pollution inventory waste transfers	0	0	0	0	-
35	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
36	5.1	Superficial aquifer	Identified (within 500m)				
38	5.2	Bedrock aquifer	Identified (within 500m)				
40	5.3	Groundwater vulnerability	Identified (within 50m)				
41	5.4	Groundwater vulnerability- soluble rock risk	Identified (within 0m)				
42	5.5	Groundwater vulnerability- local information	None (within 0m)				
43	5.6	Groundwater abstractions	0	0	0	0	3
44	5.7	Surface water abstractions	0	3	1	0	14
48	5.8	Potable abstractions	0	0	0	0	0
49	5.9	Source Protection Zones	0	0	0	0	-
49	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
50	6.1	Water Network (OS MasterMap)	68	21	61	-	-

ARUN DISTRICT COUNCIL M/16/22/PL

62	6.2	Surface water features	1	4	18	-	-
62	6.3	WFD Surface water body catchments	1	-	-	-	-
63	6.4	WFD Surface water bodies	1	0	0	-	-
63	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
64	7.1	Risk of flooding from rivers and the sea	High (within 50m)				
65	7.2	Historical Flood Events	0	0	0	-	-
65	7.3	Flood Defences	0	0	0	-	-
65	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
65	7.5	Flood Storage Areas	0	0	0	-	-
66	7.6	Flood Zone 2	Identified (within 50m)				
67	7.7	Flood Zone 3	Identified (within 50m)				

Page	Section	Surface water flooding
68	8.1	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding
70	9.1	Groundwater flooding	High (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
71	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	2
72	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
72	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
72	10.4	Special Protection Areas (SPA)	0	0	0	0	1
73	10.5	National Nature Reserves (NNR)	0	0	0	0	0
73	10.6	Local Nature Reserves (LNR)	0	0	0	0	1
73	10.7	Designated Ancient Woodland	0	0	0	0	0
73	10.8	Biosphere Reserves	0	0	0	0	0
74	10.9	Forest Parks	0	0	0	0	0
74	10.10	Marine Conservation Zones	0	0	0	0	0
74	10.11	Green Belt	0	0	0	0	0
74	10.12	Proposed Ramsar sites	0	0	0	0	0

ARUN DISTRICT COUNCIL M/16/22/PL

74	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
75	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
75	10.15	Nitrate Sensitive Areas	0	0	0	0	0
75	**10.16**	**Nitrate Vulnerable Zones**	1	0	0	0	1
76	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
77	**10.18**	**SSSI Units**	0	0	0	0	3
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
79	11.1	World Heritage Sites	0	0	0	-	-
79	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
79	11.3	National Parks	0	0	0	-	-
79	11.4	Listed Buildings	0	0	0	-	-
80	11.5	Conservation Areas	0	0	0	-	-
80	11.6	Scheduled Ancient Monuments	0	0	0	-	-
80	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
81	**12.1**	**Agricultural Land Classification**	Grade 2 (within 250m)				
84	12.2	Open Access Land	0	0	0	-	-
84	12.3	Tree Felling Licences	0	0	0	-	-
84	**12.4**	**Environmental Stewardship Schemes**	3	0	1	-	-
85	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
86	**13.1**	**Priority Habitat Inventory**	1	4	17	-	-
87	13.2	Habitat Networks	0	0	0	-	-
88	**13.3**	**Open Mosaic Habitat**	0	0	1	-	-
88	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
89	**14.1**	**10k Availability**	Identified (within 500m)				
90	14.2	Artificial and made ground (10k)	0	0	0	0	-
91	**14.3**	**Superficial geology (10k)**	7	0	3	0	-

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92	14.4	Landslip (10k)	0	0	0	0	-
93	14.5	Bedrock geology (10k)	2	0	0	0	-
94	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
95	15.1	50k Availability	Identified (within 500m)				
96	15.2	Artificial and made ground (50k)	0	0	0	0	-
96	15.3	Artificial ground permeability (50k)	0	0	-	-	-
97	15.4	Superficial geology (50k)	2	0	2	0	-
98	15.5	Superficial permeability (50k)	Identified (within 50m)				
98	15.6	Landslip (50k)	0	0	0	0	-
98	15.7	Landslip permeability (50k)	None (within 50m)				
99	15.8	Bedrock geology (50k)	1	0	0	0	-
100	15.9	Bedrock permeability (50k)	Identified (within 50m)				
100	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
101	16.1	BGS Boreholes	0	0	2	-	-
Page	Section	Natural ground subsidence					
102	17.1	Shrink swell clays	Low (within 50m)				
103	17.2	Running sands	Low (within 50m)				
105	17.3	Compressible deposits	Negligible (within 50m)				
106	17.4	Collapsible deposits	Low (within 50m)				
107	17.5	Landslides	Very low (within 50m)				
108	17.6	Ground dissolution of soluble rocks	Very low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
110	18.1	Natural cavities	0	0	0	0	-
111	18.2	BritPits	0	0	0	1	-
111	18.3	Surface ground workings	0	0	3	-	-
111	18.4	Underground workings	0	0	0	0	0
112	18.5	Historical Mineral Planning Areas	0	0	0	0	-

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112	18.6	Non-coal mining	0	0	0	0	0
112	18.7	Mining cavities	0	0	0	0	0
112	18.8	JPB mining areas	None (within 0m)				
112	18.9	Coal mining	None (within 0m)				
113	18.10	Brine areas	None (within 0m)				
113	18.11	Gypsum areas	None (within 0m)				
113	18.12	Tin mining	None (within 0m)				
113	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
114	**19.1**	**Radon**	Between 1% and 3% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
116	**20.1**	**BGS Estimated Background Soil Chemistry**	14	0	-	-	-
117	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
117	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
118	21.1	Underground railways (London)	0	0	0	-	-
118	21.2	Underground railways (Non-London)	0	0	0	-	-
119	21.3	Railway tunnels	0	0	0	-	-
119	21.4	Historical railway and tunnel features	0	0	0	-	-
119	21.5	Royal Mail tunnels	0	0	0	-	-
119	21.6	Historical railways	0	0	0	-	-
119	**21.7**	**Railways**	0	0	3	-	-
120	21.8	Crossrail 1	0	0	0	0	-
120	21.9	Crossrail 2	0	0	0	0	-
120	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 28/06/2018

Site Area: 40.87ha

ARUN DISTRICT COUNCIL M/16/22/PL

Recent site history - 2015 aerial photograph



Capture Date: 20/05/2015

Site Area: 40.87ha

ARUN DISTRICT COUNCIL M/16/22/PL

Recent site history - 2013 aerial photograph



Capture Date: 03/05/2013

Site Area: 40.87ha

ARUN DISTRICT COUNCIL M/16/22/PL

Recent site history - 2012 aerial photograph



Capture Date: 13/09/2012

Site Area: 40.87ha

ARUN DISTRICT COUNCIL M/16/22/PL

Recent site history - 1999 aerial photograph

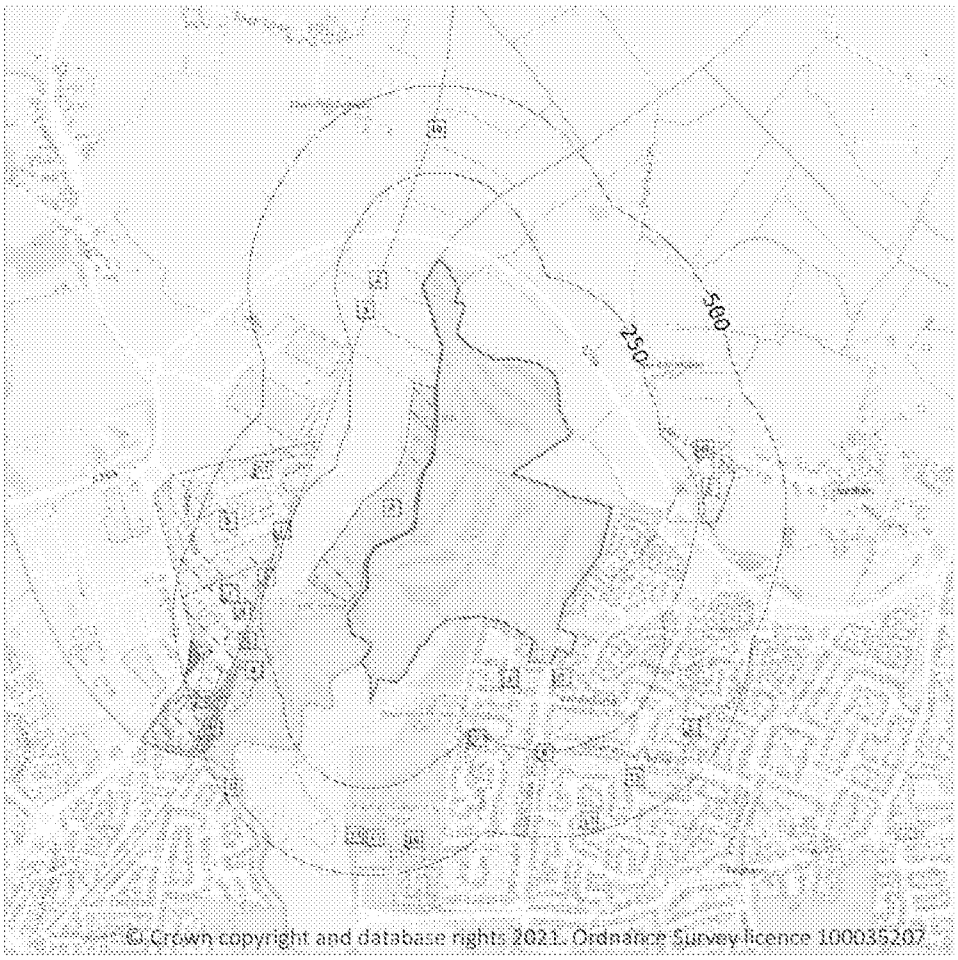


Capture Date: 06/09/1999

Site Area: 40.87ha

ARUN DISTRICT COUNCIL M/16/22/PL

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	23

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

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

ID	Location	Land use	Dates present	Group ID
A	On site	Airfield	1977	1893300

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ID	Location	Land use	Dates present	Group ID
A	**On site**	**Airfield**	**1993**	**1955899**
B	46m S	Pumping Station	1940	1859611
B	52m S	Unspecified Tank	1940	1859331
2	143m W	Railway Building	1961	1867124
C	160m E	Brick Field	1932 - 1940	1927784
3	195m W	Railway Building	1961	1867123
4	238m W	Refuse Heap	1977	1884594
5	257m W	Industrial Estate	1993	1866230
D	257m W	Unspecified Commercial/Industrial	1977	1910339
C	258m E	Unspecified Pit	1966	1934601
C	262m E	Unspecified Pit	1932 - 1940	1937610
G	279m NE	Pumping Station	1978	1914580
G	279m NE	Pumping Station	1991	1965728
H	229m W	Railway Sidings	1961	1942735
H	342m W	Railway Sidings	1934 - 1940	1940101
10	358m N	Railway Building	1961	1867126
J	373m W	Unspecified Works	1961	1860832
H	398m W	Railway Sidings	1910	1927674
J	429m W	Unspecified Commercial/Industrial	1934	1967871
H	456m W	Electric Substation	1993	1893527
H	456m W	Electric Substation	1977	1960058
H	467m W	Railway Building	1961	1867122

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	13

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

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succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
B	53m S	Unspecified Tank	1939	309022
F	265m W	Tanks	1936	311486
F	266m W	Unspecified Tank	1985 - 1991	321572
F	276m W	Unspecified Tank	1996	309027
I	349m W	Tanks	1996	311484
I	351m W	Tanks	1996	311485
H	406m SW	Unspecified Tank	1991 - 1996	324299
15	407m S	Unspecified Tank	1978 - 1986	320284
K	413m W	Unspecified Tank	1985	322251
K	415m W	Unspecified Tank	1996	312600
K	416m W	Unspecified Tank	1991	326268
H	419m W	Tanks	1991 - 1996	325989
K	435m W	Unspecified Tank	1991	309028

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	25

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

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

ID	Location	Land use	Dates present	Group ID
1	95m SW	Electricity Substation	1969 - 1991	207164
E	262m W	Electricity Substation	1974	210502
E	263m W	Electricity Substation	1980 - 1991	201780

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ID	Location	Land use	Dates present	Group ID
6	273m S	Electricity Substation	1969 - 1991	204021
7	274m SE	Electricity Substation	1969	191396
8	315m W	Electricity Substation	1971 - 1991	200353
9	315m W	Electricity Substation	1971	191395
D	352m W	Electricity Substation	1991 - 1996	209053
11	367m W	Electricity Substation	1971 - 1990	210212
K	384m W	Electricity Substation	1985 - 1996	207901
12	394m NW	Electricity Substation	1985 - 1996	205427
L	396m SE	Electricity Substation	-	187464
L	396m SE	Electricity Substation	1970 - 1994	202883
13	397m SE	Electricity Substation	1970 - 1991	194731
D	402m W	Electricity Substation	1971	202646
14	405m S	Electricity Substation	1978 - 1986	205311
D	406m W	Electricity Substation	1990 - 1996	202162
16	425m S	Electricity Substation	1978 - 1986	199266
K	433m W	Electricity Substation	1985 - 1996	198703
H	462m W	Electricity Substation	1971	208725
H	462m W	Electricity Substation	1990 - 1996	198636
17	474m S	Electricity Substation	1970 - 1991	204670
M	488m SW	Electricity Substation	1994	202854
M	488m SW	Electricity Substation	1978 - 1992	200372
18	489m W	Electricity Substation	1991 - 1996	195436

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

ARUN DISTRICT COUNCIL M/16/22/PL

succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	3

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

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

ID	Location	Land use	Dates present	Group ID
D	438m W	Garage	1996	61539
D	439m W	Garage	1990 - 1991	65018
D	440m W	Garage	1971	62184

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

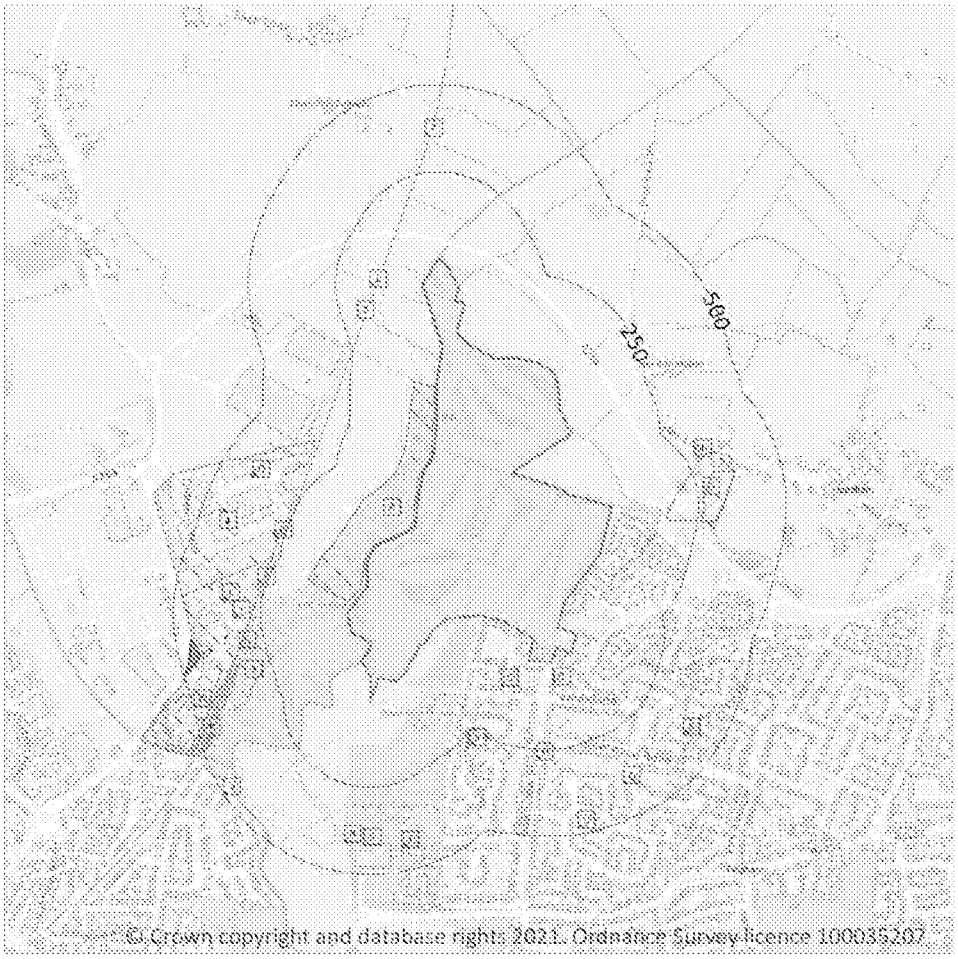
Records within 500m	0

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.

ARUN DISTRICT COUNCIL M/16/22/PL

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m **26**

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

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

ID	Location	Land Use	Date	Group ID
A	**On site**	**Airfield**	**1993**	**1955899**
A	**On site**	**Airfield**	**1977**	**1893300**
B	46m S	Pumping Station	1940	1859611

ARUN DISTRICT COUNCIL M/16/22/PL

ID	Location	Land Use	Date	Group ID
B	52m S	Unspecified Tank	1940	1859331
1	143m W	Railway Building	1961	1867124
D	160m E	Brick Field	1940	1927784
D	160m E	Brick Field	1932	1927784
2	195m W	Railway Building	1961	1867123
3	238m W	Refuse Heap	1977	1884594
4	257m W	Industrial Estate	1993	1866230
E	257m W	Unspecified Commercial/Industrial	1977	1910339
D	258m E	Unspecified Pit	1966	1934601
D	262m E	Unspecified Pit	1940	1937610
D	262m E	Unspecified Pit	1932	1937610
I	279m NE	Pumping Station	1991	1965728
I	279m NE	Pumping Station	1978	1914580
K	229m W	Railway Sidings	1961	1942735
K	342m W	Railway Sidings	1934	1940101
K	342m W	Railway Sidings	1940	1940101
7	358m N	Railway Building	1961	1867126
M	372m W	Unspecified Works	1961	1860832
K	398m W	Railway Sidings	1910	1927674
M	429m W	Unspecified Commercial/Industrial	1934	1967871
K	456m W	Electric Substation	1993	1893527
K	456m W	Electric Substation	1977	1960058
K	467m W	Railway Building	1961	1867122

This data is sourced from Ordnance Survey / Groundsure.

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2.2 Historical tanks

Records within 500m	17

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

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

ID	Location	Land Use	Date	Group ID
B	53m S	Unspecified Tank	1939	309022
G	265m W	Tanks	1996	311486
G	266m W	Unspecified Tank	1985	321572
G	270m W	Unspecified Tank	1991	321572
G	276m W	Unspecified Tank	1996	309027
L	349m W	Tanks	1996	311484
L	351m W	Tanks	1996	311485
K	406m SW	Unspecified Tank	1996	324299
K	407m SW	Unspecified Tank	1991	324299
S	407m S	Unspecified Tank	1986	320284
S	407m S	Unspecified Tank	1978	320284
N	413m W	Unspecified Tank	1985	322251
N	415m W	Unspecified Tank	1996	312600
N	416m W	Unspecified Tank	1991	326268
K	419m W	Tanks	1996	325989
K	420m W	Tanks	1991	325989
N	435m W	Unspecified Tank	1991	309028

This data is sourced from Ordnance Survey / Groundsure.

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2.3 Historical energy features

Records within 500m	55

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

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

ID	Location	Land Use	Date	Group ID
C	95m SW	Electricity Substation	1991	207164
C	95m SW	Electricity Substation	1969	207164
F	262m W	Electricity Substation	1974	210502
F	263m W	Electricity Substation	1985	201780
F	263m W	Electricity Substation	1980	201780
F	263m W	Electricity Substation	1991	201780
H	273m S	Electricity Substation	1991	204021
H	273m S	Electricity Substation	1969	204021
5	274m SE	Electricity Substation	1969	191396
J	315m W	Electricity Substation	1971	200353
6	315m W	Electricity Substation	1971	191395
J	316m W	Electricity Substation	1990	200353
J	316m W	Electricity Substation	1990	200353
J	316m W	Electricity Substation	1991	200353
E	352m W	Electricity Substation	1996	209053
E	353m W	Electricity Substation	1991	209053
E	367m W	Electricity Substation	1971	210212
E	368m W	Electricity Substation	1990	210212
E	368m W	Electricity Substation	1990	210212
N	384m W	Electricity Substation	1985	207901
N	385m W	Electricity Substation	1996	207901
N	387m W	Electricity Substation	1991	207901
O	394m NW	Electricity Substation	1996	205427

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ID	Location	Land Use	Date	Group ID
O	395m NW	Electricity Substation	1991	205427
P	396m SE	Electricity Substation	.	187464
P	396m SE	Electricity Substation	1994	202883
Q	397m SE	Electricity Substation	1976	194731
Q	397m SE	Electricity Substation	1970	194731
P	397m SE	Electricity Substation	1970	202883
Q	398m SE	Electricity Substation	1991	194731
O	398m NW	Electricity Substation	1985	205427
E	402m W	Electricity Substation	1971	202646
R	405m S	Electricity Substation	1986	205311
R	405m S	Electricity Substation	1978	205311
E	406m W	Electricity Substation	1996	202162
E	406m W	Electricity Substation	1990	202162
E	406m W	Electricity Substation	1990	202162
E	406m W	Electricity Substation	1991	202162
T	425m S	Electricity Substation	1978	199266
T	425m S	Electricity Substation	1986	199266
N	432m W	Electricity Substation	1985	198703
N	434m W	Electricity Substation	1996	198703
K	462m W	Electricity Substation	1971	208725
K	463m W	Electricity Substation	1996	198636
K	463m W	Electricity Substation	1990	198636
K	463m W	Electricity Substation	1990	198636
K	463m W	Electricity Substation	1991	198636
U	474m S	Electricity Substation	1976	204670
U	474m S	Electricity Substation	1970	204670
U	474m S	Electricity Substation	1991	204670
V	488m SW	Electricity Substation	1994	202854

ID	Location	Land Use	Date	Group ID
V	488m SW	Electricity Substation	1992	200372
V	488m SW	Electricity Substation	1978	200372
W	489m W	Electricity Substation	1996	195436
W	490m W	Electricity Substation	1991	195436

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	5

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

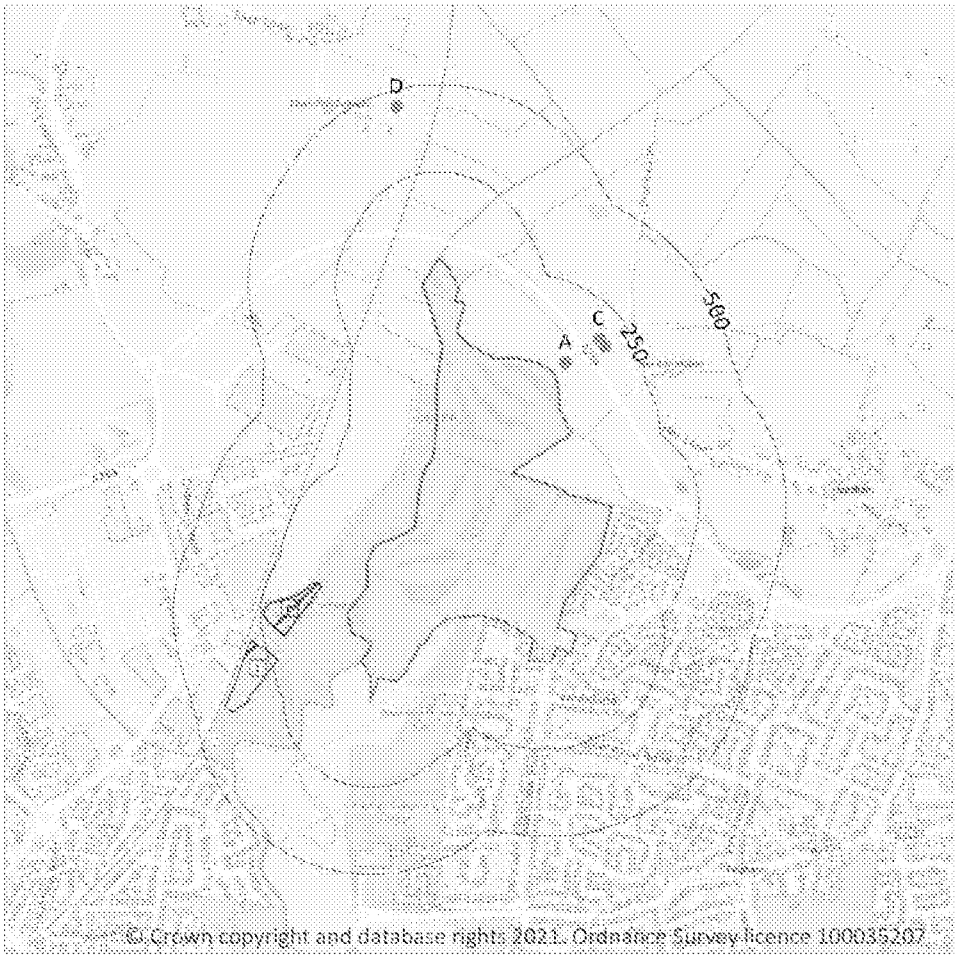
Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
E	438m W	Garage	1996	61539
E	439m W	Garage	1990	65018
E	439m W	Garage	1990	65018
E	439m W	Garage	1991	65018
E	440m W	Garage	1971	62184

This data is sourced from Ordnance Survey / Groundsure.

ARUN DISTRICT COUNCIL M/16/22/PL

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (LA/OS)

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	1

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site address	Source	Data type
B	110m W	Refuse Tip	1970 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	2

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Details		
B	106m NW	Site Address: LEC Refrigeration, Bognor Regis, Sussex Licence Holder Address: -	Waste Licence: Yes Site Reference: WD27/027, WD13/15 Waste Type: Inert, Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 20/09/1977 Licence Surrender: 25/10/1983	Operator: - Licence Holder: LEC Refrigeration Limited First Recorded 31/12/1970 Last Recorded: 20/06/1981
1	227m W	Site Address: LEC Refrigeration, Bognor Regis, Sussex Licence Holder Address: -	Waste Licence: Yes Site Reference: WD27/027, WD13/15 Waste Type: Inert, Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 20/09/1977 Licence Surrender: 25/10/1983	Operator: - Licence Holder: LEC Refrigeration Limited First Recorded 31/12/1970 Last Recorded: 20/06/1981

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

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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	7

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.

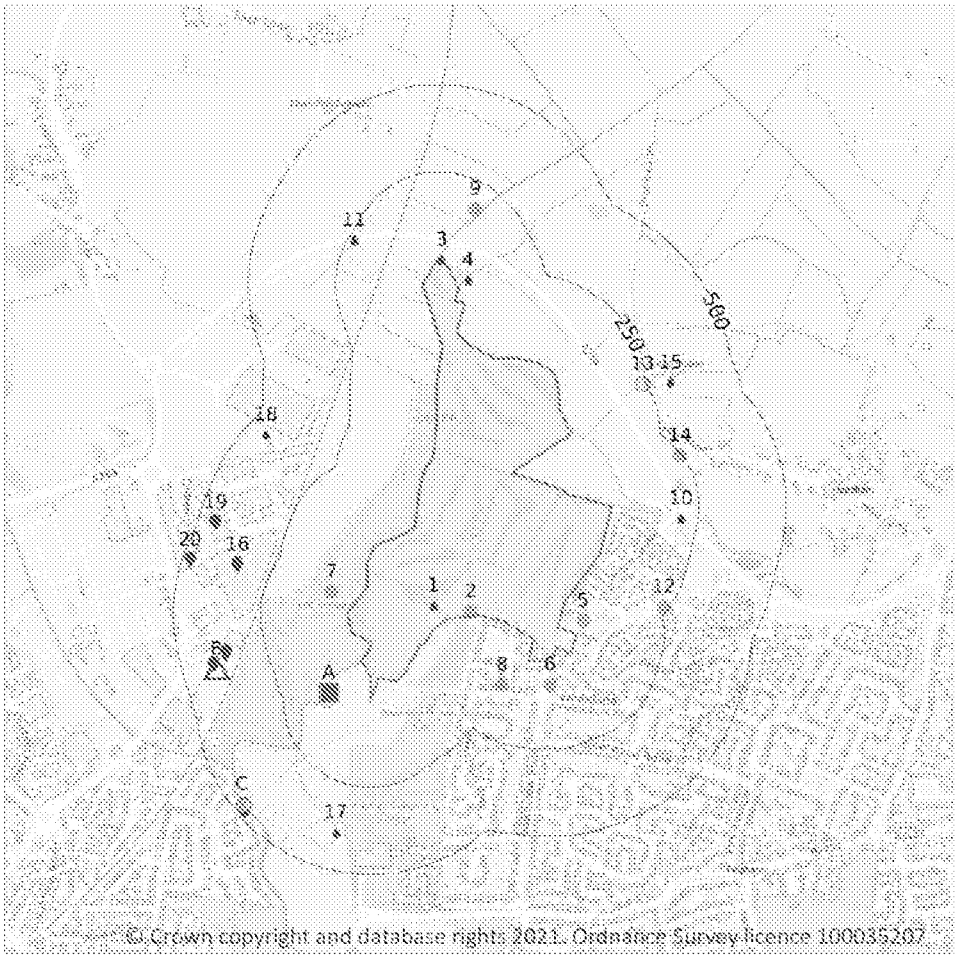
Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	46m NE	TP2 LAND AT BOGNOR	WEX268097	Storing waste exemption	On a farm	Storage of sludge
A	46m NE	-	WEX086918	Storing waste exemption	On a farm	Storage of sludge
C	164m NE	TP1 LAND @ BOGNOR	WEX268091	Storing waste exemption	On a farm	Storage of sludge
C	164m NE	-	WEX086546	Storing waste exemption	On a farm	Storage of sludge
C	164m NE	-	WEX231730	Storing waste exemption	Not on a farm	Storage of sludge
D	452m N	Rolls Royce & Logistics Centre Newlands Road Bognor Regis PO22 9FL	EPR/TE5741E M/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
D	452m N	Rolls Royce & Logistics Centre Newlands Road Bognor Regis PO22 9FL	EPR/TE5741E M/A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)

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

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4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

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

Licensed Discharges to controlled waters

Pollutant release to surface waters

List 2 Dangerous Substances

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 27**

ID	Location	Company	Address	Activity	Category
2	**On site**	**Mast (Telecommunication)**	**West Sussex, PO22**	**Telecommunications Features**	**Infrastructure and Facilities**
5	43m N	Electricity Sub Station	West Sussex, PO22	Electrical Features	Infrastructure and Facilities

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ID	Location	Company	Address	Activity	Category
6	64m S	Pump House	West Sussex, PO22	Water Pumping Stations	Industrial Features
7	74m NW	Lec Airfield	West Sussex, PO22	Airports and Landing Strips	Air
8	104m SW	Electricity Sub Station	West Sussex, PO22	Electrical Features	Infrastructure and Facilities
9	175m NE	Electricity Poles	West Sussex, PO22	Electrical Features	Infrastructure and Facilities
12	238m SE	Electricity Sub Station	West Sussex, PO22	Electrical Features	Infrastructure and Facilities
14	245m NE	Pumping Station	West Sussex, PO22	Water Pumping Stations	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	LPG	Status
6	403m W	SAINSBURYS	Shripney Road, South Bersted, Bognor Regis, West Sussex, PO22 9FB	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

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4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	5

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
16	345m NW	Lec Refrigeration Plc, Oldlands Way, Southern Cross Trading Estate, Bersted, Bognor Regis, PO22 9NQ	Process: Other Metal Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
8	366m W	Lec Refrigeration, Shripney Rd, PO22 9NQ	Process: Di-isocyanate Processes; Coating Processes Status: Revoked Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
8	407m W	Sainsbury's Petrol Filling Station, Shripney Road, Bersted, Bognor Regis, West Sussex, PO22 9FB	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

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ID	Location	Address	Details	
19	450m W	Eurotek Office Furniture Ltd,Units Da/Db & Q, Steyning Way, Bersted, Bognor Regis, West Sussex, PO22 9SB	Process: Combustion & Incineration Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
20	478m W	J & S Motors, Shripney Rd, PO22 9NJ	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	11

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 27**

ID	Location	Address	Details	
1	**On site**	**DOWNVIEW ROAD, FELPHAM**	**Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER** **Permit Number: S01147** **Permit Version: 1** **Receiving Water: CONTROLLED SEA**	**Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY)** **Issue date: 29/03/1962** **Effective Date: 29/03/1962** **Revocation Date: 16/09/1997**
3	1m N	BOGNOR NORTHERN RELIEF ROAD VIADUCT, SHRIPNEY, BOGNOR REGIS	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3595VL Permit Version: 1 Receiving Water: LIDSEY RIFE	Status: SURRENDERED UNDER EPR 2010 Issue date: 28/05/2014 Effective Date: 28/05/2014 Revocation Date: 22/08/2016

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ID	Location	Address	Details	
4	32m NE	BOGNOR NORTHERN RELIEF ROAD VIADUCT, SHRIPNEY, BOGNOR REGIS	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3595VL Permit Version: 1 Receiving Water: LIDSEY RIFE	Status: SURRENDERED UNDER EPR 2010 Issue date: 28/05/2014 Effective Date: 28/05/2014 Revocation Date: 22/08/2016
A	119m W	LEC REFRIGERATION LTD., SHRIPNEY ROAD, BOGNOR REGIS, WEST SUSSEX, PO22 9NQ	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: S00037 Permit Version: 1 Receiving Water: LIDSEY RIFE	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 17/04/1964 Effective Date: 17/04/1964 Revocation Date: 10/07/2006
10	201m E	SEWAGE PUMPING STATION, FLANSHAM, BOGNOR REGIS, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: S01007 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 31/03/1965 Effective Date: 31/03/1965 Revocation Date: -
11	233m NW	BOGNOR NORTHERN RELIEF ROAD VIADUCT, SHRIPNEY, BOGNOR REGIS	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3595VL Permit Version: 1 Receiving Water: LIDSEY RIFE	Status: SURRENDERED UNDER EPR 2010 Issue date: 28/05/2014 Effective Date: 28/05/2014 Revocation Date: 22/08/2016
15	313m NE	HOE BARN, HOE BARN , HOE LANE , FLANSHAM, BOGNOR REGIS, WEST SUSSEX.	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NO8442 Permit Version: 1 Receiving Water: INTO LAND	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 14/10/1982 Effective Date: 14/10/1982 Revocation Date: 31/03/1997
17	392m S	BOGNOR REGIS COMPREHENSIVE SCHOOL, BOGNOR REGIS COMPREHENSIVE SCHOO, FELPHAM WAY	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S02148 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 26/01/1973 Effective Date: 26/01/1973 Revocation Date: -
18	443m NW	OLDLANDS FARM	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: S01095 Permit Version: 1 Receiving Water: CONTROLLED SEA	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 19/09/1963 Effective Date: 19/09/1963 Revocation Date: 31/03/1997

ID	Location	Address	Details	
C	475m SW	GLENWOOD ESTATE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01065 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 06/03/1964 Effective Date: 06/03/1964 Revocation Date: 01/07/1991
C	481m SW	GLENWOOD ESTATE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01065 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 06/03/1964 Effective Date: 06/03/1964 Revocation Date: 01/07/1991

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	1

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
A	119m W	LEC REFRIDGERATION PLC, LEC REFRIGERATION LTD, LEC REFRIGERATION LTD, SHRIPNEY ROAD, BOGNOR REGIS WEST SUSSEX	Permit Number: S00037 Permit Version: 1 Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Discharge Type: Undefined or Other	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Catchment: STREAM 80 Approval Date: 1964-04-17T00:00:00.000Z

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.

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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	1

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.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Name	Status	Receiving Water	Authorised Substances
A	120m W	Lec Refrigeration	Active	Lidsey Rife	Chromium, Copper, Lead, Zinc

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2

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 27**

ID	Location	Details	
13	241m NE	Incident Date: 10/11/2003 Incident Identification: 200686 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
C	471m SW	Incident Date: 05/10/2003 Incident Identification: 194418 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

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4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 36**

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

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

Aquifer status of groundwater held within bedrock geology.

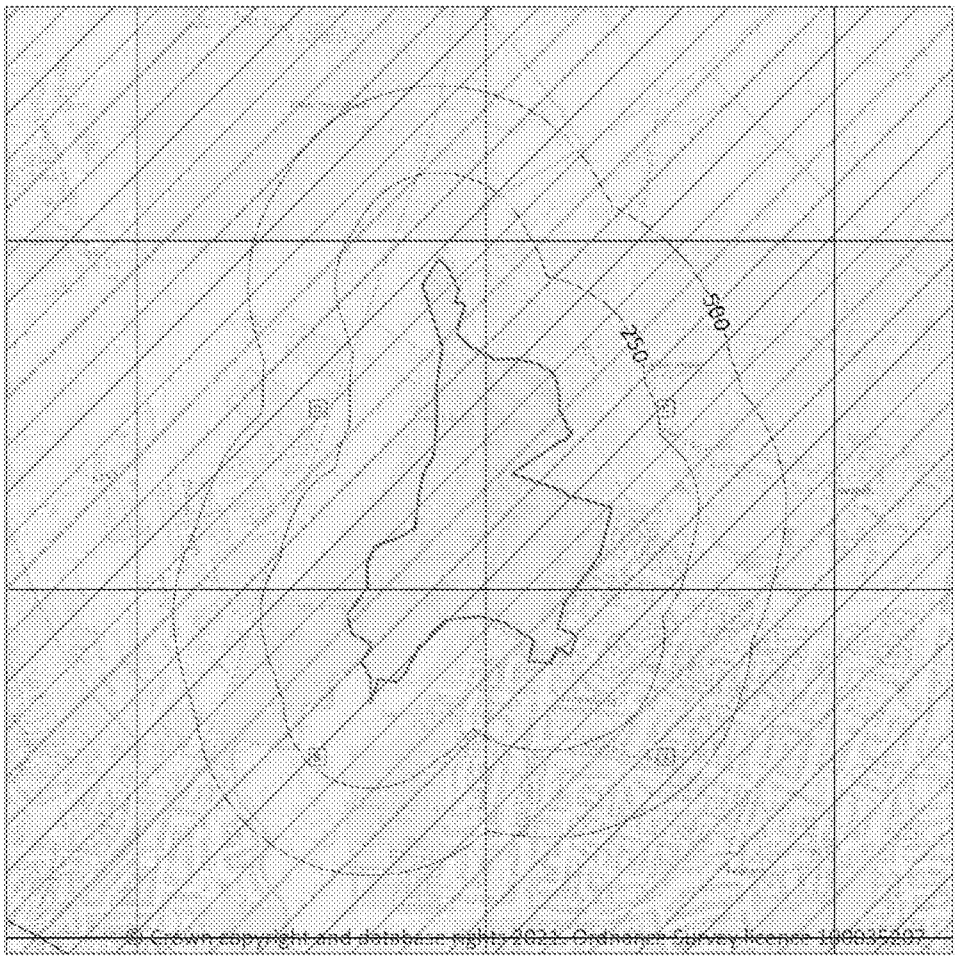
Features are displayed on the Bedrock aquifer map on **page 38**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	4

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 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
B	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
C	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
D	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Principal 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	4

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	67.0%

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ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
B	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**97.0%**
C	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**100.0%**
D	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**100.0%**

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

5.5 Groundwater vulnerability- local information

Records on site	0

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

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

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Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	3

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 43**

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ID	Location	Details	
3	750m E	Status: Historical Licence No: 10/41/542002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: AT FLANSHAM FARM,FLANSHAM Data Type: Point Name: The Donald Langmead Partnership Easting: 496080 Northing: 101450	Annual Volume (m^3): 9092 Max Daily Volume (m^3): 27.2 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 07/12/1992 Version End Date: -
-	1200m NE	Status: Historical Licence No: 10/41/541002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: POINT 2 AT SHRIPNEY FARM & FLANSHAM FARM Data Type: Point Name: The Donald Langmead Partnership Easting: 496440 Northing: 101760	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 21/03/2001 Version End Date: -
-	1337m E	Status: Historical Licence No: 10/41/541002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: POINT 3 AT SHRIPNEY FARM & FLANSHAM FARM Data Type: Point Name: The Donald Langmead Partnership Easting: 496680 Northing: 101460	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 21/03/2001 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	18

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 43**

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ID	Location	Details	
A	1m N	Status: Historical Licence No: SO/041/0024/008 Details: Dust Suppression Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE AT BNRR VIADUCT PROJECT OFFICE Data Type: Point Name: Hochtief UK Construction Ltd Easting: 494873 Northing: 101942	Annual Volume (m^3): 12000 Max Daily Volume (m^3): 60 Original Application No: - Original Start Date: 12/06/2014 Expiry Date: 28/02/2015 Issue No: 1 Version Start Date: 12/06/2014 Version End Date: -
A	1m N	Status: Historical Licence No: SO/041/0024/009 Details: Dust Suppression Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE AT BNRR VIADUCT PROJECT OFFICE Data Type: Point Name: Hochtief UK Construction Ltd Easting: 494873 Northing: 101942	Annual Volume (m^3): 3900 Max Daily Volume (m^3): 60 Original Application No: - Original Start Date: 12/06/2015 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 12/06/2015 Version End Date: -
1	7m W	Status: Active Licence No: 10/41/542102/R01 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BETWEEN POINTS C&D AT LIDSEY,BERSTED Data Type: Line Name: Ashmarden Limited Easting: 494931 Northing: 102749	Annual Volume (m^3): 24,548 Max Daily Volume (m^3): 909 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 21/03/2028 Issue No: 2 Version Start Date: 13/12/2018 Version End Date: -
2	196m W	Status: Historical Licence No: 10/41/542102 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BETWEEN POINTS C&D AT LIDSEY,BERSTED Data Type: Line Name: Ashmarden Ltd Easting: 494950 Northing: 102740	Annual Volume (m^3): 19639 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 20/05/1966 Expiry Date: 31/03/2016 Issue No: 101 Version Start Date: 10/06/2009 Version End Date: -
-	886m N	Status: Active Licence No: 10/41/542010 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE REACH A-B,LIDSEY Data Type: Line Name: Lidsey Farm Easting: 494310 Northing: 103260	Annual Volume (m^3): 14,092 Max Daily Volume (m^3): 227.30 Original Application No: - Original Start Date: 12/09/1977 Expiry Date: - Issue No: 101 Version Start Date: 31/03/2016 Version End Date: -

ID	Location	Details	
5	927m NE	Status: Active Licence No: SO/041/0024/005 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE - STAKERS FARM, YAPTON Data Type: Point Name: Langmead Farms Ltd Easting: 495837 Northing: 102285	Annual Volume (m^3): 295,053 Max Daily Volume (m^3): 7,800 Original Application No: - Original Start Date: 23/06/2011 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 16/04/2019 Version End Date: -
6	1008m W	Status: Historical Licence No: 10/41/541001 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: ALDINGBOURNE RIFE AT WHITEHOUSE FARM. Data Type: Line Name: The Donald Langmead Partnership Easting: 492920 Northing: 101610	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 07/12/1996 Version End Date: -
7	1042m E	Status: Historical Licence No: 10/41/411016 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE - NEW REACH Data Type: Line Name: James D Baird (Home Farm) Ltd Easting: 496130 Northing: 101940	Annual Volume (m^3): 27272 Max Daily Volume (m^3): 2182 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 09/06/2009 Version End Date: -
-	1175m NE	Status: Active Licence No: 27/209/R01 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE, POINT A - BILSHAM Data Type: Point Name: Langmead Farms Ltd Easting: 496359 Northing: 101855	Annual Volume (m^3): 250,402 Max Daily Volume (m^3): 7,800 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2020 Version End Date: -
-	1188m NE	Status: Historical Licence No: 27/209 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: RYEBANK RIFE, POINT A - BILSHAM Data Type: Point Name: Langmead Farms Ltd Easting: 496390 Northing: 101830	Annual Volume (m^3): 250402 Max Daily Volume (m^3): 7800 Original Application No: - Original Start Date: 18/12/2007 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/06/2009 Version End Date: -

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ID	Location	Details	
-	1211m N	Status: Historical Licence No: 10/41/542010 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE REACH C-D, LIDSEY Data Type: Line Name: Lidsey Farm Easting: 494930 Northing: 103540	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 10/05/1995 Version End Date: -
-	1274m S	Status: Historical Licence No: 27/201 Details: Make-Up Or Top Up Water Direct Source: Southern Region Surface Waters Point: ALDINGBOURNE RIFE AT BUTLINS HOLIDAY VILLAGE, POINT 'A' Data Type: Point Name: Butlins Skyline Ltd Easting: 494560 Northing: 99410	Annual Volume (m^3): 40000 Max Daily Volume (m^3): 360 Original Application No: - Original Start Date: 23/12/2002 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 23/12/2002 Version End Date: -
-	1494m NW	Status: Historical Licence No: 10/41/542102 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BETWEEN POINTS A&B AT LIDSEY,BERSTED Data Type: Line Name: Ashmarden Ltd Easting: 494380 Northing: 104320	Annual Volume (m^3): 19639 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 20/05/1966 Expiry Date: 31/03/2016 Issue No: 101 Version Start Date: 10/06/2009 Version End Date: -
-	1502m NW	Status: Active Licence No: SO/041/0024/007 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE (WEST BRANCH) AT HEADHONE FARM Data Type: Point Name: Ashmarden Limited Easting: 494281 Northing: 103329	Annual Volume (m^3): 125,000 Max Daily Volume (m^3): 2,400 Original Application No: - Original Start Date: 07/02/2014 Expiry Date: 31/03/2028 Issue No: 3 Version Start Date: 13/12/2018 Version End Date: -
-	1504m NW	Status: Active Licence No: 10/41/542102/R01 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BETWEEN POINTS A&B AT LIDSEY,BERSTED Data Type: Line Name: Ashmarden Limited Easting: 494358 Northing: 104312	Annual Volume (m^3): 24,548 Max Daily Volume (m^3): 909 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 13/12/2018 Version End Date: -

ID	Location	Details	
-	1508m N	Status: Active Licence No: 10/41/542010 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: LIDSEY RIFE REACH C-D, LIDSEY Data Type: Line Name: Lidsey Farm Easting: 494930 Northing: 103540	Annual Volume (m^3): 14,092 Max Daily Volume (m^3): 227.30 Original Application No: - Original Start Date: 12/09/1977 Expiry Date: - Issue No: 101 Version Start Date: 31/03/2016 Version End Date: -
-	1508m N	Status: Historical Licence No: 27/208 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: WEST BRANCH OF THE LIDSEY RIFE Data Type: Point Name: Lidsey Farm Easting: 494290 Northing: 103340	Annual Volume (m^3): 45000 Max Daily Volume (m^3): 600 Original Application No: - Original Start Date: 31/05/2007 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/06/2009 Version End Date: -
-	1508m N	Status: Active Licence No: 27/208/R01 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: WEST BRANCH OF THE LIDSEY RIFE Data Type: Point Name: Eggins Easting: 494230 Northing: 103340	Annual Volume (m^3): 45,000 Max Daily Volume (m^3): 600 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -

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)

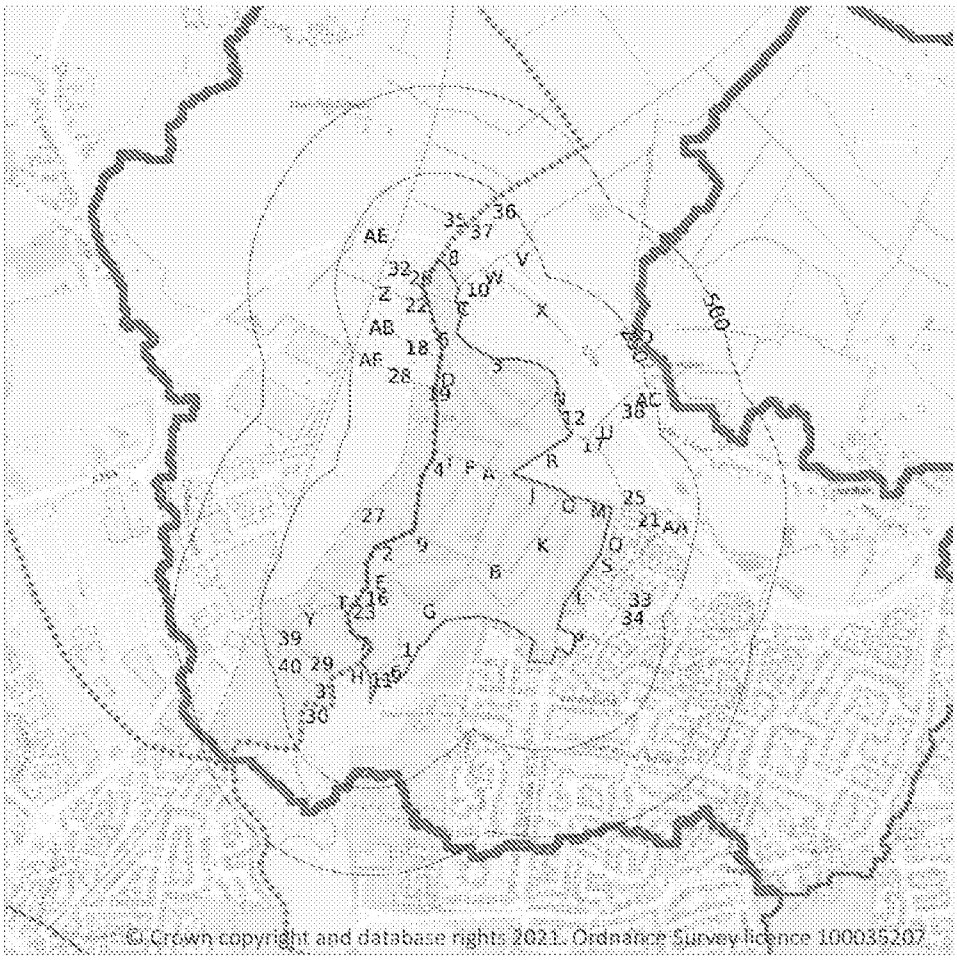
Records within 500m	0

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.

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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	150

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 50**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	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
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
6	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

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

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ID	Location	Type of water feature	Ground level	Permanence	Name
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife

ID	Location	Type of water feature	Ground level	Permanence	Name
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

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ID	Location	Type of water feature	Ground level	Permanence	Name
N	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	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
P	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
P	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
Q	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
R	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
16	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
C	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
C	1m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	1m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
S	1m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
17	2m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	2m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

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ID	Location	Type of water feature	Ground level	Permanence	Name
M	3m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	4m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
21	4m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	4m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
23	6m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	17m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	21m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	21m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	45m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
25	46m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	57m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	57m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	58m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
P	63m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
27	64m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
28	64m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	71m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	84m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	84m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	86m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	89m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
H	89m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	91m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
29	91m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
T	108m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	109m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	110m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
30	110m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
H	112m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
31	116m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
32	119m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
33	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
34	125m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	126m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
35	130m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
36	130m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lidsey Rife
37	130m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
38	131m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	131m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
Z	139m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	147m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	152m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	172m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AB	180m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	181m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AC	183m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	189m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
39	190m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	191m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
40	191m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	201m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	202m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AA	202m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	202m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	203m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	204m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	208m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	212m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	215m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	221m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	223m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	231m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	233m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	236m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	236m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AE	238m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	238m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	240m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	241m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	241m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	242m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	23

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 50**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

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

Features are displayed on the Hydrology map on **page 50**

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ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River WB catchment	Lidsey Rife	GB107041012010	Western Streams	Arun and Western Streams

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 50**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
13	On site	River	Lidsey Rife	GB107041012010	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	1

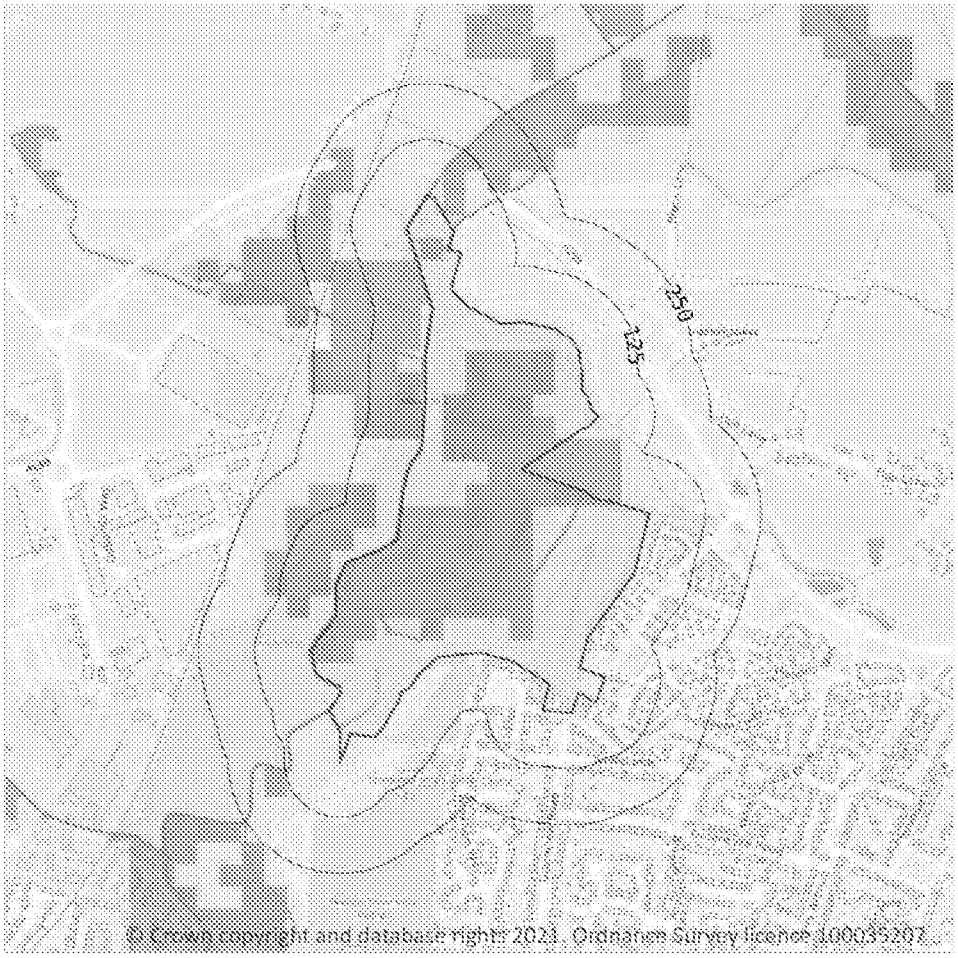
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 50**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Littlehampton Anticline West	GB40701G504900	Poor	Good	Poor	2015

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	49

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).

Features are displayed on the River and coastal flooding map on **page 64**

Distance	Flood risk category
On site	High
0 - 50m	High

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.

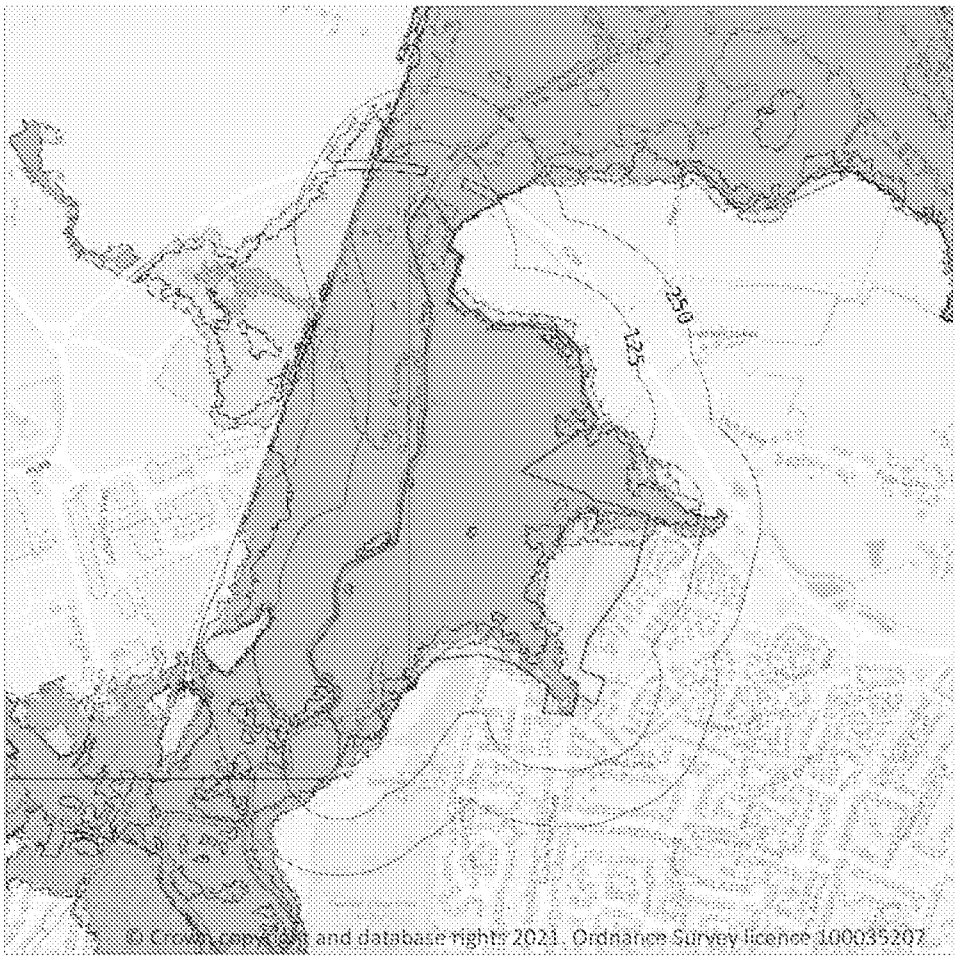
7.5 Flood Storage Areas

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



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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.

Features are displayed on the River and coastal flooding map on **page 64**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m	1

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.

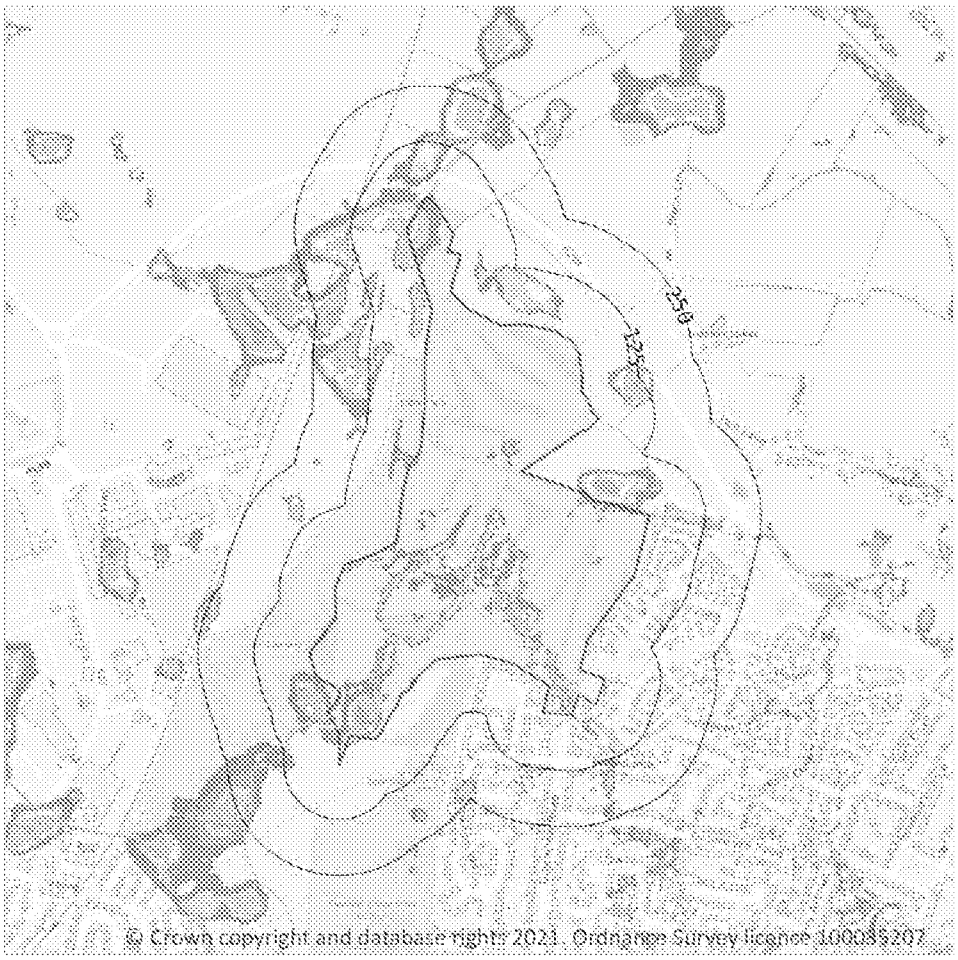
Features are displayed on the River and coastal flooding map on **page 64**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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

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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 68**

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.

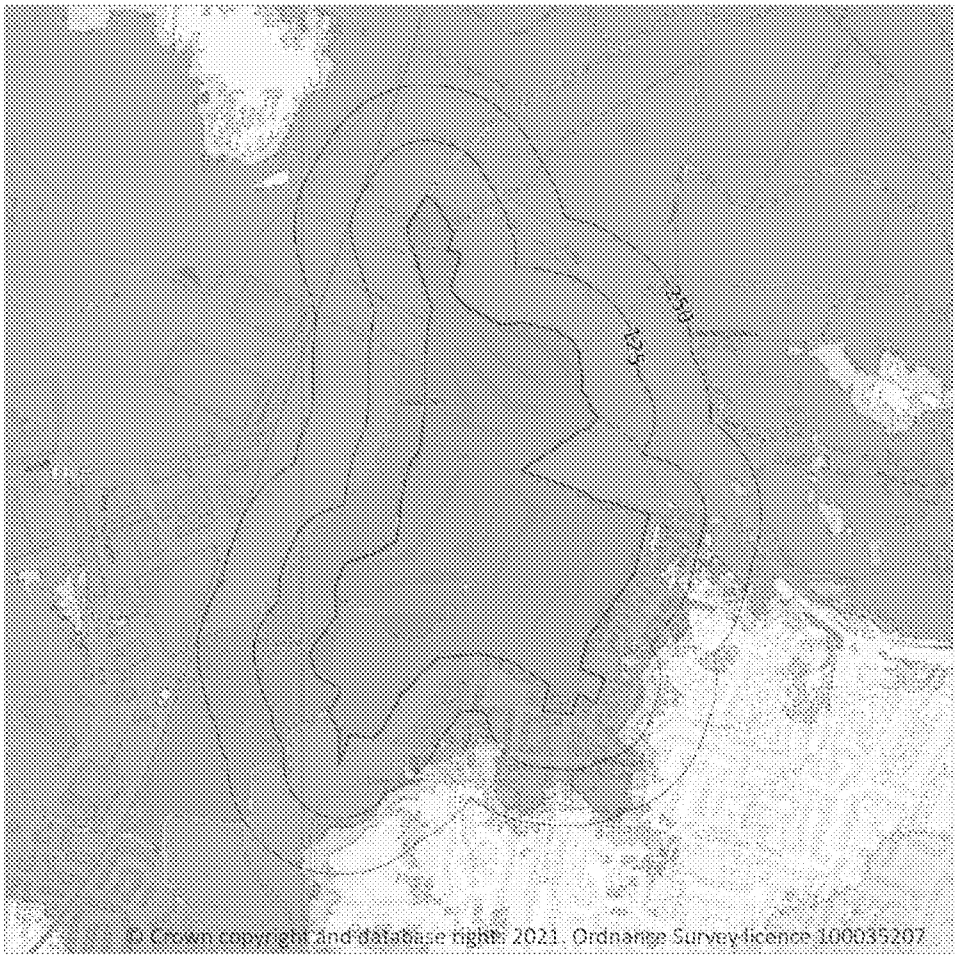
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The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	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	**High**
Highest risk within 50m	**High**

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 70**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Protection Areas (SPA)

Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	2

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.

Features are displayed on the Environmental designations map on **page 71**

ID	Location	Name	Data source
-	1371m S	Felpham	Natural England

ID	Location	Name	Data source
-	1374m S	Felpham	Natural England

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	1

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.

Features are displayed on the Environmental designations map on **page 71**

ID	Location	Name	Species of interest	Habitat description	Data source
2	1331m S	Solent and Dorset Coast			Natural England

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 71**

ID	Location	Name	Data source
1	792m W	The Brooks	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

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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.

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10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

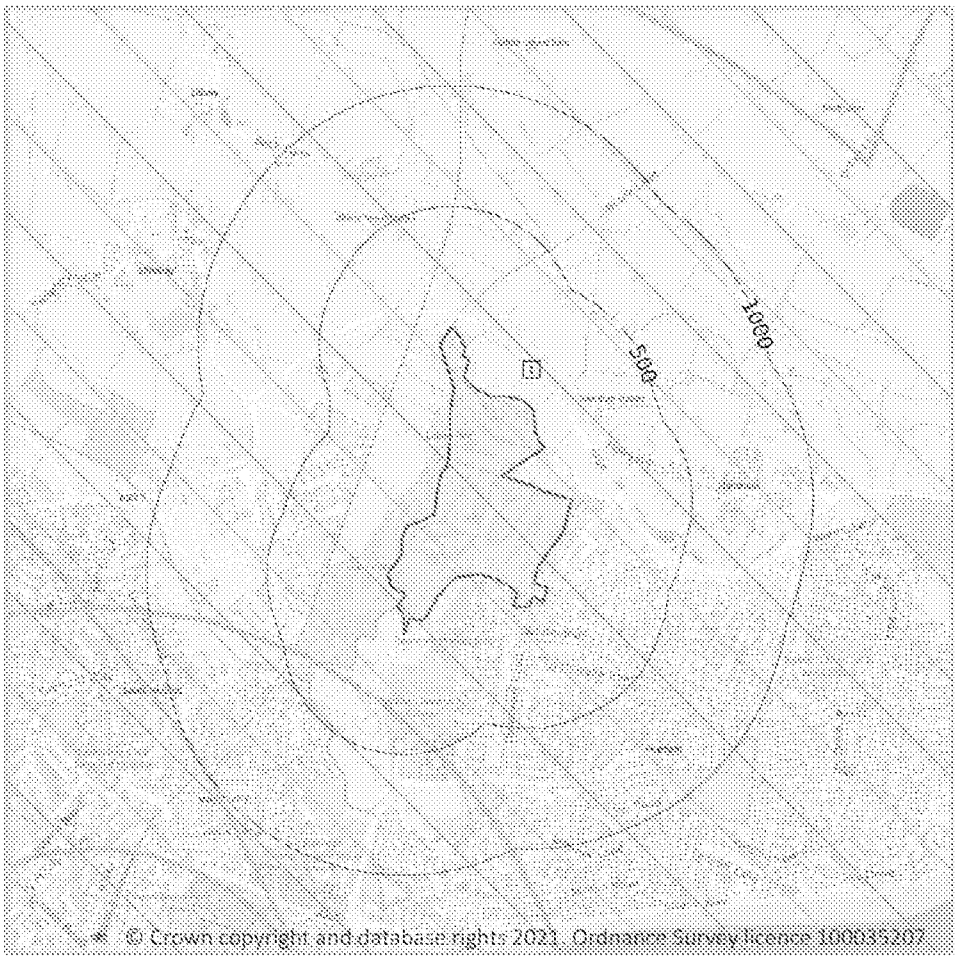
Records within 2000m	2

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

Location	Name	Type	NVZ ID	Status
On site	**Aldingbourne Rife NVZ**	**Surface Water**	**S517**	**Existing**
511m NW	Aldingbourne Rife NVZ	Surface Water	S517	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 76**

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ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.** **Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	3

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.

Features are displayed on the SSSI Impact Zones and Units map on **page 76**

ID: -
Location: 1371m S
SSSI name: Felpham
Unit name: 2
Broad habitat: Earth Heritage
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
EC - Tertiary Palaeobotany	Favourable	15/03/2006

ID: -
Location: 1374m S
SSSI name: Felpham
Unit name: 1
Broad habitat: Earth Heritage
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
EC - Tertiary Palaeobotany	Favourable	15/03/2006

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ID: -
Location: 1374m S
SSSI name: Felpham
Unit name: 1
Broad habitat: Earth Heritage
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
EC - Tertiary Palaeobotany	Favourable	15/03/2006

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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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.

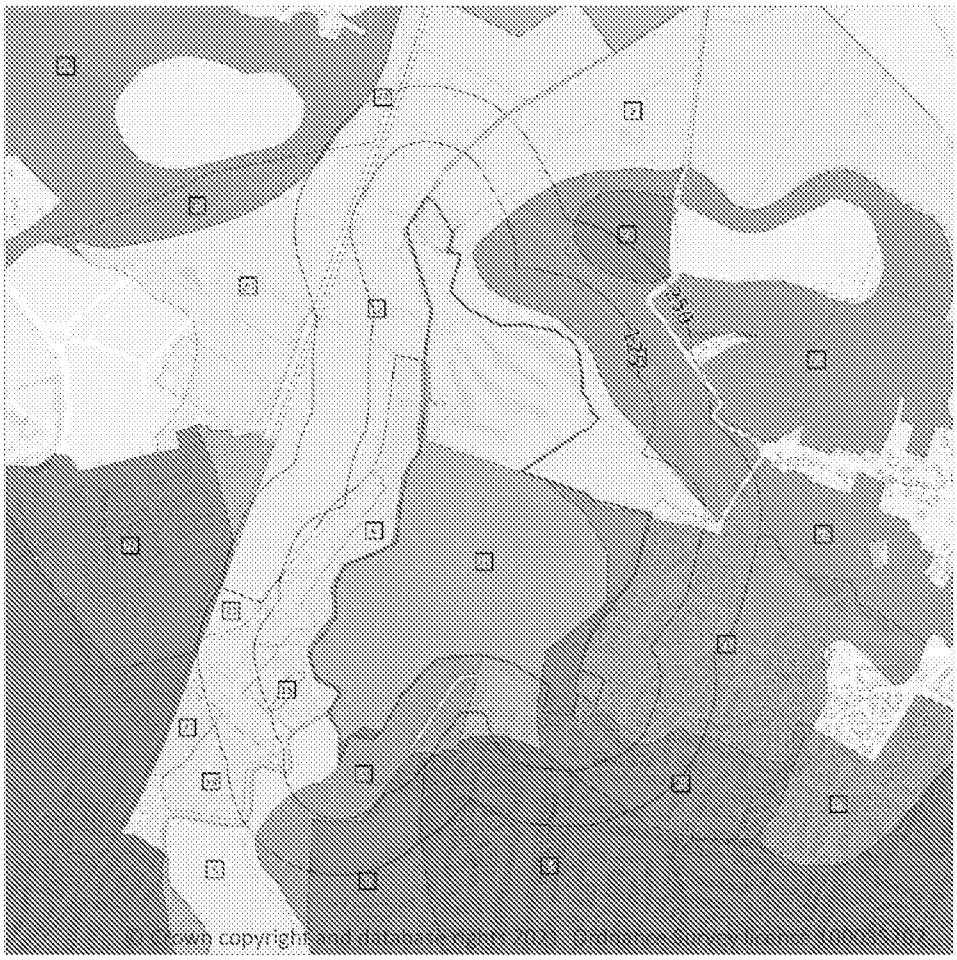
11.7 Registered Parks and Gardens

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	24

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 81**

ID	Location	Classification	Description
1	On site	Grade 1	**Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.**

ID	Location	Classification	Description
2	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
3	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
4	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
5	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
6	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
9	On site	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
10	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
11	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.
12	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
14	19m NE	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

ID	Location	Classification	Description
15	22m W	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.
17	79m S	Urban	-
19	124m W	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
20	135m W	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
21	147m NW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
22	165m E	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
23	170m NW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
24	171m NE	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
25	198m NE	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
26	220m NW	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
27	227m W	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.

ID	Location	Classification	Description
28	243m NW	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
29	244m NW	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	4

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

Location	Reference	Scheme	Start Date	End date
On site	**AG00417773**	**Entry Level plus Higher Level Stewardship**	**01/05/2013**	**30/04/2023**
On site	**AG00417773**	**Entry Level plus Higher Level Stewardship**	**01/05/2013**	**30/04/2023**
On site	**AG00417773**	**Entry Level plus Higher Level Stewardship**	**01/05/2013**	**30/04/2023**
72m NE	AG00417773	Entry Level plus Higher Level Stewardship	01/05/2013	30/04/2023

This data is sourced from Natural England

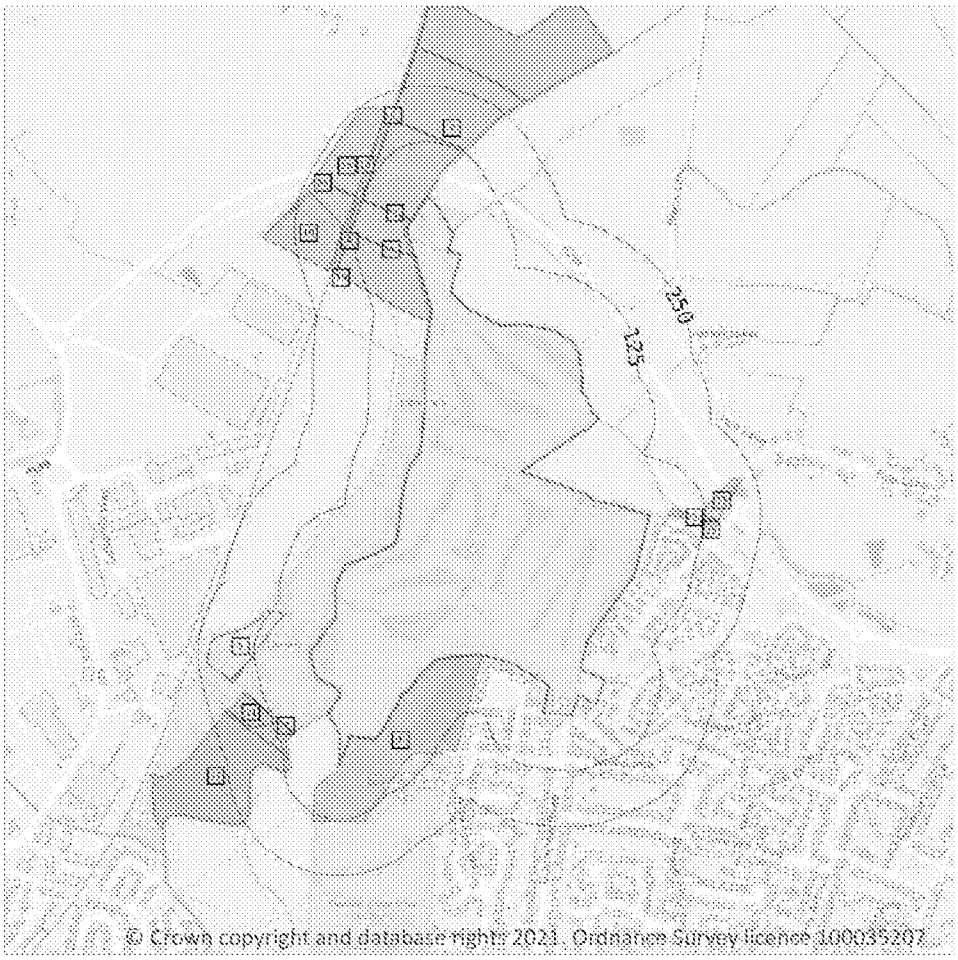
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



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	22

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 86**

ID	Location	Main Habitat	Other habitats
1	**On site**	**Good quality semi-improved grassland**	**Main habitat: GQSIG (FEP + HLS)**
2	1m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
3	2m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
4	4m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

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ID	Location	Main Habitat	Other habitats
5	43m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	84m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
7	87m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	88m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
8	91m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	110m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	112m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	114m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
13	121m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	127m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
14	128m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
15	131m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	133m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
17	134m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	140m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
19	160m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
20	191m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
21	204m NW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (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.

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13.3 Open Mosaic Habitat

Records within 250m	1

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.

Features are displayed on the Habitat designations map on **page 86**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
9	38m NW	HLD_refs:	Low	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography	-

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.

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14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 89**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SU90SE
2	On site	Full	Full	Full	No coverage	SU90SW

This data is sourced from the British Geological Survey.

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

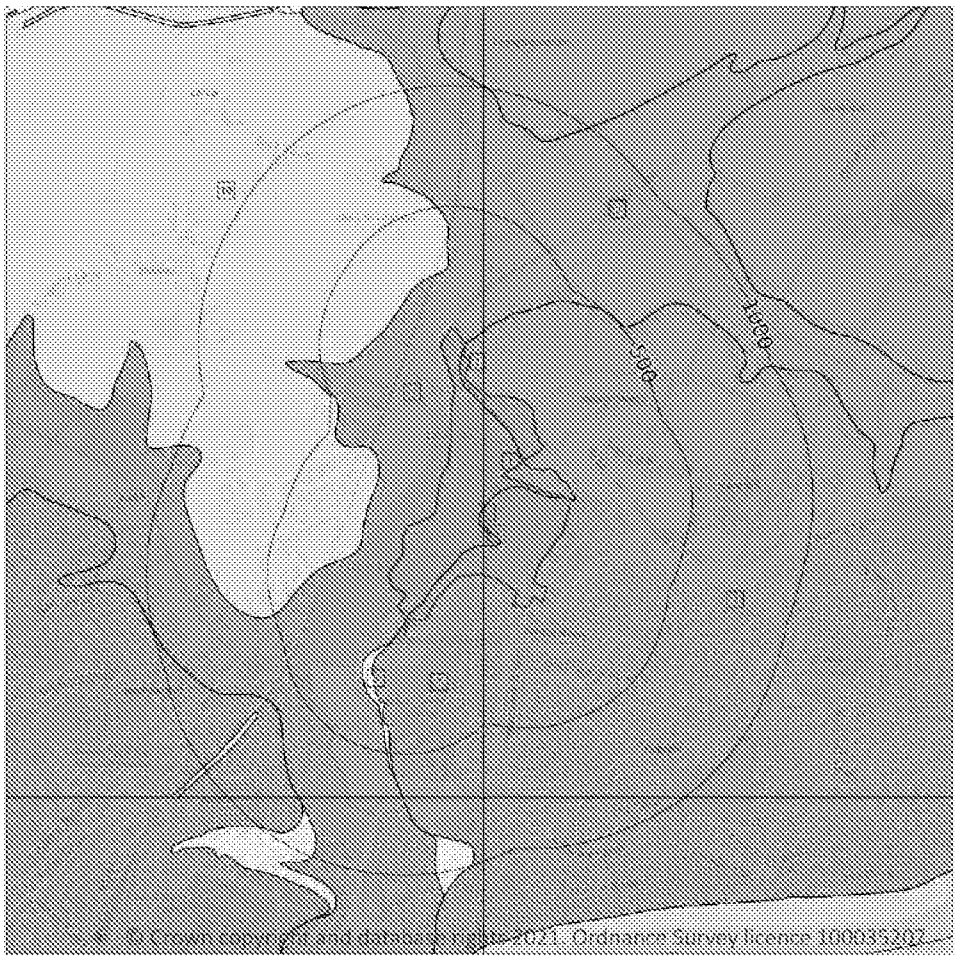
14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m **10**

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 91**

ID	Location	LEX Code	Description	Rock description
1	On site	RMD-CZ	Raised Marine Deposits - Silty Clay	Clay, Silty
2	On site	RMD-CZ	Raised Marine Deposits - Silty Clay	Clay, Silty
3	On site	RMD-CZ	Raised Marine Deposits - Silty Clay	Clay, Silty

ID	Location	LEX Code	Description	Rock description
4	**On site**	**RTDU-Z**	**River Terrace Deposits (undifferentiated) - Silt (unlithified Deposits Coding Scheme)**	**Silt**
5	**On site**	**RTDU-Z**	**River Terrace Deposits (undifferentiated) - Silt (unlithified Deposits Coding Scheme)**	**Silt**
6	**On site**	**RTDU-Z**	**River Terrace Deposits (undifferentiated) - Silt (unlithified Deposits Coding Scheme)**	**Silt**
7	**On site**	**RTDU-Z**	**River Terrace Deposits (undifferentiated) - Silt (unlithified Deposits Coding Scheme)**	**Silt**
8	72m SW	RBD1-XSV	Raised Beach Deposits, 1 - Sand And Gravel	Sand And Gravel
9	100m NE	RMD-CZ	Raised Marine Deposits - Silty Clay	Clay, Silty
10	161m NW	RTDU-XSZC	River Terrace Deposits (undifferentiated) - Sand, Silt And Clay	Sand, Silt And Clay

This data is sourced from the British Geological Survey.

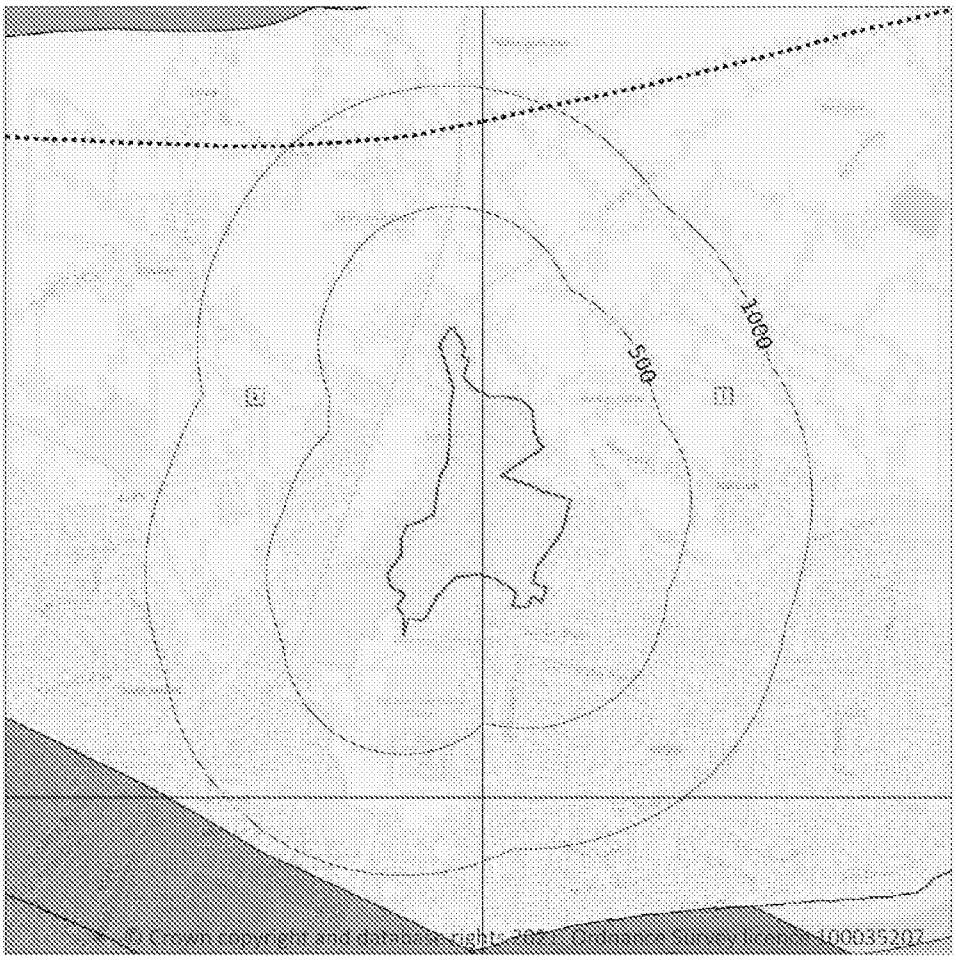
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 93**

ID	Location	LEX Code	Description	Rock age
1	On site	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian Age

ID	Location	LEX Code	Description	Rock age
2	On site	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian 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.

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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 95**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW317_332_chichester_and_

This data is sourced from the British Geological Survey.

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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)

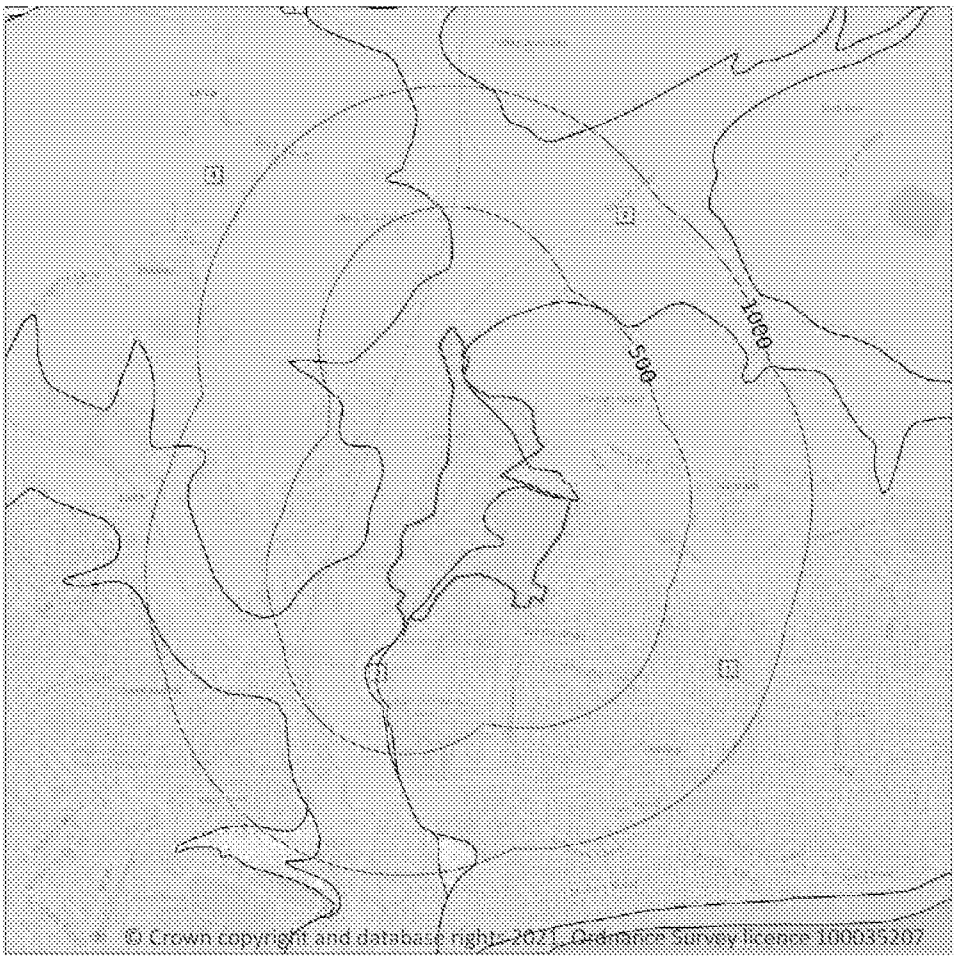
Records within 50m	0

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.

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Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m 4

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 97**

ID	Location	LEX Code	Description	Rock description
1	On site	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY
2	On site	RMD-XCZSV	RAISED MARINE DEPOSITS	CLAY, SILT, SAND AND GRAVEL
3	65m SW	RBD1-XSV	RAISED BEACH DEPOSITS, 1	SAND AND GRAVEL
4	143m W	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	5

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 99**

ID	Location	LEX Code	Description	Rock age
1	On site	LPCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION, CULVER CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

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

This data is sourced from the British Geological Survey.

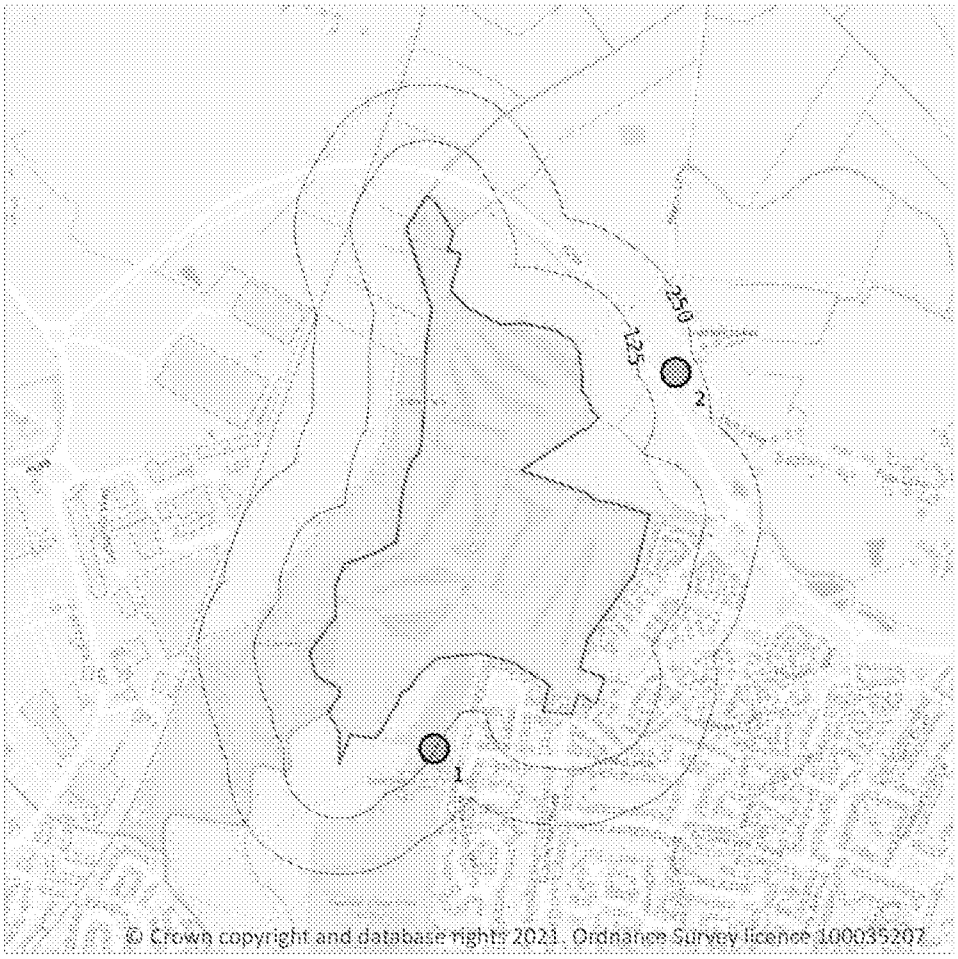
15.10 Bedrock faults and other linear features (50k)

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	2

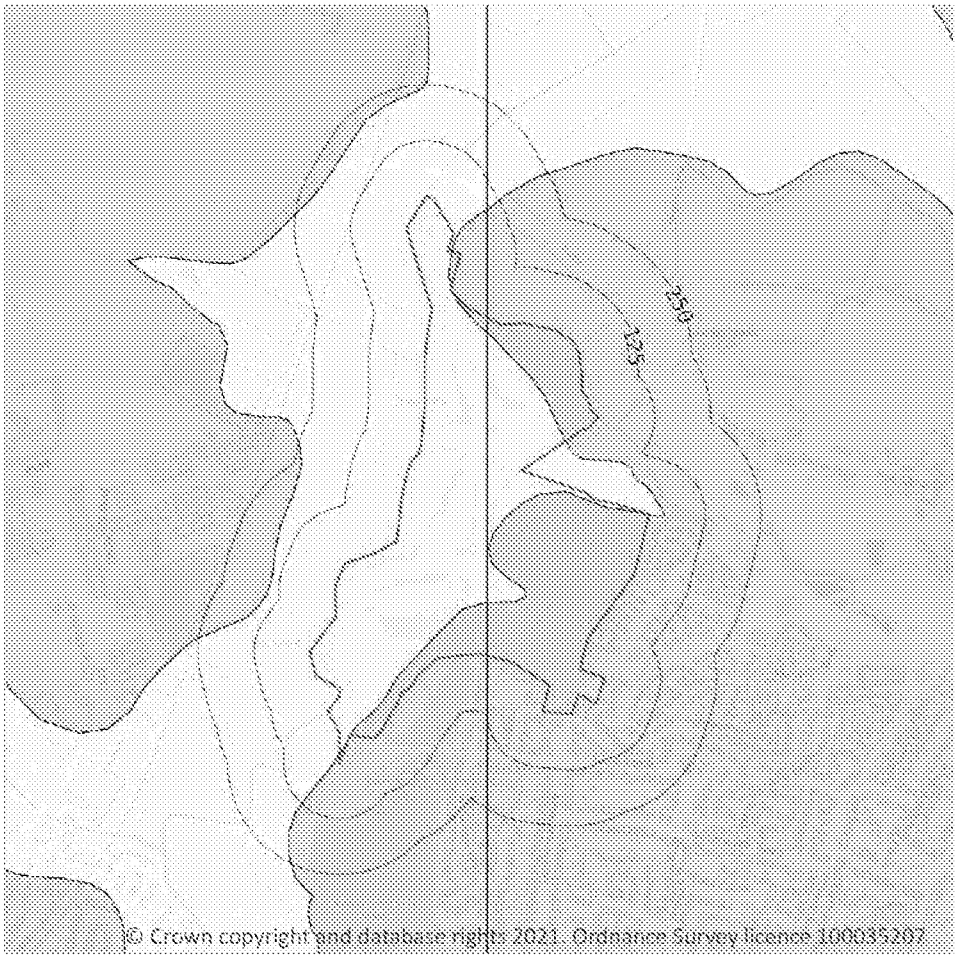
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 101**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	121m SE	494880 100710	BOGNOR	6.1	N	434496
2	197m NE	495420 101550	HOE FARM FLANSHAM	4.8	N	434401

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

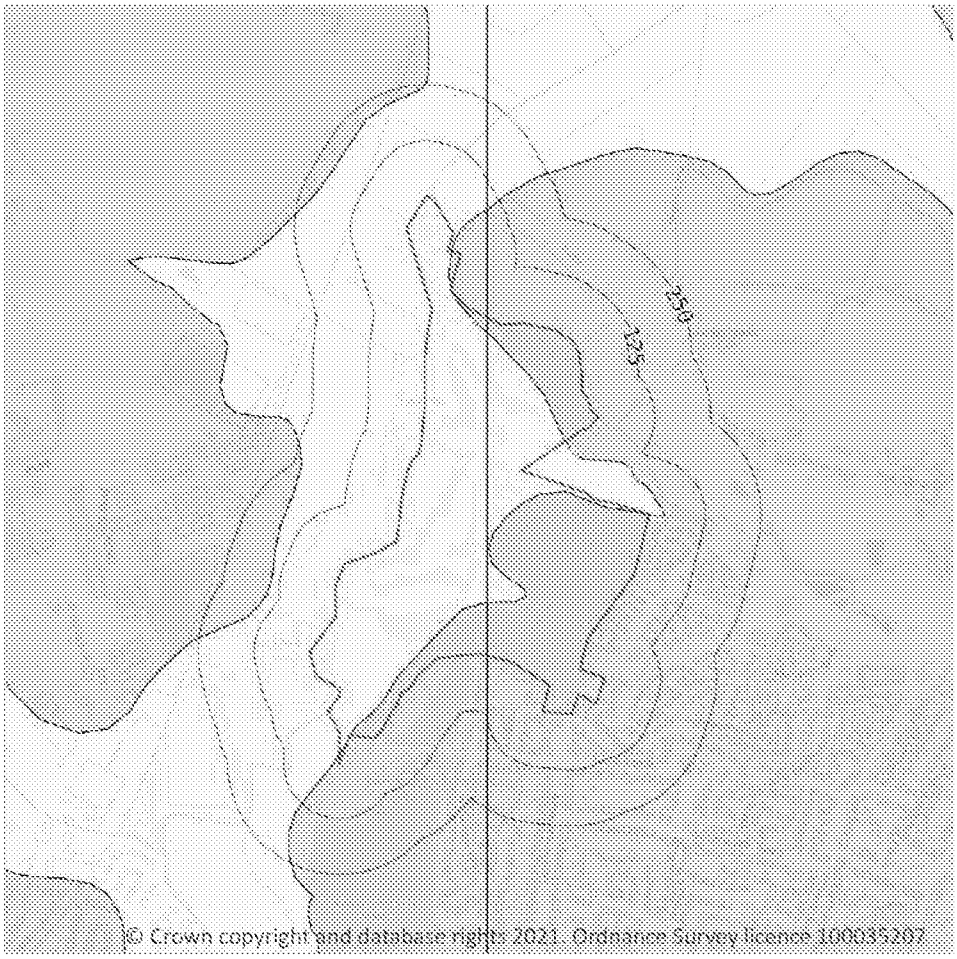
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 102**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	2

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 103**

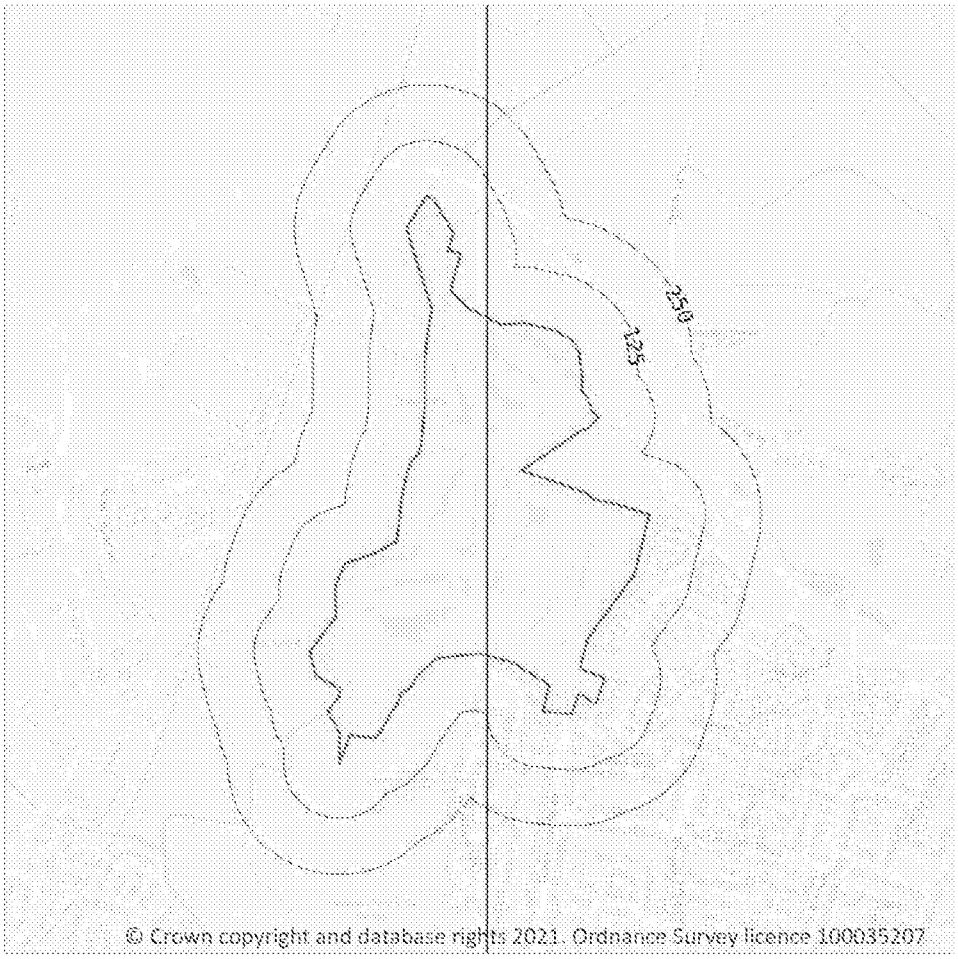
Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

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Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

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.

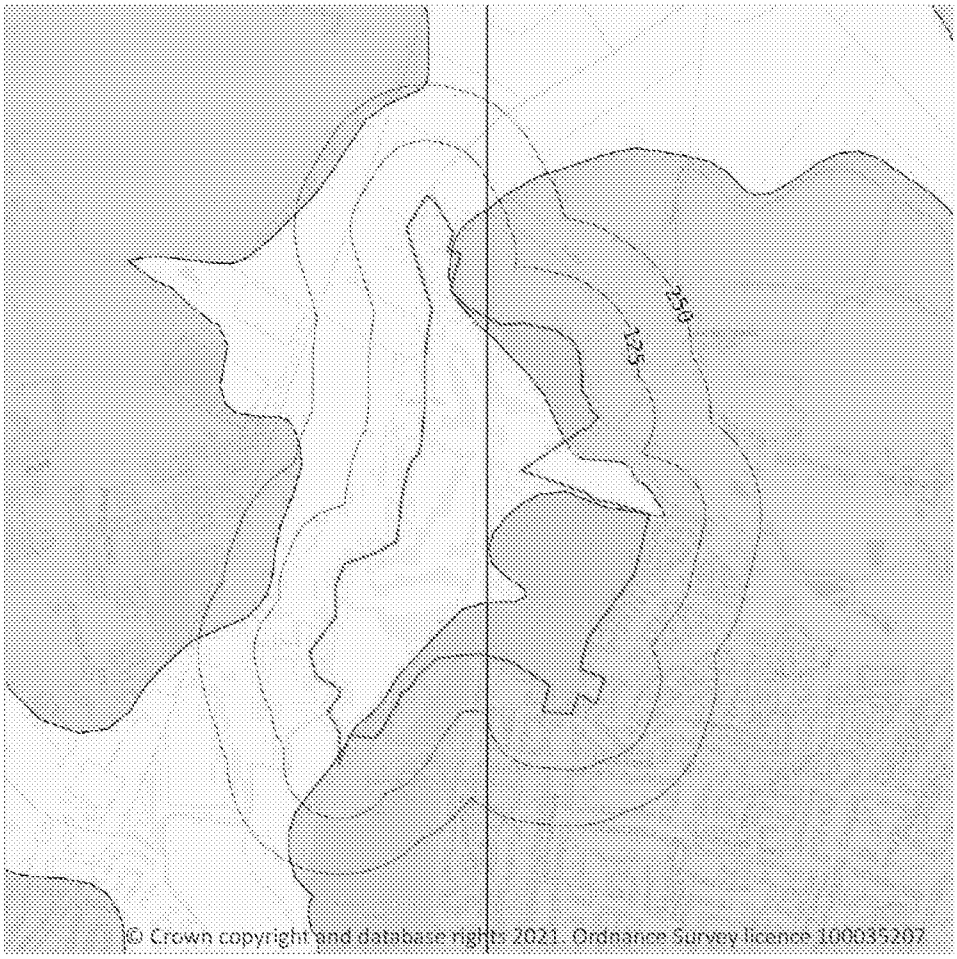
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 105**

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

This data is sourced from the British Geological Survey.

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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	2

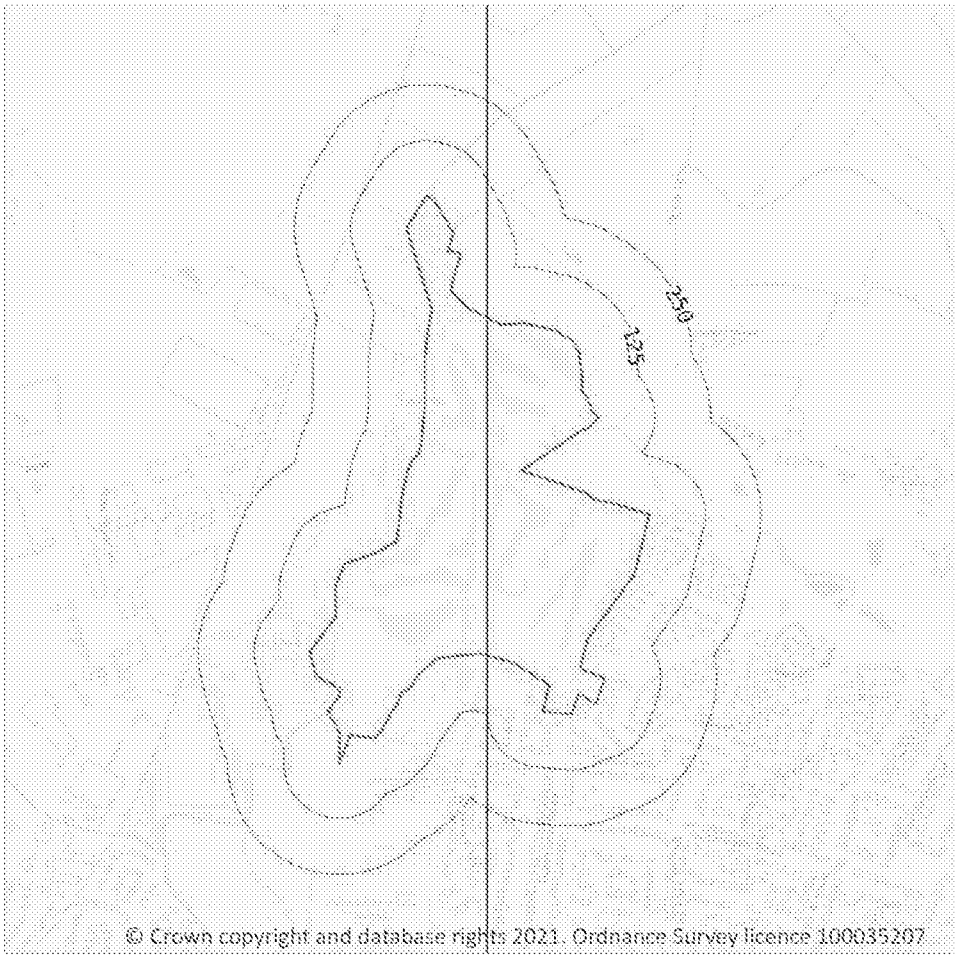
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 106**

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

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

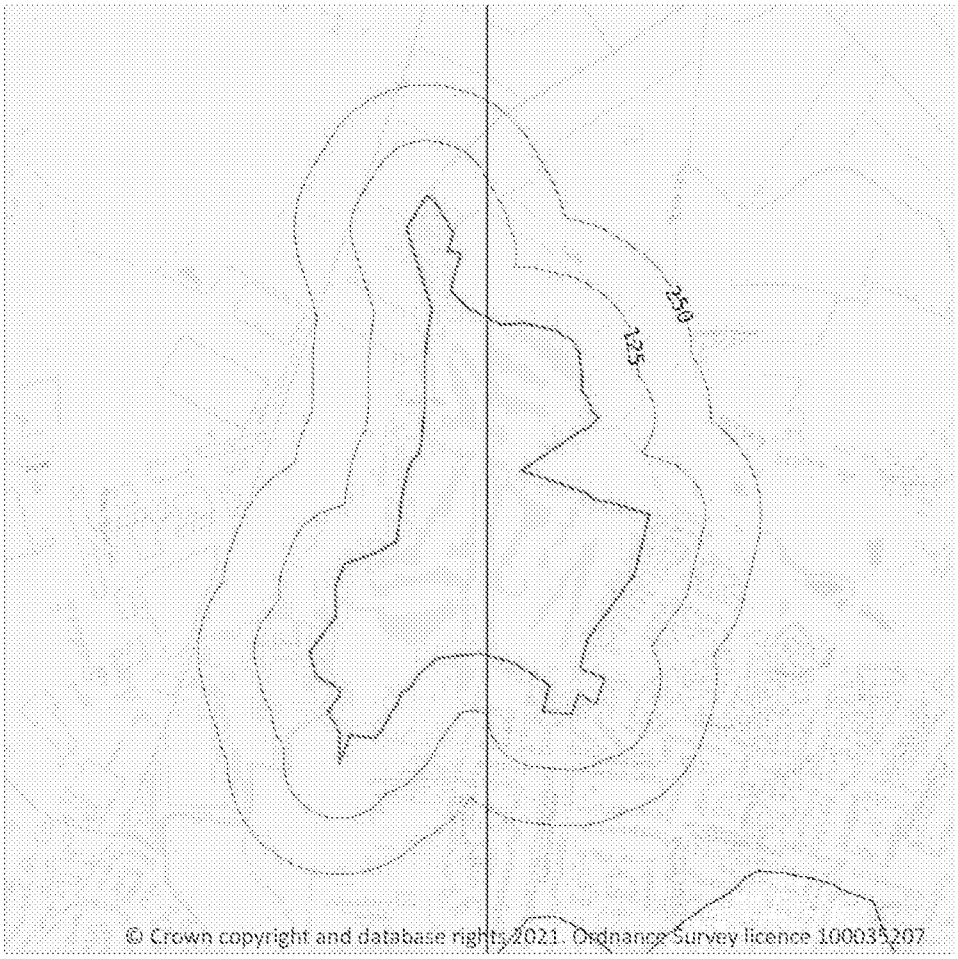
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 107**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

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 108**

Location	Hazard rating	Details
On site	**Very low**	**Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	1

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Details	Description
A	292m E	Name: Flansham Brickworks Address: Flansham, BOGNOR REGIS, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	3

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Land Use	Year of mapping	Mapping scale
A	160m E	Brick Field	1940	1:10560
A	160m E	Brick Field	1932	1:10560
1	238m W	Refuse Heap	1977	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

18.8 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.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

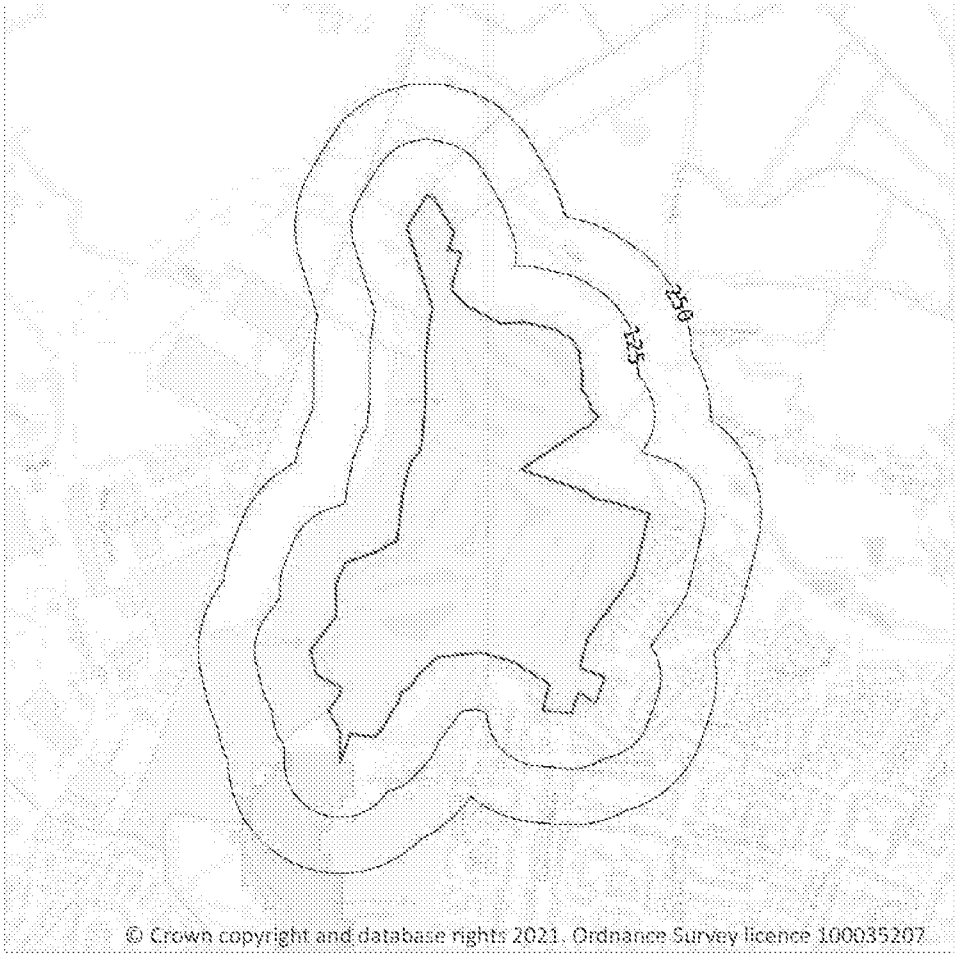
18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	2

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

Features are displayed on the Radon map on **page 114**

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None
On site	Less than 1%	None**

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	14

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 km^2. 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 km^2; 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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.

ARUN DISTRICT COUNCIL M/16/22/PL

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

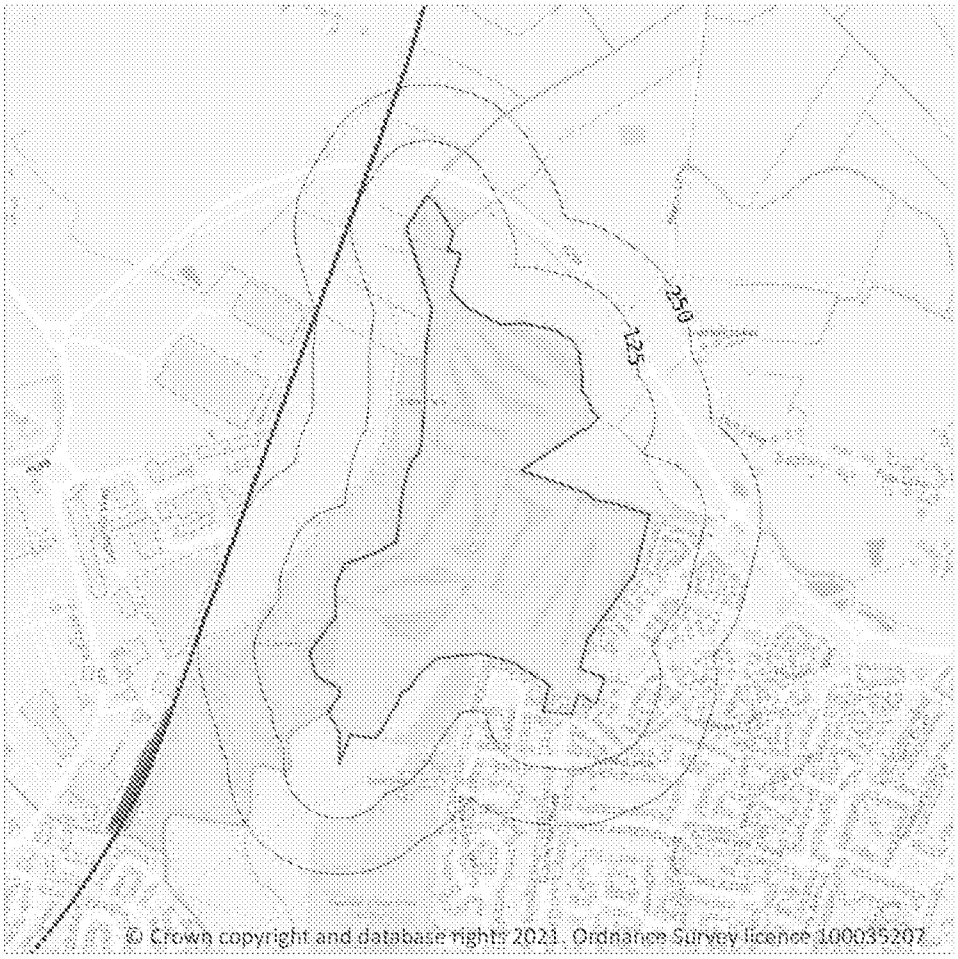
Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

ARUN DISTRICT COUNCIL M/16/22/PL

21 Railway infrastructure and projects



Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 1 Worksites
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

ARUN DISTRICT COUNCIL M/16/22/PL

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	3

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

Features are displayed on the Railway infrastructure and projects map on **page 118**

ARUN DISTRICT COUNCIL M/16/22/PL

Location	Name	Type
123m W	Not given	Multi Track
124m W	West Coastway Line	rail
127m W		rail

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

Appendix E

UNEXPLODED ORDNANCE REPORT

FINAL (CONFIDENTIAL)

From: Kim Pelling <kim.pelling@zetica.com>
Sent: 05 November 2021 16:34
To: FitzPatrick, Jack
Cc: Uxo; Research
Subject: RE: Bognor Regis Golf Club PDSA

Good afternoon Jack

Please find the PDSA below as requested. Any further queries, don't hesitate to contact us.

zeticaUXO

Pre-Desk Study Assessment

Site:	Bognor Golf Course, Bognor Regis, West Sussex
Client:	WSP
Contact:	Jake FitzPatrick
Date:	5th November 2021
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: Transport infrastructure and public utilities.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	On the 16th September 1940, 1No. fighter aircraft crashed on Felpham Golf Course (now Bognor Regis Golf Course), on the Site.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: Transport infrastructure and public utilities. Royal Air Force (RAF) Bognor. Military camps and training areas. Anti-invasion defences.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was straddled between the boundaries of the Urban District (UD) of Bognor Regis and the Rural District (RD) of Chichester. Bognor Regis UD officially recorded 124No. High Explosive (HE) bombs with a bombing density of 40.7 bombs per 405 hectares (ha). Chichester RD officially recorded 1,221No. HE bombs with a bombing density of 11.9 bombs per 405ha. Readily available records have been found to indicate that several HE bombs fell in close proximity to the Site.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	It is recommended that a detailed desk study is commissioned to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the Site.
Further information	For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website [redacted] Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found [redacted]. If you have any further queries, please don't hesitate to get in contact with us at [redacted]

[redacted]

Many thanks

Kim

Kim Pelling
Risk Assessor
Zetica Limited

[redacted]



From: FitzPatrick, Jack <[redacted]
Sent: 29 October 2021 10:16
To: Uxo <[redacted]
Subject: Bognor Regis Golf Club PDSA

Good morning,

Please may you produce a PDSA for a parcel of land at the Bognor Regis Golf Club, Downview Rd., Bognor Regis, PO22 8JD? A Site outline has been attached. Any problems, please do not hesitate to get in touch.

Many thanks

ARUNDEL DISTRICT COUNCIL M/16/22/PL

Jack FitzPatrick

Appendix F

BOREHOLE LOGS

[redacted]

SU 00 NW/81
9916 1107

DETAILS OF STRATA

332/117

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA (and any additional remarks)	THICKNESS METRES	DEPTH METRES
Quaternary & Tertiary	Topsoil and "Made up" ground	4.20	4.20
Upper Cretaceous	Chalk with flints	133.80	138.00
	Soft chalk with flints	33.00	171.00
	Chalk with flints.	85.05	256.05
			(28' 5")

SU 98 SE 35 9582 8185	Roe Farm, Flansham	Hook H

Surface level +2.1 m
Water not struck
September 1981

Made 1.6 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.2
Selsey Gravels	Clay, brown, very silty, with peat partings and a few small angular flint pebbles	1.3	1.6
Upper Chalk	Chalk, rubbly near top, soft and crumbly below, with nodular flints	3.3+	4.2

ARUN DISTRICT COUNCIL M/16/22/PL

SU90/72

BORING at Bognor — County Sussex

Geol. map — 1in. map New Series — S in. map

Made by C. Soley & Co — Date 1933 — Records

Bank — Sheet — Ground level at mouth 3' 0" — 35 ft 20

Recommended by L. Soley & Co

Height above Ordnance Datum

Yield Estimated by [illegible] gallons per hour

Quality (with copy of analysis on separate sheet)

SU 9814 0066

GEOLOGICAL FORMATION.	REMARK OR STRATA.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Reading Beds	Clay	114	—	14	—
Upper Chalk	Chalk & flints	16	—	30	—
R.L.W.S. Mean Sea	Yield 250 gallons per hour, Lifted. ~~Heat test gave 60 degrees of heat~~				
	Lined 30 ft of tubing				
	Information for Messrs C. Soley & Co. S.C. Co.				

Published in "Wells & Springs of Sussex," page 60

SW/7

57. East Wittering, 1 mile [illegible] of railway station. 20ft. above O.D. about 20 ft. Map 73 N.W.

	Thickness	Depth
	Ft.	Ft.
Clay	14	14
Chalk and flints	16	30

R.L.W.S. 8 ft. 8 in. (boss). Well 28in. x 3ft. lined 18in. Lined 30 ft. of tubing. Information from Messrs. C. Soley and Co., Ltd.

There are no wells at the Gas Works S.W. of the Station at Bognor Road. The nearest other supplies 5 ins bore at the Gas Works 1500 yards N.N.E. of the Station and is the finish result of the boring reported in Mr Hammond's attached letter. The tube was withdrawn from the 150 feet deep bore leaving only 30 feet of tubing.

Information from Mr C.W. Hammond
F. Burton
18.1.33

Bore surveyed and plotted on 6" Published 22.10.57 RCF

ARUN DISTRICT COUNCIL M/WR/2/RL

Johnson Stevens Lowrance S.W.1 7810220. 10. 53624. 8/33. 2500. 11/33. Gp. 1000. O.A.

SU 98 SW 54 9438 8141 Oakbeach Farm Block B

Surface level +5.2 m
Water not struck
September 1981

Waste 2.8 m
Bedrock 1.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Brickearth	Clay, brown, silty near top, sandier near base	1.5	1.8
Raised Beach Deposits (youngest)	Very clayey pebbly sand Gravel: coarse and fine; flint with chalk Sand: fine with frames of medium and coarse Fines: silt	0.9	2.8
Upper Chalk	Chalk, rubbly, silty near top	1.2+	4.0

DRAWING

Mean for deposit percentages			Depth below surface (m)	Percentages							
Fines	Sand	Gravel		Fines	Sand			Gravel			
				<4	4-1	1-2	2-4	4-16	16-32	32-64	64 mm
38	48	12	1.8-2.8	38	42	2	3	8	7	0	

SU 99 SW 85 9485 9972 Bognor Block B

Surface level +3.8 m
Water struck at -1.0 m
September 1981

Overburden 1.4 m
Mineral 1.8 m
Waste 2.6 m
Bedrock 0.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Brickearth	Silt, brown, with particles of peat and a few flint pebbles	1.1	1.4
Raised Beach Deposits (younger)	Very clayey peaty sand Gravel: coarse with fine, angular flint Sand: fine with leaves of reedmace and coarse Peat: silt	1.8	3.2
	Clay, silty, grey with brown mottling	0.7	3.9
	Silt, sandy, very chalky, with pebbles of chalk and nodular flint	1.9	5.8
Upper Chalk	Chalk, soft, white	0.9+	6.7

GRADING

Mean for deposit percentages			Depth below surface (m)	Percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				<4	4–1	1–½	½–¼	¼–⅛	⅛–1/16	>1/16 mm
33	60	8	1.5–2.5	33	54	4	2	2	5	0

Borehole record form

British Geological Survey

Environment Agency

4 Site details

[redacted]

8 Construction details

C Test pumping summary (Please supply full details on form WR35)

ARUN DISTRICT COUNCIL M/16/22/PL

D Strata log

Geological classification (BGS only)	Description of strata	Thickness m	Depth (to base of strata) m
	Top Soil	GL	0.4
	Brown sandy CLAY	2.6	3.0
	Grey sandy CLAY	12.0	15.0
	CHALK with flints	35.0	50.0
	END BOREHOLE		
	(continue on separate page if necessary)		
	Other comments (for example, gas encountered, saline water intercepted)		

E Completing this form

How long did it take you to fill in this form? _____

For Official use only

Date received (DD/MM/YYYY)	File	Consent number	BGS reference number
Accession number	Wellmaster number	SOBI number	NGR
LIC NO	Purpose		EA reference number
Copy number	Entered by		

Appendix G

RISK ASSESSMENT METHODOLOGY

CIRIA C552 RISK ASSESSMENT

The identification of potential pollutant linkages is a key aspect of the evaluation of potentially contaminated land. An approach based on the UK CIRIA 552 report C552 (Contaminated Land Risk Assessment: A Guide to Good Practice, 2001) has been adopted within this report. The assessment considers which source – pathway – receptor pollutant linkages are likely to be plausible and potentially complete, and the potential risk they represent. For each of the pollutant linkages, an estimate of:

- the potential severity (consequence) of the risk, and
- the probability (likelihood) of the risk occurring

has been undertaken to assess the potential risk associated with a complete pollutant linkage.

Table 1 – Classification of consequence (CIRIA C552, 2001)

Classification	Category	Definition	Examples
Severe Short term (acute) risks only	Humans	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part 2a	High concentrations of cyanide on the surface of an informal recreation area
	Controlled Waters	Short term risk of pollution of sensitive water resource	Major spillage of contaminants from site into controlled waters
	Property	Catastrophic damage to buildings / property	Explosion causing building collapse
	Ecological Systems	Short term risk to a particular ecosystem or organism forming part of such ecosystem	
Medium Chronic (long term) risks; 'significant harm'	Humans	Chronic damage to human health ("significant harm" as defined in DEFRA, 2006)	Concentrations of a contaminant from a site exceed the generic or site-specific assessment criteria
	Controlled Waters	Pollution of sensitive water resources	Leaching of contaminants from a site into a Principal or Secondary A aquifer
	Ecological Systems	Significant change in a particular ecosystem or organism forming part of such ecosystem	Death of a species within a designated nature reserve
Mild Chronic (long term) risks; less sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources	Pollution of non-classified surface watercourse
	Property	Significant damage to buildings, structures, crops and services ("significant harm" as defined in DEFRA, 2006) and damage to sensitive buildings / structures and services	Foundation damage to a building rendering it unsafe to occupy due to instability
	Ecological Systems	Damage to the environment	
Minor Chronic (long term) risk; mild	Humans	Non-permanent health effects to human health that are easily prevented by the use of PPE	Presence of contaminants at such concentrations that protective equipment is required during site works
	Property	Easily repairable effects of damage to buildings, structures and services	Discoloration of concrete
	Financial / Project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve	

Table 2 – Classification of probability (CIRIA C552, 2001)

Classification	Definition
High likelihood	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even or a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Table 3 – Comparison of consequence against probability (CIRIA C552, 2001)

	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low / Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low / Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low / Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

Table 4 - Risk classification descriptions (CIRIA C552, 2001)

Risk Classification	Definition
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not undertaken already) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

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