PHASE 1 PRELIMINARY RISK ASSESSMENT

RWE Pembroke Hydrogen / Electrolyser Area

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1 INTRODUCTION

1.1 Preamble

1.1.1 RPS Consulting Services Ltd (RPS) was commissioned by RWE Generation UK (RWE) to undertake a Phase 1 Preliminary Environmental and Geotechnical Risk Assessment of two land parcels under RWE ownership at Pembroke Power Station, West Pennar, Pembroke, SA71 5SS. In line with the RWE Contract ref. MPC1871, it is understood RWE are looking to identify areas within which to develop green hydrogen electrolyser projects and pursue NGESO's Stability Pathfinder Phase 3. This report has been commissioned prior to the proposed redevelopment of the study areas.

1.1.2 The two areas to be investigated are described as follows:

- The Electrolyser Assessment Area, located away from the Power Station, in an area which was a contractors' facility during a period of construction, and includes the likely water pipe locations linking electrolyser to water treatment plant and the likely cable run to 132kV substation; and
- The Hydrogen Pipeline Route.

1.1.3 A plan showing the site locations is presented as Figure 1 and plans showing the site boundaries of each of the three areas is presented as Figure 2 and Figure 3.

1.2 Objectives

1.2.1 The principal object of this report to provide a Phase 1 Geotechnical and Geo-environmental Investigations of both study areas. This will be undertaken to provide information on the likely ground conditions and identify potential current and historical contamination sources present at the site, and includes the following:

- Review of historical maps to determine historical contamination sources and the likelihood for contamination to be present in soils and groundwater;
- Review of other available information including geology, hydrogeology and hydrology to provide an understanding of the environmental setting;
- Review of environmental databases to further characterise the environmental setting, including the assessment of any nearby pollution incidents, environmental permitting and waste handling / disposal sites;
- A site walkover to identify any visual evidence of potential contaminant sources and identify key site features including any potential geotechnical constraints;
- Review of available site information including any previous ground investigation and desk-based information including the IED Preliminary Investigation / Baseline Reports and any other relevant reports not considered within the IED Reports, as appropriate;
- Production of a Preliminary Conceptual Site Models (PCSM) that will outline potential sources of contamination and potential risks posed to sensitive receptors; and
- Production of a preliminary geotechnical risk register.

1.2.2 A number of reports were provided by RWE for review as part of this assessment, the majority of the reports related to area of the Power Station outside of the site boundaries included within this assessment and although provided useful background information no review of these reports has been included. The exception to this is the 2001 Desk Study which includes part of the site boundary. Therefore, where appropriate a review of this report has been included.

1.3 Legislation and Guidance

1.3.1 The assessment has been undertaken in general accordance with British Standard BS EN ISO 21365:2020 and is considered suitable to meet the initial requirements of planning as outlined within the National Planning Policy Framework (NPPF). The assessment also reflects the recommendations of Environmental Agency guidance, Land Contamination: Risk Management, (LCRM, 2021).

1.3.2 Details of the limitations of this type of assessment are described in Appendix A.

2 ELECTROYSLER AREA

2.1 Introduction

2.1.1 The electrolyser area is indicated in Figure 2 and is herein referred to as the Electrolyser Assessment Site for this section of the report.

2.1.2 The Electrolyser study area, located away from the Power Station, in an area which was a contractors' facility during a period of construction, and include the area of the proposed electrolyser (electrolyser area); the likely water pipe location (water pipeline route) linking electrolyser to water treatment plant and the likely cable run (cable route) to 132kV substation. The Electrolyser Assessment Site covers a total area of approximately 8.85hectares (ha).

2.1.3 The Desk Study assessment is based upon a review of published information available from local, regional, and national agencies as detailed in Section 1.2. The desk study information is derived from Groundsure Enviro and Geo Insights Reports for each sub-section of the Electrolyser Assessment Site, Ref. GS-8873300 (electrolyser area), GS-8873288 (water pipeline), and GS_8873318 (cable route), which are presented as Appendix B. Please note the terms and conditions attached to the supply of data from Groundsure.

2.2 Site Setting

2.2.1 This section of the report is based upon observations made during a site visit carried out on 21st July 2022. Selected photographs are shown in Appendix C.

Table 2-1 – Electrolyser Assessment Site: Summary of on-site activities

Section	Description
Background:	The Assessment Site is located at National Grid Reference 192499 E, 202536 N and is an area of land located to the west of the boundary of RWE Pembroke Power Station. The main electrolyser area is rectangular in shape, as is the area of the water pipeline, and the cable route is linear between the south of the power station and south of the proposed electrolyser area.
Site Layout:	The Electrolyser Assessment Site is split into three zones for the purpose of assessment; the electrolyser area, the water pipeline route and the cable route. The electrolyser area comprises an area of open grassland and hardstanding with a natural gas Above Ground Installation (AGI) located in the north-east corner. There are access roads from the minor road to the south of the southern boundary that leads to the AGI. There are wooded and heavily vegetated areas in the central and southern electrolyser areas, with Hardstanding covers about 5% to 10% of the electrolyser are . The water pipeline comprises one agricultural field in the western area and an area of woodland and dense vegetation in the eastern area. A narrow minor road crosses the centrally between the two areas. There is a public walkway on the eastern boundary of this area. The cable route comprises a thin narrow area in the eastern area that runs east to west along the minor road that leads away from the RWE Pembroke Power Station site. The eastern section comprises a wider rectangular area that is covered by an open field of grassland with access roads and some trees, with an area of woodland to the west.
Activity / Operations:	It is understood that the AGI is currently operational. Within the water pipeline route to the east there is a buried high pressure gas pipeline, indicated by a red post. A pylon and power lines running north to south crosses the eastern area of the cable route from the main substation building on the RWE Pembroke Power Station site.
Building Structure(s):	The AGI is surrounded by fencing and covered by hardstanding with gas pipework and a small building / container in the north-east corner.

Section	Description
	There are no buildings within the water pipeline route however the water treatment plant and blow down building are located to the immediate east within the RWE Pembroke power station site. The pylon sits on grassland in the eastern area of the cable route.
Surface Cover:	The grassland is overgrown and the hardstanding appears to be in relatively good condition at the electrolyser area. The vegetated area to the east comprises high grasses and vegetation in the route of the water pipeline but was surrounded by bushes and trees to the north and south which suggested that access had previously been cleared along the route. The hardstanding on the road appeared to be in an adequate condition. The pedestrian walkway appeared to be on natural ground. The grassland on the slope along the water pipeline route appears to have been cleared previously and is indicative of the route of the pipeline. The red marker post indicated the location of the gas pipeline to the immediate east of the electrolyser area. The open area of grassland is heavily overgrown and the surface is uneven in places. The far eastern area is covered by hardstanding including an access route on the RWE Pembroke site. The minor road with tarmacadam cover appears to be in good condition at the cable route. Grassland covers the majority of this area to the east.
Drainage:	Drainage is likely to occur off the hardstanding onto the surrounding areas of grassland at the electrolyser area. It is assumed that the drainage follows the topography on the grassland areas along the water pipeline route and along the cable route.
Bulk Storage / Tanks:	There were no bulk storage / tanks identified on the Electrolyser Assessment Site.
Waste:	There was an area of stockpiled wood in the south-east of the electrolyser area. Anecdotal evidence suggests that this is used for habitat, although no further details were provided. There was a large piece of derelict metal (possibly a vehicle part) in the west of the main area of grassland at the water pipeline route.
Electricity Sub-Stations /Transformers:	These were not identified in the electrolyser area (the small building at the AGI was not entered), nor along the water pipeline route. The main substation building of the RWE Power Station is located to the immediate north of the northern boundary of the cable route.
Visual Evidence of Contamination:	There was no clear visual or olfactory evidence of contamination on the Electrolyser Assessment Site.
Statutory Nuisance:	No information has been provided.
Other Geo-Environmental Issues:	None identified.

2.2.2 A drain runs north to south approx. 20 m to the east of the Electrolyser Assessment Site boundary.

The Surrounding Area

2.2.3 The Electrolyser Assessment Site is located in an area of mixed rural and industrial land uses. At the time of the site inspection, neighbouring land consisted of the following:

Table 2-2 – Electrolyser Site: Neighbouring Land Uses

Direction	Description
North:	Electrolyser Area and cable route: Woodland is located to the immediate north, with open fields beyond this. The minor road is also present. A field and minor road is present to the north of the heavily vegetated area. Water Pipeline Route: Open fields, woodland and the north-western corner of the RWE Pembroke Power Station site.
East:	Electrolyser Area and cable route: Woodland is located to the immediate east, with grassland and the RWE Pembroke Power Station beyond this. Water Pipeline Route: RWE Pembroke power station site is located.

Direction	Description
South:	Electrolyser Area and cable route: A minor road runs east to west along the southern boundary with wooded areas present to the south. Water Pipeline Route: The open grassland and areas of trees and bushes are located to the south.
West:	Electrolyser Area and cable route: A public footpath running north to south is located to the immediate west, with heavily vegetated areas of land further west. There is an access road and open field to the north-west. Water Pipeline Route: An area of open grassland and a natural gas Above Ground Installation are located to the west.

2.3 Site History

Historical Map Review

2.3.1 The following review is based on past editions of readily available Ordnance Survey (OS) maps. These include scales of 1:1,250, 1:2,500 and 1:10,000 dated 1864 to 2022. A selection of historical maps is presented as Appendix D.

Table 2-3 – Electrolyser Site: Historical Site Uses

On-site Land Use and Features	Dates
Electrolyser Area: Undeveloped agricultural land with a footpath running across north-west to south-east. Potential pond / circular feature adjacent to the footpath. Water pipeline route: Undeveloped agricultural land. Cable route: Undeveloped agricultural land with a number of tracks with the eastern end indicated within an area of mud, which is likely to be estuarine marsh land. By 1906, saltings encroach the central area of the route.	1864 - 1908
Electrolyser Area: Circular feature (potential pond) no longer shown.	1908 - 1972
Electrolyser Area: The site has been developed, associated with RWE Pembroke Power Station, including an electrical sub-station in the northern portion and a second in the central area. The substation appears to be located within cuttings, where the access roads are built up on embankments. An Industrial Hostel is also shown in the west. Given the general topography of the site sloping towards the east, the presence of several embankments, suggests the electrolyser area has been subject to land raising. Water pipeline route: This area of the Assessment Site appears to cross two cutting slopes, with the majority of the area within a cutting associated with RWE Pembroke Power Station. A drain is indicated to the south of this area boundary. Two tanks are identified in the south-west corner of this section of the site. The eastern end appears to encroach access roads of the power station. Cable route: Western end of route indicated to be access road easterly towards the power station. A transformer associated with an over head electric line is indicated in the east end of the cable route.	1972 - 1975
Electrolyser Area: Slopes are labelled parallel with the northern boundary. Majority of the infrastructure is no longer indicated, and the northern half is labelled a sports ground. One U-shaped building is still present in the central area. Cable route: Land has been built up, where the power station is now immediately north of the route in the area of former mud flats. A drain is indicated along the route, and the cable route appears to be aligned with the access road to the RWE Pembroke Power Station.	1975 - 1993
Electrolyser Area: Layout of U-shaped pad is now L-shaped and houses two small buildings and a clear hardstanding track around the pad, in a square leading off site to the south. Water pipeline route: By 2001, there are a number of drains running through the area, one of which leads to a pond immediately south of the boundary.	1993 - 2006
Electrolyser Area: By 2009, no buildings are indicated in the south-east.	2006 - 2012
Electrolyser Area: By 2012, a new track is identified running north from the square area in the south-east, towards the north-east where the AIG has been constructed. There appears to be a hedge-lined embankment in the south of the south-east hardstanding area and general use of storage of materials. By 2013, the embankment has widened, and storage gone, just a few buildings/stores remain.	2012 - 2013

On-site Land Use and Features	Dates
Electrolyser Area: By 2013, there are no materials stored on the hardstanding area in the south-east and the embankment has been grassed over. Water pipeline route: By 2022, the east end of this area is indicated within access roads in the west of the power station.	2013 - 2022

Table 2-4 – Electrolyser Assessment Site: Historical Neighbouring Site Uses

Surrounding Land Uses (250m radius)	Orientation	Distance	Dates	
			From	To
Corn Mill	SE	100 m	1864	1972
2 no. tanks	E	10 – 20 m	1972	2022
Steep embankment slopes	E	1 m	1972	2022
Tank	S	90 m	1975	2022
RWE Pembroke Power Station (expanded westerly)	E	200 m	2022	2022
Lime kiln (embankment remains)	N	150 m	1864	1906
Corn Mill	SW	100 m	1864	1976
Power Station inc. Sewage works	N	1 m	1976	2022
Refuse Tip	S	40 m	1972	1975
Reservoir	S	100 m	1972	2022

2.4 Previous Reports

2.4.1 RPS has not been provided with several reports for the wider power station site. However, upon review of the reports, none incorporate the area of the Electrolyser Assessment Site and therefore a review has not been included in this section. Where appropriate relevant information from the reports have been presented in the sections below.

2.5 Environmental Setting

Geology

2.5.1 Based on British Geological Survey (BGS) mapping (1:50,000-scale) and the Environment Agency (EA) Groundwater Vulnerability mapping (1:100,000-scale), the stratigraphic sequence and aquifer classifications beneath the site are indicated to be as follows:

Table 2-5 – Electrolyser Assessment Site: Descriptions of Geological Strata

Strata	Description & approximate thickness	Aquifer Classification
Alluvium (indicated only localised in the east and central area of the cable route)	Typically comprises clay, silt, sand and gravel.	Secondary A
Avon Group - interbedded limestone and mudstone (underlies majority of electrolyser area, in the very north of the water pipeline area, majority of cable route)	Interbedded grey mudstones and thin to medium bedded skeletal packstones with occasional ooidal and skeletal grainstones and thin calcite mudstone locally, rare ironstone beds.	Secondary A
Black Rock Subgroup and Gully Oolite Formation – limestone (underlies majority of the water pipeline area, encroaches a small	Medium- to thick-bedded, pale grey, oolitic grainstone with subordinate beds of fine-grained skeletal packstones. Cross-	Principal Aquifer

Strata	Description & approximate thickness	Aquifer Classification
area in the very east of the electrolyser area, northernmost section of the east end of the cable route)	laminated and cross-bedded, some burrowing. Can be up to approximately 80m thick.	

2.5.2 There are records of 20 boreholes within 250m of the Electrolyser Assessment Site held within the BGS archives all of which are confidential and therefore not able to review online.

2.5.3 Made Ground is likely to be present in places across the Electrolyser Assessment Site as a result of past construction and demolition activities.

2.5.4 Site investigation undertaken in the wider power station site, and reported within Celtic Technology Desk Study Report, indicate that significant thicknesses of Made Ground are present in the vicinity of the Electrolyser Assessment Site, in particular in the area of the cable route in the south in the area of land raising. Made Ground in this region may be potentially up to thicknesses of 10m bgl.

2.5.5 There are four faults mapped within 500m of the site, 180m south, 305m southeast, 425m southwest and 475m west. All trend north to south and down thrown to the east.

Hydrogeology

2.5.6 The Electrolyser Assessment Site is located above a Secondary A Aquifer relating to the Alluvium beneath the cable route, and widespread Avon Group bedrock. The water pipeline area is also underlain by a Principal Aquifer, relating to the Black Rock bedrock. Each aquifer is defined below:

- Principal Aquifer: These formations provide a high level of water storage and may support water supply and / or river base flow on a strategic scale.
- Secondary A Aquifer: These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.

2.5.7 According to EA data, the Electrolyser Assessment Site is not located in a groundwater Source Protection Zone (SPZ).

2.5.8 Under the Water Framework Directive, the Environment Agency's local River Basin Management Plan classifies groundwater chemical quality beneath the Assessment Site as good quality.

2.5.9 Information provided by the EA indicates that there are no active licensed groundwater abstractions within 2 km of the Assessment Site.

Surface Water

2.5.10 There is one watercourse within 1 km of the Assessment Site which is classified within a River Basin Management Plan published by the EA under the European Water Framework Directive (2000). Details of the watercourse are summarised below:

Table 2-6 – Electrolyser Site: Nearby Watercourses and Water Bodies

Watercourse / Body	Quality Classification	Approx. Distance and Direction from Site
Milford Haven Inner	Chemical – fail Ecological - moderate	207 m N

2.5.11 There are several drains however that are not classified under the Water Framework Directive but are present at the Electrolyser Assessment Site, and therefore represent surface water features at the Assessment Site.

2.5.12 Information provided by the EA indicates that there are no records of active licensed surface water abstractions within 250 m of the Electrolyser Assessment Site.

Ecologically Sensitive Sites

2.5.13 Natural England data indicates that there are three ecologically sensitive sites, that constitute environmental receptors as defined within Table 1 of the DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012), located within a 250 m radius of the Assessment Site.

2.5.14 Milford Haven Waterway is a classified Special Site of Scientific Interest (SSSI), located approx. 235 m to the north of the electrolyser area and water pipeline route and 241 m to the east of the proposed cable route. Pembrokeshire Marine / Sir Benfro Forol, some 235 m to the north of the cable route, is a designated Special Area of Conservation (SAC).

Radon

2.5.15 According to the Indicative Atlas of Radon in England and Wales published by the Health Protection Agency (part of Public Health England) and the British Geological Survey, the Electrolyser Assessment Site is located in an area at risk from radon gas. The estimated probability of the property being above the Action Level for radon is 10 – 30 %.

2.5.16 This level of radon would require full radon protection measures for any new buildings. This is not considered a risk for developments comprising lay down of water pipes and cable routes, however within the electrolyser area, should there be any buildings that will require partial, or full-time occupancy, the risk of radon and protection measures will need to be taken into account.

Coal Authority

2.5.17 The Interactive Map Viewer on the Coal Authority website indicates that the Electrolyser Assessment Site is not located in a coal mining reporting area.

Non-Coal Mining

2.5.18 The Groundsure report indicates the Electrolyser Assessment Site is within an area that may have been affected by historical non-coal mining.

2.5.19 There are four records of unspecified ground workings at the Electrolyser Assessment Site mapped between 1975 and 1994. Based on the historical maps available, it is anticipated that these ground workings are likely the cuttings that were made across the Electrolyser Assessment Site. There are also a further two unspecified pits recorded at the Electrolyser Assessment Site mapped between the same dates, in the south-east corner of the electrolyser area. The unspecified ground workings are indicated in the north and south-west of the electrolyser area.

2.5.20 Two records of unspecified ground workings are indicated at the western boundary of the water pipeline area, dated 1975 and 1994.

2.5.21 Two records of surface workings are also indicated for the cable route area, in the very eastern portion, associated with sewage works of the power station. Again, these are mapped between 1975 and 1994. Although the sewage works are not within the Electrolyser Assessment Site boundary, these records suggest surface excavations / workings associated with the sewage works extended further west into the Electrolyser Assessment Site boundary.

BGS Ground Stability Hazard Ratings

2.5.22 British Geological Survey Ground Stability Hazard ratings for the site are summarised as follows

Table 2-7 – Electrolyser Assessment Site: BGS Ground Stability Hazard Ratings

Ground Stability Hazard	BGS Risk rating
Collapsible ground	Very Low Negligible - where superficial cover is indicated i.e. localised areas of the proposed cable route
Compressible ground	Negligible Moderate – where superficial cover is indicated i.e. localised areas of the proposed cable route
Ground dissolution	Very Low – majority of electrolyser area, eastern half of water pipeline area, western half of cable route Low – localised eastern corner of the electrolyser area associated with the Black Rock bedrock, western half of the water pipeline, northernmost part of the east end of the cable route Negligible – very northern area of water pipeline, eastern half of cable route and localised central area of cable route
Landslide	Very Low
Running sand	Negligible Low – localised areas of the cable route in the northernmost area of the east end, and localised in central area of cable route
Shrinking or swelling clay	Very Low Negligible – very eastern corner of electrolyser area, majority of water pipeline area

Landfills and Waste Sites

2.5.23 Information provided by a number of sources (detailed below) shows that there are two recorded licensed or known historical landfill sites within 250 m of the Electrolyser Assessment Site. These are described within the following table.

Table 2-8 – Electrolyser Assessment Site: Landfill Sites

Source of Record	Approx. Distance and Direction	Licence Details	Waste Type and Details
Landfill Sites			
Local Authority	64 m S	Not supplied	Not supplied – Refuse Tip
Local Authority	91 m S	Not supplied	Not supplied – Refuse Tip

2.5.24 There are four records of waste exemptions within 250 m of the Electrolyser Assessment Site. Two records are held for National Grid Gas Plc, 120 m to the north of the cable route, for the treating and storing of waste. The additional two records are held by Pembroke 21C Community Interest Company, some 175 m to the south of the cable route, for storing and using waste in construction.

Environmental Permits

2.5.25 EA and Local Authority data indicates that there are four processes regulated by an Environmental Permit (under the Environmental Permitting Regulations 2010) at the Assessment Site. These are outlined in the table below:

Table 2-9 – Electrolyser Assessment Site: Environmental Permits

Licence Holder	Approx. Distance and Direction from Site	Permitted Activity
RWE Npower Plc, Pembroke Power Station	On Site	Permit ref. BP3338ZK for combustion of any fuel => 50 MW
RWE Npower Plc, Pembroke Power Station	On Site	Permit ref. DP3333TA for burning any fuel in an appliance, and burning any fuel in an appliance with a rated thermal input of 50 or more MW

COMAH Sites

2.5.26 There are no records of any operations under the Control of Major Accident Hazards (COMAH) Regulations 1999, located within 250 m of the Electrolyser Assessment Site.

Pollution Incidents

2.5.27 Environment Agency data indicates that there are no records of 'major' or 'significant' pollution incidents within 250 m of the Electrolyser Assessment Site.

Hazardous Substances Storage

2.5.28 There is one record within 250 m of the Electrolyser Assessment Site for a consent granted to hold hazardous substances in accordance with the Planning (Hazardous Substances) Regulations 2015. Alstom Power Ltd, at Pembroke Power Station, some 148 m to the north of the Assessment Site, holds a consent ref. 10/0373/HS for chemical cleaning of boilers on site for commissioning.

Discharge Consents to Controlled Waters

2.5.29 There are two records of active discharge consents at the Electrolyser Assessment Site, within the proposed cable route area, in the northernmost portion of the east end of the area.

2.5.30 The records are held for oil interceptors under National Grid and the other for Pembroke Power Station, ref. TB3890HM and GB3690HF, respectively. Both consents are for trade discharges of processed effluent from a drain at the Electrolyser Assessment Site into Pennar Gut.

Pollutant Release to Surface Waters

2.5.31 There is one record of pollutant release under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991, within 250 m of the Electrolyser Assessment Site. The consent is held by RWE Generation UK Plc, some 43 m to the north of the proposed cable route area for trade release in Pennar Gut (operated under permit ref. HP3820XU).

List 1 and 2 Dangerous Substances

2.5.32 There are two records identified by the environmental data report of substances identified on Lists I and II of the European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015. Both records are for Pembroke Power Station drainage, some 43 m to the north of the proposed cable route, for substance release into Milford Haven receiving water. The List I substances are identified as Mercury (other) and Cadmium, whilst the List II substances are identified as Arsenic, Copper, Lead, Nickel, pH, Vanadium and Zinc.

Unexploded Ordnance

2.5.33 CIRIA Report C681 (stone et al 2009) outlines recommendations for dealing with the potential risk associated with the legacy of Unexploded Ordnance Risk, largely relating the WWII bombing and military sites.

2.5.34 Reference to the Zetica Unexploded Bomb Risk mapping indicates that the Electrolyser Assessment Site is in an area of low potential risk from Unexploded Bombs. As the Electrolyser Assessment Site is not within an area of known military history, in general accordance with CIRIA Report no further consideration of Unexploded Ordnance is considered necessary.

2.6 Outline Conceptual Site Model

2.6.1 An outline conceptual site model (CSM) consists of an appraisal of the *source-pathway-receptor* 'contaminant linkages' which is central to the approach used to determine the existence of 'contaminated land' according to the definition set out under Part 2A of the Environmental Protection Act 1990. For a risk to exist (under Part 2A), all three of the following components must be present to facilitate a potential 'pollutant linkage'.

- **Source** referring to the source of contamination (Hazard).
- **Pathway** for the contaminant to move/migrate to receptor(s).
- **Receptor** (Target) that could be affected by the contaminant(s).

2.6.2 Receptors include human beings, controlled waters and buildings / structures. The National Planning Policy Framework, used to address contaminated land through the planning process, follows the same principles as those set out under Part 2A. Further details on the Part 2A regime are presented within Appendix E.

2.6.3 As part of the assessment the potential risks to receptors for potential source is given one of the following classifications:

- **Low risk** - it is considered unlikely that issues within the category will give rise to significant harm to identified receptors
- **Moderate risk** - it is possible, but not certain that issues within the category will give rise to significant harm to receptors
- **High risk** - there is a high potential that issues within the category will give rise to significant harm to identified receptors

Potential Pollutant Linkages

2.6.4 Each stage of the potential pollutant linkage sequence has been assessed individually on the basis of information obtained during the site reconnaissance*, and* desk study exercise and are discussed in the following section.

Potential Contaminant Sources

On Site – Current

2.6.5 On site potential sources of contaminants of concern include the following:

- Made Ground may be present beneath the site, where present this could represent potential sources of contaminants of concern and / or ground gas;
- Infilling of the former cuttings (and pond) on site;

- Land raise associated with the former mudflats and saltings.

Off-site – Current

2.6.6 Current off-site potential sources of contaminants of concern include the RWE Power Station to the east.

Off-Site – Historical

2.6.7 Historical maps indicate the following potential sources of contaminants of concern:

- Unspecified groundworks, including embankments and reservoir.
- Tanks associated with the power station.
- Limekiln and corn mill.

Potential Pathways

2.6.8 There is a potential for contaminants of concern to be present in the Made Ground beneath the site. On completion of the proposed development, large areas of the site will be covered by buildings or hardstanding. In these areas the risks to future human health receptors via the pathways of dermal contact, ingestion and soil dust inhalation will be mitigated. In areas of managed soft landscaping, the pathways of dermal contact, ingestion and soil dust inhalation could still be active if contaminated soils are subject to disturbance.

2.6.9 The presence of buildings and hardstanding are also likely to reduce post-development surface water infiltrators reducing the potential for the leaching of any mobile soil contaminants.

Potential Receptors

2.6.10 Post development receptors include future site users and off-site human health receptors.

2.6.11 The Secondary A Aquifer beneath the Assessment Site represents a potentially sensitive receptor.

2.6.12 The assessment does not consider the risk to construction/demolition workers during redevelopment. These risks will be managed through appropriate H&S legislation include H&S At works act and CDM regs.

Outline Conceptual Site Model

2.6.13 An outline CSM has been developed on the basis of the site reconnaissance and desk study. The CSM is used to identify potential sources, pathways and receptors (i.e. potential pollutant linkages) on site post development and is summarised in the table below.

Table 2-10 – Electrolyser Site: Outline Conceptual Site Model

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors	Qualitative Risk Rating	Notes
On site – Made ground, infilled former cuttings (and pond), land raise	Metals, hydrocarbons, and asbestos	Soil	Direct contact/ingestion	✓	Future site users	Low	Limited potential for significant contamination to exist. Post development risks minimised by buildings, hardstanding and manged landscaping.
			Inhalation of volatiles	×		Low	Limited potential for significant volatile contaminants to exist. Risk of inhalation of soil vapours in internal areas and such contamination exists.
			Airborne migration of soil or dust	✓	Off-site users	Low	Limited potential for significant contamination to exist. Post development risks minimised by buildings, hardstanding and manged landscaping.
			Leaching of mobile contaminants	✓	Secondary A Aquifer	Low	Potential for soil leaching and vertical and lateral migration of contaminants (if present) in shallow groundwater to impact controlled waters receptors.
		Groundwater	Direct contact/ingestion	✓ ✓	Future site users Off-site users	Low	Very shallow groundwater unlikely to be present.
			Inhalation of volatiles	× ×	Future site users Off-site users	Low	Limited potential for significant volatile contamination in groundwater.
			Vertical and lateral migration in permeable strata	✓ ✓	Secondary A Aquifer Unnamed stream	Low	Potential for soil leaching and vertical and lateral migration of those contaminants in groundwater to impact controlled waters receptors.
Off-site – Power station, tanks, limekiln, cornmill and groundworks / land raising	Metals, hydrocarbons, and solvents	Groundwater	Direct contact/ingestion	×	Future site users	Low	There is a potential for contaminants to migrate beneath the site from off-site sources in any shallow groundwater present in the Made Ground or granular soils within the superficial deposits.
			Inhalation of volatiles	✓×	Future site users	Low	

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors	Qualitative Risk Rating	Notes
On and off-site – Made Ground / natural strata or bio-degradation of contamination	Carbon dioxide and methane	Ground Gas	Inhalation of ground gas	✓ ✓	Future site users Off-site users	Low to moderate	There is potential for ground gases to be generated beneath the site associated with the former uses. Where present, there is potential for ingress and build-up within indoor areas.
			Explosive risks	✓ ✓	Future site users Off-site users Future and off-site Structures	Low to moderate	

Note The Qualitative Risk Rating does not consider the potential for the pathway to be active. In the event that a Moderate or High Qualitative Risk Rating is identified further assessment is recommended.

2.6.14 Based on the identified potential sources and the site setting there is not considered to be a significant risk to ecological receptors, crops/vegetation or archaeological receptors.

2.7 Preliminary Geotechnical Risk Register

2.7.1 The following table summarises the potential geotechnical hazards associated with the proposed development based on freely available published information. Preliminary information relating to the hazard and associated engineering considerations are provided.

Table 2-11 - Electrolyser Site: Preliminary Geotechnical Risk Register

Hazard Description	Potential for Hazard	Comments / Possible Engineering Requirements
Sudden lateral / vertical changes in ground conditions	M	Made Ground is anticipated at considerable depth beneath the Electrolyser Assessment Site, where there has been extensive historical surface excavations in the form of pits and cuttings. Made Ground is generally variable in nature.
Highly compressible / low bearing capacity soils, (including peat and soft clay)	M	Ground conditions anticipated are not conducive of highly compressible soils although Made Ground is anticipated across the Electrolyser Assessment Site. Moderate risk is considered by the environmental report where superficial cover is present, in very localised areas of the proposed cable route.
Ground dissolution features / natural cavities	M	Limestone bedrock is indicated beneath the Electrolyser Assessment Site but there are no records of natural cavities or ground dissolution features within proximity of the Electrolyser Assessment Site.
Shrinking and swelling clays	L	The ground conditions are anticipated to be weathered bedrock underlying Made Ground and therefore are not particularly conducive to shrinking and swelling.
Slope stability issues	L	The Electrolyser Assessment Site slopes down along the water pipeline route towards the east. Given there is likely to be no reprofiling for the proposed development, and a water pipe will be installed in the area of slopes, there is not considered to be a considerable risk for slope stability. Any temporary slopes created as part of the development should be subject to appropriate geotechnical design based on site-specific site investigation information.
High groundwater table (including waterlogged ground)	M	There is no data to indicate potential water levels at the Electrolyser Assessment Site however where the pipeline is to go underground, it is expected that it will be laid at shallow depth and the existing natural gas pipeline is not likely to be below the water table. Much of the power station site has been built up over the mudflats/marshes of the estuary, and therefore a high groundwater table beneath the Electrolyser Assessment Site is anticipated.
Filled and Made Ground (including embankments)	M	Made Ground is anticipated in places across the Electrolyser Assessment Site. Each area of the Electrolyser Assessment Site has been subject to historical surface excavations / cuttings, and where the ground is now flat, as observed during the site reconnaissance, it is likely that much of the Electrolyser Assessment Site has been infilled.
Obstructions (including foundations, services, basements, tunnels and adjacent sub-structures)	M	The proposed electrolyser area has been previously developed prior to its most recent use as a sports and recreational ground. There is a possibility that remnant foundations / sub – structures exist beneath the existing ground level. The natural gas pipe from Valero Oil Refinery in the east also underlies the Electrolyser Assessment Site but it is not known whether this has been routed through a concrete channel or just buried with gravel.
Underground mining	L	Ground conditions beneath the Electrolyser Assessment Site are not consistent with these conditions.
Concrete classification	M	The Made Ground and underlying natural strata may contain sulphate bearing soils. Chemical laboratory analysis should be undertaken on soil samples collected from each strata encountered beneath the site to determine a Design Sulphate Class and an Aggressive Chemical Environment for Concrete (ACEC) Classification for proposed buried structures as part of the development.

2.8 Conclusions

2.8.1 Based on the findings of the desk-based study there is potential, albeit limited, for contamination to be present within the Made Ground beneath the site, in particular in the southeast beneath the cable route where land filling has taken place. In addition, the adjacent land has been occupied by a power station since the 1970s, the original power station was demolished in 2001-2002 with the current present day power station established shortly after.

2.8.2 The ground conditions beneath the site indicate that in the electrolyser area shallow foundations may be suitable, however, an intrusive site investigation to confirm and assist geotechnical design is recommended.

2.8.3 It is not recommended to undertake a non-intrusive geophysical investigation to locate potential buried obstruction and solution features. Due to the potential thickness of Made Ground and the historical reprofiling works across the site, in addition the localised dense vegetation would limit access.

2.8.4 The Electrolyser Assessment Site is located in an area where the estimated probability of the property being above the Action Level for radon is 10 – 30 %, whereby full radon protection measures will be required should any building require partial, or full-time occupancy.

3 HYDROGEN PIPELINE

3.1 Introduction

3.1.1 This section of the report focuses on the proposed hydrogen pipeline route between the proposed Electrolyser site and Valero Refinery Pembroke, to the east of the power station, to be routed through both RWE and Valero land ownerships. The pipeline route is presented in Figure 3. Within RWE ownership, the pipeline will be below ground, and partially above ground as it enters an existing route at Valero Refinery, as indicated in Figure 3. For the purposes of this section of the report, the hydrogen pipeline is referred to as the Pipeline Assessment Site.

3.1.2 The Pipeline Assessment Site covers approximately 11.58 hectares, the site is approximately 2.3km in length with a buffer zone of 50m applied. The assessment site currently comprises formerly developed land in the area of the proposed Electrolyser, undeveloped agricultural land between both land ownerships, and developed industrial land within the Valero site.

3.1.3 The Desk Study assessment is based upon a review of published information available from local, regional, and national agencies as detailed in Section 1.3. The desk study information is derived from Groundsure Enviro and Geo Insights Report, Ref. GSIP-2022-12844-10866, which is presented as Appendix B. Please note the terms and conditions attached to the supply of data from Groundsure.

3.2 Site Setting

3.2.1 This section of the report is based upon observations made during a site visit carried out on 21st and 29th July 2022. Selected photographs are shown in Appendix C.

Table 3-1 – Pipeline Assessment Site: Summary of on-site activities

Section	Description
Background:	The pipeline route is located at National Grid Reference 190632E, 203007N in the very west at Valero, and at 192524 E, 202572 N at the most easterly point, within RWE Pembroke Power Station. The site is a linear boundary running east to west between RWE Pembroke Power Station and Valero Oil Refinery, respectively. It occupies an area of approximately 11.58 ha, covering a length of 2.3km.
Site Layout:	The site comprises a thin narrow area in the eastern area that runs east to west along the minor road that leads away from the RWE Pembroke Power Station site. The eastern section comprises a wider rectangular area that is covered by an open field of grassland with access roads and some trees, with an area of woodland to the west. In the west of the site, the proposed route runs above ground with existing pipelines before going underground and parallel with the main natural gas pipe towards RWE Pembroke Power Station. At the eastern end of the route under RWE land ownership, the site comprises one agricultural field in the western area and an area of woodland and dense vegetation in the eastern area. A narrow minor road crosses the central area of the site between the two areas. There is a public walkway on the eastern boundary of this area. The ground slopes from the south-east downwards to the north-west in this area, particularly in the agricultural field with elevations ranging from 30 m AOD (in the south-east) down to about 5 m AOD (in the north-west).
Activity / Operations:	In the west of the Pipeline Assessment Site, the proposed pipeline route runs at ground level with existing crude oil and fuel pipelines, parallel with Third Street, before running south down Marine Road. At this junction, the Pipeline Assessment Site runs parallel with the main natural gas pipeline easterly. The field to the west of the power station is used for crops which had been recently cut at the time of the site visit.
Building Structure(s):	No buildings present.
Surface Cover:	The existing pipelines parallel to Third Street, are held above the natural ground level (grassed areas), which continues southernly down Marine Road, where is continues

Section	Description
	east as it meets the main natural gas pipeline. Here, it runs through a concrete channel surrounded by grassed embankments and goes underground, where the surface cover is grassed. A number of marker posts signpost where the natural gas pipe runs to the south-east of the Valero site boundary fence line before entering RWE land ownership. The vegetated area to the east comprises high grasses and vegetation in the route of the proposed pipeline but was surrounded by bushes and trees to the north and south which suggested that access had previously been cleared along the route. The hardstanding on the road appeared to be in an adequate condition. The pedestrian walkway appeared to be on natural ground.
Drainage:	It is assumed that surface water drains to the south west in line with the topogrpahy in the eastern end of the pipeline route. Drainage channels exist beneath the existing pipelines at Valero Oil Refinery, and typically collect hot water (caused by steam) exiting the pipes. Just before the natural gas pipeline runs below ground, it is surrounded by a concrete channel, which is assumed to act as drainage as well.
Bulk Storage / Tanks:	There were no bulk storage / tanks identified on the Assessment Site itself.
Waste:	There was no waste or waste storage identified on the Assessment Site itself.
Electricity Sub-Stations /Transformers:	None are present.
Visual Evidence of Contamination:	There was no clear visual or olfactory evidence of contamination at the Assessment Site.
Statutory Nuisance:	No information has been provided.
Other Geo-Environmental Issues:	At Valero Oil Refinery, a Landfarm is signposted, in which Plot 6 may or may not be in the area of the proposed route. RPS are waiting confirmation from Valero to confirm the type of materials deposited and whether the pipeline runs beneath the area of the landfarm. It is understood landfarms were used by Chevron (prior to Valero's ownership), and in particular Plot 6 that is within the vicinity of the Assessment Site, signposted to have closed in 2003 and, were areas of waste deposition below ground.

The Surrounding Area

3.2.2 The Pipeline Assessment Site is located in an area of predominantly industrial and agricultural land uses. At the time of the site inspection, neighbouring land consisted of the following:

Table 3-2 – Pipeline Assessment Site: Neighbouring Land Uses

Direction	Description
North:	Undeveloped agricultural land and a number of isolated dwellings, and *Valero Refinery* (along the western-most portion of the route). To the north of the eastern end of the pipeline, north of the agricultural field, woodland and two buildings were identified including a church. The minor road is also present. A field and minor road is present to the north of the heavily vegetated area.
East:	*Pembroke Power Station* including 132 Mv electrical substation and open fields. A field of open grassland that includes a Natural Gas Above Ground Installation (AGI) is present to the east of the eastern most end of the route.
South:	Undeveloped agricultural land and *Valero Refinery* (along the western-most portion of the route). Woodland to the south of the western area and open fields and minor road are present to the south of the eastern area.
West:	*Valero Refinery* and a minor road that runs west to east towards the east of the Assessment Site through areas of fields and woodland. The route of the proposed pipeline on the Valero site was identified to the west with a marker post (yellow and white) and a dense line of grasses running east to west that were bordered by trees. This suggests that this area has previously been cleared for access. Beyond this a field was present.

3.2.3 There are a number of ponds to the north of the Pipeline Assessment Site, and reservoirs associated with activities at both the RWE Power Station and Valero Refinery.

3.3 Site History

3.3.1 The following review is based on past editions of readily available Ordnance Survey (OS) maps. These include scales of 1:1,250, 1:2,500 and 1:10,000 dated 1864 to 2022. Selected historical maps are presented in Appendix D.

3.3.2 Due to the proposed length of the pipeline route, the historical review is into sub-sections for ease, as indicated in the Figure 4-1 below.

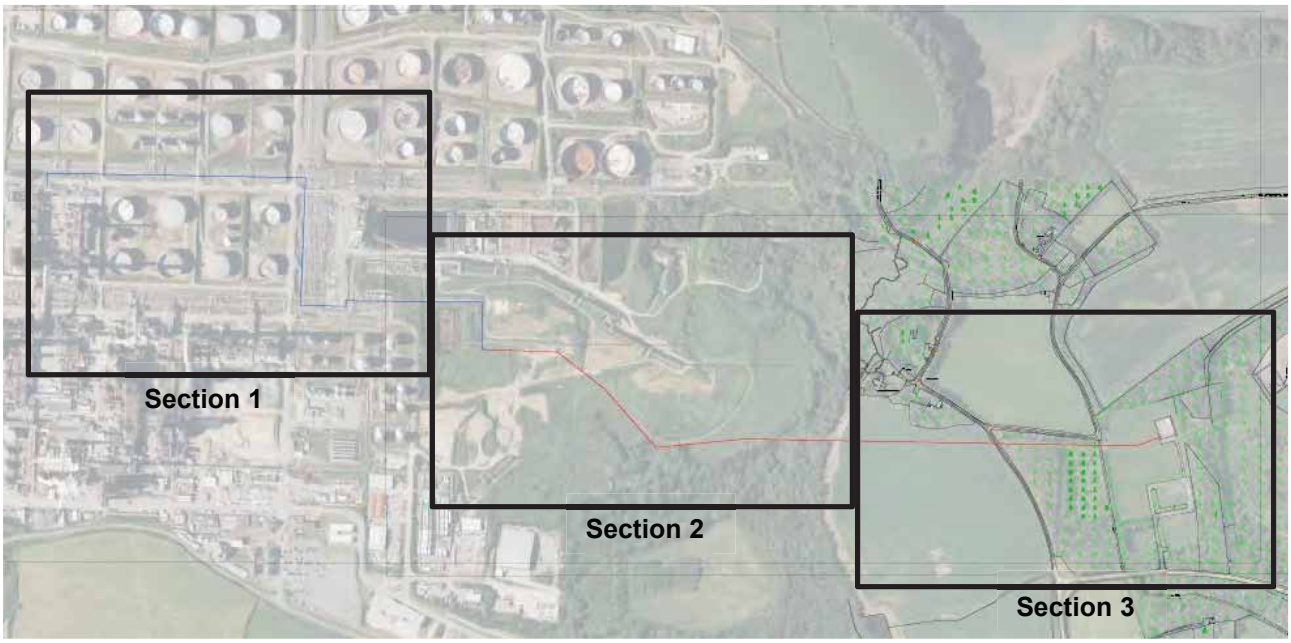


Figure 3- 1 Hydrogen Pipeline: Sub-sections of proposed pipeline

Table 3-3 – Pipeline Assessment Site: Historical Site Uses

On-site Land Use and Features	Dates
Section 1: undeveloped agricultural land. Area of marshland where the route first drops to the south (now parallel with Marine Drive). Section 2: undeveloped agricultural land with sporadic areas of woodland. One road shown to the east of this section. By 1867, a small area to the west of this road is indicated to be marshland. Section 3: Undeveloped agricultural land with two roads/tracks.	1864 - 1968
Section 1: Works are indicated in the vicinity of the pipeline route, where the proposed pipeline route runs along access roads at the Works. Section 2: No significant changes identified. Section 3: No significant changes identified. Between 1972 and 1975, an electrical substation is identified within this section of the Assessment Site along with additional power station infrastructure.	1968 - 1976
Section 1: Access routes are more defined, with potential cuttings associated with areas of tanks. Isolated areas of square embankments. Works now identified as Oil Refinery. Section 2: Development of access roads connected to the main Oil Refinery with indicated drains running parallel and an isolated square embankment housing an incinerator. Area of marshland now indicated as woodland. Section 3: Sports Ground identified at the easternmost end of the proposed pipeline route.	1976 - 1994
Section 1: No significant changes identified with the exception of the square embankment no longer shown. Section 2: Square embankment no longer shown. Reservoir indicated to the immediate south that encroaches the southern boundary of the proposed route. Section 3: By 2001, sports ground no longer shown, but land appears to remain undeveloped with partial woodland.	1994 - 2022

Table 3-4 – Pipeline Assessment Site: Historical Neighbouring Site Uses

Surrounding Land Uses (250m radius)	Orientation	Distance	Dates	
			From	To
Section 1				
Steep embankments	N, NE	5 m – 250 m	1974	2022
>30 no. tanks (unspecified contents)	N, SE, S, W	1 m – 250 m	1968	2022
Electrical Substation	W	120 m	1969	2022
Electrical Substation	S	1 m	1988	2022
Electrical Substation	E	75 m	1968	2022
Reservoirs	N	60 m	1969	2022
Electrical Substation	S	230 m	1968	2022
Section 2				
Tanks (unspecified contents)	N, SW	50 m – 250 m	1968	2022
3 no. reservoirs within steep cuttings (middle reservoir no longer shown by 1994)	N	100 m	1976	2022
Section 3				
Pembroke Power Station and associated steep cuttings	E	50 m	1976	2022
Tanks (unspecified contents)	E	20 m	1972	1994

3.4 Previous Reports

3.4.1 RPS has not been provided with several reports for the wider power station site. However, upon review of the reports none incorporate the Pipeline Assessment Site, and therefore a review has not been included in this section. Where appropriate relevant information from the reports have been presented in the sections below.

3.5 Environmental Setting

Geology

3.5.1 Based on British Geological Survey (BGS) mapping (1:50,000-scale) and the Environment Agency (EA) Groundwater Vulnerability mapping (1:100,000-scale), the stratigraphic sequence and aquifer classifications beneath the site are indicated to be as follows:

Table 3-5 – Pipeline Assessment Site: Descriptions of Geological Strata

Strata	Description & approximate thickness	Aquifer Classification
Avon Group – interbedded limestone and mudstone (across majority of the site)	Interbedded grey mudstones and thin to medium bedded skeletal packstones with occasional ooidal and skeletal grainstones and thin calcite mudstone locally, rare ironstone beds. A BGS borehole present at the site (ref. SM90SW327) indicates highly fragmented vertically laminated shale between 1.30 m bgl and 4.10 m bgl, and again between 7.60 m bgl to 11.23 m bgl where the borehole was terminated.	Secondary A Aquifer

Strata	Description & approximate thickness	Aquifer Classification
Sprinkle Sandstone Formation (along Third Street, at very northern boundary at westernmost end of the site)	Interbedded grey quartzitic and red lithic sandstones, conglomerates, red mudstones and siltstones.	Secondary A Aquifer

3.5.2 The BGS website does not indicate there are superficial deposits beneath the site. Given the proposed route follows an existing pipeline route at Valero Oil Refinery located within embankment slopes, at natural ground level, the pipes are likely to be sat on shallow bedrock.

3.5.3 One BGS borehole indicated at the site, where the route runs parallel with Reservoir Road, BGS ref. SM90SW327. Between ground level and 1.30 m bgl, the ground conditions were identified as firm yellowish brown clay, which reappears in the sequence at 4.10 m bgl as firm to stiff sandy silty clay underlain by sand to 7.60 m bgl. It is likely that the clay is potentially reworked material over highly weathered shallow bedrock.

3.5.4 Made Ground is likely to be present across the majority of the site, particularly in the western and eastern-most ends of the proposed routes, associated with previous construction/demolition activities. All the roads and much of the infrastructure at Valero has been constructed on embankments, leaving the pipelines at original ground level, and some tank areas.

3.5.5 A fault is indicated in the western portion of the site but has been inferred, at the junction between Third Street and Marine Drive in the Assessment Site.

Hydrogeology

3.5.6 The site is located above a Secondary A Aquifer relating to the Avon Group and Sprinkle Sandstone Formation. These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.

3.5.7 According to EA data, the Assessment Site is not located in a groundwater Source Protection Zone (SPZ).

3.5.8 Under the Water Framework Directive, the Environment Agency's local River Basin Management Plan classifies groundwater chemical quality beneath the site as good quality.

3.5.9 Information provided by the EA indicates that there are no records of active licensed groundwater abstractions within 2 km of the Assessment Site.

Surface Water

3.5.10 There are several watercourses within 1 km of the Assessment Site including drains running parallel with the existing pipeline routes and four reservoirs within 50 m of the Assessment Site. However, none of the surface water features are classified within a River Basin Management Plan published by the EA under the European Water Framework Directive (2000).

3.5.11 Information provided by the EA indicates that there are records of four active licensed surface water abstractions within 1 km of the site. The details of these are as follows:

Table 3-6 – Pipeline Assessment Site: Licensed Surface Water Abstractions

Licence Holder	Use	Approx. Distance and Direction from Site
Unknown – no details supplied	Not supplied	289 m S
Reservoir South-east of Greenhill Farm	Spray Irrigation	318 m S

Licence Holder	Use	Approx. Distance and Direction from Site
Reservoir South-east of Greenhill Farm	Spray Irrigation	801 m SE
Unknown – no details supplied	Not supplied	805 m SE

Ecologically Sensitive Sites

3.5.12 Natural England data indicates that there are a number of ecologically sensitive sites, that constitute environmental receptors as defined within Table 1 of the DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012), located within a 2 km radius of the Assessment Site. These are outlined below:

- 13 no. SSSIs; the closest being Milford Haven Waterway circa 36 m to the north of the Assessment Site;
- 5 no. SACs; the closest being Pembrokeshire Marine / Sir Benfro Forol circa 36 m to the north of the Assessment Site;
- 8 no. Ancient Woodlands; the closest being 24 m to the south of the Assessment Site.

Radon

3.5.13 According to the Indicative Atlas of Radon in England and Wales published by the Health Protection Agency (part of Public Health England) and the British Geological Survey, the Assessment Site is located within a radon affected area. The estimated maximum probability of the property being above the Action Level for radon is 10 – 30 %.

3.5.14 Full protection measures would need to be implemented where buildings are proposed. Given the proposed development is routing a hydrogen pipeline (i.e. a structure), no radon protection measures will be required.

Coal Authority

3.5.15 The Interactive Map Viewer on the Coal Authority website indicates that the Assessment Site is not located in a coal mining reporting area.

Non-Coal Mining

3.5.16 The Groundsure report indicates that the Assessment Area is in an area potentially affected by localised small scale underground mining or sporadic underground mining. Given the limited historical development of the Assessment Site prior to the current Valero Oil Refinery in the west and Pembroke Power Station in the east, and lack of clay pits or quarries within the vicinity of the Assessment Site, the risk of non-coal mining is considered to be low.

Surface Workings

3.5.17 The Groundsure report indicates that there are 13 no. records of surface workings within 100 m of the Assessment Site. The table below summarises each record.

Table 3-7 - Hydrogen Pipeline: Surface Workings within 100 m of the Assessment Site

Surface Working	Year of Mapping	Approx. Distance and Direction from Site
Unspecified Heap (on historical maps shown as embankment with an incinerator)	1975	On Site

Surface Working	Year of Mapping	Approx. Distance and Direction from Site
Unspecified Ground Works	1994	5 m N
Unspecified Ground Works	1975	5 m N
Unspecified Pit	1975	16 m N
Unspecified Ground Works	1975	47 m N
Grave Yard	1864	54 m N
Unspecified Pit	1975	56 m N
Pond	1975	59 m N
Reservoir	1994	61 m N
Reservoirs	1975	85 m NE
Sand Pit	1864	96 m N
Unspecified Pit	1994	96 m E
Unspecified Pit	1975	96 m E

BGS Ground Stability Hazard Ratings

3.5.18 British Geological Survey Ground Stability Hazard ratings for the Assessment Site are summarised as follows:

Table 3-8 – Pipeline Assessment Site: BGS Ground Stability Hazard Ratings

Ground Stability Hazard	BGS Risk rating
Collapsible ground	Very Low
Compressible ground	Negligible
Ground dissolution	Very Low (majority of Assessment Site) Negligible (very north boundary in west of Assessment Site and localised area between land ownership boundaries between RWE and Valero
Landslide	Very Low
Running sand	Negligible
Shrinking or swelling clay	Very Low (majority of Assessment Site) Negligible (very north boundary in west of Assessment Site)

Landfills and Waste Sites

3.5.19 Information provided by a number of sources (detailed below) shows that there are two recorded licensed or known historical landfill sites and two waste sites recorded within 250 m of the Assessment Site. These are described within the following table.

Table 3-9 – Pipeline Assessment Site: Landfill / Waste Transfer / Waste Treatment Sites

Source of Record	Approx. Distance and Direction	Licence Details	Waste Type and Details
Historical Landfill Sites			
Local Authority	203 m NE	Not supplied	Refuse Tip
Natural Resources Wales (NRW)	188 m NE	Not supplied	Disused Refuse Tip, Texaco Refinery

Source of Record	Approx. Distance and Direction	Licence Details	Waste Type and Details
Historical Waste Sites			
Local Authority	On Site	Not supplied, 1971	Incinerator
Local Authority	On Site	Not supplied, 1975	Incinerator

Waste Exemptions

3.5.20 Information provided by a number of sources (detailed below) indicate six recorded waste exemptions within 500 m of the Assessment Site. Each activity is not required to operate under a permit. Details of each are provided in the table below.

Table 3-10 – Pipeline Assessment Site: Waste Exemptions

Source of Record	Approx. Distance and Direction	Licence Details	Waste Type and Details
NRW	68 m N	NRWWME027489	DCWW, Field 26, Pembroke: storing waste exemption, storage of sludge
NRW	371 m S	NRWWME020124	Pembroke 21C Community Interest Company, Green Hill Farm, Pembroke: storage waste exemption, storage of waste in a secure place
NRW	371 m S	NRWWME020124	Pembroke 21C Community Interest Company, Green Hill Farm, Pembroke: using waste exemption, use of waste in construction
NRW	398 m N	NRWWME047963	DCWW, Lambeeth Farm, Pembroke: storing waste exemption, storage of sludge
NRW	440 m W	NRWWME061657	Valero Energy Ltd, Pembroke Refinery: using waste exemption, use of waste in construction
NRW	440 m W	NRWWME052635	Valero Energy Ltd, Pembroke Refinery: treating waste exemption, treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

Environmental Permits

3.5.21 EA and Local Authority data indicates that there are 35 no. processes regulated by an Environmental Permit (under the Environmental Permitting Regulations 2010) at the Assessment Site. These are outlined in the table below:

Table 3-11 – Pipeline Assessment Site: Environmental Permits

Licence Holder	Approx. Distance and Direction from Site	Permitted Activity
Chevron Limited	On Site	3 no. processes under permit no. GP3933HY all superseded; associated process; gasification, liquefaction and refining, any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage
Chevron Limited	On Site	4 no. processes under permit ref. QP3033LW all superseded and one effective under Valero Energy Ltd; associated process; gasification, liquefaction and refining, any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage

Licence Holder	Approx. Distance and Direction from Site	Permitted Activity
Valero Energy Limited	On Site	3 no. processes under permit ref. CP3639CA all superseded; associated process; gasification, liquefaction and refining, any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage
Valero Energy Limited	On Site	7 no. processes under permit ref. PP3937ZK all superseded, two are effective; associated process; disposal of > 50 T/D non-hazardous waste (> 100 T/D if only ad) involving biological treatment; disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment; gasification, liquefaction and refining; any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage
Valero Energy Limited	On Site	3 no. processes under permit ref. YP3432FB all superseded; associated process; gasification, liquefaction and refining, any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage
Valero Energy Limited	On Site	15 no. processes under permit ref. YP3930EX all transfer effective status or effective; disposal of >50 T/D non-hazardous waste (> 100 T/D if only ad) involving biological treatment; disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment; gasification, liquefaction and refining, any pyrolysis heat treatment of coal carbonaceous material (unless coal drying/making charcoal), distillation and other processes; petrol storage; disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities, and excluding activities covered by council directive 91/271/EEC concerning urban waste-water treatment (4) – biological treatment

Discharge consents

3.5.22 EA and Local Authority data indicates that there are no active discharge consents within 500m of the subject site.

COMAH Sites

3.5.23 There are two records of operations under the Control of Major Accident Hazards (COMAH) Regulations 1999, located within 500 m of the Assessment Site. Valero Oil Refinery is indicated to be a current COMAH site, as a COMAH Upper Tier Operator.

3.5.24 The Pembroke Cracking Co., at the Assessment Site is noted as a historical Notification of Installations Handling Hazardous Substances (NIHHS) site.

Pollution Incidents

3.5.25 Environment Agency data indicates that there is one record of a ‘major’ or ‘significant’ pollution incident within 500 m of the Assessment Site. This is outlined in the following table:

Table 3-12 – Pipeline Assessment Site: Pollution Incidents on site and significant incidents within 500m

Location/Address	Approx. Distance and Direction from Site	Receiving Medium and Date	Severity of Incident and Type
Not supplied	75 m E	Not supplied but pollutant identified as inorganic chemicals / products	Significant Air Impact

Unexploded Ordnance

3.5.26 CIRIA Report C681 (stone et al 2009) outlines recommendations for dealing with the potential risk associated with the legacy of Unexploded Ordnance Risk, largely relating the WWII bombing and military sites.

3.5.27 Reference to the Zetica Unexploded Bomb Risk mapping indicates that the site is in an area of low potential risk from Unexploded Bombs. As the site is not within an area of known military history, in general accordance with CIRIA Report no further consideration of Unexploded Ordnance is considered necessary. It should however be noted that a decoy site is indicated on the Zetica risk map in the north of Valero Oil Refinery.

3.6 Outline Conceptual Site Model

3.6.1 An outline conceptual site model (CSM) consists of an appraisal of the *source-pathway-receptor* 'contaminant linkages' which is central to the approach used to determine the existence of 'contaminated land' according to the definition set out under Part 2A of the Environmental Protection Act 1990. For a risk to exist (under Part 2A), all three of the following components must be present to facilitate a potential 'pollutant linkage'.

- **Source** referring to the source of contamination (Hazard).
- **Pathway** for the contaminant to move/migrate to receptor(s).
- **Receptor** (Target) that could be affected by the contaminant(s).

3.6.2 Receptors include human beings, controlled waters and buildings / structures. The National Planning Policy Framework, used to address contaminated land through the planning process, follows the same principles as those set out under Part 2A. Further details on the Part 2A regime are presented within Appendix E.

3.6.3 As part of the assessment the potential risks to receptors for potential source is given one of the following classifications:

- **Low risk** - it is considered unlikely that issues within the category will give rise to significant harm to identified receptors
- **Moderate risk** - it is possible, but not certain that issues within the category will give rise to significant harm to receptors
- **High risk** - there is a high potential that issues within the category will give rise to significant harm to identified receptors

Potential Pollutant Linkages

3.6.4 Each stage of the potential pollutant linkage sequence has been assessed individually on the basis of information obtained during the site reconnaissance and desk study exercise and are discussed in the following section.

Potential Contaminant Sources

On Site – Current

3.6.5 Current on-site potential sources of contaminants of concern include the following:

- Landfarm – area of former waste deposition below ground;
- Made Ground may be present beneath the site, where present this could represent potential sources of contaminants of concern and / or ground gas;
- Oil Refinery to the west of the site with several tanks, electrical sub-stations and reservoirs;
- Power station to the east of the site with several tanks and electrical sub-stations.

On Site – Historical

3.6.6 Historical maps indicate the following potential sources of contaminants of concern:

- Historical incinerator in the west of the site, also recorded as a spoil heap;
- Historical electrical sub-station in the east of the site.

Off-site – Current

3.6.7 Current off-site potential sources of contaminants of concern include the following:

- Several tanks with 100 m of the site;
- Electrical sub-stations at both Valero and RWE Pembroke sites;
- Valero Oil Refinery; and,
- RWE Pembroke Power Station.

Off-Site – Historical

3.6.8 Historical maps indicate the following potential sources of contaminants of concern:

- Unspecified pits and groundworks within 50 m of the site.

Potential Pathways

3.6.9 Given that the proposed development is to comprise a hydrogen pipeline, this assessment does not consider the risk to future on site human health receptors and therefore, discounts the pathways of dermal contact and ingestion. There is however the potential for ground gas and volatile contaminants of concern in soil and / or groundwater (if present) beneath the site to impact the new infrastructure.

Potential Receptors

3.6.10 The Secondary A Aquifer beneath the Assessment Site represents a sensitive receptor.

3.6.11 The proposed pipeline itself is considered a receptor, given potential ground conditions could cause deterioration of the pipe, through its route underground.

3.6.12 The assessment does not consider the risk to construction/demolition workers during redevelopment. These risks will be managed through appropriate H&S legislation include H&S At works act and CDM regs.

Outline Conceptual Site Model

3.6.13 An outline CSM has been developed on the basis of the site reconnaissance and desk study. The CSM is used to identify potential sources, pathways and receptors (i.e. potential pollutant linkages) on site post development and is summarised in the table below.

3.6.14 Based on the identified potential sources and the site setting there is not considered to be a significant risk to ecological receptors, crops/vegetation or archaeological receptors.

Table 3-13 – Pipeline Assessment Site: Outline Conceptual Site Model

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors	Qualitative Risk Rating	Notes
On and off-site – Made Ground, electrical substations, tanks, incinerator (spoil heap)	Metals, solvents, PCBs, hydrocarbons	Soil	Leaching of mobile contaminants	✓	Secondary A Aquifer	Low	The proposed pipeline is to be routed along the existing pipelines at Valero easterly to RWE Pembroke Power Station and is likely to be buried alongside the natural gas pipeline present underground. The risk is considered to be negligible where the pipeline is located above ground.
		Groundwater	Vertical and lateral migration in permeable strata	✓	Secondary A Aquifer	Low	No superficial deposits are indicated beneath the Assessment Site but shallow bedrock is likely to be highly weathered. It is anticipated that the pipeline will be routed above the groundwater table, within an existing channel with the natural gas pipeline to RWE Pembroke Power Station.
	Carbon dioxide and methane	Ground Gas	Explosive risks	✓	Future Structures	Low	The risk of ground gas is considered to be negligible where the proposed pipeline is located above ground. The risk is considered low where the pipeline runs below ground, as it is understood, the grassed area to the south-east of Valero Oil Refinery has likely not been affected by previous construction / demolition.

Note The Qualitative Risk Rating does not consider the potential for the pathway to be active. In the event that a Moderate or High Qualitative Risk Rating is identified further assessment is recommended.

3.6.15 .

3.7 Preliminary Geotechnical Risk Register

3.7.1 The following table summarises the potential geotechnical hazards associated with the proposed development based on freely available published information. Preliminary information relating to the hazard and associated engineering considerations are provided.

Table 3-14 - Hydrogen Pipeline: Preliminary Geotechnical Risk Register

Hazard Description	Potential for Hazard	Comments / Possible Engineering Requirements
Sudden lateral / vertical changes in ground conditions	L	The ground conditions likely comprise potential Made Ground over shallow bedrock (limestone and shale). Made Ground is generally variable in nature, but the area of proposed underground routing is not anticipated to be within an area of considerable thickness Made Ground.
Highly compressible / low bearing capacity soils, (including peat and soft clay)	L	Ground conditions anticipated are not conducive of highly compressible soils although a limited thickness of Made Ground is expected across the site.
Ground dissolution features / natural cavities	M	Limestone bedrock is indicated beneath the site but there are no records of natural cavities or ground dissolution features within proximity of the site.
Shrinking and swelling clays	L	The ground conditions are anticipated to be weathered bedrock and therefore are not conducive to shrinking and swelling.
Slope stability issues	L	Whilst no significant slopes are present at the site, any temporary created as part of the development should be subject to appropriate geotechnical design based on site-specific site investigation information.
High groundwater table (including waterlogged ground)	M	There is no data to indicate potential water levels at the site however where the pipeline is to go underground, it is expected that it will be laid at shallow depth and the existing natural gas pipeline is not likely to be below the water table.
Filled and Made Ground (including embankments)	M	Made Ground is anticipated across the site however where the pipeline is above ground, no groundworks are required. In the area of potential underground routing, it is believed the area has not been affected by historical construction. There is however one known area of historical waste deposition near the current natural gas pipeline in the south-east of Valero.
Obstructions (including foundations, services, basements, tunnels and adjacent sub-structures)	L/M	The site has limited development history prior to the Valero Oil Refinery and RWE Pembroke Power Station being established. The pipeline will be routed with existing pipeline routes above ground at Valero, before going underground in the south-east of Valero. It is anticipated the pipeline will follow the natural gas pipeline underground, in an area of limited historical development.
Underground mining	L	Ground conditions beneath the site are not consistent with these conditions.
Concrete classification	M	The Made Ground and underlying natural strata may contain sulphate bearing soils. Chemical laboratory analysis should be undertaken on soil samples collected from each strata encountered beneath the site to determine a Design Sulphate Class and an Aggressive Chemical Environment for Concrete (ACEC) Classification for proposed buried structures as part of the development.

3.8 Conclusion

3.8.1 Based on the findings of the desk-based study there is potential for contamination to be present within the Made Ground beneath the site, associated with landfarm, oil refinery to the west and the

power station to the east. Historically there was an incinerator and spoil heap in the west and a substation in the east. Adjacent land has had a varied history with a number of pits and areas of groundworks recorded and present day the site is bound by Valero Oil Refinery and Pembroke Power Station.

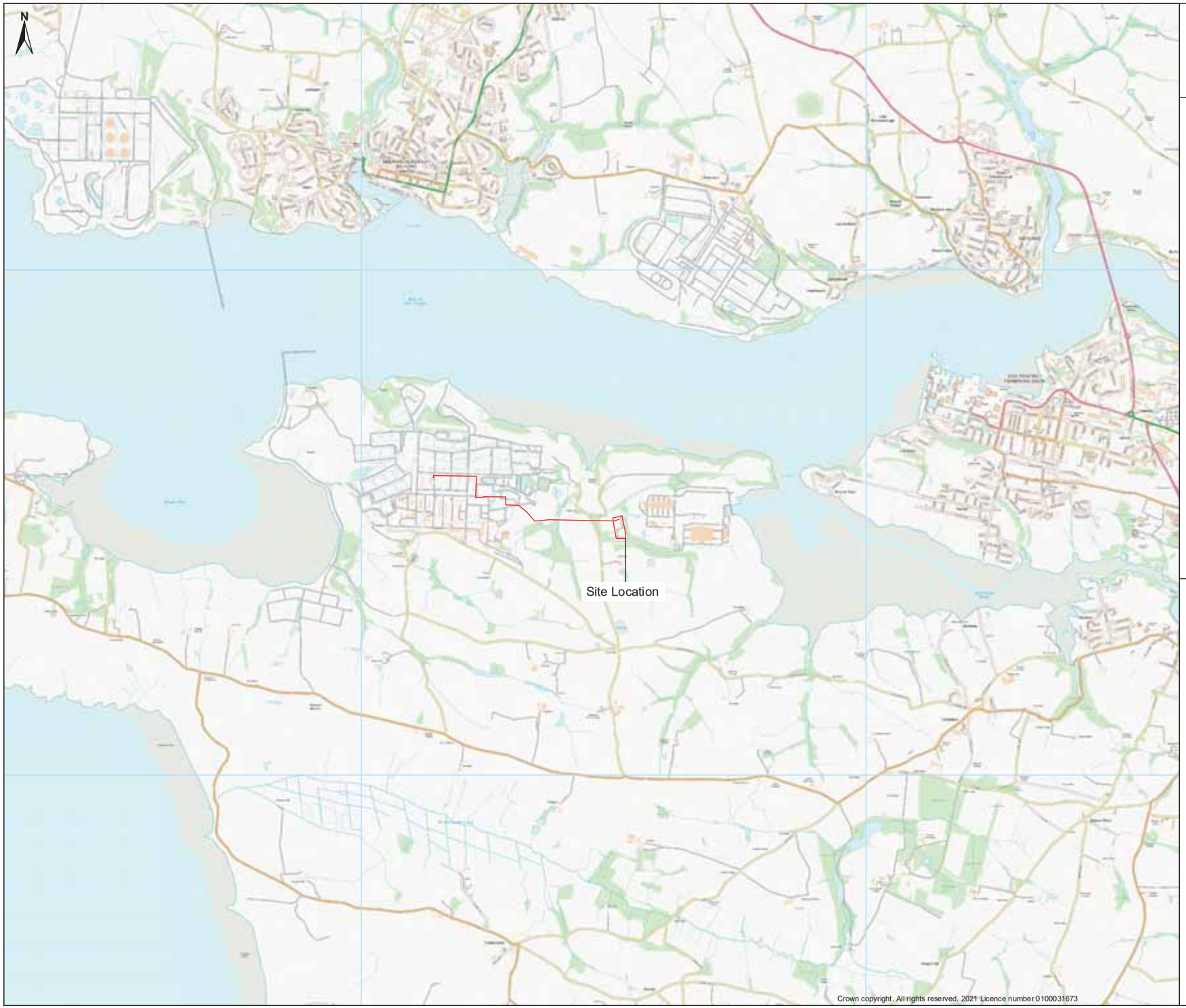
3.8.2 The ground conditions beneath the site indicate that the pipeline may potentially be variable, with the pipeline locally laid in Made Ground or shallow weather bedrock. It is recommended that for section of the pipeline that are underground, a intrusive investigation is undertaken to inform specific ground conditions.

3.8.3 The Pipeline Assessment Site is located in an area where the estimated probability of the property being above the Action Level for radon is 10 – 30 %. Full protection measures would need to be implemented where buildings are proposed. Given the proposed development is routing a hydrogen pipeline (i.e. a structure), no radon protection measures will be required.

Figure 1 Site Location Plan

Figure 2 Site Boundary Plan – Electrolyser Area

Figure 3 Site Boundary Plan - Hydrogen Pipeline



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Site Boundary

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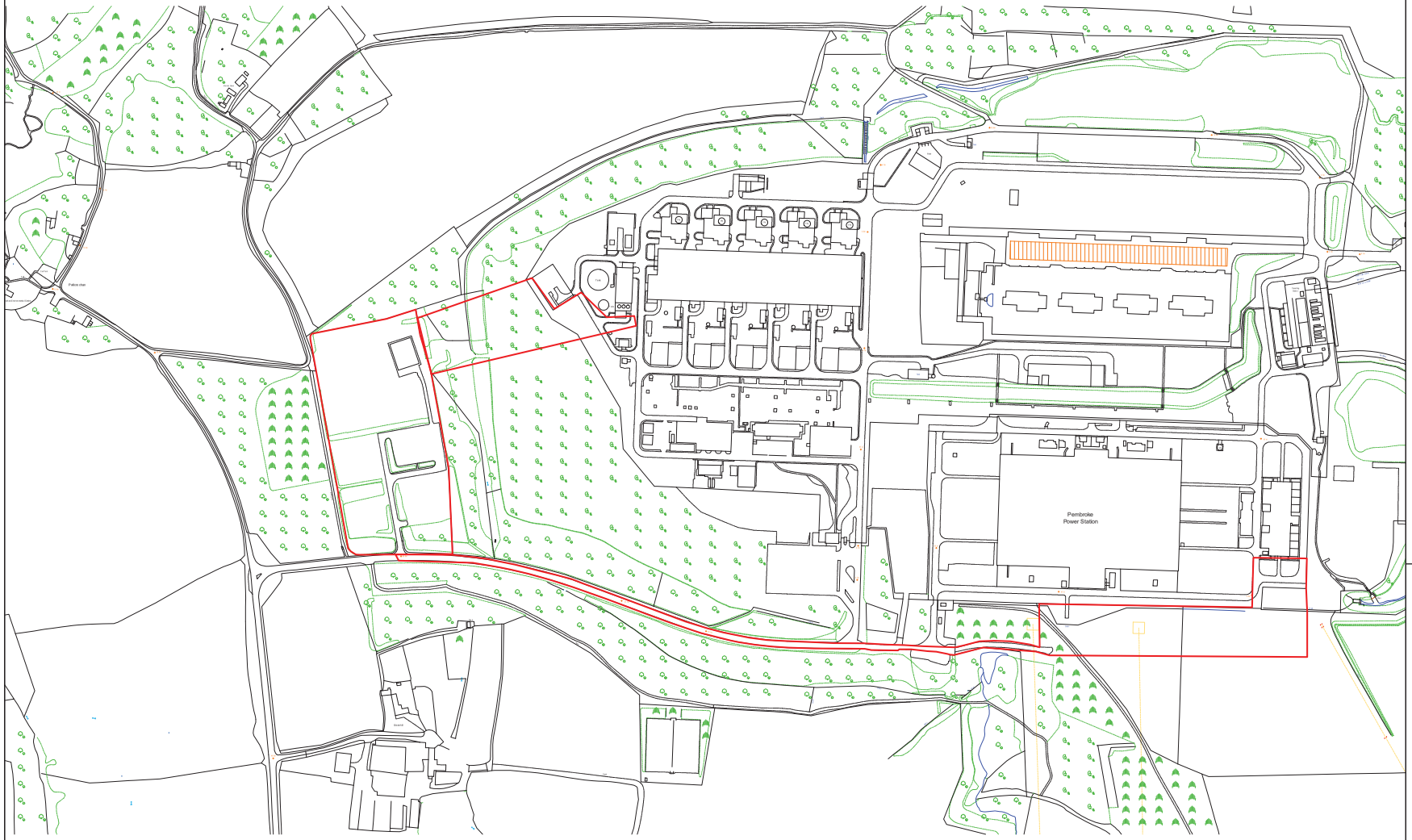
Client RWE

Project RWE Pembroke Wales

Title Site Location Plan Electroylser Area

Status	Drawn By	PM/Checked by
Draft	SD	KD
Job Ref	Scale @ A3	Date Created
JFR2786	NTS	AUG 2022
Figure Number		Rev
1		00

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Site Boundary - Electrolyser Area

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Project RWE Pembroke Wales

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Legend:

- Below Ground Pipeline Route
- Above Ground Pipeline Route

Rev	Description	By	CB	Date

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Manchester, M5 3EJ
T: 0161 786 8550 **W:** rpsgroup.com

Client: RWE

Project: RWE Pembroke Wales

Title: Site Boundary Plan - Hydrogen Pipeline

Status	Drawn By	PM/Checked by
Draft	TF	KD

Project Number	Scale @ A1	Date Created
JFR2786	NTS	AUG 2022

RPS Drawing / Figure Number: 3

Rev:

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Appendix A
GENERAL NOTES

General Notes

RPS Consulting Services Ltd

Phase 1 - Environmental Risk Assessment / Desk Study Environmental Review

1. A "desk study" means that no site visits have been carried out as any part thereof, unless otherwise specified.

1. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the Client.
2. The desk study information is not necessarily exhaustive and further information relevant to the site may be available from other sources.
3. The accuracy of maps cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map surveys.
4. No sampling or analysis has been undertaken in relation to this desk study.
5. Any borehole data from British Geological Survey sources is included on the basis that: "The British Geological Survey accept no responsibility for omissions or misinterpretation of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation".
6. Where any data supplied by the Client or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by RPS for inaccuracies in the data supplied by any other party.
7. This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate a re-interpretation of the report in whole or in part after its original submission.
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Appendix B
DATA SHEETS

ELECTROLYSER SITE

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

192620 , 202604,

Order Details

Date: 04/07/2022

Your ref: JFR2786_Water_Pipeline_PO-827

Our Ref: GS-8873288

Site Details

Location: 192620 202604

Area: 1.53 ha

Authority: Sir Benfro - Pembrokeshire County Council



Summary of findings p. 2

OS MasterMap site plan p.13

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
14	1.1	Historical industrial land uses	2	2	7	14	-
16	1.2	Historical tanks	2	0	1	9	-
16	1.3	Historical energy features	0	0	4	1	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	2	2	7	18	-
20	2.2	Historical tanks	4	0	1	15	-
21	2.3	Historical energy features	0	0	4	3	-
21	2.4	Historical petrol stations	0	0	0	0	-
21	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
23	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
23	3.7	Waste exemptions	0	0	0	5	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
25	4.1	Recent industrial land uses	2	0	4	-	-
26	4.2	Current or recent petrol stations	0	0	0	0	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-

26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
27	4.7	Regulated explosive sites	0	0	0	0	-
27	4.8	Hazardous substance storage/usage	0	0	0	0	-
27	**4.9**	**Historical licensed industrial activities (IPC)**	0	0	0	3	-
28	**4.10**	**Licensed industrial activities (Part A(1))**	5	0	0	0	-
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	2	-
30	**4.14**	**Pollutant release to surface waters (Red List)**	0	0	0	1	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
30	**4.16**	**List 1 Dangerous Substances**	0	0	0	1	-
30	**4.17**	**List 2 Dangerous Substances**	0	0	0	1	-
31	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
31	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
32	**5.1**	**Superficial aquifer**	Identified (within 500m)				
34	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
36	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
37	**5.4**	**Groundwater vulnerability- soluble rock risk**	Identified (within 0m)				
37	5.5	Groundwater vulnerability- local information	None (within 0m)				
38	5.6	Groundwater abstractions	0	0	0	0	0
39	**5.7**	**Surface water abstractions**	0	0	0	0	15
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
43	**6.1**	**Water Network (OS MasterMap)**	5	0	0	-	-

44	6.2	Surface water features	1	0	1	-	-
44	6.3	WFD Surface water body catchments	1	-	-	-	-
45	6.4	WFD Surface water bodies	0	0	0	-	-
45	6.5	WFD Groundwater bodies	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	Risk of flooding from rivers and the sea	Medium (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48	7.6	Flood Zone 2	None (within 50m)				
48	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
49	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
51	9.1	Groundwater flooding	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
52	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	2	5
53	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
53	10.3	Special Areas of Conservation (SAC)	0	0	0	2	1
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
54	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
55	10.7	Designated Ancient Woodland	0	0	0	0	7
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	Green Belt	0	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0

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

66	14.4	Landslip (10k)	0	0	0	0	-
67	14.5	Bedrock geology (10k)	0	0	0	0	-
67	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
68	**15.1**	**50k Availability**	Identified (within 500m)				
70	15.2	Artificial and made ground (50k)	0	0	0	0	-
70	15.3	Artificial ground permeability (50k)	0	0	-	-	-
71	**15.4**	**Superficial geology (50k)**	0	0	2	1	-
72	15.5	Superficial permeability (50k)	None (within 50m)				
72	15.6	Landslip (50k)	0	0	0	0	-
72	15.7	Landslip permeability (50k)	None (within 50m)				
73	**15.8**	**Bedrock geology (50k)**	3	0	1	6	-
74	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
74	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	0	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
76	**16.1**	**BGS Boreholes**	6	21	141	-	-
Page	Section	Natural ground subsidence					
86	**17.1**	**Shrink swell clays**	Very low (within 50m)				
87	**17.2**	**Running sands**	Negligible (within 50m)				
88	**17.3**	**Compressible deposits**	Negligible (within 50m)				
89	**17.4**	**Collapsible deposits**	Very low (within 50m)				
90	**17.5**	**Landslides**	Very low (within 50m)				
91	**17.6**	**Ground dissolution of soluble rocks**	Low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
93	18.1	Natural cavities	0	0	0	0	-
94	18.2	BritPits	0	0	0	0	-
94	**18.3**	**Surface ground workings**	2	2	4	-	-
94	18.4	Underground workings	0	0	0	0	0
95	18.5	Historical Mineral Planning Areas	0	0	0	0	-

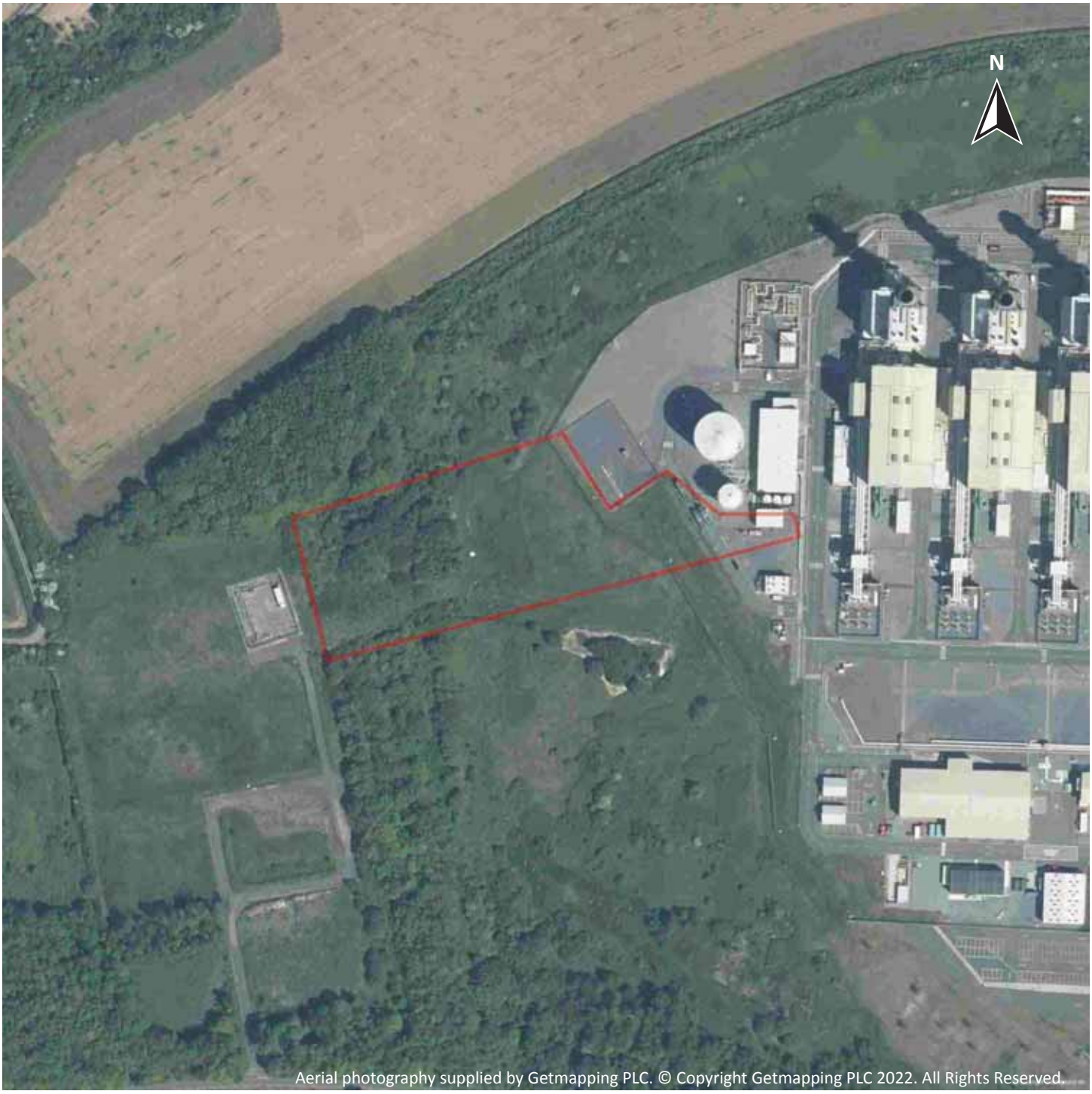
95	**18.6**	**Non-coal mining**	1	0	1	1	3
96	18.7	Mining cavities	0	0	0	0	0
96	18.8	JPB mining areas	None (within 0m)				
96	18.9	Coal mining	None (within 0m)				
96	18.10	Brine areas	None (within 0m)				
96	18.11	Gypsum areas	None (within 0m)				
97	18.12	Tin mining	None (within 0m)				
97	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
98	**19.1**	**Radon**	Between 10% and 30% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
99	**20.1**	**BGS Estimated Background Soil Chemistry**	3	1	-	-	-
99	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
99	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
100	21.1	Underground railways (London)	0	0	0	-	-
100	21.2	Underground railways (Non-London)	0	0	0	-	-
100	21.3	Railway tunnels	0	0	0	-	-
100	21.4	Historical railway and tunnel features	0	0	0	-	-
100	21.5	Royal Mail tunnels	0	0	0	-	-
101	21.6	Historical railways	0	0	0	-	-
101	21.7	Railways	0	0	0	-	-
101	21.8	Crossrail 1	0	0	0	0	-
101	21.9	Crossrail 2	0	0	0	0	-
101	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 14/05/2020

Site Area: 1.53ha

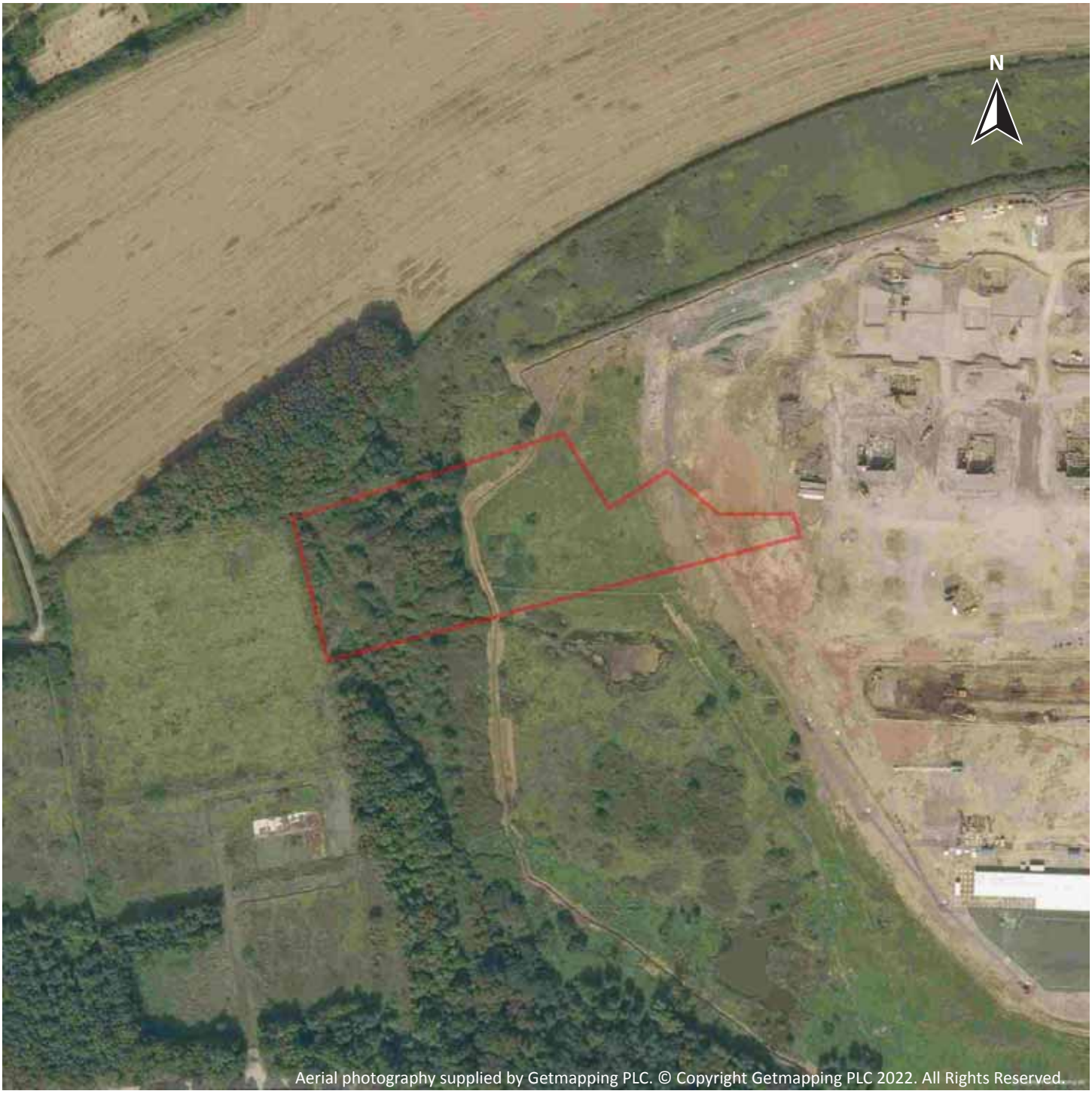
Recent site history - 2017 aerial photograph



Capture Date: 18/06/2017

Site Area: 1.53ha

Recent site history - 2009 aerial photograph

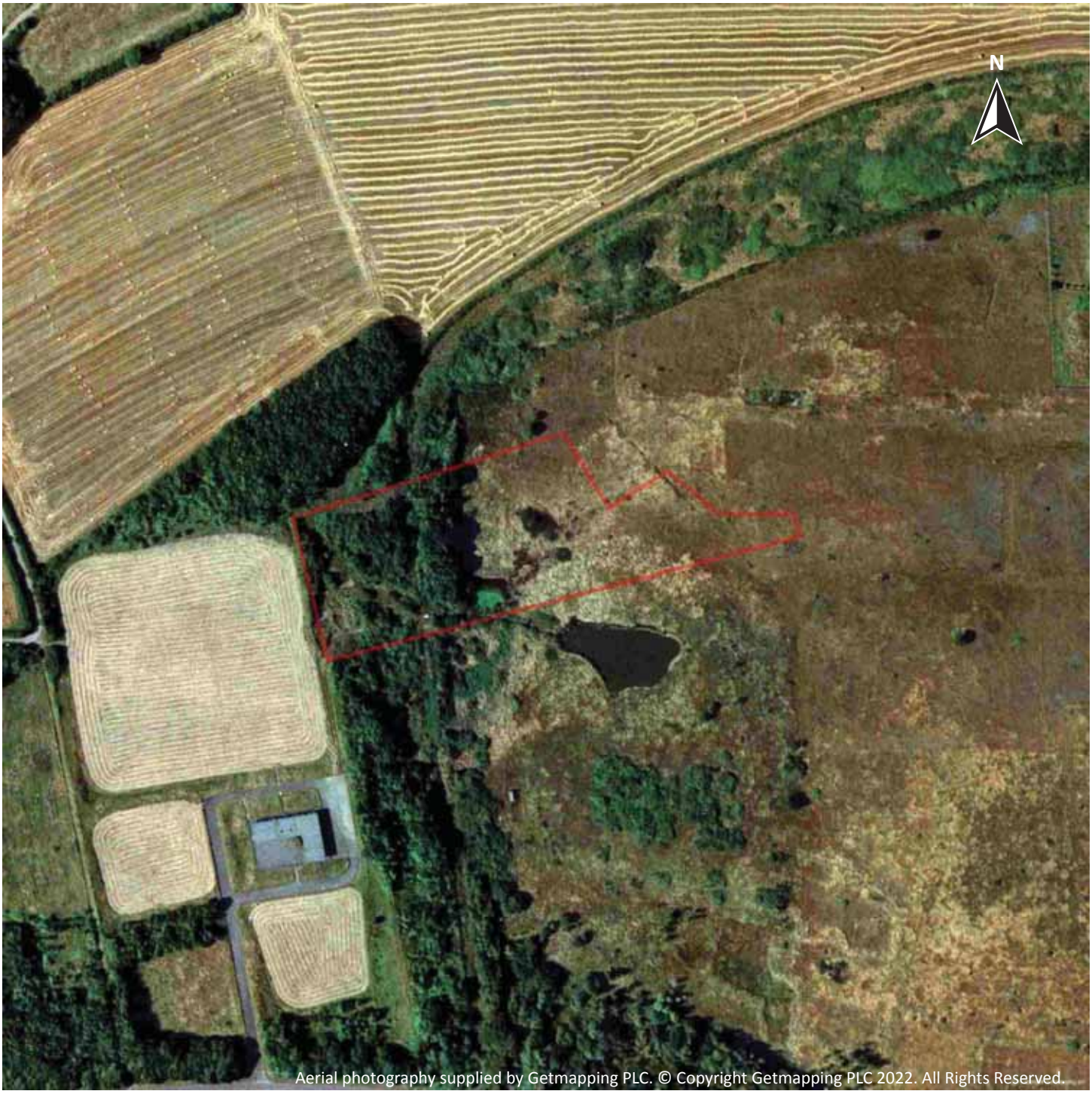


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Capture Date: 11/09/2009

Site Area: 1.53ha

Recent site history - 2003 aerial photograph

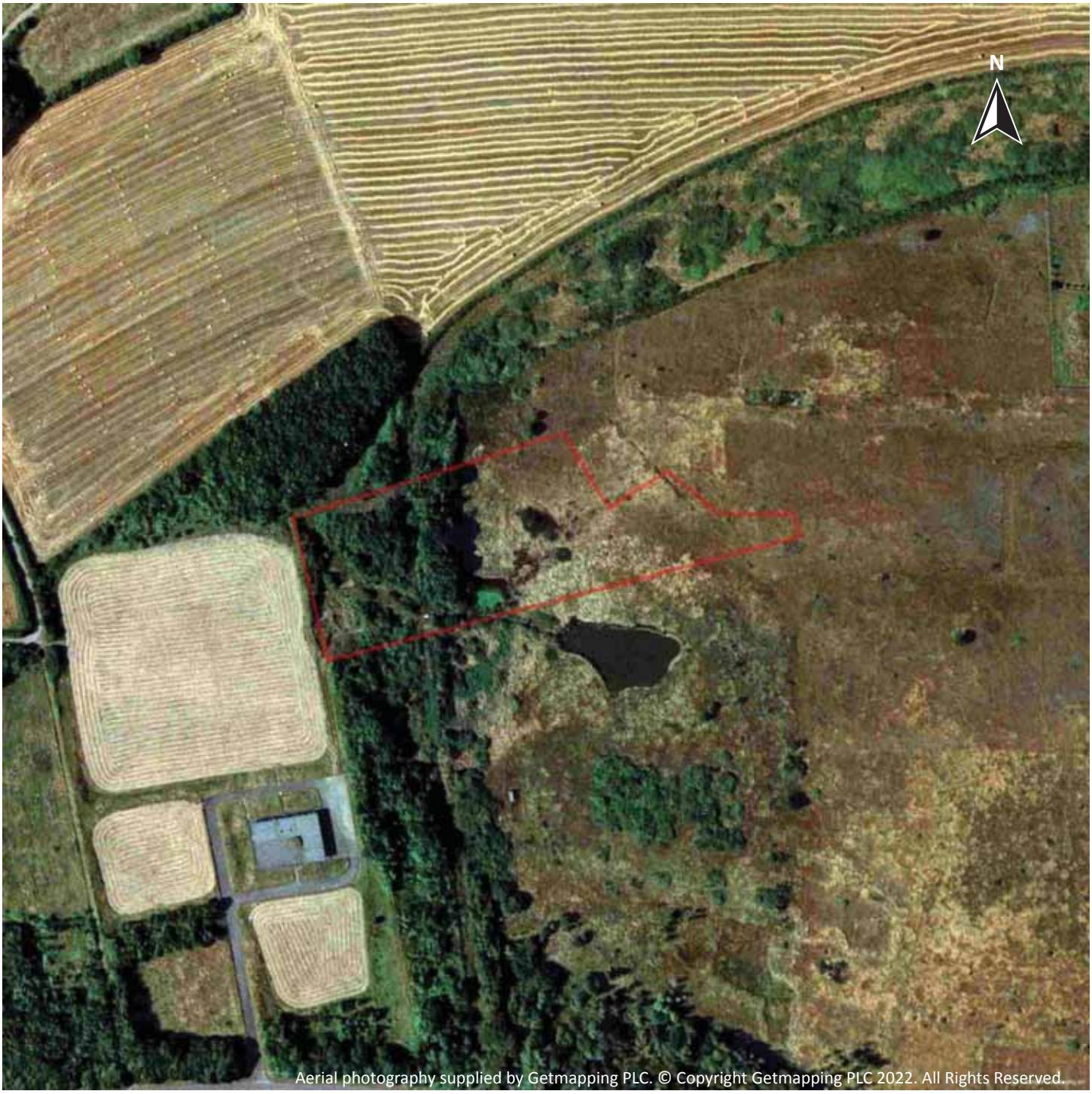


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Capture Date: 14/09/2003

Site Area: 1.53ha

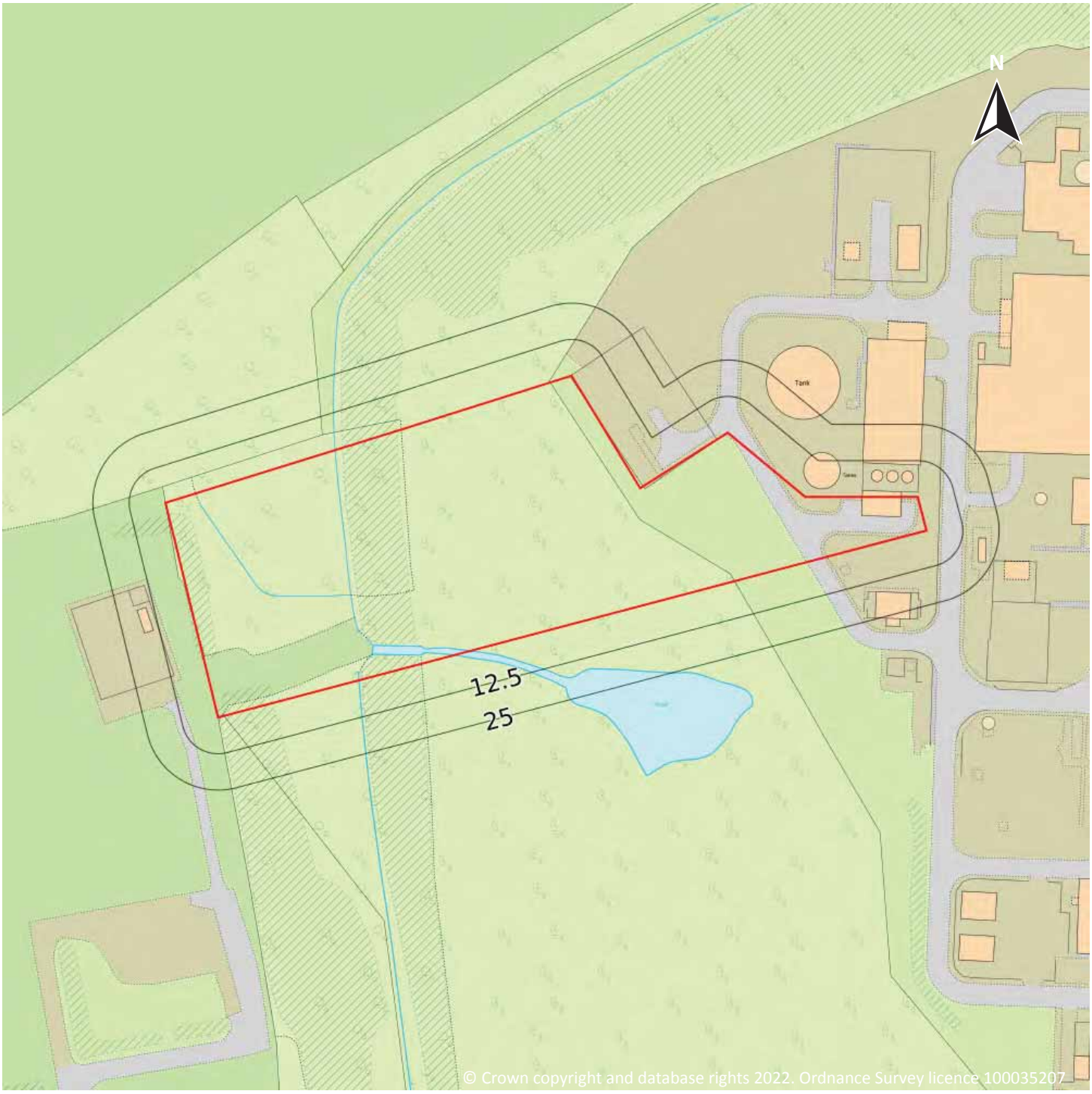
Recent site history - 2000 aerial photograph



Capture Date: 17/06/2000

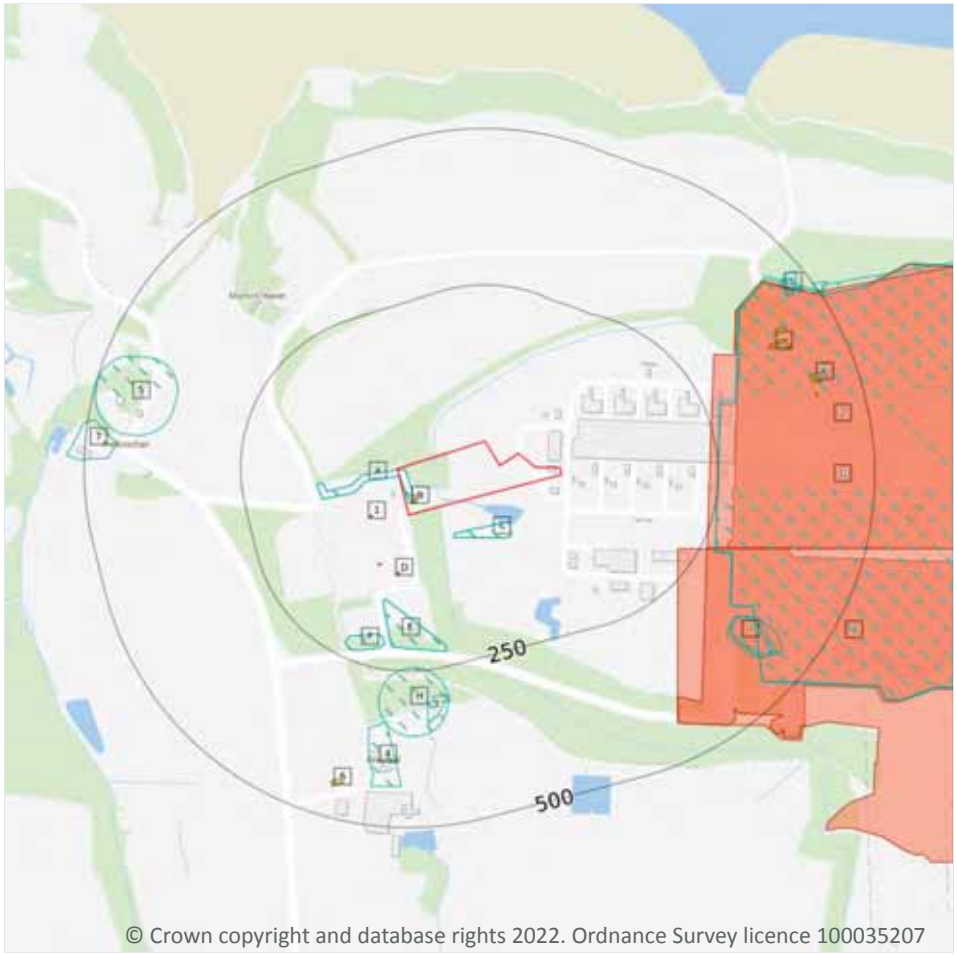
Site Area: 1.53ha

OS MasterMap site plan



Site Area: 1.53ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	25

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 14**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Ground Workings**	**1975**	**15413**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Ground Workings**	**1994**	**17222**
C	47m S	Unspecified Pit	1994	16723
C	47m S	Unspecified Pit	1975	17474
E	140m S	Unspecified Pit	1975	15940
E	140m S	Unspecified Pit	1994	16487
F	197m S	Unspecified Ground Workings	1975	14448
F	197m S	Unspecified Ground Workings	1994	14808
H	244m S	Unspecified Mill	1963	11723
G	249m E	Power Station	1994	16330
G	250m E	Power Station	1975	16495
H	293m S	Corn Mill	1864 - 1906	16546
4	332m S	Corn Mill	1948	12579
I	359m SE	Unspecified Pit	1906 - 1948	15212
I	359m SE	Unspecified Quarry	1864	12212
I	359m SE	Unspecified Pit	1963	13812
5	370m W	Sand Pit	1864	11832
K	429m E	Unspecified Tank	1975	14163
K	429m E	Unspecified Tank	1994	16177
I	441m SE	Lime Kiln	1864	12278
7	450m W	Grave Yard	1864	13454
L	453m NE	Unspecified Heap	1906 - 1948	17085
L	457m NE	Unspecified Heap	1963	14590
L	460m NE	Unspecified Heap	1864	16562
L	497m NE	Unspecified Heap	1906 - 1948	15842

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	12

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 14**

ID	Location	Land use	Dates present	Group ID
B	**On site**	**Unspecified Tank**	**1972 - 1993**	**2574**
B	**On site**	**Unspecified Tank**	**1972 - 1993**	**2711**
D	92m S	Unspecified Tank	1993	1808
H	301m S	Unspecified Tank	1972 - 1993	2504
J	384m NE	Tanks	1972 - 1988	2209
J	401m NE	Unspecified Tank	1972 - 1988	2795
J	406m NE	Tanks	1972 - 1988	2426
K	424m E	Tanks	1988	1996
K	424m E	Unspecified Tank	1972 - 1988	2692
6	434m S	Tanks	1972	1992
K	434m E	Unspecified Tank	1972 - 1988	2292
K	449m E	Tanks	1988	1999

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	5

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 14**

ID	Location	Land use	Dates present	Group ID
1	57m W	Electricity Substation	1972	431
D	89m SW	Electricity Substation	1972	432
G	220m SE	Power Station	1972	694
2	236m E	Power Station	1988	655
3	260m SE	Power Station	1990 - 1993	566

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	0

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

This data is sourced from Ordnance Survey / Groundsure.

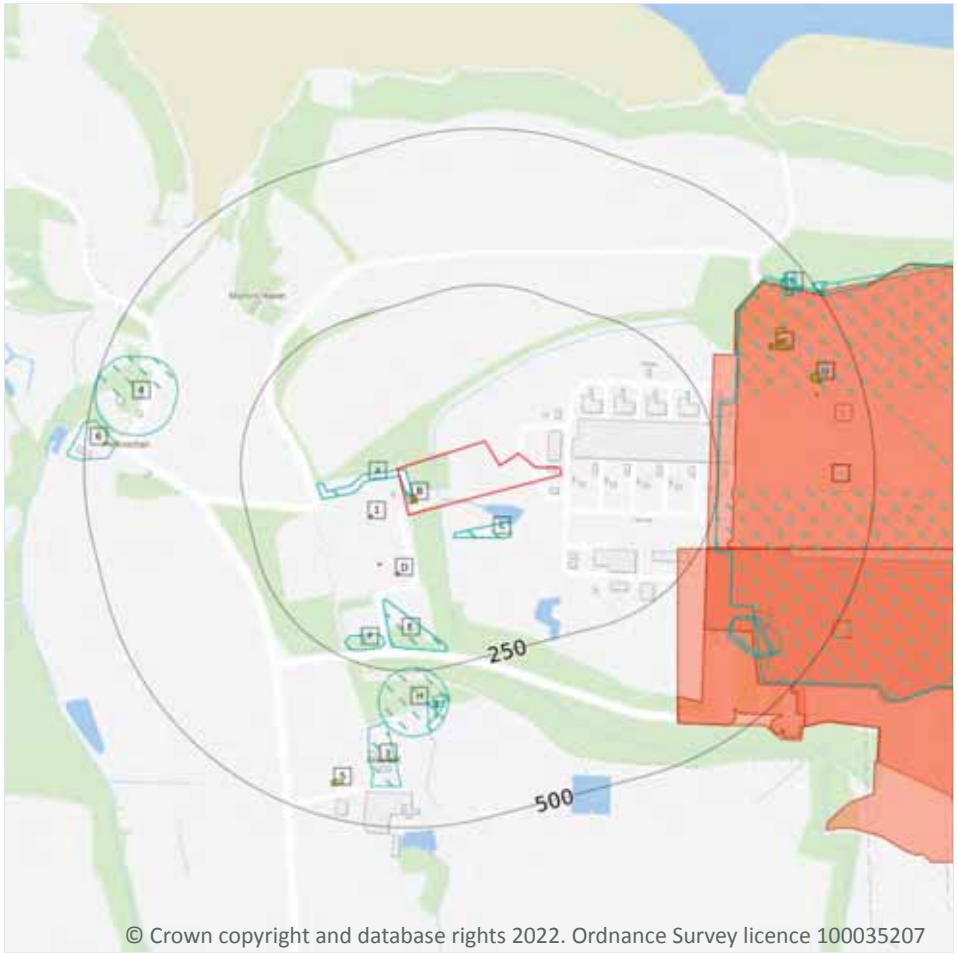
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	29

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**	**Unspecified Ground Workings**	**1994**	**17222**
A	**On site**	**Unspecified Ground Workings**	**1975**	**15413**
C	47m S	Unspecified Pit	1994	16723

ID	Location	Land Use	Date	Group ID
C	47m S	Unspecified Pit	1975	17474
E	140m S	Unspecified Pit	1994	16487
E	140m S	Unspecified Pit	1975	15940
F	197m S	Unspecified Ground Workings	1994	14808
F	197m S	Unspecified Ground Workings	1975	14448
H	244m S	Unspecified Mill	1963	11723
I	249m E	Power Station	1994	16330
I	250m E	Power Station	1975	16495
H	293m S	Corn Mill	1864	16546
H	301m S	Corn Mill	1906	16546
3	332m S	Corn Mill	1948	12579
K	359m SE	Unspecified Pit	1948	15212
K	359m SE	Unspecified Pit	1906	15212
K	359m SE	Unspecified Quarry	1864	12212
K	359m SE	Unspecified Pit	1963	13812
4	370m W	Sand Pit	1864	11832
M	429m E	Unspecified Tank	1994	16177
M	429m E	Unspecified Tank	1975	14163
K	441m SE	Lime Kiln	1864	12278
6	450m W	Grave Yard	1864	13454
N	453m NE	Unspecified Heap	1948	17085
N	453m NE	Unspecified Heap	1906	17085
N	457m NE	Unspecified Heap	1963	14590
N	460m NE	Unspecified Heap	1864	16562
N	497m NE	Unspecified Heap	1948	15842
N	497m NE	Unspecified Heap	1906	15842

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	20

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	**On site**	**Unspecified Tank**	**1972**	**2711**
B	**On site**	**Unspecified Tank**	**1972**	**2574**
B	**On site**	**Unspecified Tank**	**1993**	**2711**
B	**On site**	**Unspecified Tank**	**1993**	**2574**
D	92m S	Unspecified Tank	1993	1808
H	301m S	Unspecified Tank	1972	2504
H	302m S	Unspecified Tank	1993	2504
L	384m NE	Tanks	1988	2209
L	384m NE	Tanks	1972	2209
L	401m NE	Unspecified Tank	1988	2795
L	401m NE	Unspecified Tank	1972	2795
L	406m NE	Tanks	1988	2426
L	406m NE	Tanks	1972	2426
M	424m E	Tanks	1988	1996
M	424m E	Unspecified Tank	1972	2692
M	424m E	Unspecified Tank	1988	2692
5	434m S	Tanks	1972	1992
M	434m E	Unspecified Tank	1988	2292
M	435m E	Unspecified Tank	1972	2292
M	449m E	Tanks	1988	1999

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	7

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
1	57m W	Electricity Substation	1972	431
D	89m SW	Electricity Substation	1972	432
2	220m SE	Power Station	1972	694
G	236m E	Power Station	1988	655
J	260m SE	Power Station	1990	566
J	261m SE	Power Station	1993	566
G	274m E	Power Station	1972	694

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	5

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

Features are displayed on the Waste and landfill map on **page 22**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	356m SE	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
A	356m SE	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Storing waste exemption	Not on a farm	Storage of waste in a secure place
1	356m N	DCWW, Lambeeth Farm, Pwllcrochan, Pembroke, Sir Benfro, SA71 5TP	NRW-WME047963	Storing waste exemption	Not on a farm	Storage of sludge
B	405m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Storing waste exemption	On a farm	Storage of waste in a secure place
B	405m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Using waste exemption	On a farm	Use of waste in construction

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Historical licensed industrial activities

Part A(1) industrial activities

Licensed Discharges to controlled waters

Pollutant release to surface waters

List 1 Dangerous Substances

List 2 Dangerous Substances

4.1 Recent industrial land uses

Records within 250m	**6**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Company	Address	Activity	Category
B	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**
B	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**
1	124m NE	Chimney	Dyfed, SA71	Chimneys	Industrial Features
2	156m NE	Chimney	Dyfed, SA71	Chimneys	Industrial Features

ID	Location	Company	Address	Activity	Category
3	195m NE	Chimney	Dyfed, SA71	Chimneys	Industrial Features
4	238m NE	Chimney	Dyfed, SA71	Chimneys	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	3

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.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Details	
D	492m E	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AA2666	Original Permit Number: IPCAIRAPP Date Approved: 8-4-1993 Effective Date: 8-4-1993 Status: Superseded By Variation
D	492m E	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AN5853	Original Permit Number: IPCMINVAR Date Approved: 1-7-1994 Effective Date: 1-7-1994 Status: Superseded By Variation
D	492m E	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AX1182	Original Permit Number: IPCMINVAR Date Approved: 17-12-1996 Effective Date: 31-12-1996 Status: Revoked

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	5

Records of Part A(1) 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 25**

ID	Location	Details	
A	On site	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION EPR/DP333TA Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3338ZK Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 26/07/2013 Effective Date: 26/07/2013 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
A	On site	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3333TA Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 10/11/2011 Effective Date: 10/11/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
A	On site	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: - Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
A	On site	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
A	On site	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 16/10/2020 Effective Date: 16/10/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

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

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

Records within 500m	0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	2

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

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Address	Details	
5	309m E	PEMBROKE POWER STATION WEST PENNA, PEMBROKE POWER STATION WEST PE, WEST PENNAR, SA71 5SS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD008613 Permit Version: 1 Receiving Water: MILFORD HAVEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 12/01/2010 Effective Date: 12/01/2010 Revocation Date: 31/12/2012
6	375m E	PEMBROKE POWER STATION SITE DRAIN, Pembroke Power Station, WEST PENNAR, PEMBROKE, Pembrokeshire, SA71 5SS	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: HP3820XU Permit Version: 1 Receiving Water: PENNAR GUT	Status: Effective Issue date: 14/06/2011 Effective Date: 14/06/2011 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	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 25**

ID	Location	Address	Details	
C	434m SE	RWE GENERATION UK PLC, PEMBROKE POWER STATION SITE DRAIN, PEMBROKE POWER STATION, WEST PENNAR, PEMBROKE, PEMBROKESHIRE, SA71 5SS	Permit Number: HP3820XU Permit Version: 0 Status: Effective Discharge Type: -	Effluent Type: Trade Catchment: PENNAR GUT Approval Date: 2011-06-14T00:00:00.000Z

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.

4.16 List 1 Dangerous Substances

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Name	Status	Receiving Water	Authorised Substances
C	435m SE	Pembroke Power Station Site Drainage	Active	Milford Haven, Any	Mercury (other), Cadmium

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 25**

ID	Location	Name	Status	Receiving Water	Authorised Substances
C	435m SE	Pembroke Power Station Site Drainage	Active	Milford Haven	Arsenic, Copper, Lead, Nickel, pH, Vanadium, Zinc

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

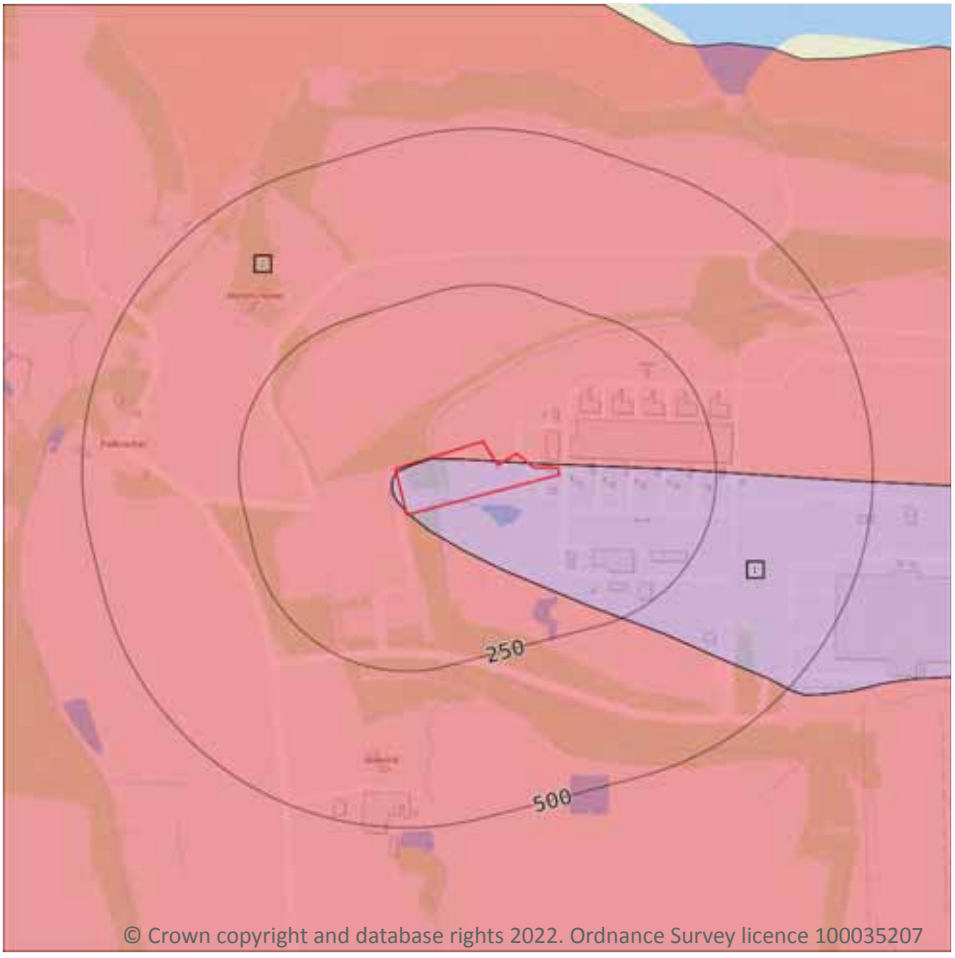
Aquifer status of groundwater held within superficial geology.

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

ID	Location	Designation	Description
1	170m E	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	454m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

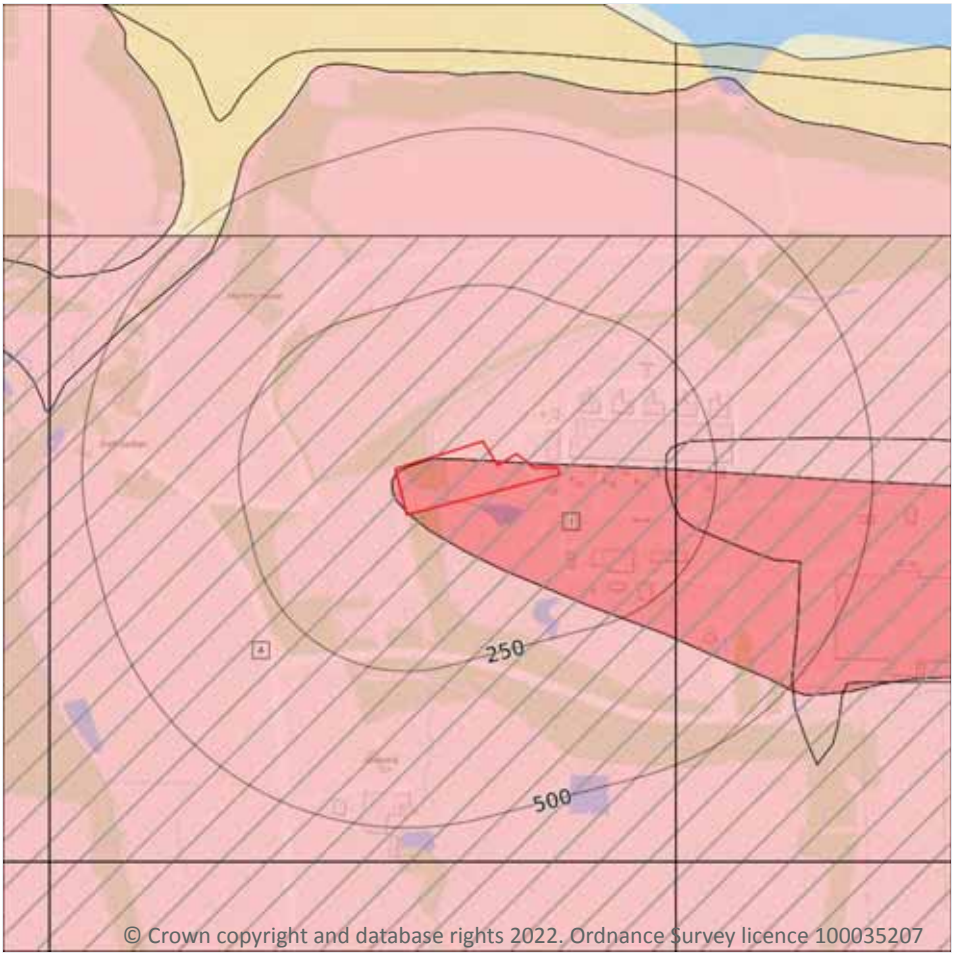
Aquifer status of groundwater held within bedrock geology.

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

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

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

Groundwater vulnerability



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	2

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

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

Features are displayed on the Groundwater vulnerability map on **page 36**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	1

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. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**1.0%**

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.

Abstractions and Source Protection Zones



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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	0

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

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

5.7 Surface water abstractions

Records within 2000m	15

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 38**

ID	Location	Details	
A	618m SW	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: RWE Npower plc Easting: 192050 Northing: 202220	Annual Volume (m^3): 6060 Max Daily Volume (m^3): 1206 Original Application No: - Original Start Date: 28/06/1988 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
A	618m SW	Status: Active Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm Point: - Data Type: Point Name: - Easting: 192050 Northing: 202220	Annual Volume (m^3): 6,060 Max Daily Volume (m^3): 1,255.20 Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
A	628m SW	Status: Active Licence No: 22/61/6/0147 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192020 Northing: 202250	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	635m SW	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: Kenniford Easting: 192050 Northing: 202190	Annual Volume (m^3): 6059.8 Max Daily Volume (m^3): 1205.6 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 28/06/1988 Version End Date: -

ID	Location	Details	
-	798m S	Status: Active Licence No: 22/61/6/0144 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192880 Northing: 201810	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	800m S	Status: Historical Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR IN FIELD NO.0556 AT GREENHILL FARM. Data Type: Point Name: RWE Npower plc Easting: 192850 Northing: 201800	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 4546 Original Application No: - Original Start Date: 19/07/1984 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
-	800m S	Status: Active Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm. Point: - Data Type: Point Name: - Easting: 192850 Northing: 201800	Annual Volume (m^3): 4,546 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 30 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
-	836m E	Status: Active Licence No: 22/61/6/0156 Details: Non Evaporative Cooling - Low Direct Source: - Point: - Data Type: Line Name: - Easting: 193650 Northing: 202650	Annual Volume (m^3): 1,200,000,000 Max Daily Volume (m^3): 3,456,000 Original Application No: - Original Start Date: Oct 13 2014 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
-	1719m SW	Status: Historical Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY UNNAMED STREAM Data Type: Point Name: Allen-Mirehouse Easting: 191090 Northing: 201680	Annual Volume (m^3): 7545.5 Max Daily Volume (m^3): 7545.5 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -

ID	Location	Details	
-	1719m SW	Status: Active Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191090 Northing: 201680	Annual Volume (m^3): 7,545.50 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1852m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191820 Northing: 200860	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 819 Original Application No: - Original Start Date: 24/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1852m SW	Status: Active Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191820 Northing: 200860	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): 1,320 Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1859m SW	Status: Active Licence No: 22/61/6/0135 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191740 Northing: 200890	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1864m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191750 Northing: 200880	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 818.28 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/05/1985 Version End Date: -

ID	Location	Details	
-	1907m S	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM IN FIELD NO. 3553, TO FILL RESERVOIR Data Type: Point Name: Woods Easting: 191950 Northing: 200750	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: 21/08/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 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.

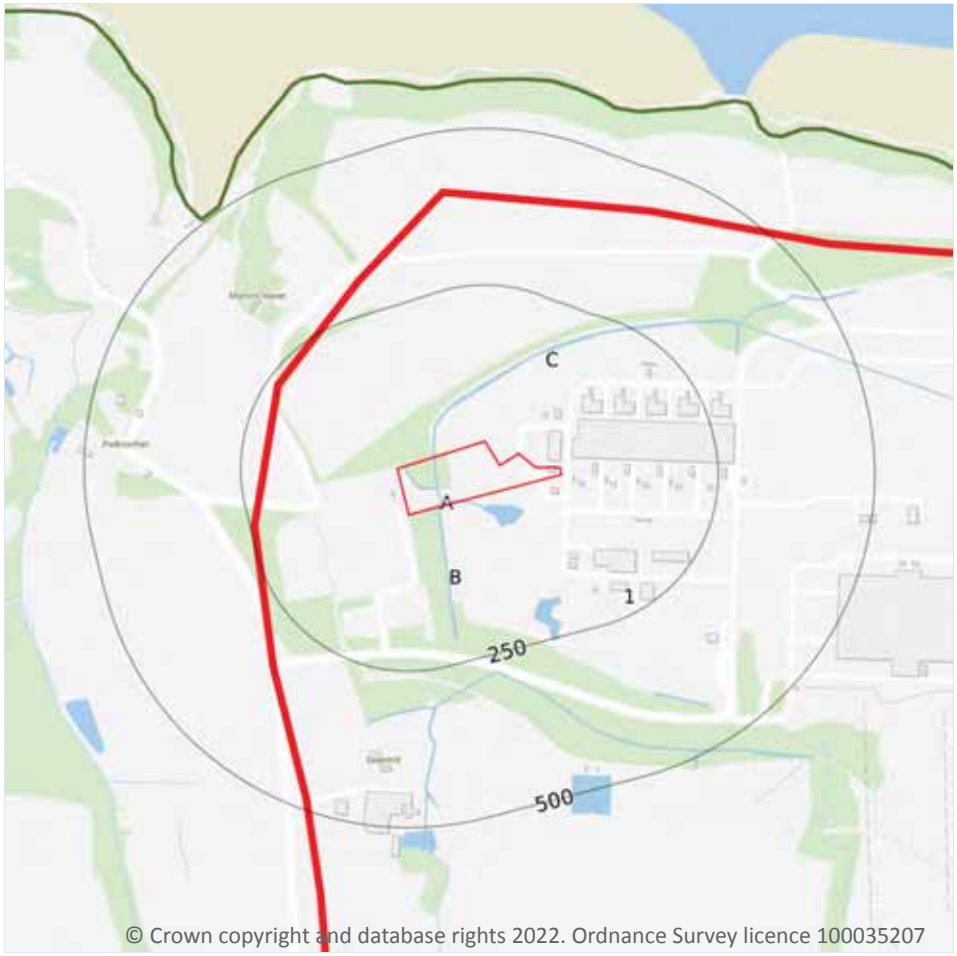
5.10 Source Protection Zones (confined aquifer)

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.

6 Hydrology



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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	**5**

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 43**

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)**	**-**

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)**	-
B	**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)**	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**2**

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 43**

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 43**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**163**	**Coastal streams of South Pembs and South Milford Haven - Pendine to Landshipping**	**Cleddau and Pembrokeshire Coastal Rivers**

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

6.4 WFD Surface water bodies

Records identified	0

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.

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.

Features are displayed on the Hydrology map on **page 43**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Pembrokeshire Carboniferous Limestone**	**GB41002G206000**	**Good**	**Good**	**Good**	**2017**

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	1

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 46**

Distance	Flood risk category
On site	**N/A**
0 - 50m	Medium

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

7.2 Historical Flood Events

Records within 250m	**0**

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

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

7.3 Flood Defences

Records within 250m	**0**

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**0**

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

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

7.5 Flood Storage Areas

Records within 250m	**0**

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



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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, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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

Features are displayed on the Surface water flooding map on **page 49**

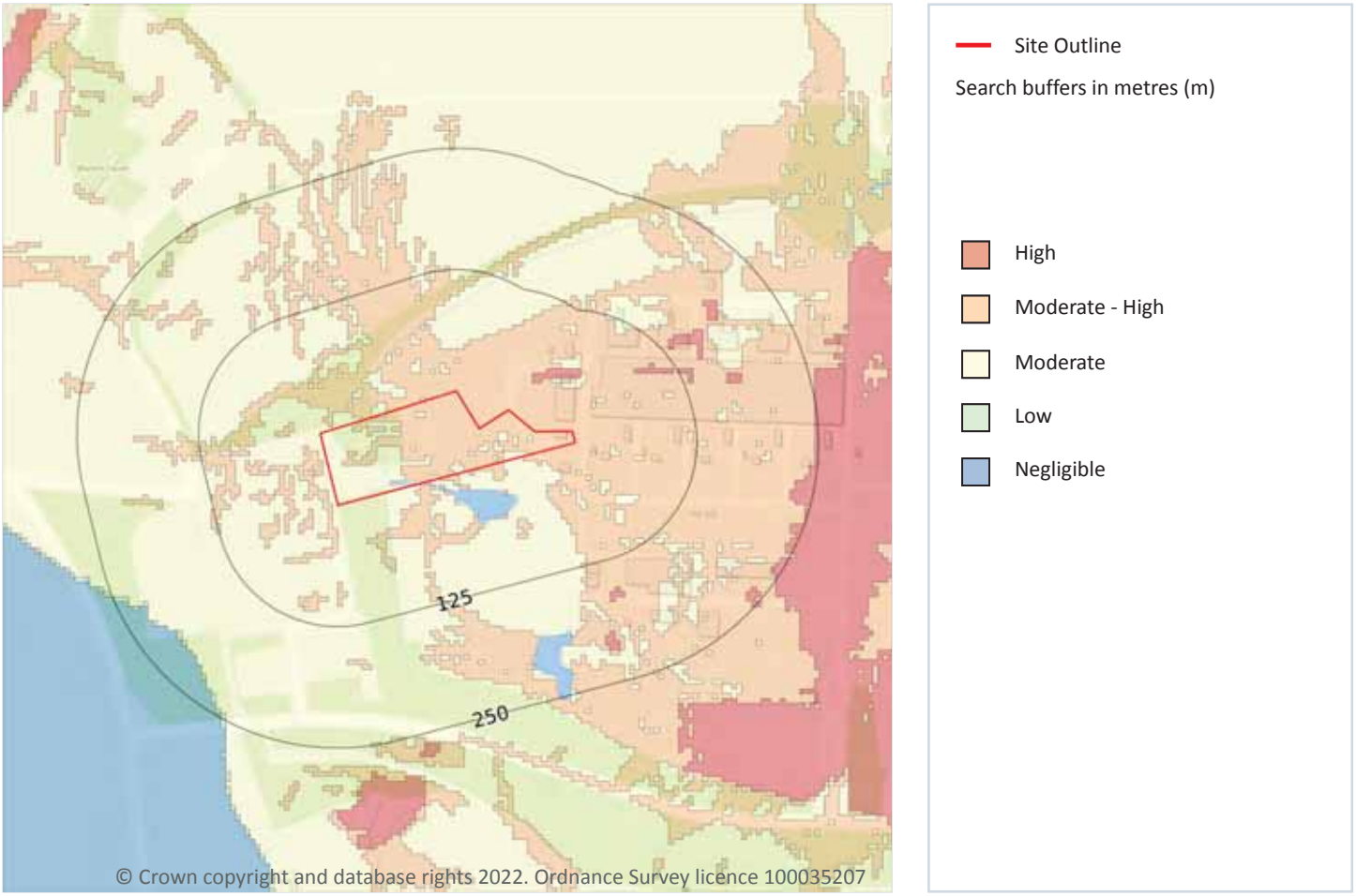
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site	**Moderate-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 51**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Areas of Conservation (SAC)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	**7**

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 52**

ID	Location	Name	Data source
A	416m W	MILFORD HAVEN WATERWAY	Natural Resources Wales

ID	Location	Name	Data source
1	444m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
7	839m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
9	1066m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
12	1651m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
-	1791m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
-	1833m S	GWEUNYDD SOMERTON MEADOWS	Natural Resources Wales

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	**3**

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.

Features are displayed on the Environmental designations map on **page 52**

ID	Location	Name	Features of interest	Habitat description	Data source
A	416m W	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

ID	Location	Name	Features of interest	Habitat description	Data source
2	444m NW	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
5	572m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m	**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	**0**

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

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

10.7 Designated Ancient Woodland

Records within 2000m	7

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

Features are displayed on the Environmental designations map on **page 52**

ID	Location	Name	Woodland Type
3	526m N	Unknown	Ancient Semi Natural Woodland
4	553m NW	Unknown	Restored Ancient Woodland Site
6	793m W	Unknown	Ancient Semi Natural Woodland
8	886m NW	Unknown	Restored Ancient Woodland Site
10	1151m NW	Unknown	Restored Ancient Woodland Site
-	1642m S	Unknown	Ancient Semi Natural Woodland
-	1894m W	Unknown	Ancient Semi Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

This data is sourced from 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.

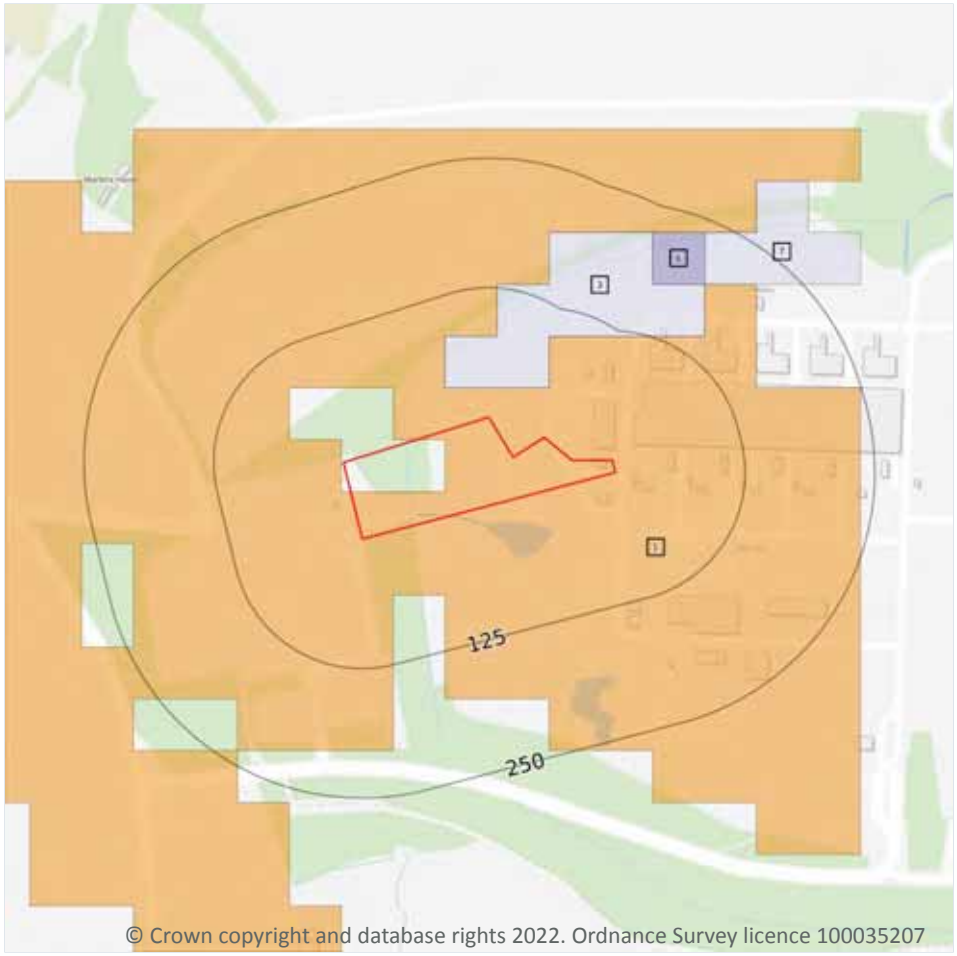
11.7 Registered Parks and Gardens

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 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	4

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

Features are displayed on the Agricultural designations map on **page 61**

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Good quality agricultural land**
3	28m N	Grade 3b	Moderate quality agricultural land
6	174m N	Grade 4	Poor quality agricultural land

ID	Location	Classification	Description
7	192m NE	Grade 3b	Moderate quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 64**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

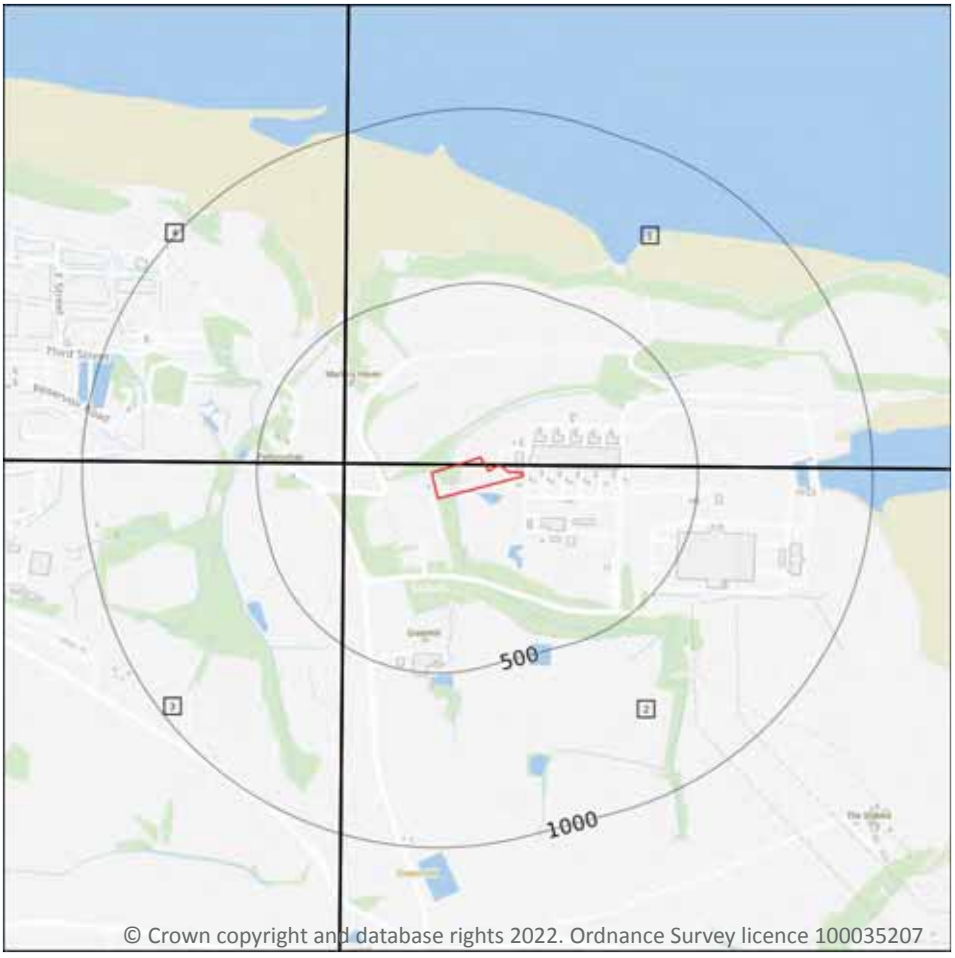
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	4

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 68**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW228_haverfordwest_v4**
2	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW244_245_pembroke_and_linney_head_v4**
3	250m W	No coverage	Full	Full	No coverage	EW244_245_pembroke_and_linney_head_v4

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
4	252m W	No coverage	Full	Full	No coverage	EW227_milford_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

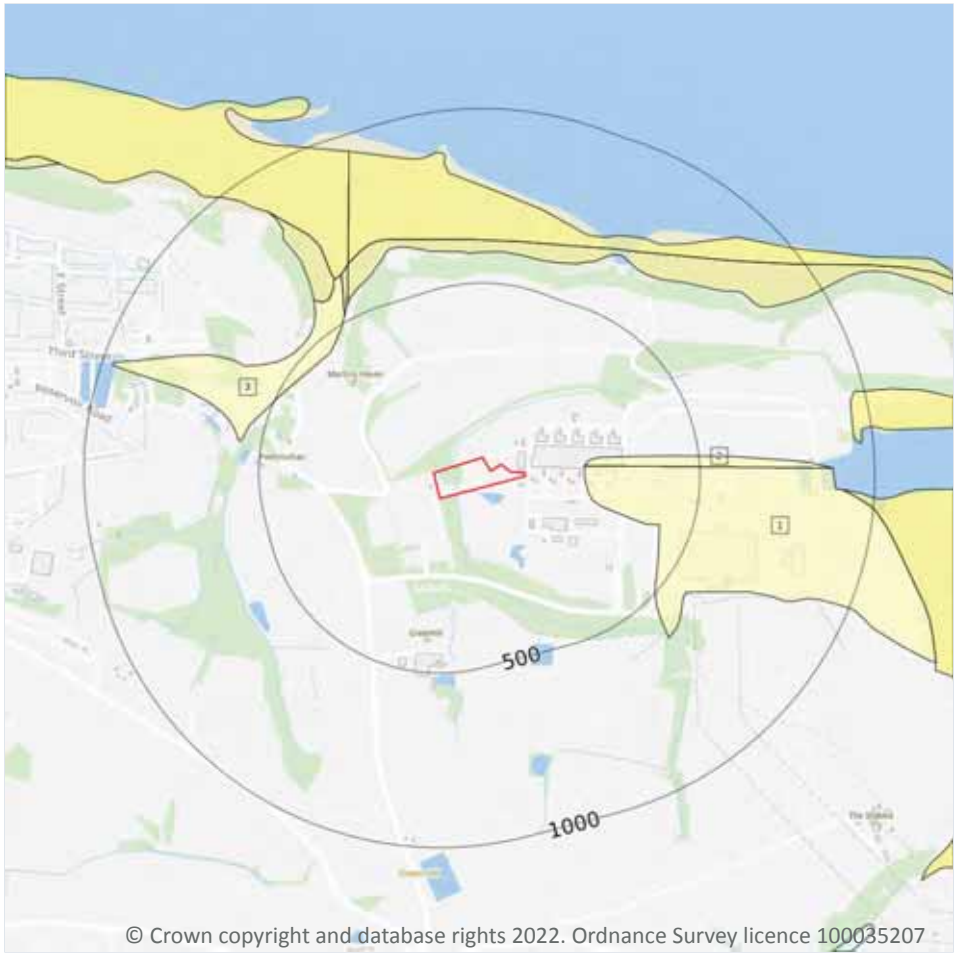
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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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 **3**

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 71**

ID	Location	LEX Code	Description	Rock description
1	170m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	173m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	454m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

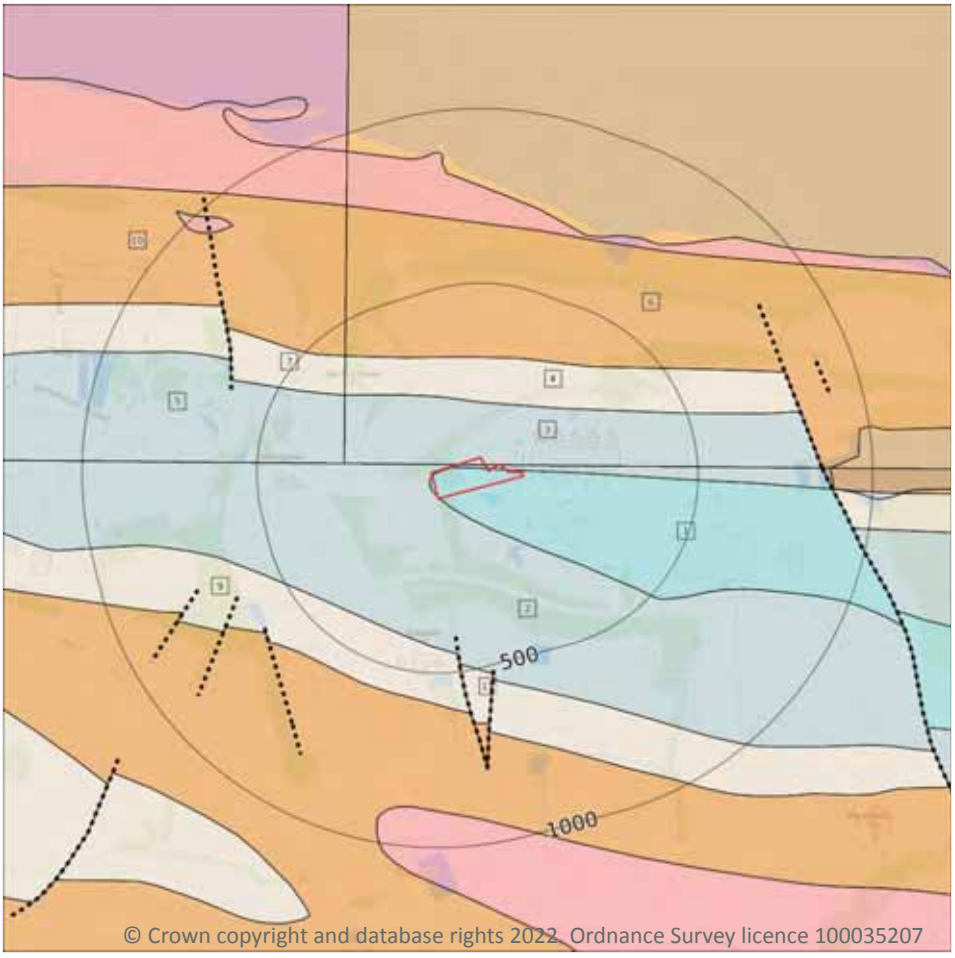
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	10

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 73**

ID	Location	LEX Code	Description	Rock age
1	On site	BGUO-LMST	BLACK ROCK SUBGROUP AND GULLY OOLITE FORMATION (UNDIFFERENTIATED) - LIMESTONE	TOURNAISIAN
2	On site	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN

ID	Location	LEX Code	Description	Rock age
3	**On site**	**AVO-LSMD**	**AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED**	**TOURNAISIAN**
4	158m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
5	252m W	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
6	287m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
7	334m NW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
9	399m SW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
10	416m NW	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
11	478m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN

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**	**Low**
On site	**Fracture**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **1**

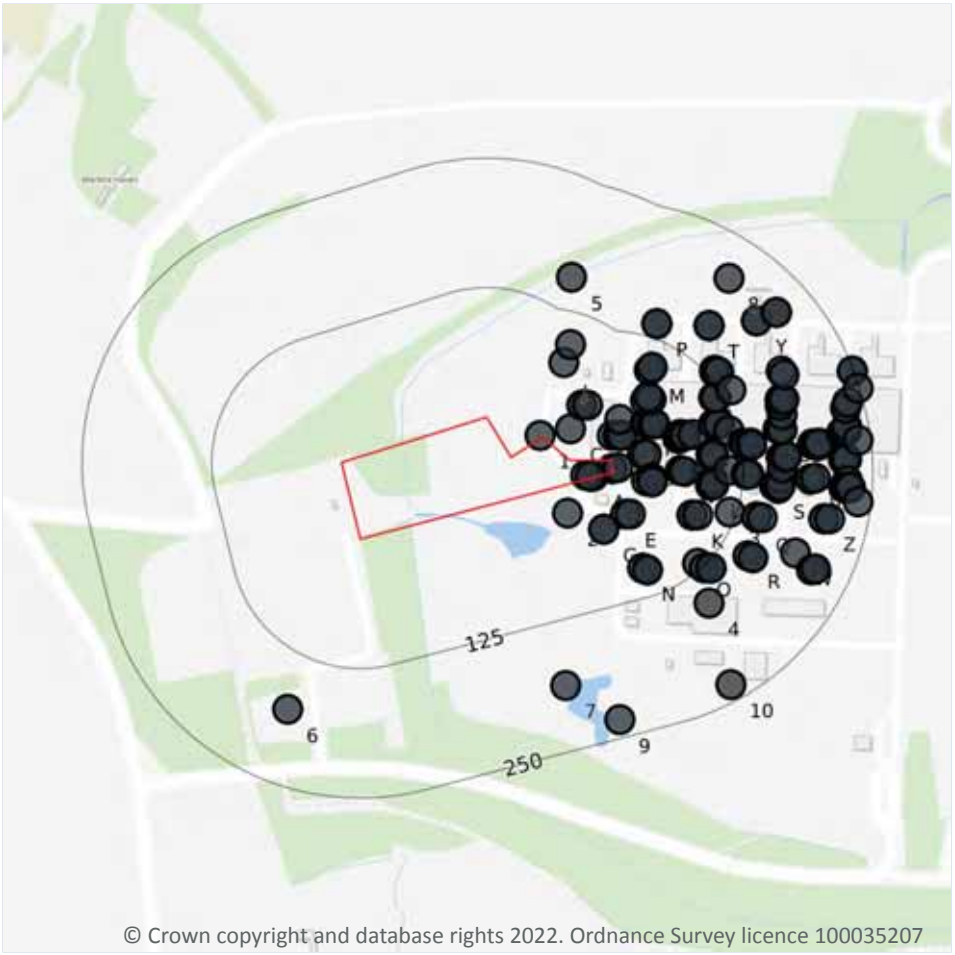
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 73**

ID	Location	Category	Description
8	399m S	FAULT	Fault, observed, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



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Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	168

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

Features are displayed on the Boreholes map on **page 76**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	**On site**	**192795 202615**	**Pembroke CCGT Power Station: Ground Investigation RS8A**	**-**	**Y**	**N/A**
A	**On site**	**192792 202615**	**Pembroke CCGT Power Station: Ground Investigation RS8**	**-**	**Y**	**N/A**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	**On site**	**192813 202622**	**Pembroke CCGT Power Station: Ground Investigation B2**	**-**	**Y**	**N/A**
A	**On site**	**192813 202622**	**Pembroke CCGT Power Station: Ground Investigation TPRB2**	**-**	**Y**	**N/A**
A	**On site**	**192787 202616**	**Pembroke CCGT Power Station: Ground Investigation S8**	**-**	**Y**	**N/A**
A	**On site**	**192792 202615**	**Pembroke CCGT Power Station: Ground Investigation TPRS8**	**-**	**Y**	**N/A**
1	3m NW	192743 202654	Pembroke CCGT Power Station: Ground Investigation TP1	-	Y	N/A
A	5m E	192818 202623	Pembroke CCGT Power Station: Ground Investigation RB2	-	Y	N/A
B	24m N	192813 202654	Pembroke CCGT Power Station: Ground Investigation B1	-	Y	N/A
C	24m NE	192773 202661	PEMBROKE POWER STATION 201	-	Y	N/A
B	25m N	192818 202654	Pembroke CCGT Power Station: Ground Investigation RB1	-	Y	N/A
B	26m NE	192822 202654	Pembroke CCGT Power Station: Ground Investigation TPRB1	-	Y	N/A
B	26m NE	192822 202654	Pembroke CCGT Power Station: Ground Investigation TPRB1A	-	Y	N/A
2	27m S	192770 202579	PEMBROKE POWER STATION 202	-	Y	N/A
D	32m E	192842 202637	Pembroke CCGT Power Station: Ground Investigation TPRB6	-	Y	N/A
D	33m E	192846 202610	Pembroke CCGT Power Station: Ground Investigation TPRB7	-	Y	N/A
D	35m E	192846 202636	Pembroke CCGT Power Station: Ground Investigation B6	-	Y	N/A
D	37m E	192850 202611	Pembroke CCGT Power Station: Ground Investigation RB7	-	Y	N/A
D	37m E	192851 202613	Pembroke CCGT Power Station: Ground Investigation RB7A	-	Y	N/A
D	38m E	192851 202609	Pembroke CCGT Power Station: Ground Investigation B7	-	Y	N/A
D	38m E	192851 202609	Pembroke CCGT Power Station: Ground Investigation RB7R	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	41m N	192820 202670	MILFORD HAVEN POWER STATION 3	-	Y	N/A
E	42m S	192826 202578	Pembroke CCGT Power Station: Ground Investigation B8	-	Y	N/A
E	44m S	192830 202578	Pembroke CCGT Power Station: Ground Investigation RB8	-	Y	N/A
C	48m NE	192784 202683	Pembroke CCGT Power Station: Ground Investigation RS6	-	Y	N/A
C	48m NE	192784 202683	Pembroke CCGT Power Station: Ground Investigation TPRS6	-	Y	N/A
F	49m NE	192845 202666	Pembroke CCGT Power Station: Ground Investigation B5	-	Y	N/A
G	51m S	192805 202564	Pembroke CCGT Power Station: Ground Investigation TPRB8	-	Y	N/A
G	51m S	192805 202564	Pembroke CCGT Power Station: Ground Investigation TP8	-	Y	N/A
F	51m NE	192847 202666	Pembroke CCGT Power Station: Ground Investigation TPRB5	-	Y	N/A
C	51m NE	192789 202683	Pembroke CCGT Power Station: Ground Investigation S6	-	Y	N/A
F	54m NE	192851 202666	Pembroke CCGT Power Station: Ground Investigation RB5	-	Y	N/A
F	55m NE	192854 202665	Pembroke CCGT Power Station: Ground Investigation RB5A	-	Y	N/A
H	65m E	192879 202620	Pembroke CCGT Power Station: Ground Investigation TPRB10	-	Y	N/A
H	65m E	192879 202620	Pembroke CCGT Power Station: Ground Investigation B10	-	Y	N/A
F	67m NE	192845 202688	Pembroke CCGT Power Station: Ground Investigation TPRB4	-	Y	N/A
H	68m E	192882 202619	Pembroke CCGT Power Station: Ground Investigation RB10	-	Y	N/A
I	68m E	192876 202651	Pembroke CCGT Power Station: Ground Investigation TPRB9	-	Y	N/A
I	70m E	192878 202651	Pembroke CCGT Power Station: Ground Investigation TPRB9A	-	Y	N/A
F	71m NE	192850 202689	Pembroke CCGT Power Station: Ground Investigation B4	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
I	71m E	192878 202655	Pembroke CCGT Power Station: Ground Investigation B9	-	Y	N/A
F	72m NE	192848 202692	Pembroke CCGT Power Station: Ground Investigation RB4	-	Y	N/A
I	73m E	192880 202655	Pembroke CCGT Power Station: Ground Investigation B9A	-	Y	N/A
J	76m N	192766 202725	Pembroke CCGT Power Station: Ground Investigation TP2	-	Y	N/A
I	76m E	192883 202654	Pembroke CCGT Power Station: Ground Investigation RB9	-	Y	N/A
I	84m E	192891 202655	Pembroke CCGT Power Station: Ground Investigation B9B	-	Y	N/A
K	87m SE	192890 202577	Pembroke CCGT Power Station: Ground Investigation B16	-	Y	N/A
K	87m SE	192890 202577	Pembroke CCGT Power Station: Ground Investigation TPRB16	-	Y	N/A
K	91m SE	192895 202577	Pembroke CCGT Power Station: Ground Investigation RB16	-	Y	N/A
J	94m N	192773 202742	PEMBROKE POWER STATION 200	-	Y	N/A
L	95m E	192908 202606	Pembroke CCGT Power Station: Ground Investigation B15	-	Y	N/A
L	95m E	192908 202606	Pembroke CCGT Power Station: Ground Investigation TPRB15	-	Y	N/A
M	95m NE	192849 202717	Pembroke CCGT Power Station: Ground Investigation TPRB3	-	Y	N/A
L	96m E	192908 202636	Pembroke CCGT Power Station: Ground Investigation RB14	-	Y	N/A
L	96m E	192909 202634	Pembroke CCGT Power Station: Ground Investigation TPRB14	-	Y	N/A
L	96m E	192910 202611	Pembroke CCGT Power Station: Ground Investigation RB15	-	Y	N/A
N	97m S	192842 202526	Pembroke CCGT Power Station: Ground Investigation W1	-	Y	N/A
L	98m E	192911 202607	Pembroke CCGT Power Station: Ground Investigation RB15A	-	Y	N/A
L	98m E	192911 202635	Pembroke CCGT Power Station: Ground Investigation B14	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
M	98m NE	192851 202720	Pembroke CCGT Power Station: Ground Investigation RB3	-	Y	N/A
M	98m NE	192851 202720	Pembroke CCGT Power Station: Ground Investigation B3	-	Y	N/A
N	100m S	192847 202524	Pembroke CCGT Power Station: Ground Investigation RW1	-	Y	N/A
N	100m S	192847 202524	Pembroke CCGT Power Station: Ground Investigation TPRW1	-	Y	N/A
I	106m E	192911 202665	Pembroke CCGT Power Station: Ground Investigation TPRB13	-	Y	N/A
I	106m E	192911 202665	Pembroke CCGT Power Station: Ground Investigation RB13	-	Y	N/A
I	110m E	192914 202668	Pembroke CCGT Power Station: Ground Investigation B13	-	Y	N/A
I	110m E	192915 202665	Pembroke CCGT Power Station: Ground Investigation RB13A	-	Y	N/A
L	111m E	192925 202620	PEMBROKE POWER STATION 204	-	Y	N/A
I	117m NE	192911 202691	Pembroke CCGT Power Station: Ground Investigation TPRB12	-	Y	N/A
I	117m NE	192911 202691	Pembroke CCGT Power Station: Ground Investigation B12	-	Y	N/A
I	118m E	192925 202659	PEMBROKE POWER STATION 205	-	Y	N/A
3	118m E	192926 202580	PEMBROKE POWER STATION 203	-	Y	N/A
I	119m NE	192913 202691	Pembroke CCGT Power Station: Ground Investigation RB12	-	Y	N/A
O	119m SE	192895 202531	Pembroke CCGT Power Station: Ground Investigation W2	-	Y	N/A
O	128m SE	192902 202526	Pembroke CCGT Power Station: Ground Investigation W2A	-	Y	N/A
L	128m E	192942 202617	Pembroke CCGT Power Station: Ground Investigation B18	-	Y	N/A
L	128m E	192942 202617	Pembroke CCGT Power Station: Ground Investigation TPRB18	-	Y	N/A
I	128m E	192939 202647	Pembroke CCGT Power Station: Ground Investigation RB17R	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
I	131m E	192942 202646	Pembroke CCGT Power Station: Ground Investigation B17	-	Y	N/A
I	131m E	192942 202646	Pembroke CCGT Power Station: Ground Investigation TPRB17	-	Y	N/A
L	131m E	192945 202617	Pembroke CCGT Power Station: Ground Investigation RB18	-	Y	N/A
I	132m NE	192912 202715	Pembroke CCGT Power Station: Ground Investigation TPRB11	-	Y	N/A
O	132m SE	192908 202526	Pembroke CCGT Power Station: Ground Investigation RW2A	-	Y	N/A
O	132m SE	192908 202526	Pembroke CCGT Power Station: Ground Investigation TPRW2	-	Y	N/A
I	133m NE	192912 202717	Pembroke CCGT Power Station: Ground Investigation B11	-	Y	N/A
I	134m NE	192915 202715	Pembroke CCGT Power Station: Ground Investigation RB11	-	Y	N/A
I	134m NE	192927 202698	PEMBROKE POWER STATION 206	-	Y	N/A
I	135m E	192946 202647	Pembroke CCGT Power Station: Ground Investigation RB17	-	Y	N/A
I	136m E	192947 202645	Pembroke CCGT Power Station: Ground Investigation RB17A	-	Y	N/A
P	139m N	192856 202762	Pembroke CCGT Power Station: Ground Investigation RS1	-	Y	N/A
P	139m N	192856 202762	Pembroke CCGT Power Station: Ground Investigation TPRS1	-	Y	N/A
Q	144m E	192952 202576	Pembroke CCGT Power Station: Ground Investigation B24	-	Y	N/A
Q	144m E	192952 202576	Pembroke CCGT Power Station: Ground Investigation TPRB24	-	Y	N/A
Q	149m E	192957 202575	Pembroke CCGT Power Station: Ground Investigation RB24	-	Y	N/A
R	153m SE	192944 202538	Pembroke CCGT Power Station: Ground Investigation S9	-	Y	N/A
S	156m E	192969 202606	Pembroke CCGT Power Station: Ground Investigation TPRB23	-	Y	N/A
S	156m E	192970 202607	Pembroke CCGT Power Station: Ground Investigation B23	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	157m SE	192906 202492	PEMBROKE POWER STATION 285	-	Y	N/A
5	157m N	192774 202807	PEMBROKE POWER STATION 265	-	Y	N/A
R	157m SE	192948 202536	Pembroke CCGT Power Station: Ground Investigation RS9	-	Y	N/A
R	157m SE	192948 202536	Pembroke CCGT Power Station: Ground Investigation TPRS9	-	Y	N/A
S	160m E	192973 202603	Pembroke CCGT Power Station: Ground Investigation RB23A	-	Y	N/A
T	161m NE	192906 202760	Pembroke CCGT Power Station: Ground Investigation RS2	-	Y	N/A
T	161m NE	192906 202760	Pembroke CCGT Power Station: Ground Investigation TPRS2	-	Y	N/A
S	161m E	192975 202613	Pembroke CCGT Power Station: Ground Investigation SZ3	-	Y	N/A
S	161m E	192975 202606	Pembroke CCGT Power Station: Ground Investigation RB23	-	Y	N/A
S	163m E	192976 202633	Pembroke CCGT Power Station: Ground Investigation B22	-	Y	N/A
S	163m E	192976 202633	Pembroke CCGT Power Station: Ground Investigation TPRB22	-	Y	N/A
S	163m E	192977 202623	Pembroke CCGT Power Station: Ground Investigation SZ2	-	Y	N/A
U	165m E	192973 202661	Pembroke CCGT Power Station: Ground Investigation B21	-	Y	N/A
U	165m E	192973 202661	Pembroke CCGT Power Station: Ground Investigation TPRB21	-	Y	N/A
S	166m E	192979 202634	Pembroke CCGT Power Station: Ground Investigation RB22	-	Y	N/A
S	168m E	192981 202634	Pembroke CCGT Power Station: Ground Investigation RB22R	-	Y	N/A
U	168m E	192977 202660	Pembroke CCGT Power Station: Ground Investigation RB21A	-	Y	N/A
U	172m E	192977 202674	Pembroke CCGT Power Station: Ground Investigation RB41	-	Y	N/A
U	172m E	192975 202683	Pembroke CCGT Power Station: Ground Investigation RB20A	-	Y	N/A

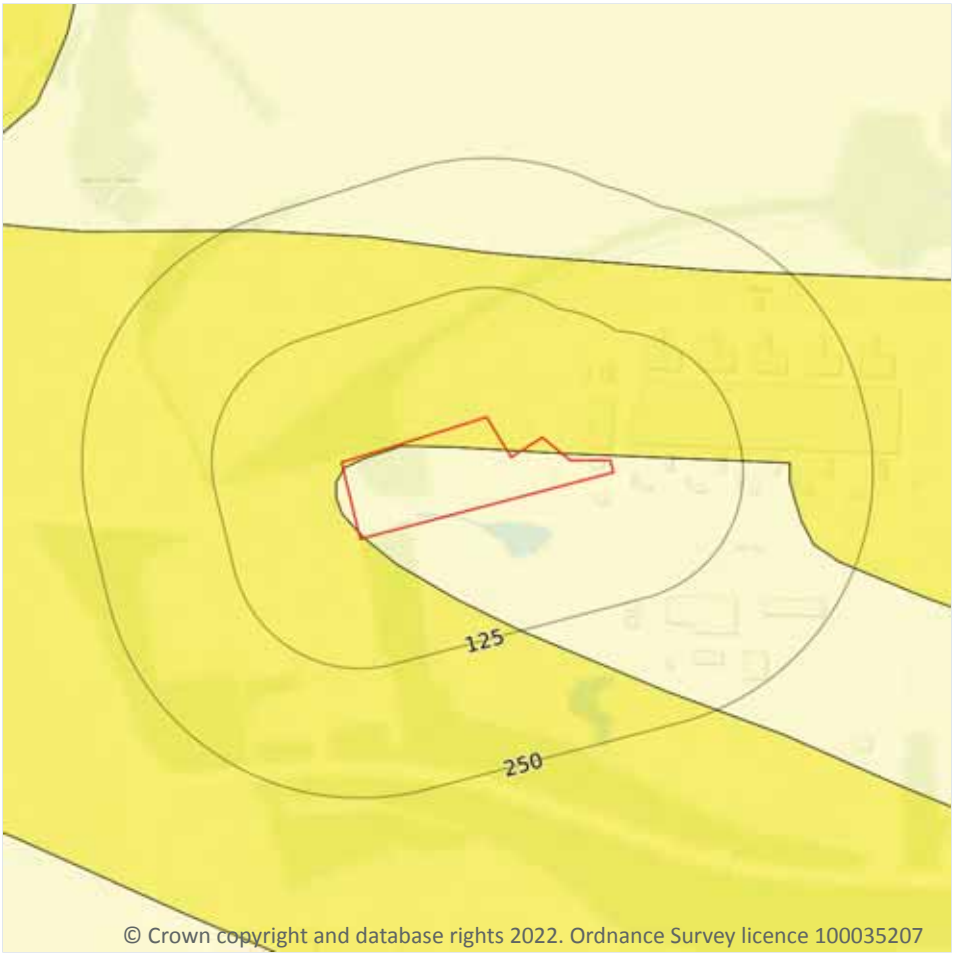
ID	Location	Grid reference	Name	Length	Confidential	Web link
U	174m E	192975 202689	Pembroke CCGT Power Station: Ground Investigation B20	-	Y	N/A
U	174m E	192975 202689	Pembroke CCGT Power Station: Ground Investigation TPRB20	-	Y	N/A
U	177m E	192978 202689	Pembroke CCGT Power Station: Ground Investigation RB20	-	Y	N/A
6	179m SW	192500 202390	ANGLE BAY. 4A	-	Y	N/A
U	186m NE	192976 202716	Pembroke CCGT Power Station: Ground Investigation TPRB19	-	Y	N/A
U	186m NE	192978 202713	Pembroke CCGT Power Station: Ground Investigation RB19	-	Y	N/A
7	187m S	192768 202413	PEMBROKE POWER STATION 266	-	Y	N/A
V	190m E	193004 202612	Pembroke CCGT Power Station: Ground Investigation B26	-	Y	N/A
V	190m E	193004 202612	Pembroke CCGT Power Station: Ground Investigation TPRB26	-	Y	N/A
W	191m SE	192989 202541	Pembroke CCGT Power Station: Ground Investigation TP7	-	Y	N/A
X	194m E	193006 202646	Pembroke CCGT Power Station: Ground Investigation B25	-	Y	N/A
X	194m E	193006 202646	Pembroke CCGT Power Station: Ground Investigation TPRB 25	-	Y	N/A
V	195m E	193009 202613	Pembroke CCGT Power Station: Ground Investigation RB26	-	Y	N/A
Y	195m NE	192952 202765	Pembroke CCGT Power Station: Ground Investigation RS3	-	Y	N/A
Y	195m NE	192952 202765	Pembroke CCGT Power Station: Ground Investigation TPRS3	-	Y	N/A
X	196m E	193008 202646	Pembroke CCGT Power Station: Ground Investigation TPRB25A	-	Y	N/A
X	198m E	193010 202644	Pembroke CCGT Power Station: Ground Investigation RB25A	-	Y	N/A
X	200m E	193012 202647	Pembroke CCGT Power Station: Ground Investigation RB25	-	Y	N/A
Z	208m E	193017 202574	Pembroke CCGT Power Station: Ground Investigation B32	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
Z	208m E	193017 202574	Pembroke CCGT Power Station: Ground Investigation TPRB32	-	Y	N/A
8	210m NE	192925 202806	PEMBROKE POWER STATION 282	-	Y	N/A
Z	213m E	193022 202574	Pembroke CCGT Power Station: Ground Investigation RB32	-	Y	N/A
W	213m SE	193005 202524	Pembroke CCGT Power Station: Ground Investigation W3	-	Y	N/A
Y	215m NE	192971 202773	Pembroke CCGT Power Station: Ground Investigation TPRS4	-	Y	N/A
Y	215m NE	192971 202773	Pembroke CCGT Power Station: Ground Investigation RS4	-	Y	N/A
W	216m SE	193009 202525	Pembroke CCGT Power Station: Ground Investigation RW3	-	Y	N/A
W	216m SE	193009 202525	Pembroke CCGT Power Station: Ground Investigation TPRW3	-	Y	N/A
X	222m E	193036 202630	Pembroke CCGT Power Station: Ground Investigation B30	-	Y	N/A
X	222m E	193036 202630	Pembroke CCGT Power Station: Ground Investigation TPRB30	-	Y	N/A
X	222m E	193036 202604	Pembroke CCGT Power Station: Ground Investigation B31	-	Y	N/A
X	222m E	193036 202604	Pembroke CCGT Power Station: Ground Investigation TPRB31	-	Y	N/A
X	223m E	193034 202657	Pembroke CCGT Power Station: Ground Investigation B29	-	Y	N/A
X	223m E	193034 202657	Pembroke CCGT Power Station: Ground Investigation TPRB29	-	Y	N/A
X	224m E	193038 202604	Pembroke CCGT Power Station: Ground Investigation TPRB31A	-	Y	N/A
X	225m E	193039 202631	Pembroke CCGT Power Station: Ground Investigation RB30	-	Y	N/A
X	225m E	193036 202658	Pembroke CCGT Power Station: Ground Investigation RB29	-	Y	N/A
X	226m E	193039 202603	Pembroke CCGT Power Station: Ground Investigation RB31A	-	Y	N/A
X	226m E	193040 202610	Pembroke CCGT Power Station: Ground Investigation RB31	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
X	226m E	193040 202604	Pembroke CCGT Power Station: Ground Investigation TPRB31B	-	Y	N/A
X	228m E	193042 202604	Pembroke CCGT Power Station: Ground Investigation TPRB31C	-	Y	N/A
X	229m E	193039 202659	Pembroke CCGT Power Station: Ground Investigation RB29X	-	Y	N/A
X	229m E	193039 202663	Pembroke CCGT Power Station: Ground Investigation RB29A	-	Y	N/A
9	232m S	192820 202380	MILFORD HAVEN POWER STATION 1	-	Y	N/A
X	233m E	193038 202681	Pembroke CCGT Power Station: Ground Investigation B28	-	Y	N/A
X	233m E	193038 202681	Pembroke CCGT Power Station: Ground Investigation TPRB28	-	Y	N/A
10	234m SE	192927 202414	PEMBROKE POWER STATION 283	-	Y	N/A
X	236m E	193040 202686	Pembroke CCGT Power Station: Ground Investigation RB28	-	Y	N/A
X	238m E	193050 202590	MILFORD HAVEN POWER STATION 45	-	Y	N/A
X	238m E	193050 202650	MILFORD HAVEN POWER STATION 46	-	Y	N/A
X	248m E	193044 202716	Pembroke CCGT Power Station: Ground Investigation RB27	-	Y	N/A
X	248m E	193044 202716	Pembroke CCGT Power Station: Ground Investigation TPRB27	-	Y	N/A
X	249m E	193050 202700	MILFORD HAVEN POWER STATION 43	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

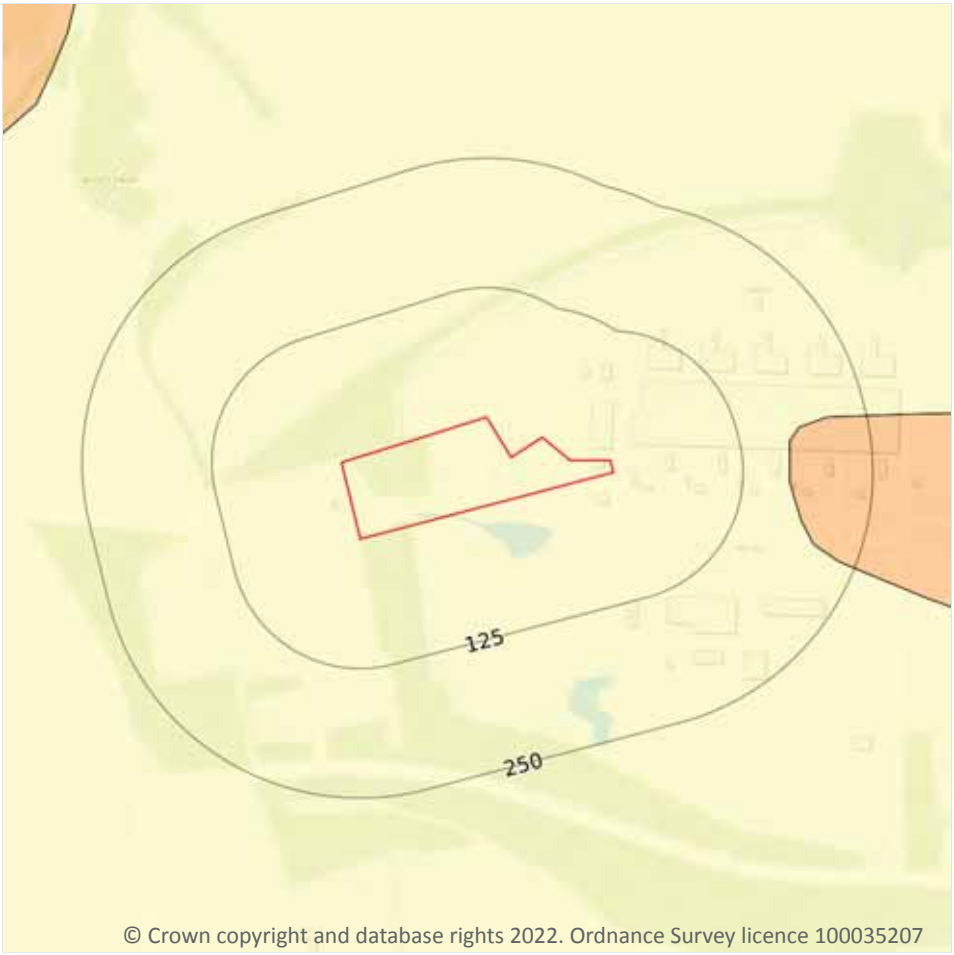
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 86**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

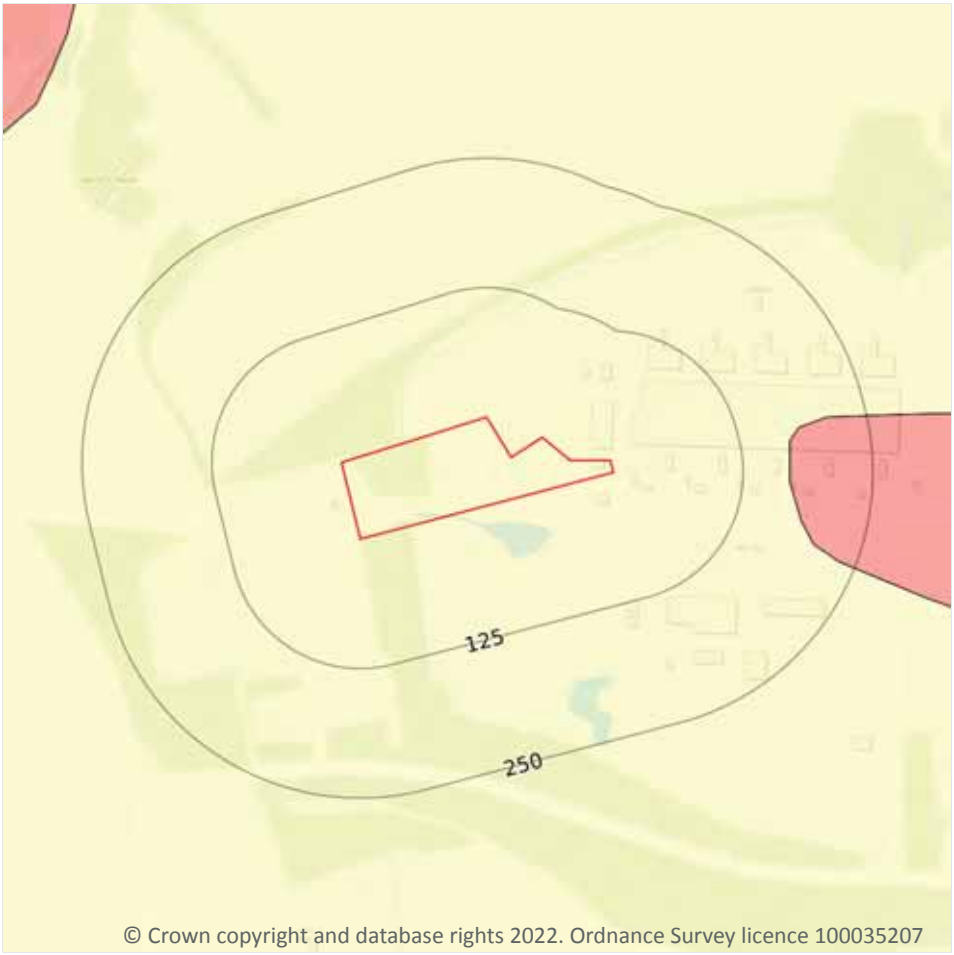
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 87**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	**1**

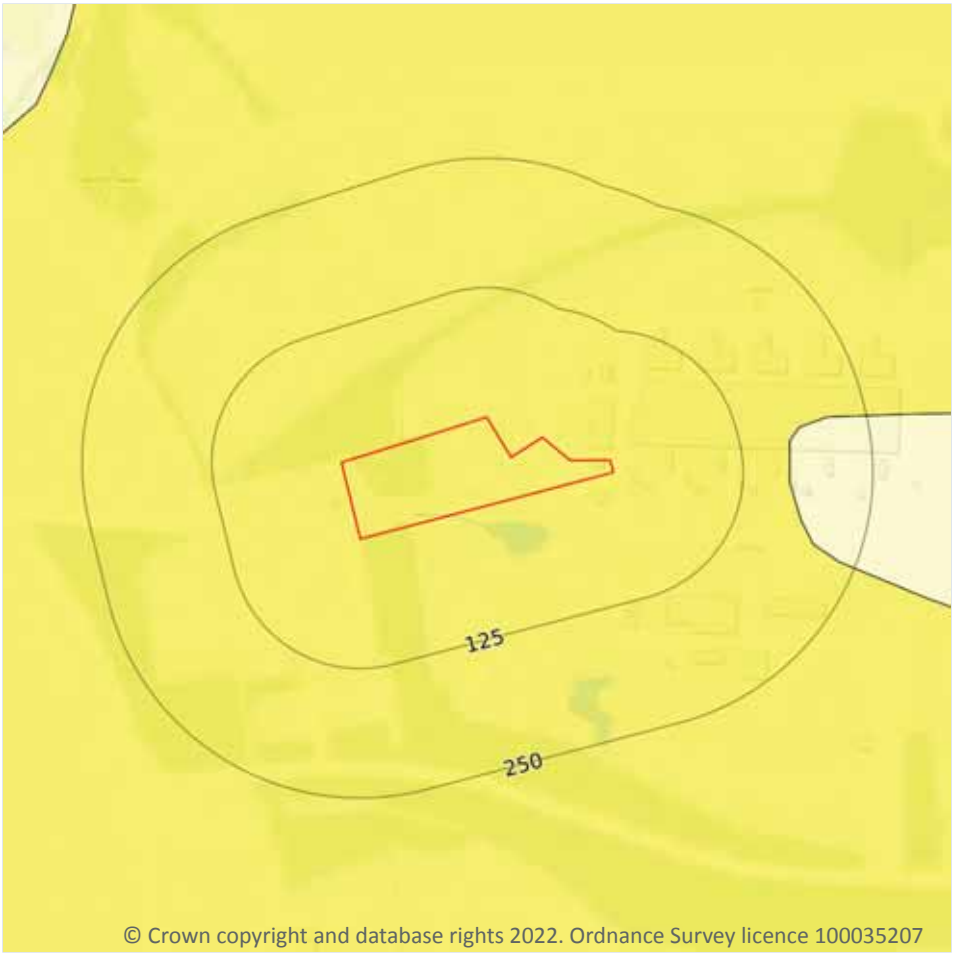
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	**1**

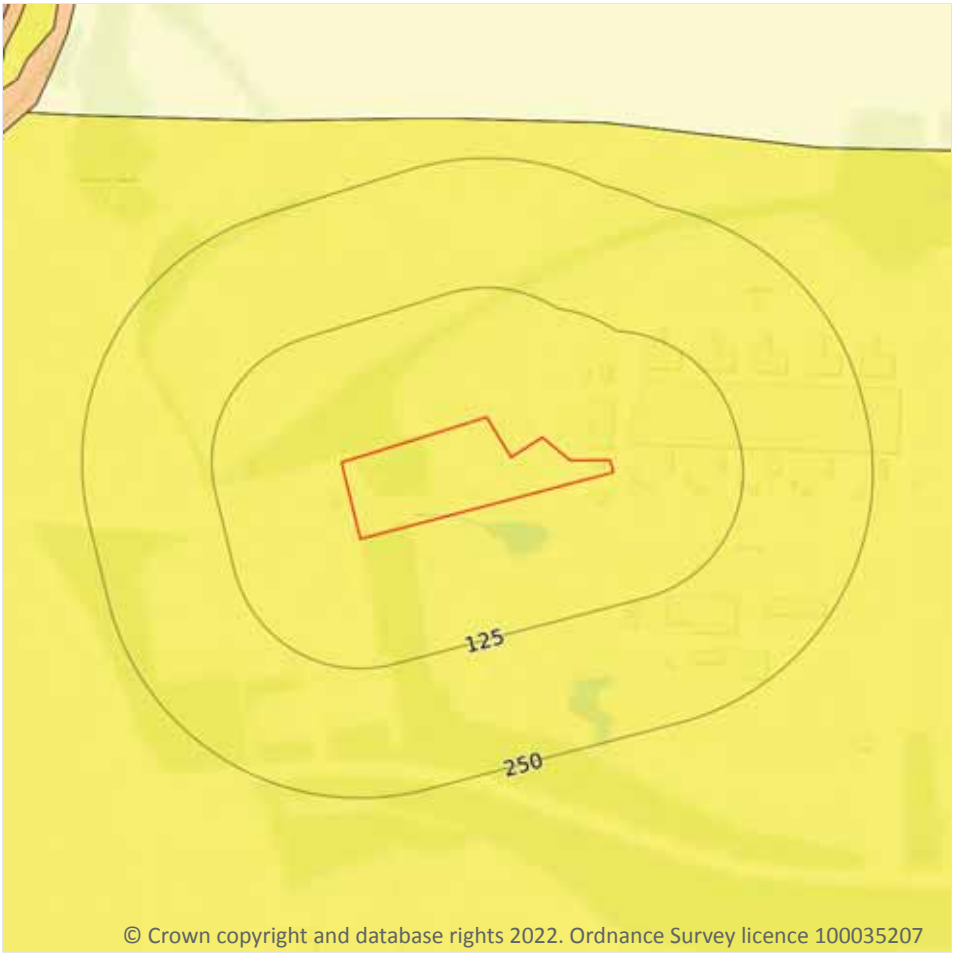
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

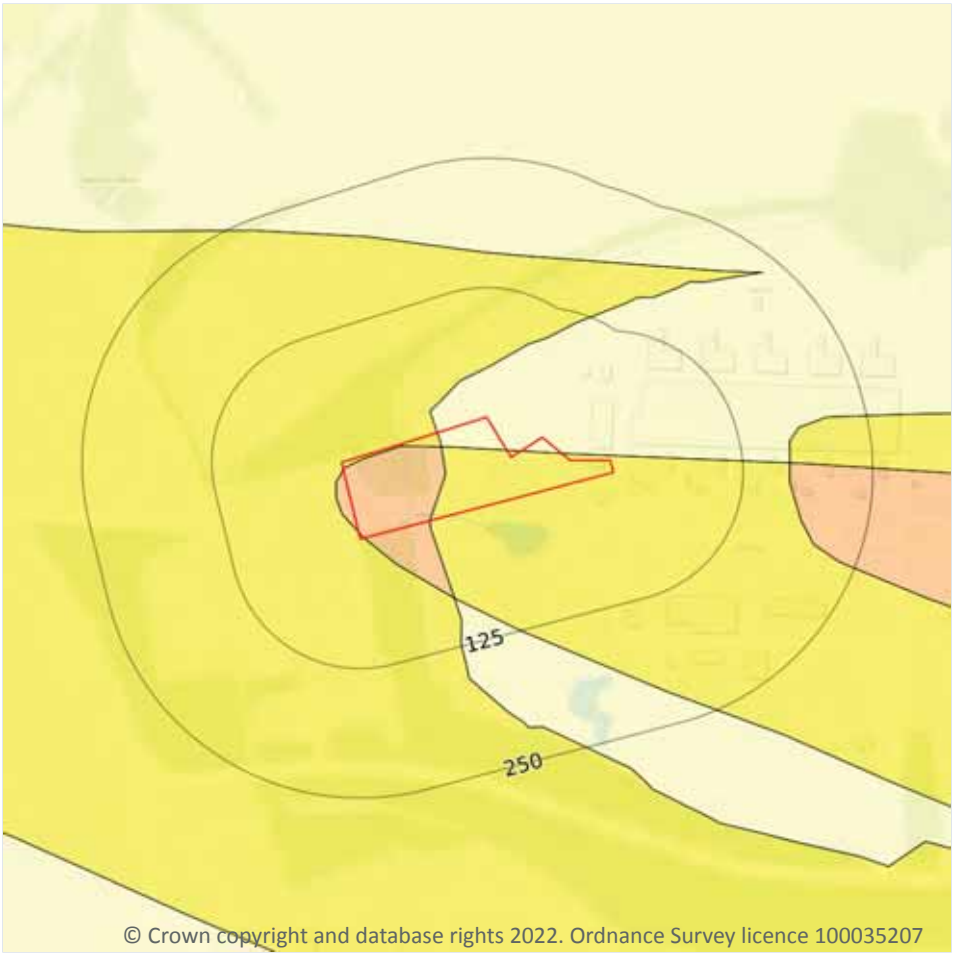
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 90**

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



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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	**3**

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.

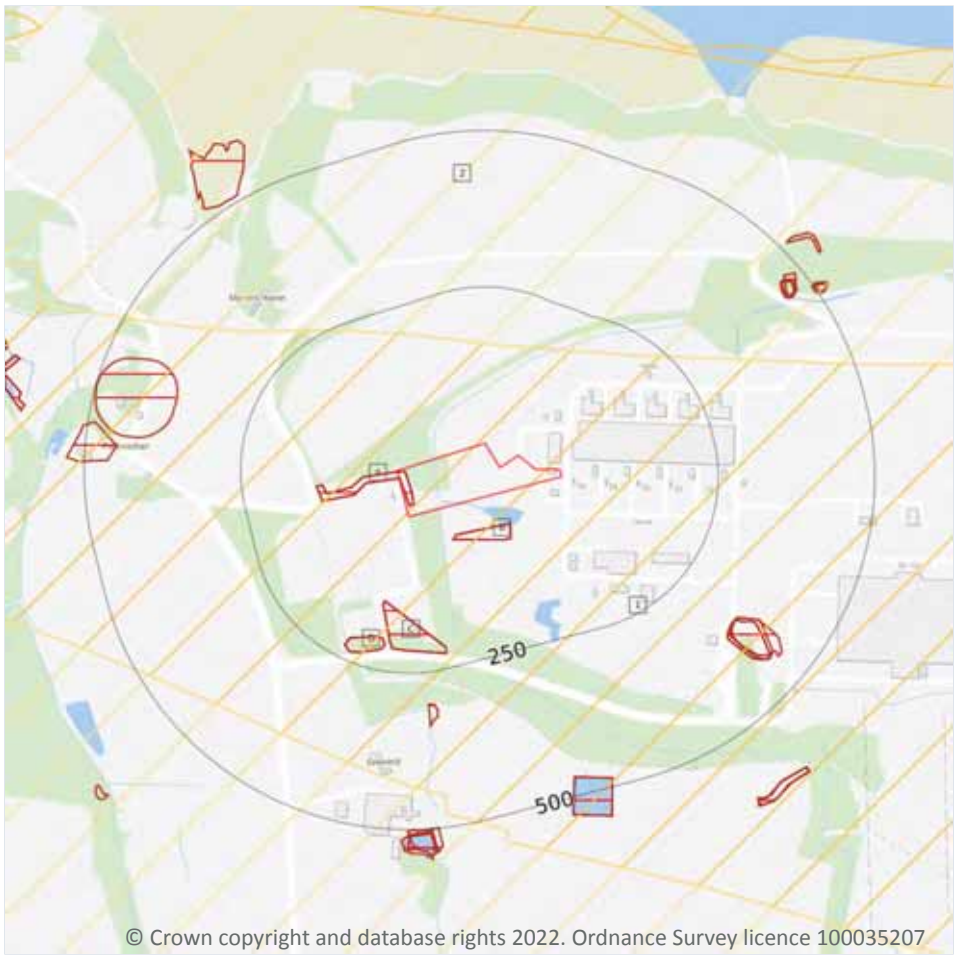
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 91**

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

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.**
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**

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	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	8

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 93**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Ground Workings**	**1994**	**1:10000**
A	**On site**	**Unspecified Ground Workings**	**1975**	**1:10000**
B	47m S	Unspecified Pit	1994	1:10000
B	47m S	Unspecified Pit	1975	1:10000
C	140m S	Unspecified Pit	1994	1:10000
C	140m S	Unspecified Pit	1975	1:10000
D	197m S	Unspecified Ground Workings	1994	1:10000
D	197m S	Unspecified Ground Workings	1975	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	6

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 93**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
2	158m N	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
5	399m SW	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
10	667m N	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	886m S	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
12	908m NW	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

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.

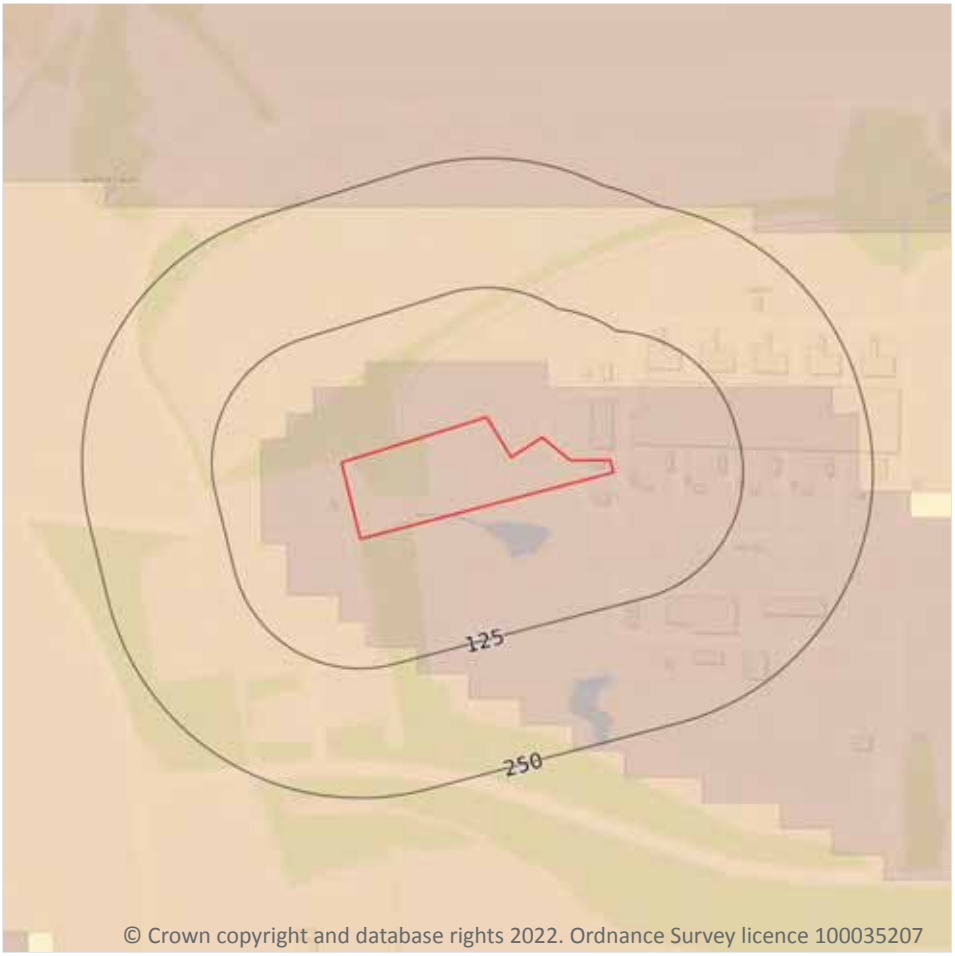
18.13 Clay mining

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	1

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

Features are displayed on the Radon map on **page 98**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	4

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 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**	**50 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**
32m S	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.

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.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

192526 , 202515,

Order Details

Date: 04/07/2022

Your ref: JFR2786_Electrolyser_Area_PO22-828

Our Ref: GS-8873300

Site Details

Location: 192532 202465

Area: 3.83 ha

Authority: Sir Benfro - Pembrokeshire County Council



Summary of findings p. 2

OS MasterMap site plan p.13

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
14	1.1	Historical industrial land uses	6	1	4	8	-
15	1.2	Historical tanks	1	2	2	0	-
16	1.3	Historical energy features	2	0	0	3	-
16	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	6	1	5	9	-
19	2.2	Historical tanks	1	4	3	0	-
20	2.3	Historical energy features	2	0	0	5	-
20	2.4	Historical petrol stations	0	0	0	0	-
21	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	2	-
23	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
24	3.7	Waste exemptions	0	0	2	4	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
25	4.1	Recent industrial land uses	0	2	1	-	-
26	4.2	Current or recent petrol stations	0	0	0	0	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-

26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
27	4.7	Regulated explosive sites	0	0	0	0	-
27	4.8	Hazardous substance storage/usage	0	0	0	0	-
27	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
27	**4.10**	**Licensed industrial activities (Part A(1))**	0	0	5	0	-
28	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
28	4.12	Radioactive Substance Authorisations	0	0	0	0	-
28	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
29	**4.14**	**Pollutant release to surface waters (Red List)**	0	0	0	1	-
29	4.15	Pollutant release to public sewer	0	0	0	0	-
29	**4.16**	**List 1 Dangerous Substances**	0	0	0	1	-
29	**4.17**	**List 2 Dangerous Substances**	0	0	0	1	-
30	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
30	4.19	Pollution inventory substances	0	0	0	0	-
30	4.20	Pollution inventory waste transfers	0	0	0	0	-
30	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
31	**5.1**	**Superficial aquifer**	Identified (within 500m)				
33	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
35	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
36	**5.4**	**Groundwater vulnerability- soluble rock risk**	Identified (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	5.6	Groundwater abstractions	0	0	0	0	0
38	**5.7**	**Surface water abstractions**	0	0	0	4	14
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
43	**6.1**	**Water Network (OS MasterMap)**	0	2	12	-	-

45	6.2	Surface water features	0	2	8	-	-
45	6.3	WFD Surface water body catchments	1	-	-	-	-
45	6.4	WFD Surface water bodies	0	0	0	-	-
46	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
47	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49	7.6	Flood Zone 2	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
50	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)

Page	Section	Groundwater flooding	
52	9.1	Groundwater flooding	Moderate-High (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	2	5
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	2	1
55	10.4	Special Protection Areas (SPA)	0	0	0	0	0
55	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
56	10.7	Designated Ancient Woodland	0	0	0	0	7
56	10.8	Biosphere Reserves	0	0	0	0	0
56	10.9	Forest Parks	0	0	0	0	0
57	10.10	Marine Conservation Zones	0	0	0	0	0
57	10.11	Green Belt	0	0	0	0	0
57	10.12	Proposed Ramsar sites	0	0	0	0	0

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

68	14.4	Landslip (10k)	0	0	0	0	-
69	14.5	Bedrock geology (10k)	0	0	0	0	-
69	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
70	**15.1**	**50k Availability**	Identified (within 500m)				
72	15.2	Artificial and made ground (50k)	0	0	0	0	-
72	15.3	Artificial ground permeability (50k)	0	0	-	-	-
73	**15.4**	**Superficial geology (50k)**	0	0	0	4	-
74	15.5	Superficial permeability (50k)	None (within 50m)				
74	15.6	Landslip (50k)	0	0	0	0	-
74	15.7	Landslip permeability (50k)	None (within 50m)				
75	**15.8**	**Bedrock geology (50k)**	2	1	3	7	-
76	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
77	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	1	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
78	**16.1**	**BGS Boreholes**	1	0	19	-	-
Page	Section	Natural ground subsidence					
80	**17.1**	**Shrink swell clays**	Very low (within 50m)				
81	**17.2**	**Running sands**	Negligible (within 50m)				
82	**17.3**	**Compressible deposits**	Negligible (within 50m)				
83	**17.4**	**Collapsible deposits**	Very low (within 50m)				
84	**17.5**	**Landslides**	Very low (within 50m)				
85	**17.6**	**Ground dissolution of soluble rocks**	Low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
87	18.1	Natural cavities	0	0	0	0	-
88	18.2	BritPits	0	0	0	0	-
88	**18.3**	**Surface ground workings**	6	0	3	-	-
88	18.4	Underground workings	0	0	0	0	0
89	18.5	Historical Mineral Planning Areas	0	0	0	0	-

89	**18.6**	**Non-coal mining**	1	0	2	0	3
90	18.7	Mining cavities	0	0	0	0	0
90	18.8	JPB mining areas	None (within 0m)				
90	18.9	Coal mining	None (within 0m)				
90	18.10	Brine areas	None (within 0m)				
90	18.11	Gypsum areas	None (within 0m)				
91	18.12	Tin mining	None (within 0m)				
91	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
92	**19.1**	**Radon**	Between 10% and 30% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
94	**20.1**	**BGS Estimated Background Soil Chemistry**	5	3	-	-	-
94	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
95	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
96	21.1	Underground railways (London)	0	0	0	-	-
96	21.2	Underground railways (Non-London)	0	0	0	-	-
96	21.3	Railway tunnels	0	0	0	-	-
96	21.4	Historical railway and tunnel features	0	0	0	-	-
96	21.5	Royal Mail tunnels	0	0	0	-	-
97	21.6	Historical railways	0	0	0	-	-
97	21.7	Railways	0	0	0	-	-
97	21.8	Crossrail 1	0	0	0	0	-
97	21.9	Crossrail 2	0	0	0	0	-
97	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 14/05/2020

Site Area: 3.83ha

Recent site history - 2017 aerial photograph



Capture Date: 18/06/2017

Site Area: 3.83ha

Recent site history - 2009 aerial photograph

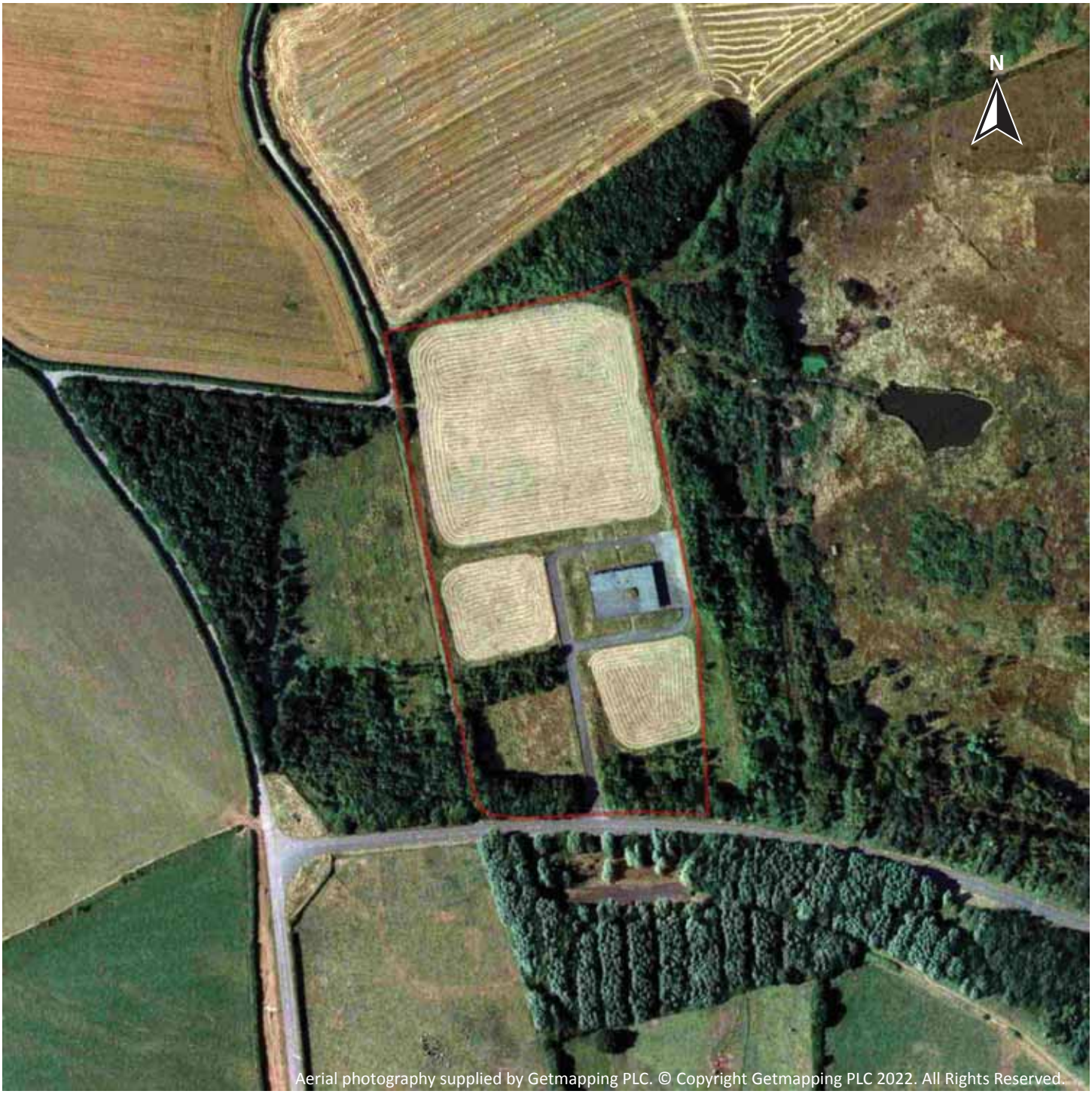


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Capture Date: 11/09/2009

Site Area: 3.83ha

Recent site history - 2003 aerial photograph

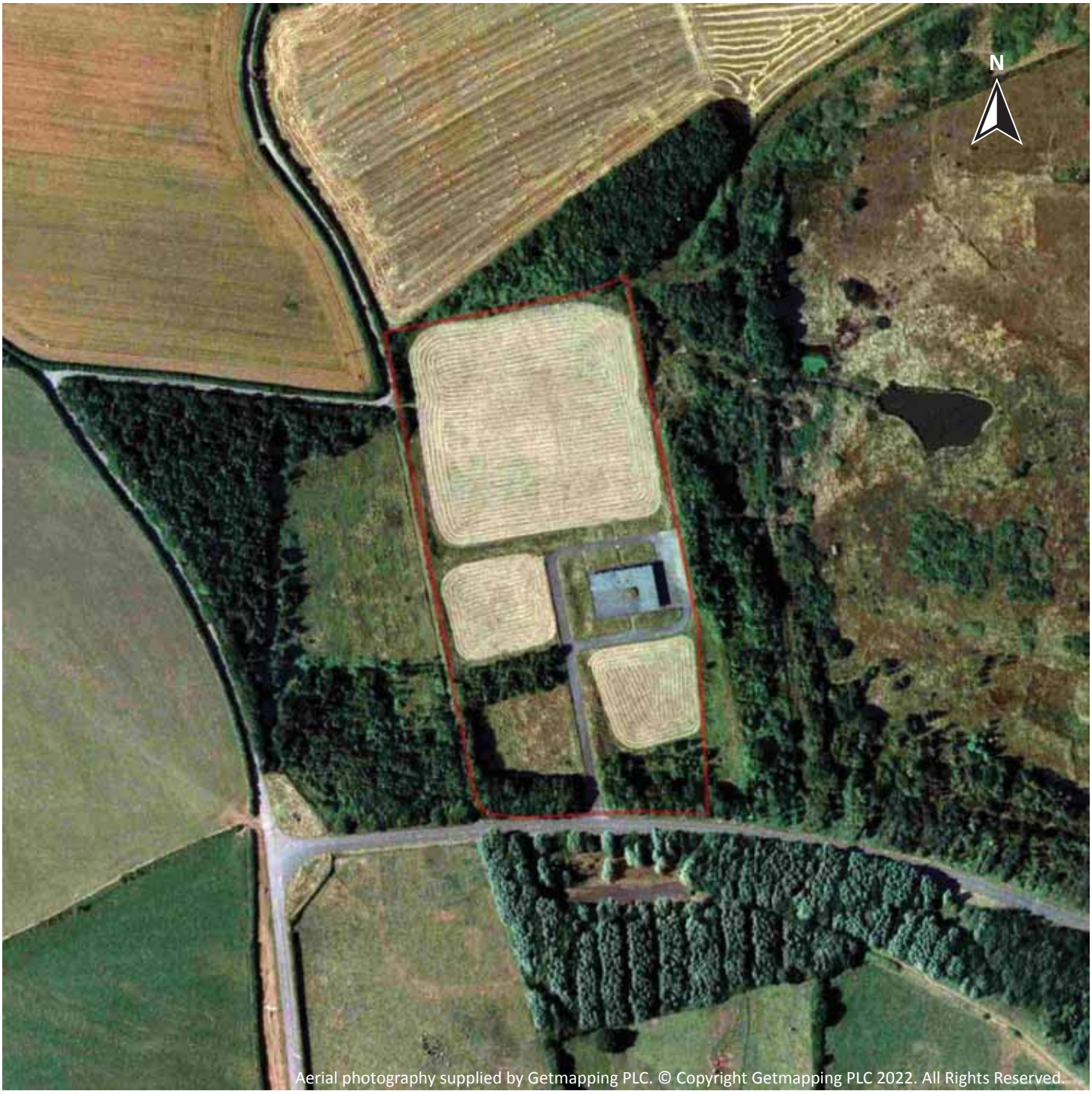


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Capture Date: 14/09/2003

Site Area: 3.83ha

Recent site history - 2000 aerial photograph

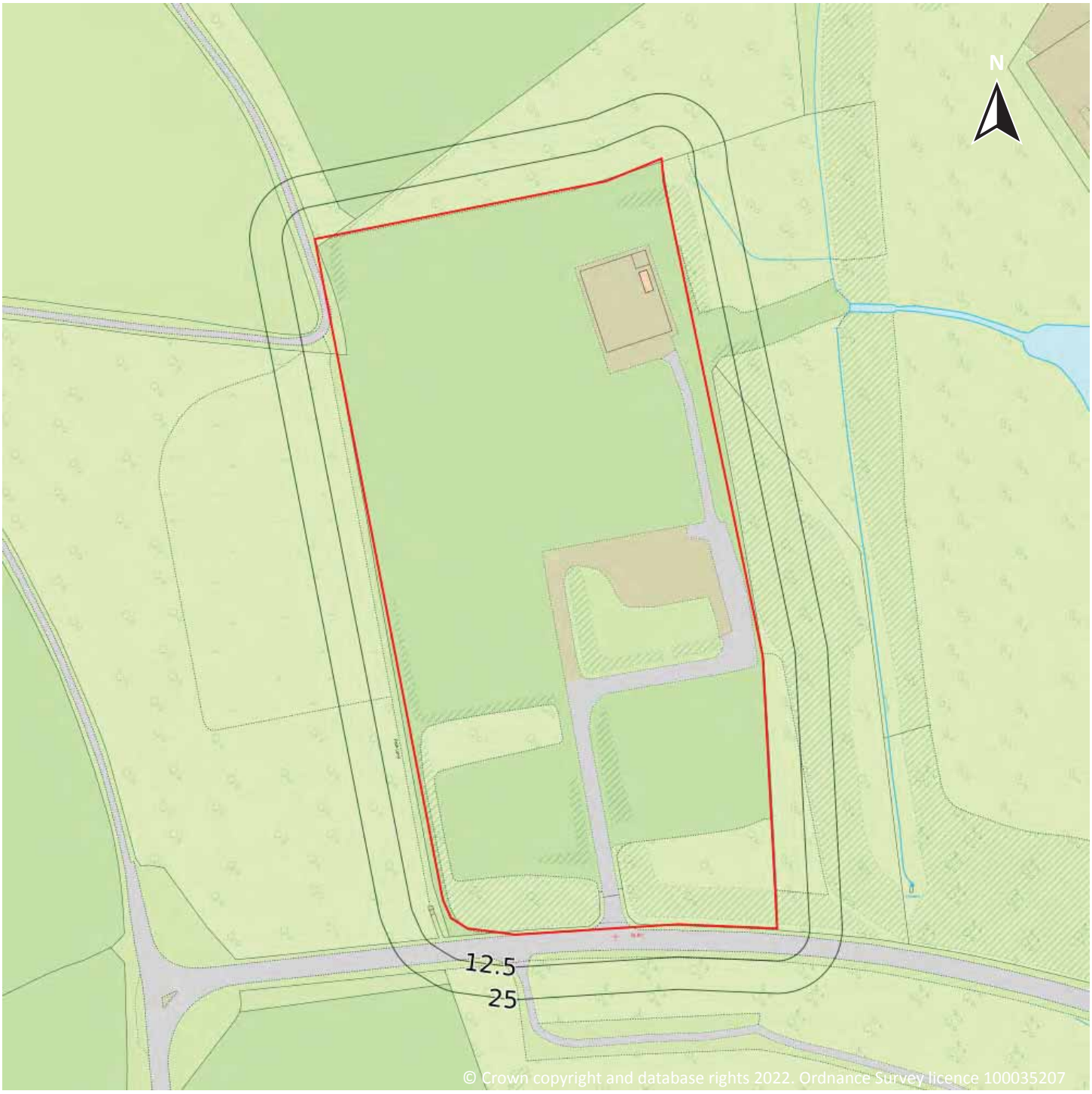


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Capture Date: 21/07/2000

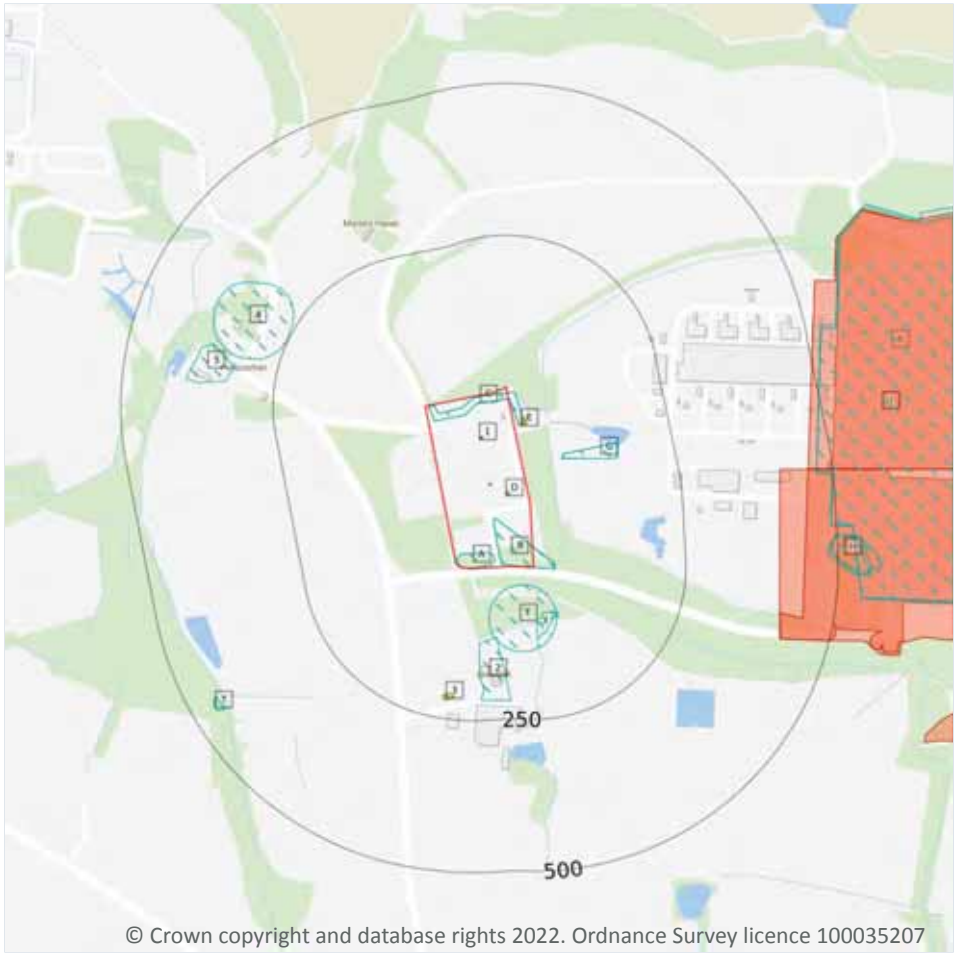
Site Area: 3.83ha

OS MasterMap site plan



Site Area: 3.83ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	19

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 14**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Ground Workings**	**1975**	**14448**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Ground Workings**	**1994**	**14808**
B	**On site**	**Unspecified Pit**	**1975**	**15940**
B	**On site**	**Unspecified Pit**	**1994**	**16487**
C	**On site**	**Unspecified Ground Workings**	**1975**	**15413**
C	**On site**	**Unspecified Ground Workings**	**1994**	**17222**
F	30m S	Unspecified Mill	1963	11723
G	66m E	Unspecified Pit	1994	16723
G	66m E	Unspecified Pit	1975	17474
F	76m S	Corn Mill	1864 - 1906	16546
2	115m S	Corn Mill	1948	12579
4	252m NW	Sand Pit	1864	11832
5	320m W	Grave Yard	1864	13454
7	445m SW	Unspecified Quarry	1864	12211
I	473m E	Power Station	1975	16495
I	473m E	Power Station	1994	16330
H	484m E	Unspecified Pit	1906 - 1948	15212
H	489m E	Unspecified Pit	1963	13812
H	491m E	Unspecified Quarry	1864	12212

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**5**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 14**

ID	Location	Land use	Dates present	Group ID
D	**On site**	**Unspecified Tank**	**1993**	**1808**
E	12m E	Unspecified Tank	1972 - 1993	2574
E	13m E	Unspecified Tank	1972 - 1993	2711
F	84m S	Unspecified Tank	1972 - 1993	2504
3	206m S	Tanks	1972	1992

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**5**

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 14**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Electricity Substation**	**1972**	**431**
D	**On site**	**Electricity Substation**	**1972**	**432**
6	404m E	Power Station	1972	694
H	411m E	Power Station	1990 - 1993	566
8	460m E	Power Station	1988	655

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	0

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

This data is sourced from Ordnance Survey / Groundsure.

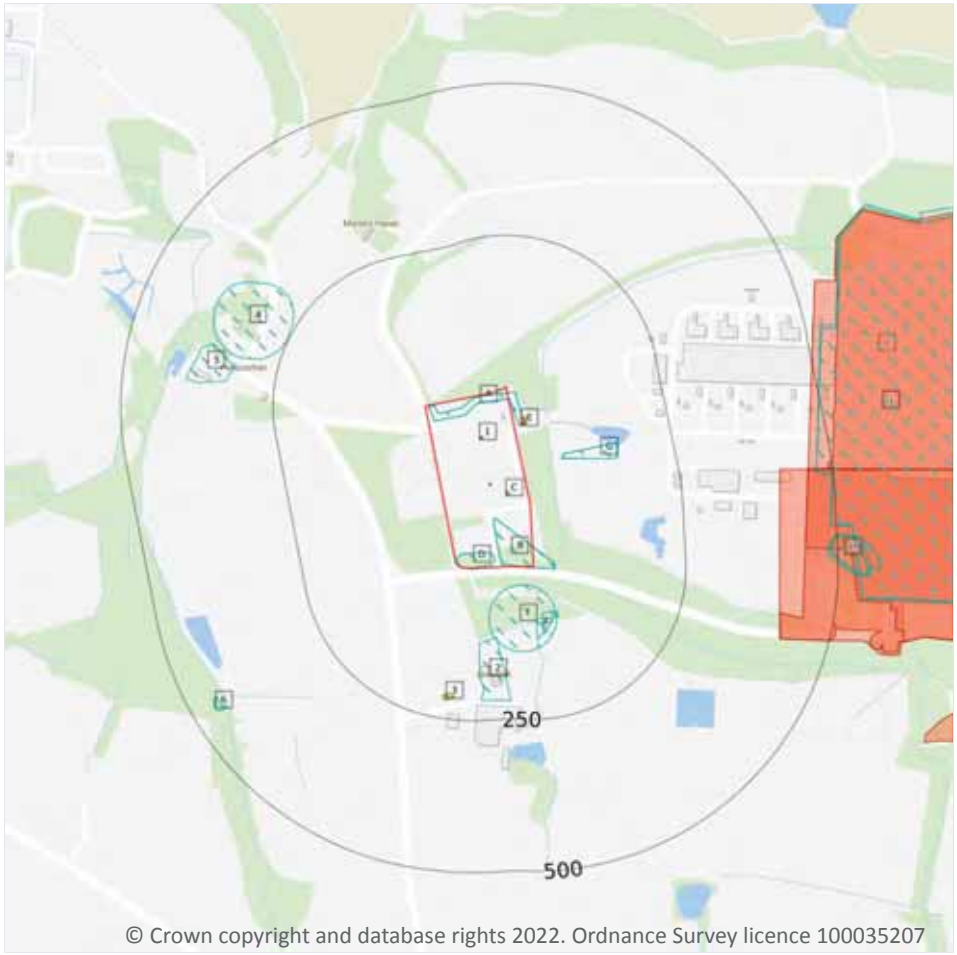
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	21

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**	**Unspecified Ground Workings**	**1994**	**17222**
A	**On site**	**Unspecified Ground Workings**	**1975**	**15413**
B	**On site**	**Unspecified Pit**	**1994**	**16487**

ID	Location	Land Use	Date	Group ID
B	**On site**	**Unspecified Pit**	**1975**	**15940**
D	**On site**	**Unspecified Ground Workings**	**1994**	**14808**
D	**On site**	**Unspecified Ground Workings**	**1975**	**14448**
F	30m S	Unspecified Mill	1963	11723
G	66m E	Unspecified Pit	1994	16723
G	66m E	Unspecified Pit	1975	17474
F	76m S	Corn Mill	1864	16546
F	84m S	Corn Mill	1906	16546
2	115m S	Corn Mill	1948	12579
4	252m NW	Sand Pit	1864	11832
5	320m W	Grave Yard	1864	13454
6	445m SW	Unspecified Quarry	1864	12211
J	473m E	Power Station	1975	16495
J	473m E	Power Station	1994	16330
H	484m E	Unspecified Pit	1948	15212
H	484m E	Unspecified Pit	1906	15212
H	489m E	Unspecified Pit	1963	13812
H	491m E	Unspecified Quarry	1864	12212

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m **8**

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

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

ID	Location	Land Use	Date	Group ID
C	**On site**	**Unspecified Tank**	**1993**	**1808**
E	12m E	Unspecified Tank	1993	2574

ID	Location	Land Use	Date	Group ID
E	12m E	Unspecified Tank	1972	2574
E	13m E	Unspecified Tank	1972	2711
E	13m E	Unspecified Tank	1993	2711
F	84m S	Unspecified Tank	1972	2504
F	85m S	Unspecified Tank	1993	2504
3	206m S	Tanks	1972	1992

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**7**

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
1	**On site**	**Electricity Substation**	**1972**	**431**
C	**On site**	**Electricity Substation**	**1972**	**432**
H	404m E	Power Station	1972	694
H	411m E	Power Station	1990	566
H	448m E	Power Station	1993	566
I	460m E	Power Station	1988	655
I	493m E	Power Station	1972	694

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

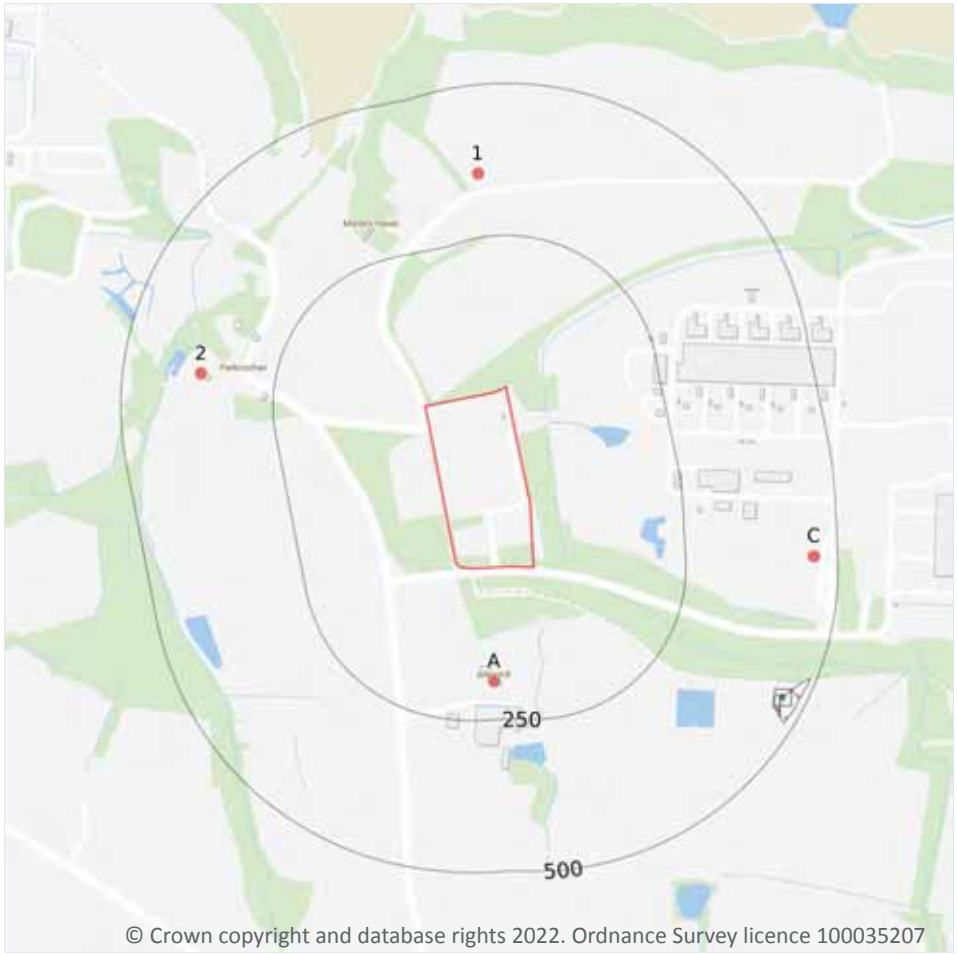
2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

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	2

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

Features are displayed on the Waste and landfill map on **page 22**

ID	Location	Site address	Source	Data type
B	449m SE	Refuse Tip	1971 mapping	Polygon
B	456m SE	Refuse Tip	1971 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	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	6

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

Features are displayed on the Waste and landfill map on **page 22**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	187m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Storing waste exemption	On a farm	Storage of waste in a secure place
A	187m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Using waste exemption	On a farm	Use of waste in construction
1	354m N	DCWW, Lambeeth Farm, Pwllcrochan, Pembroke, Sir Benfro, SA71 5TP	NRW-WME047963	Storing waste exemption	Not on a farm	Storage of sludge
2	373m W	DCWW, FIELD 26, Pembroke, SA715TL	NRW-WME027489	Storing waste exemption	Not on a farm	Storage of sludge
C	460m E	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
C	460m E	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Storing waste exemption	Not on a farm	Storage of waste in a secure place

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Part A(1) industrial activities

Pollutant release to surface waters

List 1 Dangerous Substances

List 2 Dangerous Substances

4.1 Recent industrial land uses

Records within 250m	**3**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Company	Address	Activity	Category
A	16m E	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
A	17m E	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
1	83m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	5

Records of Part A(1) 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 25**

ID	Location	Details	
B	139m E	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION EPR/DP333TA Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3338ZK Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 26/07/2013 Effective Date: 26/07/2013 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
B	139m E	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3333TA Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 10/11/2011 Effective Date: 10/11/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED

ID	Location	Details	
B	139m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: - Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
B	139m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
B	139m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 16/10/2020 Effective Date: 16/10/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

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

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

Records within 500m	0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	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 25**

ID	Location	Address	Details	
C	491m E	RWE GENERATION UK PLC, PEMBROKE POWER STATION SITE DRAIN, PEMBROKE POWER STATION, WEST PENNAR, PEMBROKE, PEMBROKESHIRE, SA71 5SS	Permit Number: HP3820XU Permit Version: 0 Status: Effective Discharge Type: -	Effluent Type: Trade Catchment: PENNAR GUT Approval Date: 2011-06-14T00:00:00.000Z

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.

4.16 List 1 Dangerous Substances

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Name	Status	Receiving Water	Authorised Substances
C	491m E	Pembroke Power Station Site Drainage	Active	Milford Haven, Any	Mercury (other), Cadmium

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 25**

ID	Location	Name	Status	Receiving Water	Authorised Substances
C	491m E	Pembroke Power Station Site Drainage	Active	Milford Haven	Arsenic, Copper, Lead, Nickel, pH, Vanadium, Zinc

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



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Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

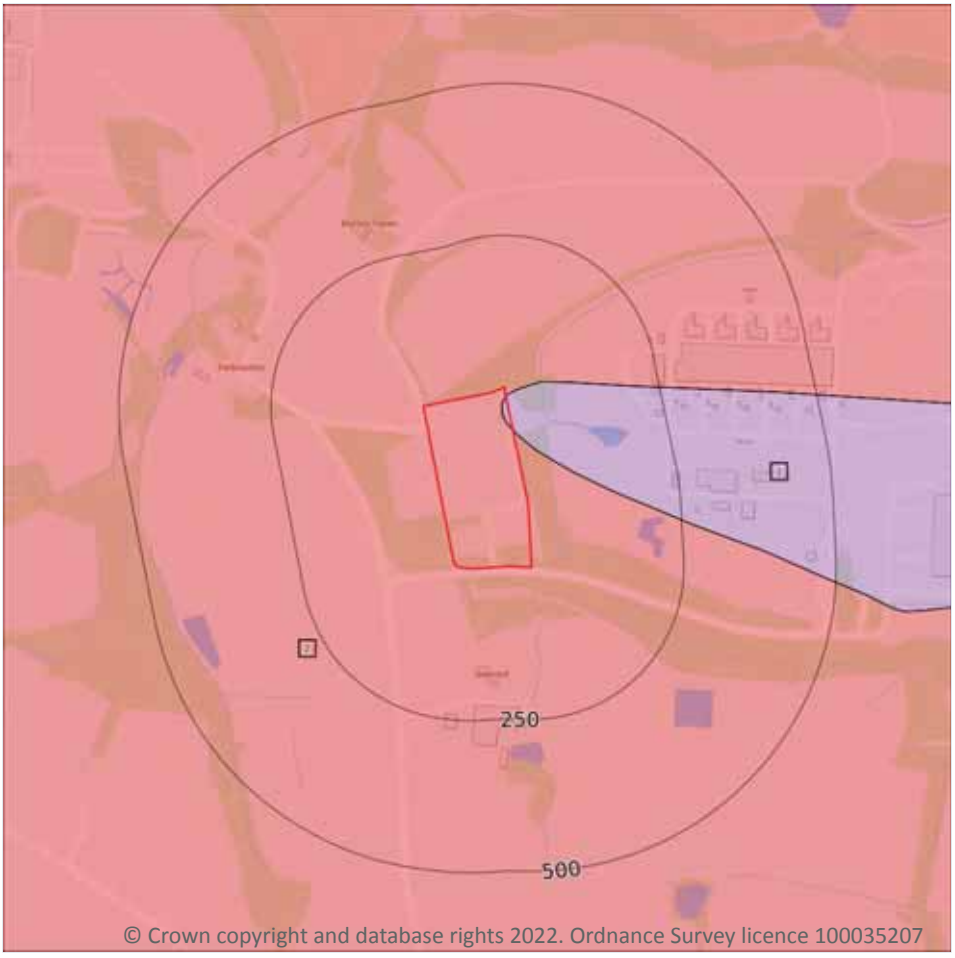
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 31**

ID	Location	Designation	Description
1	385m NW	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	420m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

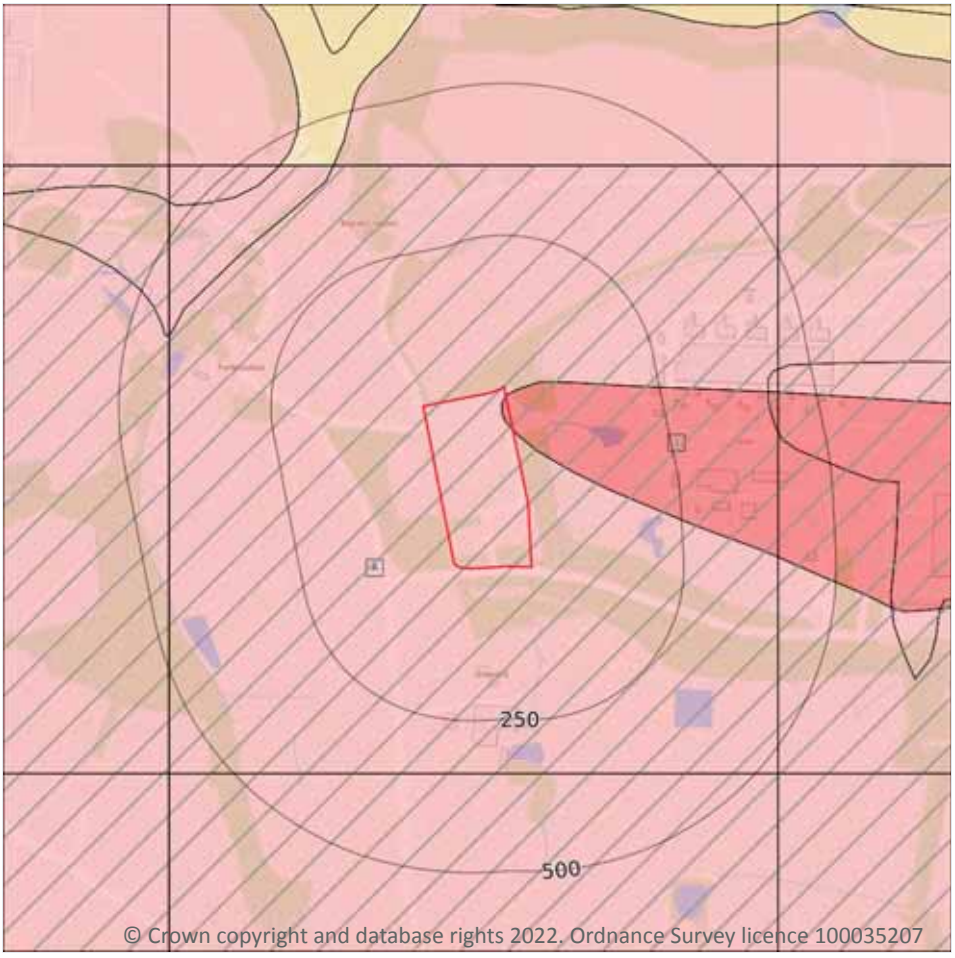
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 33**

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

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

Groundwater vulnerability



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	2

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

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

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

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	1

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. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**1.0%**

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

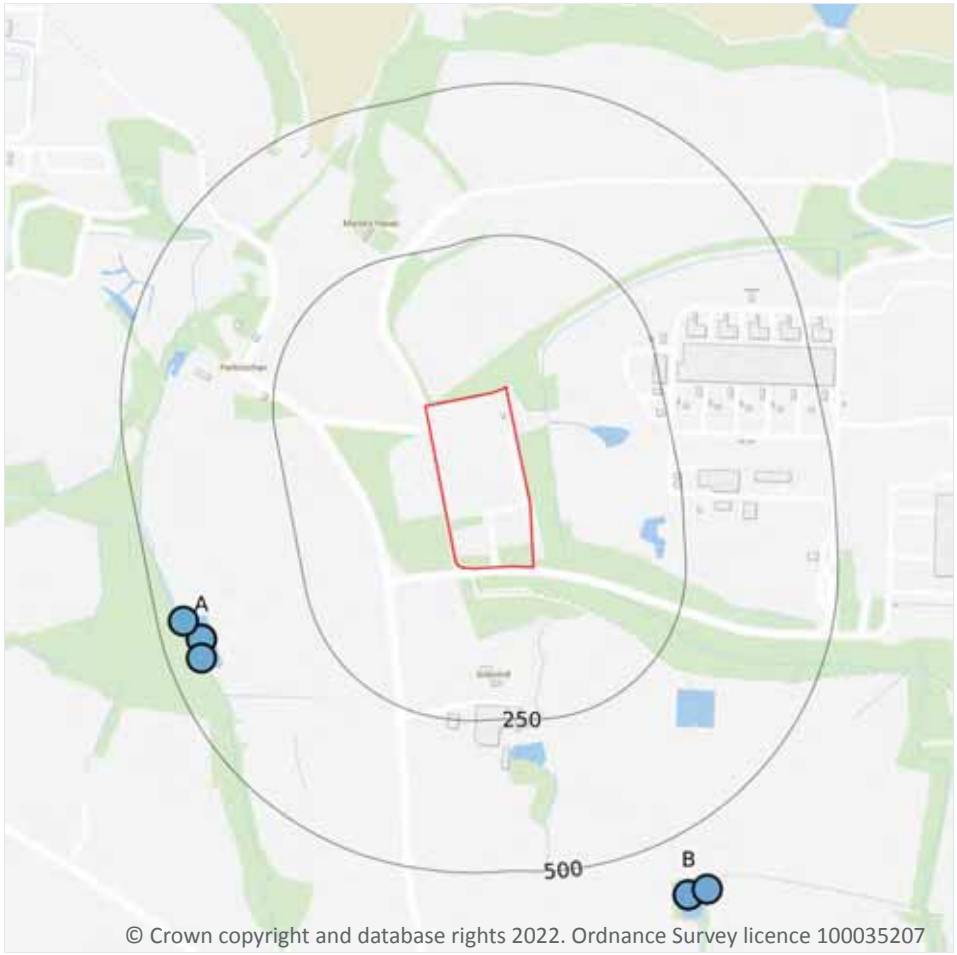
5.5 Groundwater vulnerability- local information

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.

Abstractions and Source Protection Zones



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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	0

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

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

5.7 Surface water abstractions

Records within 2000m	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 37**

ID	Location	Details	
A	436m W	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: RWE Npower plc Easting: 192050 Northing: 202220	Annual Volume (m^3): 6060 Max Daily Volume (m^3): 1206 Original Application No: - Original Start Date: 28/06/1988 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
A	436m W	Status: Active Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm Point: - Data Type: Point Name: - Easting: 192050 Northing: 202220	Annual Volume (m^3): 6,060 Max Daily Volume (m^3): 1,255.20 Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
A	446m W	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: Kenniford Easting: 192050 Northing: 202190	Annual Volume (m^3): 6059.8 Max Daily Volume (m^3): 1205.6 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 28/06/1988 Version End Date: -
A	458m W	Status: Active Licence No: 22/61/6/0147 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192020 Northing: 202250	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
B	595m SE	Status: Historical Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR IN FIELD NO.0556 AT GREENHILL FARM. Data Type: Point Name: RWE Npower plc Easting: 192850 Northing: 201800	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 4546 Original Application No: - Original Start Date: 19/07/1984 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
B	595m SE	Status: Active Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm. Point: - Data Type: Point Name: - Easting: 192850 Northing: 201800	Annual Volume (m^3): 4,546 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 30 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
B	600m SE	Status: Active Licence No: 22/61/6/0144 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192880 Northing: 201810	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1079m E	Status: Active Licence No: 22/61/6/0156 Details: Non Evaporative Cooling - Low Direct Source: - Point: - Data Type: Line Name: - Easting: 193650 Northing: 202650	Annual Volume (m^3): 1,200,000,000 Max Daily Volume (m^3): 3,456,000 Original Application No: - Original Start Date: Oct 13 2014 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
-	1531m SW	Status: Historical Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY UNNAMED STREAM Data Type: Point Name: Allen-Mirehouse Easting: 191090 Northing: 201680	Annual Volume (m^3): 7545.5 Max Daily Volume (m^3): 7545.5 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -

ID	Location	Details	
-	1531m SW	Status: Active Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191090 Northing: 201680	Annual Volume (m^3): 7,545.50 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1618m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191820 Northing: 200860	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 819 Original Application No: - Original Start Date: 24/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1618m SW	Status: Active Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191820 Northing: 200860	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): 1,320 Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1625m SW	Status: Active Licence No: 22/61/6/0135 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191740 Northing: 200890	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1629m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191750 Northing: 200880	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 818.28 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/05/1985 Version End Date: -

ID	Location	Details	
-	1673m S	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM IN FIELD NO. 3553, TO FILL RESERVOIR Data Type: Point Name: Woods Easting: 191950 Northing: 200750	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: 21/08/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1869m SW	Status: Historical Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: INLAND WATER,RESERVOIR ON UNNAMED STREAM RHOSCROWTHER Data Type: Point Name: Woods Easting: 191120 Northing: 201050	Annual Volume (m^3): 15911 Max Daily Volume (m^3): 15911 Original Application No: - Original Start Date: 29/05/1996 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -
-	1869m SW	Status: Active Licence No: 22/61/6/0118 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: May 29 1996 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1869m SW	Status: Active Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 15,911 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - 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.

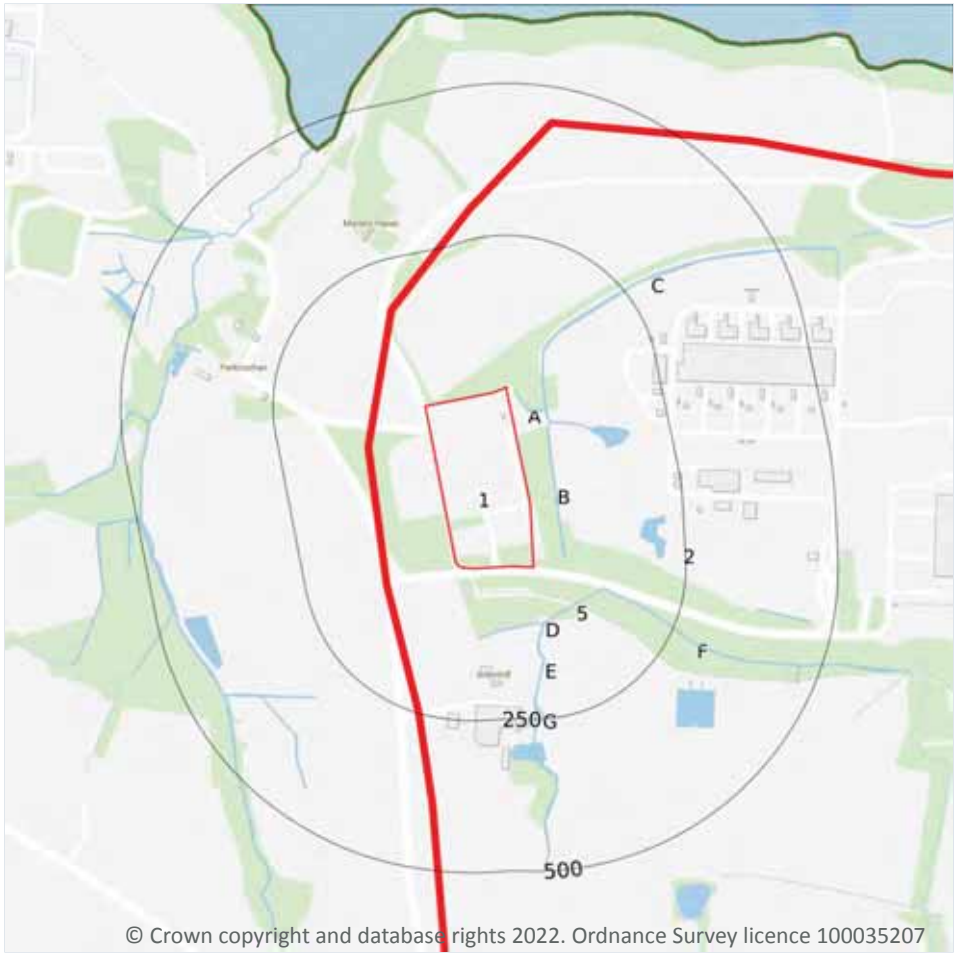
5.10 Source Protection Zones (confined aquifer)

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.

6 Hydrology



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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	**14**

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 43**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	12m 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
B	43m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	60m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	87m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	91m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	92m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	92m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	94m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	119m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	229m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	229m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	240m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	10

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 43**

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 43**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**163**	**Coastal streams of South Pembs and South Milford Haven - Pendine to Landshipping**	**Cleddau and Pembrokeshire Coastal Rivers**

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

6.4 WFD Surface water bodies

Records identified	0

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.

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.

Features are displayed on the Hydrology map on **page 43**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Pembrokeshire Carboniferous Limestone**	**GB41002G206000**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

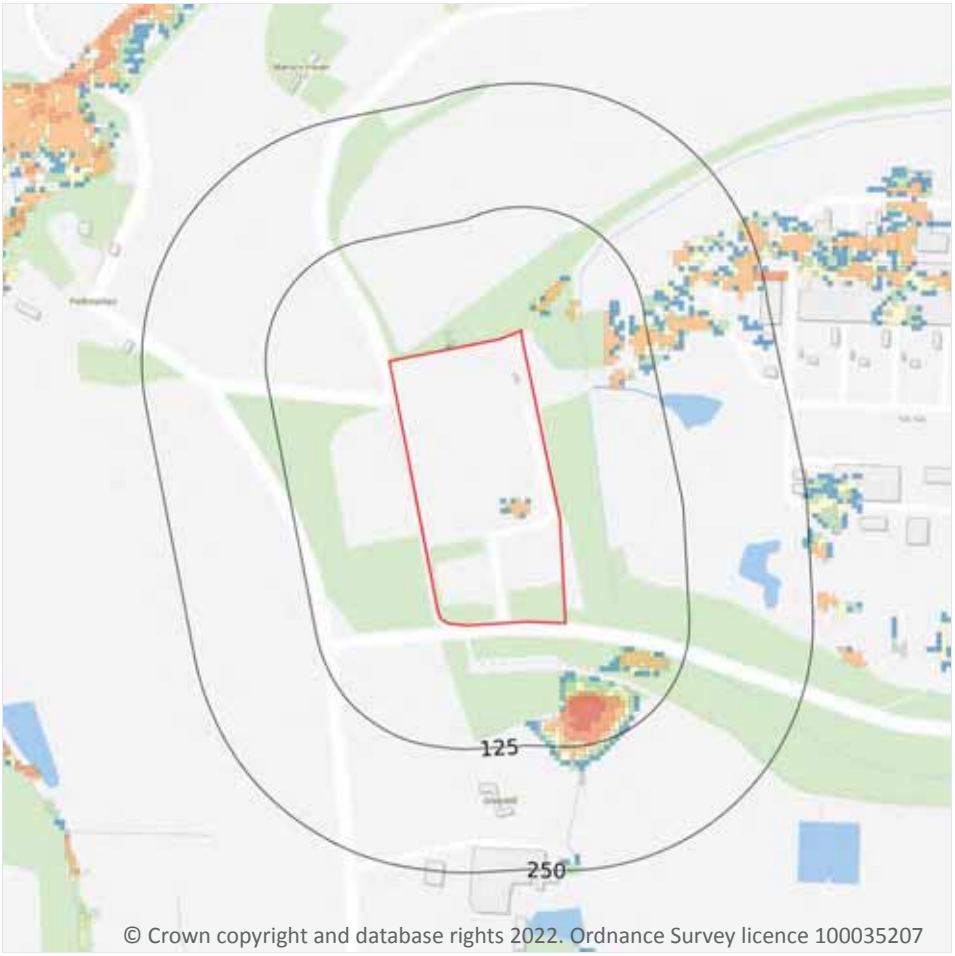
7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



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, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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

Features are displayed on the Surface water flooding map on **page 50**

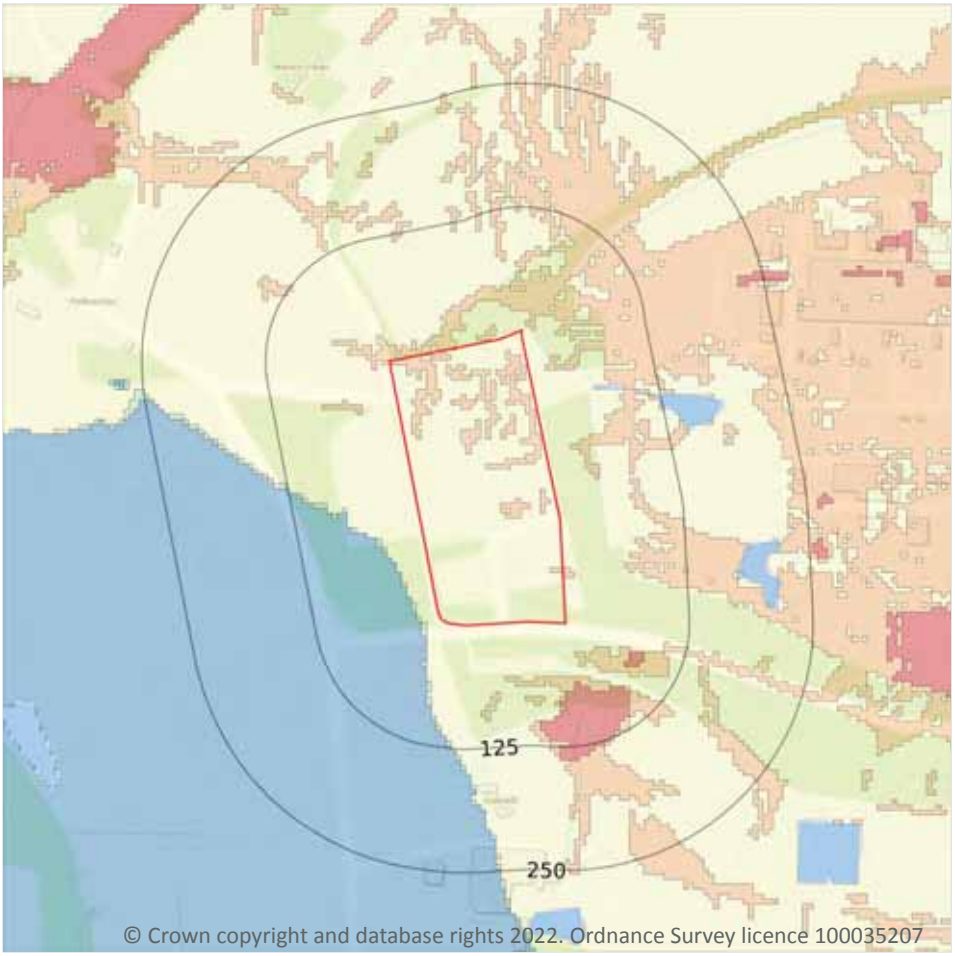
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

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

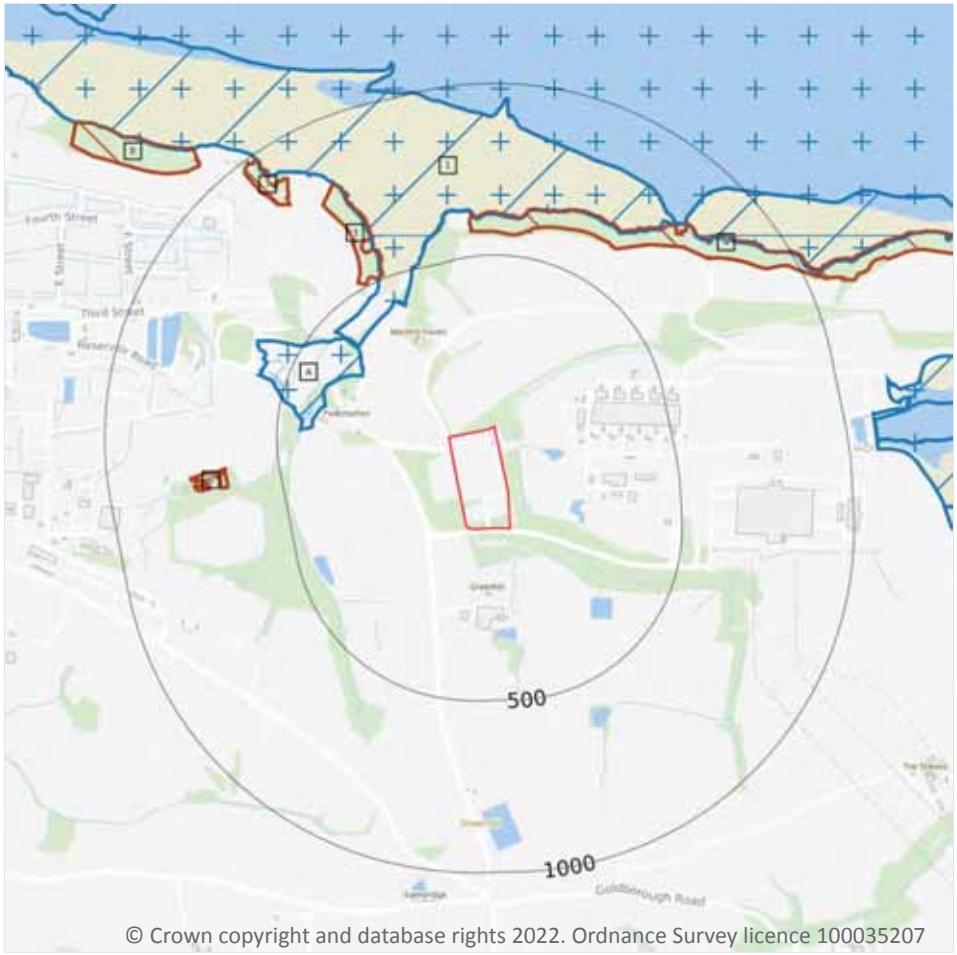
Highest risk on site	**Moderate-High**
Highest risk within 50m	**Moderate-High**

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 52**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Areas of Conservation (SAC)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	7

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 53**

ID	Location	Name	Data source
A	309m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales

ID	Location	Name	Data source
1	373m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
9	1082m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
10	1264m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
12	1580m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
-	1627m S	GWEUNYDD SOMERTON MEADOWS	Natural Resources Wales
-	1854m N	MILFORD HAVEN WATERWAY	Natural Resources Wales

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	**3**

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.

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Features of interest	Habitat description	Data source
A	309m NW	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

ID	Location	Name	Features of interest	Habitat description	Data source
2	373m NW	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
5	585m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	7

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

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Woodland Type
3	506m NW	Unknown	Restored Ancient Woodland Site
4	562m N	Unknown	Ancient Semi Natural Woodland
6	657m W	Unknown	Ancient Semi Natural Woodland
7	821m NW	Unknown	Restored Ancient Woodland Site
8	1072m NW	Unknown	Restored Ancient Woodland Site
-	1453m SE	Unknown	Ancient Semi Natural Woodland
-	1744m W	Unknown	Ancient Semi Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

This data is sourced from 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.

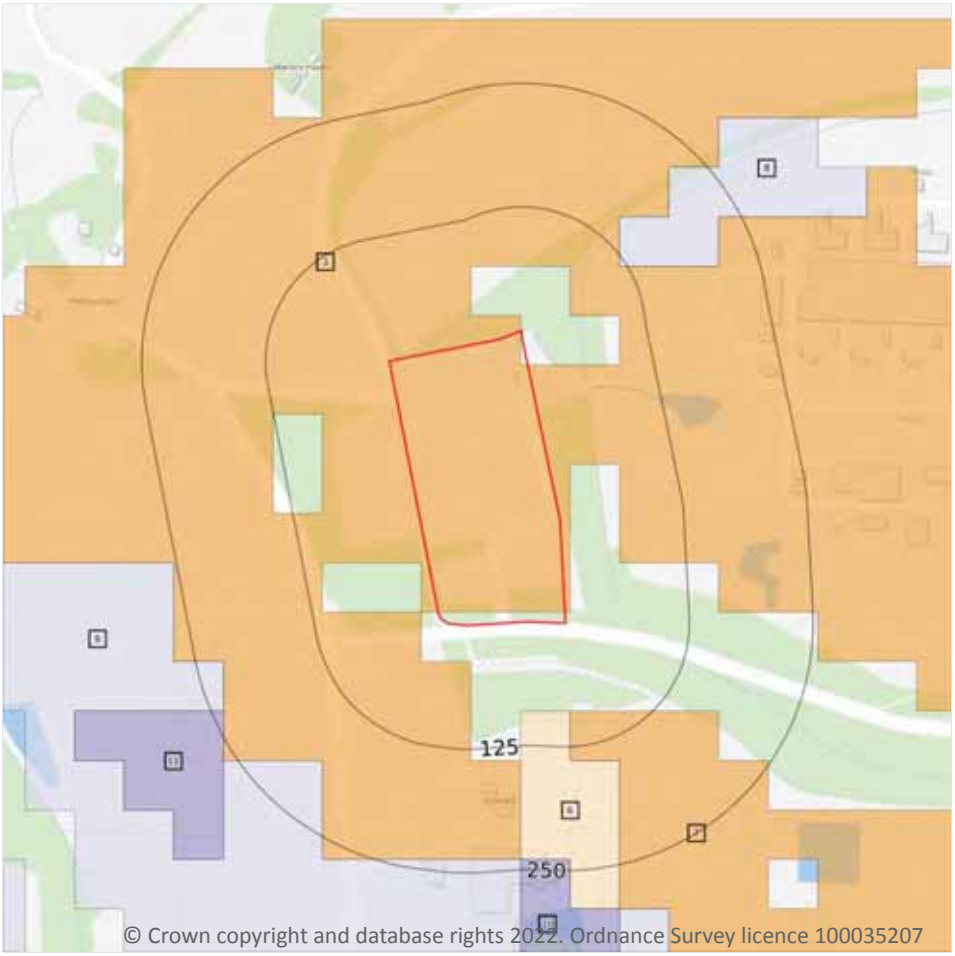
11.7 Registered Parks and Gardens

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 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	7

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 62**

ID	Location	Classification	Description
3	**On site**	**Grade 2**	**Good quality agricultural land**
6	89m S	Grade 3a	Good to moderate quality agricultural land
7	89m S	Grade 2	Good quality agricultural land

ID	Location	Classification	Description
8	118m NE	Grade 3b	Moderate quality agricultural land
9	187m SW	Grade 3b	Moderate quality agricultural land
10	239m S	Grade 4	Poor quality agricultural land
11	239m SW	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 66**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

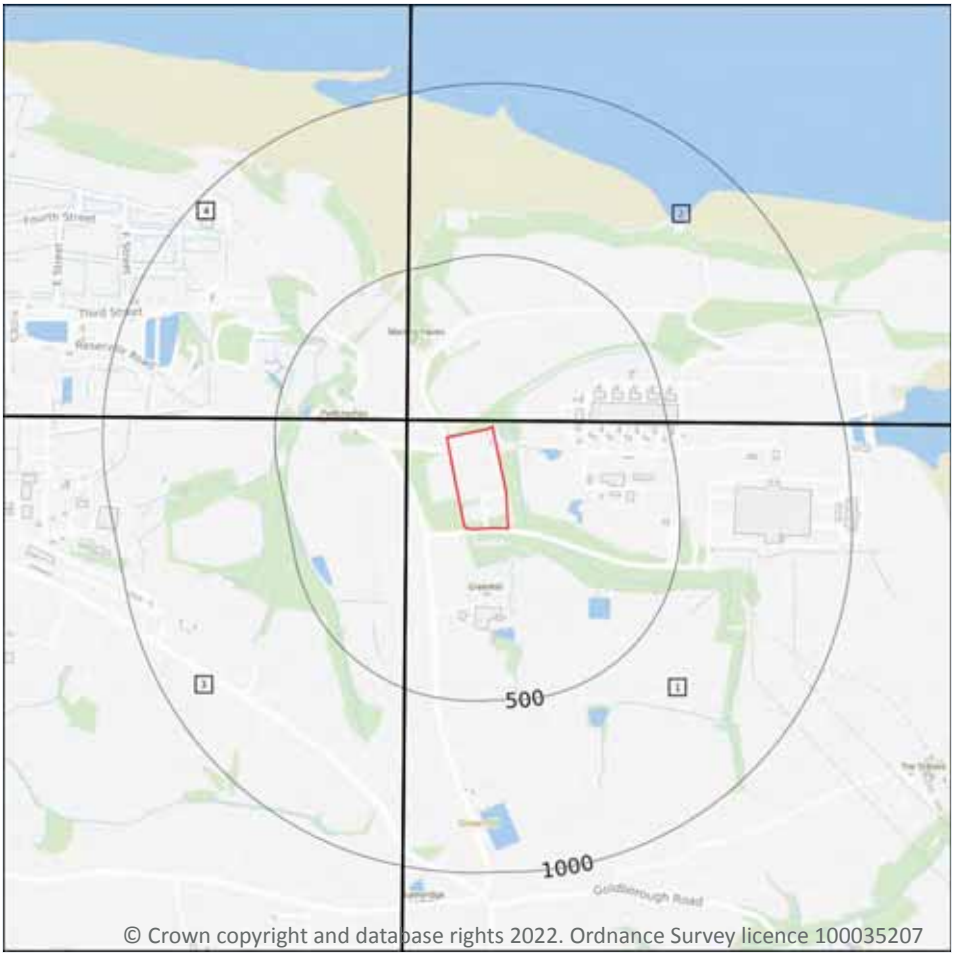
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	4

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

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

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW244_245_pembroke_and_linney_head_v4**
2	18m N	No coverage	Full	Full	No coverage	EW228_haverfordwest_v4
3	116m W	No coverage	Full	Full	No coverage	EW244_245_pembroke_and_linney_head_v4

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
4	127m NW	No coverage	Full	Full	No coverage	EW227_milford_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

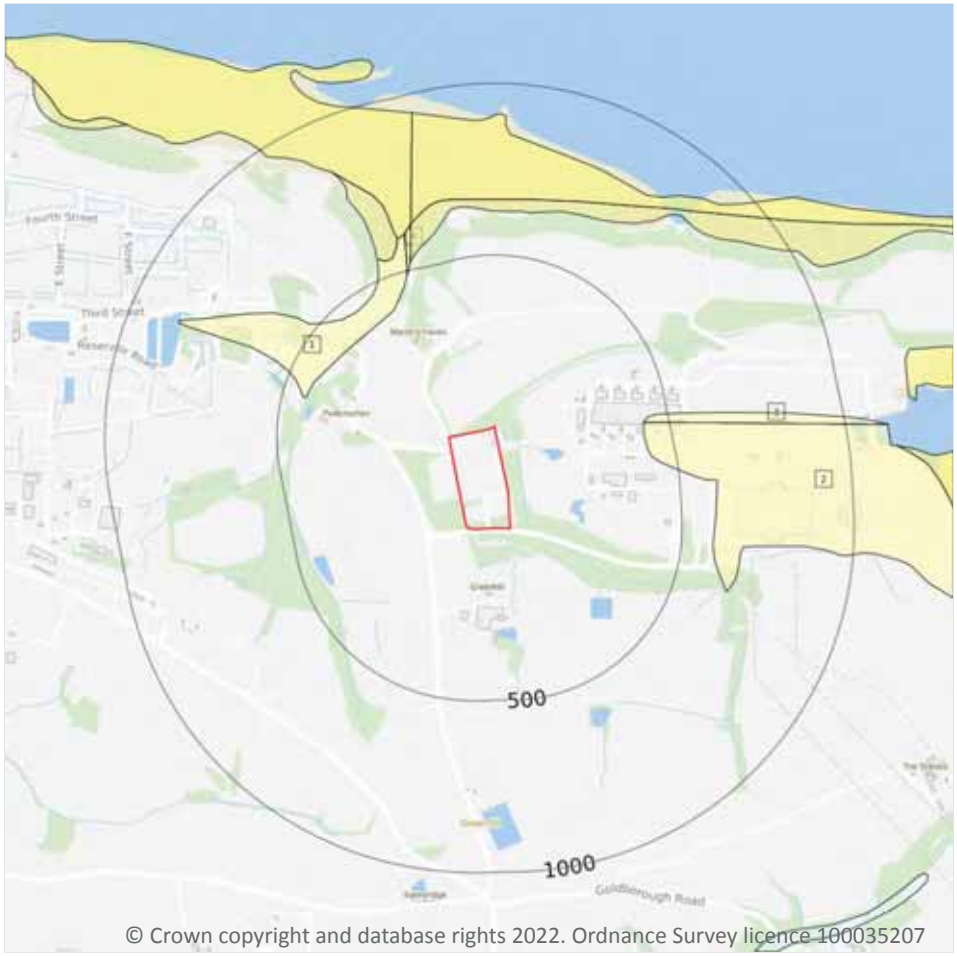
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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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 73**

ID	Location	LEX Code	Description	Rock description
1	385m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	420m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	428m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	490m N	RBDU-XSV	RAISED BEACH DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

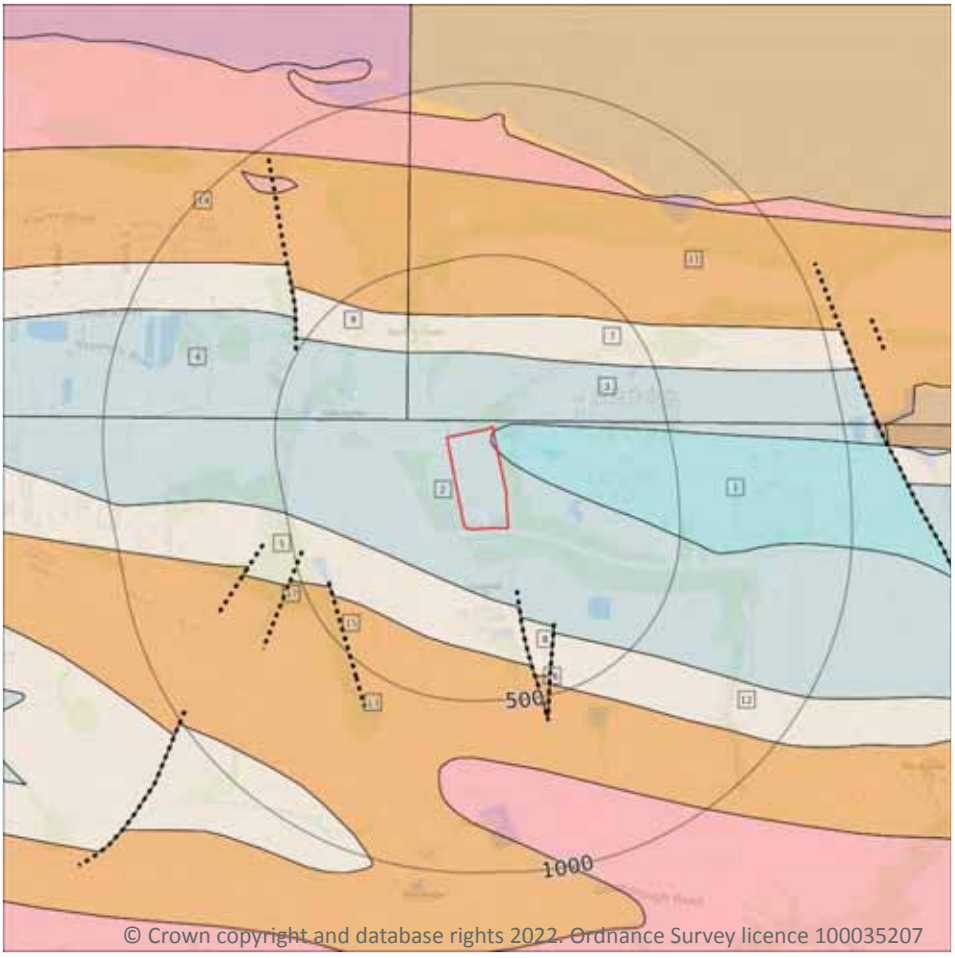
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m **13**

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 75**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BGUO-LMST**	**BLACK ROCK SUBGROUP AND GULLY OOLITE FORMATION (UNDIFFERENTIATED) - LIMESTONE**	**TOURNAISIAN**
2	**On site**	**AVO-LSMD**	**AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED**	**TOURNAISIAN**

ID	Location	LEX Code	Description	Rock age
3	18m N	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
4	127m NW	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
5	164m SW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
7	212m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
8	261m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
9	272m NW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
11	324m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
12	331m SE	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
13	336m SW	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
14	376m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
16	436m S	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN

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**	**Low**
On site	**Fracture**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	4

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 75**

ID	Location	Category	Description
6	182m S	FAULT	Fault, observed, displacement unknown
10	306m SE	FAULT	Fault, inferred, displacement unknown
15	427m SW	FAULT	Fault, observed, displacement unknown
17	476m W	FAULT	Fault, observed, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



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Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	20

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.

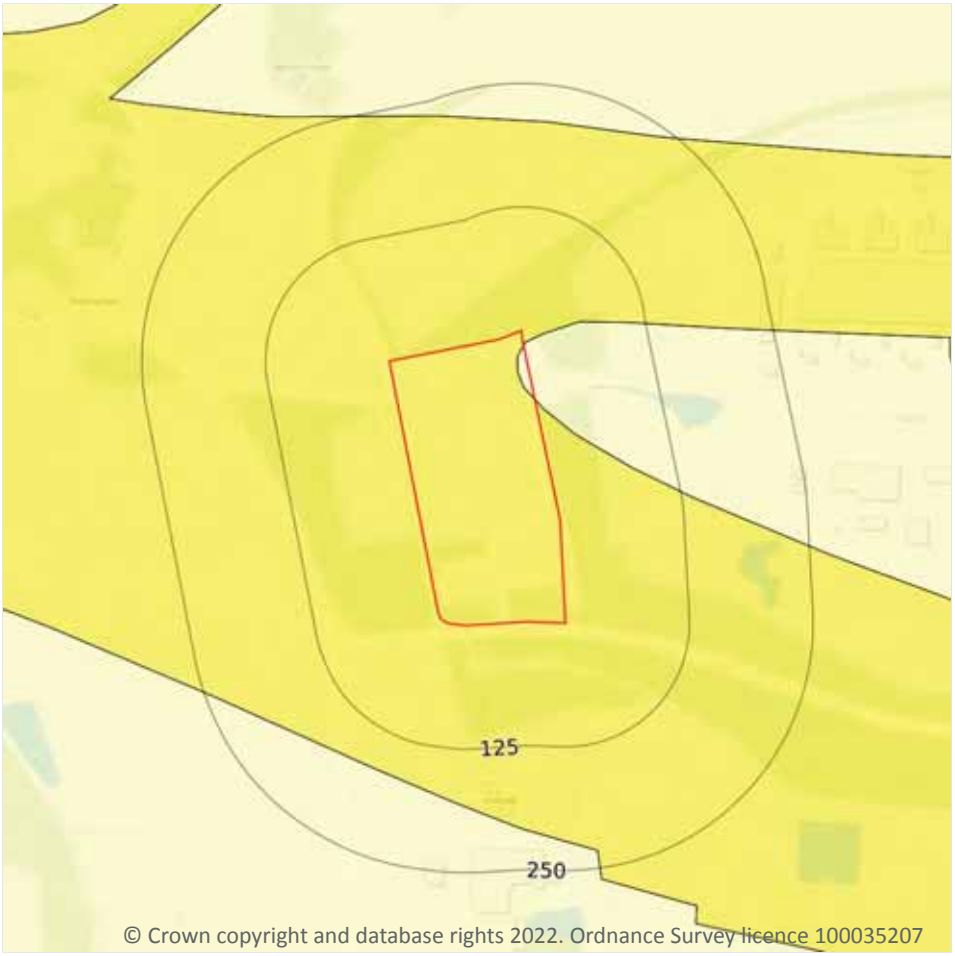
Features are displayed on the Boreholes map on **page 78**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**192500 202390**	**ANGLE BAY. 4A**	**-**	**Y**	**N/A**
2	95m W	192374 202329	PEMBROKE POWER STATION 271	-	Y	N/A
3	115m SE	192700 202290	ANGLE BAY. 4	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	176m E	192768 202413	PEMBROKE POWER STATION 266	-	Y	N/A
5	193m E	192743 202654	Pembroke CCGT Power Station: Ground Investigation TP1	-	Y	N/A
6	204m E	192770 202579	PEMBROKE POWER STATION 202	-	Y	N/A
A	223m E	192773 202661	PEMBROKE POWER STATION 201	-	Y	N/A
7	226m E	192820 202380	MILFORD HAVEN POWER STATION 1	-	Y	N/A
B	228m E	192787 202616	Pembroke CCGT Power Station: Ground Investigation S8	-	Y	N/A
B	233m E	192792 202615	Pembroke CCGT Power Station: Ground Investigation RS8	-	Y	N/A
B	233m E	192792 202615	Pembroke CCGT Power Station: Ground Investigation TPRS8	-	Y	N/A
C	233m NE	192766 202725	Pembroke CCGT Power Station: Ground Investigation TP2	-	Y	N/A
D	235m E	192805 202564	Pembroke CCGT Power Station: Ground Investigation TPRB8	-	Y	N/A
D	235m E	192805 202564	Pembroke CCGT Power Station: Ground Investigation TP8	-	Y	N/A
B	236m E	192795 202615	Pembroke CCGT Power Station: Ground Investigation RS8A	-	Y	N/A
A	238m E	192784 202683	Pembroke CCGT Power Station: Ground Investigation RS6	-	Y	N/A
A	238m E	192784 202683	Pembroke CCGT Power Station: Ground Investigation TPRS6	-	Y	N/A
A	243m E	192789 202683	Pembroke CCGT Power Station: Ground Investigation S6	-	Y	N/A
8	246m E	192836 202289	PEMBROKE POWER STATION 270	-	Y	N/A
C	246m NE	192773 202742	PEMBROKE POWER STATION 200	-	Y	N/A

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

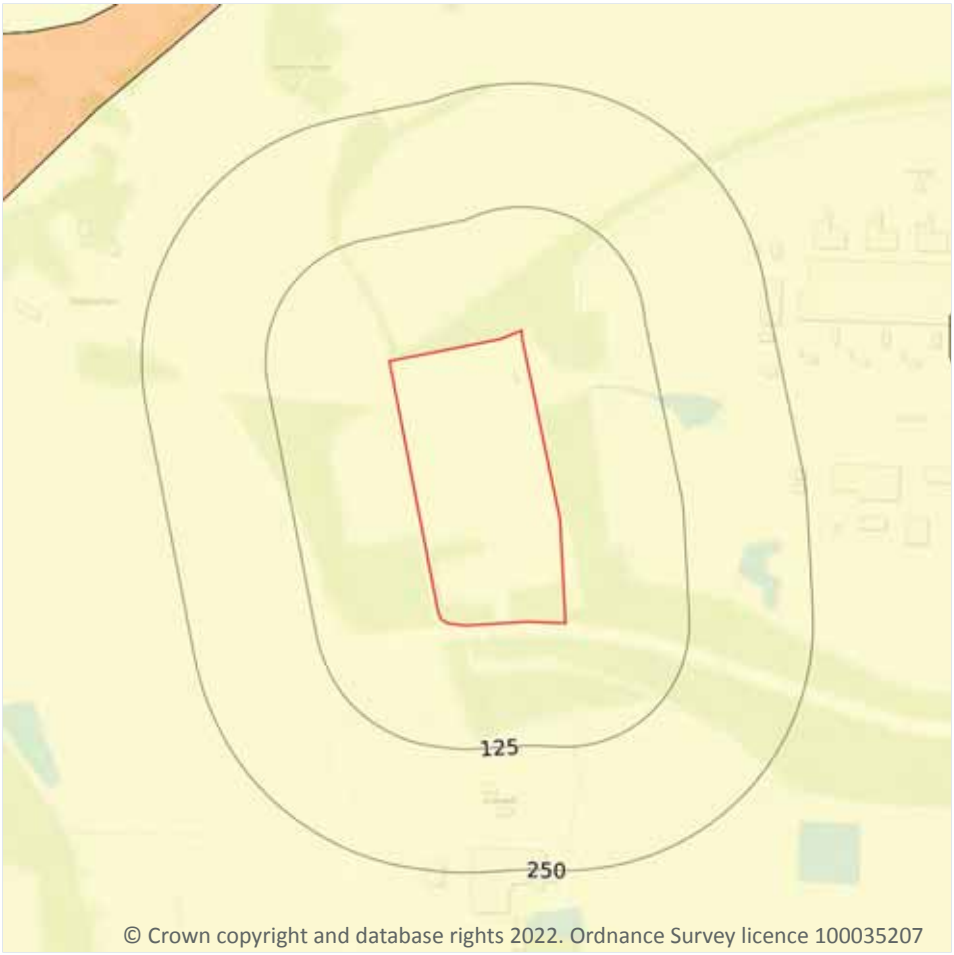
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 80**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

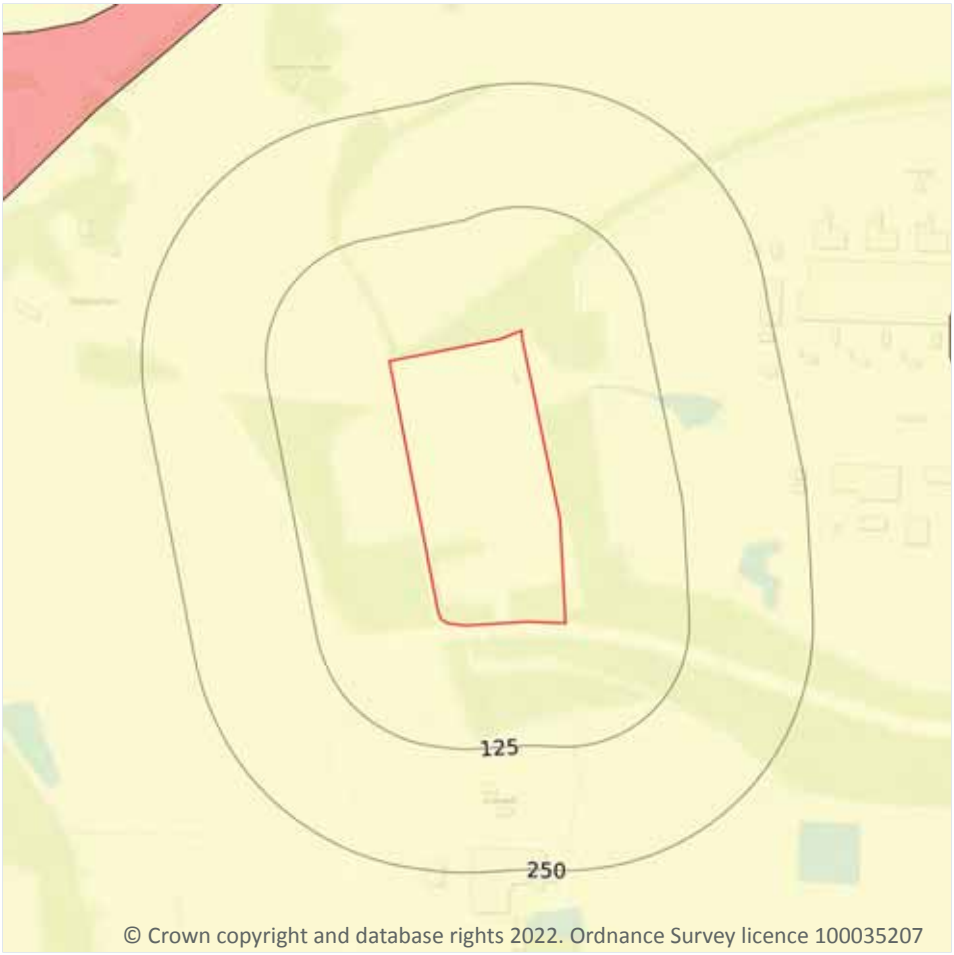
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 81**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

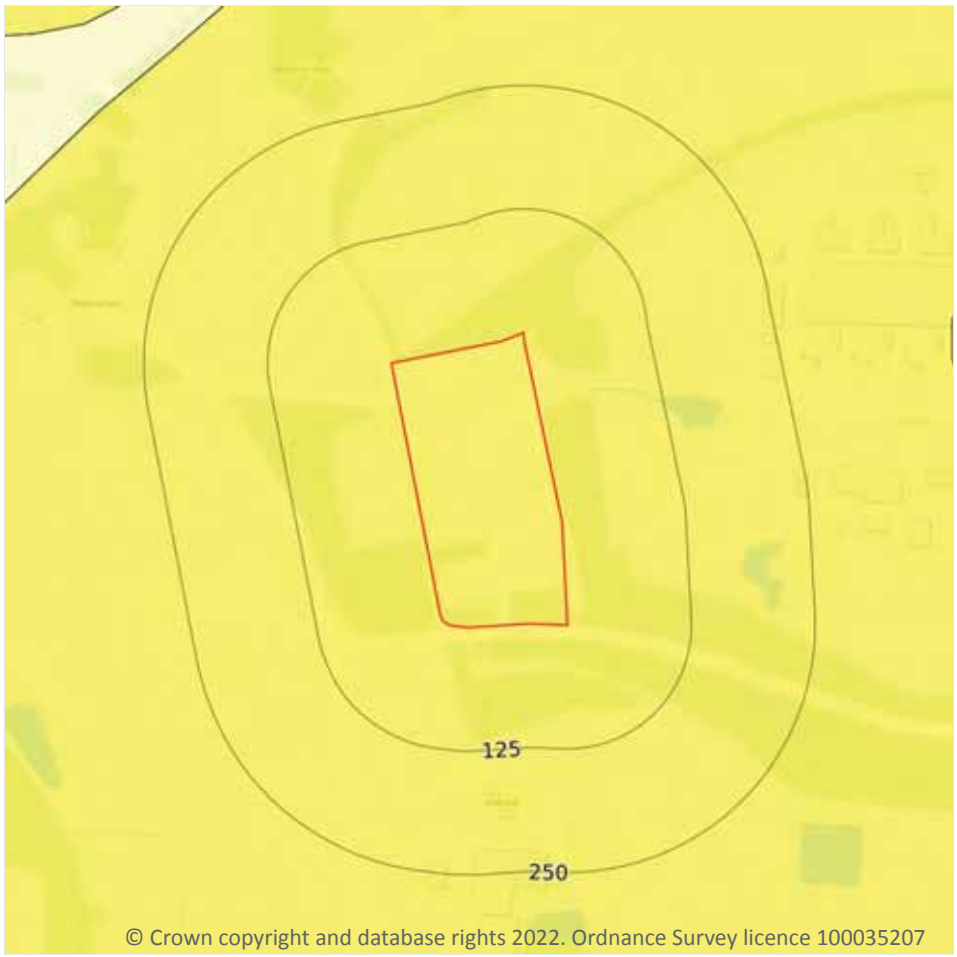
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 82**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

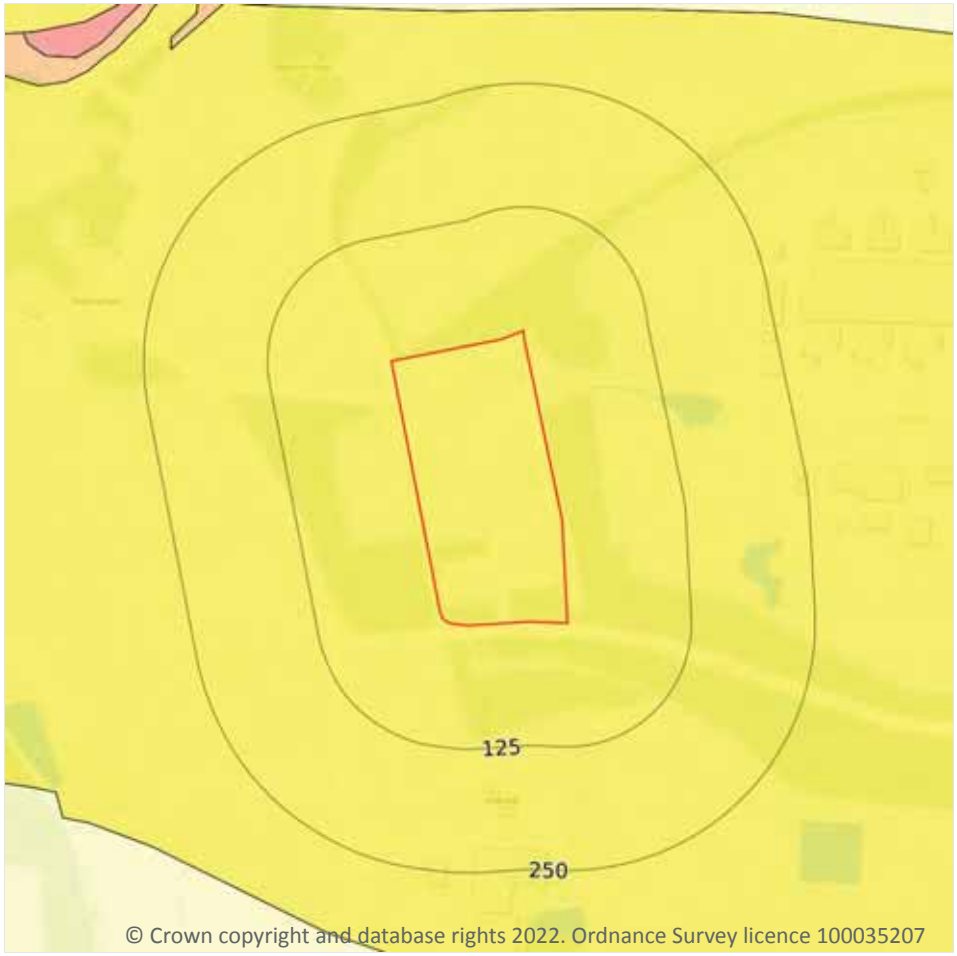
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 83**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

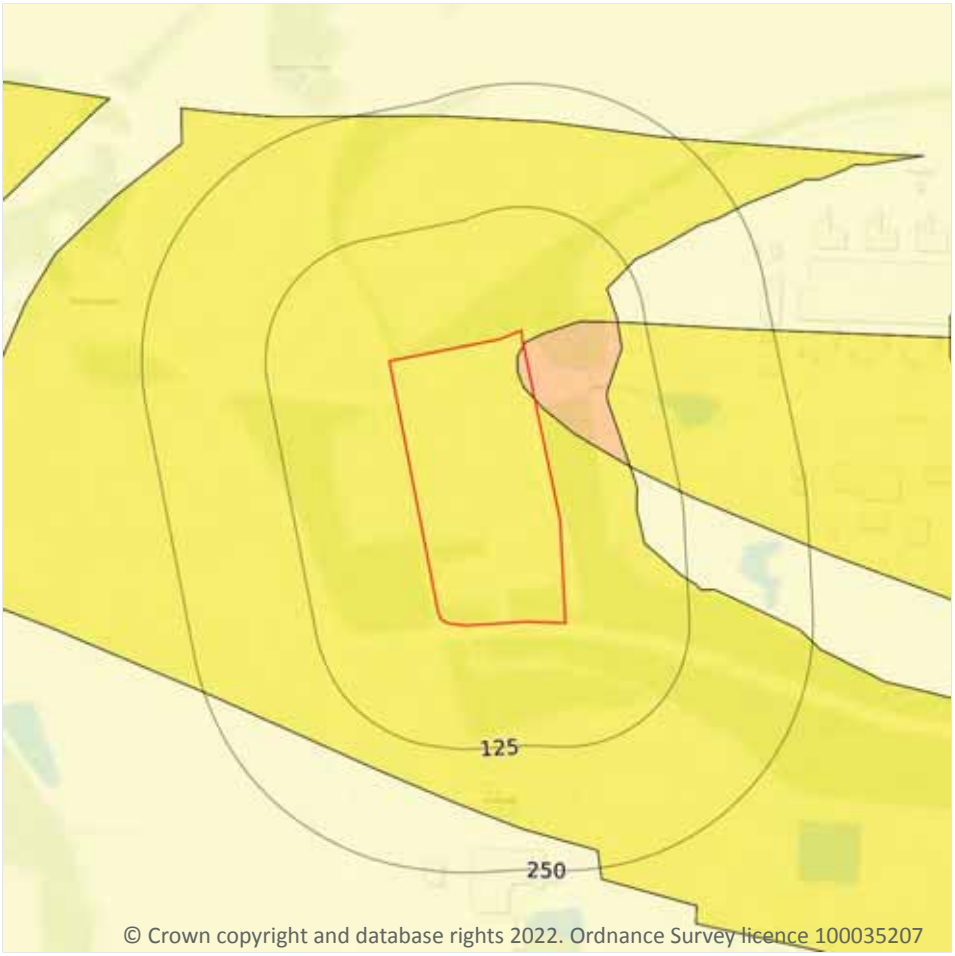
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 84**

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	2

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 85**

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.**

Location	Hazard rating	Details
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**

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	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	9

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 87**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Ground Workings**	**1994**	**1:10000**
A	**On site**	**Unspecified Ground Workings**	**1975**	**1:10000**
B	**On site**	**Unspecified Ground Workings**	**1994**	**1:10000**
B	**On site**	**Unspecified Ground Workings**	**1975**	**1:10000**
C	**On site**	**Unspecified Pit**	**1994**	**1:10000**
C	**On site**	**Unspecified Pit**	**1975**	**1:10000**
D	66m E	Unspecified Pit	1994	1:10000
D	66m E	Unspecified Pit	1975	1:10000
2	85m S	Pond	1963	1:10560

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	6

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 87**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
3	164m SW	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
4	212m N	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
-	665m S	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
11	722m N	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	851m NW	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

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.

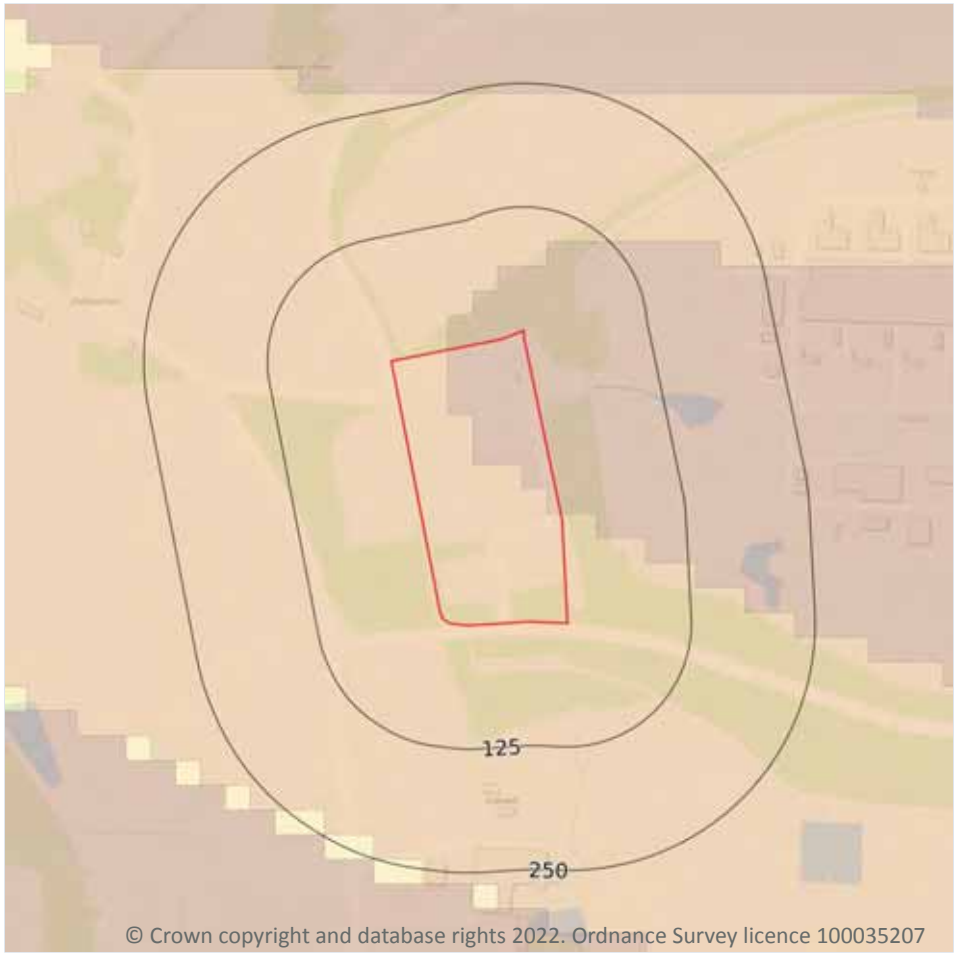
18.13 Clay mining

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 92**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**
On site	**Between 5% and 10%**	**Basic**

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	8

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**	**50 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
18m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
32m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
32m N	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.

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.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

193595 , 202286,

Order Details

Date: 04/07/2022

Your ref: JFR2786_Likely_Cable_Run_PO22-830

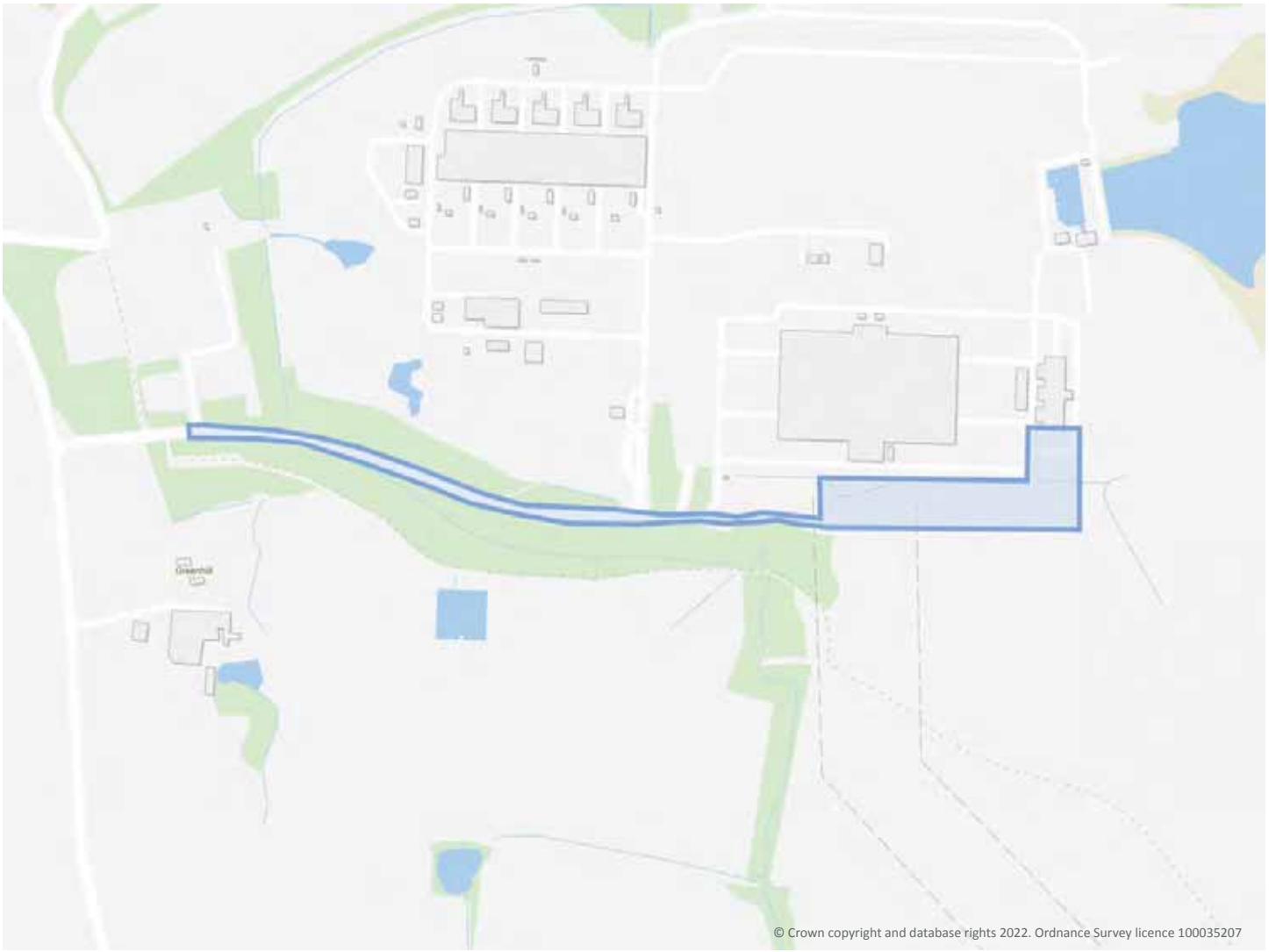
Our Ref: GS-8873318

Site Details

Location: 193320 202244

Area: 3.49 ha

Authority: Sir Benfro - Pembrokeshire County Council



Summary of findings p. 2

OS MasterMap site plan p.13

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
14	1.1	Historical industrial land uses	4	7	19	7	-
16	1.2	Historical tanks	0	0	11	7	-
17	1.3	Historical energy features	2	0	4	1	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
19	2.1	Historical industrial land uses	4	7	21	7	-
21	2.2	Historical tanks	0	0	14	10	-
22	2.3	Historical energy features	4	0	7	3	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
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	2	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	8	-
28	3.7	Waste exemptions	0	0	4	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	Recent industrial land uses	1	1	4	-	-
30	4.2	Current or recent petrol stations	0	0	0	0	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-

31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	**4.8**	**Hazardous substance storage/usage**	0	0	1	0	-
31	**4.9**	**Historical licensed industrial activities (IPC)**	0	0	0	3	-
32	**4.10**	**Licensed industrial activities (Part A(1))**	0	0	0	5	-
33	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33	**4.13**	**Licensed Discharges to controlled waters**	2	0	3	2	-
35	**4.14**	**Pollutant release to surface waters (Red List)**	0	1	0	3	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
36	**4.16**	**List 1 Dangerous Substances**	0	1	0	0	-
36	**4.17**	**List 2 Dangerous Substances**	0	1	0	0	-
36	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
36	4.19	Pollution inventory substances	0	0	0	0	-
37	4.20	Pollution inventory waste transfers	0	0	0	0	-
37	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
38	**5.1**	**Superficial aquifer**	Identified (within 500m)				
40	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
42	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
44	**5.4**	**Groundwater vulnerability- soluble rock risk**	Identified (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45	5.6	Groundwater abstractions	0	0	0	0	0
46	**5.7**	**Surface water abstractions**	0	0	0	7	11
50	5.8	Potable abstractions	0	0	0	0	0
50	5.9	Source Protection Zones	0	0	0	0	-
50	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
51	**6.1**	**Water Network (OS MasterMap)**	4	12	17	-	-

54	6.2	Surface water features	1	9	11	-	-
54	6.3	WFD Surface water body catchments	1	-	-	-	-
55	6.4	WFD Surface water bodies	0	0	1	-	-
55	6.5	WFD Groundwater bodies	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
56	7.1	Risk of flooding from rivers and the sea	High (within 50m)				
57	7.2	Historical Flood Events	0	0	0	-	-
57	7.3	Flood Defences	0	0	0	-	-
57	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
57	7.5	Flood Storage Areas	0	0	0	-	-
58	7.6	Flood Zone 2	Identified (within 50m)				
59	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
60	8.1	Surface water flooding	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
62	9.1	Groundwater flooding	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
63	10.1	Sites of Special Scientific Interest (SSSI)	0	0	2	1	4
64	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
64	10.3	Special Areas of Conservation (SAC)	0	0	1	0	2
65	10.4	Special Protection Areas (SPA)	0	0	0	0	0
65	10.5	National Nature Reserves (NNR)	0	0	0	0	0
65	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
66	10.7	Designated Ancient Woodland	0	0	0	0	9
66	10.8	Biosphere Reserves	0	0	0	0	0
67	10.9	Forest Parks	0	0	0	0	0
67	10.10	Marine Conservation Zones	0	0	0	0	0
67	10.11	Green Belt	0	0	0	0	0
67	10.12	Proposed Ramsar sites	0	0	0	0	0

67	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
68	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
68	10.15	Nitrate Sensitive Areas	0	0	0	0	0
68	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
69	10.17	SSSI Impact Risk Zones	0	-	-	-	-
69	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
70	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
70	11.3	National Parks	0	0	0	-	-
70	11.4	Listed Buildings	0	0	0	-	-
71	11.5	Conservation Areas	0	0	0	-	-
71	11.6	Scheduled Ancient Monuments	0	0	0	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
72	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
74	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
75	13.1	Priority Habitat Inventory	0	0	0	-	-
75	13.2	Habitat Networks	0	0	0	-	-
75	13.3	Open Mosaic Habitat	0	0	0	-	-
75	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
76	**14.1**	**10k Availability**	Identified (within 500m)				
77	14.2	Artificial and made ground (10k)	0	0	0	0	-
78	14.3	Superficial geology (10k)	0	0	0	0	-

78	14.4	Landslip (10k)	0	0	0	0	-
79	14.5	Bedrock geology (10k)	0	0	0	0	-
79	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
80	**15.1**	**50k Availability**	Identified (within 500m)				
82	15.2	Artificial and made ground (50k)	0	0	0	0	-
82	15.3	Artificial ground permeability (50k)	0	0	-	-	-
83	**15.4**	**Superficial geology (50k)**	1	0	0	3	-
84	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
84	15.6	Landslip (50k)	0	0	0	0	-
84	15.7	Landslip permeability (50k)	None (within 50m)				
85	**15.8**	**Bedrock geology (50k)**	2	0	5	13	-
87	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
87	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	3	2	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
88	**16.1**	**BGS Boreholes**	4	17	155	-	-
Page	Section	Natural ground subsidence					
96	**17.1**	**Shrink swell clays**	Very low (within 50m)				
98	**17.2**	**Running sands**	Low (within 50m)				
100	**17.3**	**Compressible deposits**	Moderate (within 50m)				
102	**17.4**	**Collapsible deposits**	Very low (within 50m)				
103	**17.5**	**Landslides**	Low (within 50m)				
105	**17.6**	**Ground dissolution of soluble rocks**	Low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
107	18.1	Natural cavities	0	0	0	0	-
108	18.2	BritPits	0	0	0	0	-
108	**18.3**	**Surface ground workings**	2	6	13	-	-
109	18.4	Underground workings	0	0	0	0	0
109	18.5	Historical Mineral Planning Areas	0	0	0	0	-

109	**18.6**	**Non-coal mining**	1	0	2	0	2
110	18.7	Mining cavities	0	0	0	0	0
110	18.8	JPB mining areas	None (within 0m)				
110	18.9	Coal mining	None (within 0m)				
111	18.10	Brine areas	None (within 0m)				
111	18.11	Gypsum areas	None (within 0m)				
111	18.12	Tin mining	None (within 0m)				
111	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
112	**19.1**	**Radon**	Between 10% and 30% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
114	**20.1**	**BGS Estimated Background Soil Chemistry**	6	5	-	-	-
114	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
115	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
116	21.1	Underground railways (London)	0	0	0	-	-
116	21.2	Underground railways (Non-London)	0	0	0	-	-
116	21.3	Railway tunnels	0	0	0	-	-
116	21.4	Historical railway and tunnel features	0	0	0	-	-
116	21.5	Royal Mail tunnels	0	0	0	-	-
117	21.6	Historical railways	0	0	0	-	-
117	21.7	Railways	0	0	0	-	-
117	21.8	Crossrail 1	0	0	0	0	-
117	21.9	Crossrail 2	0	0	0	0	-
117	21.10	HS2	0	0	0	0	-

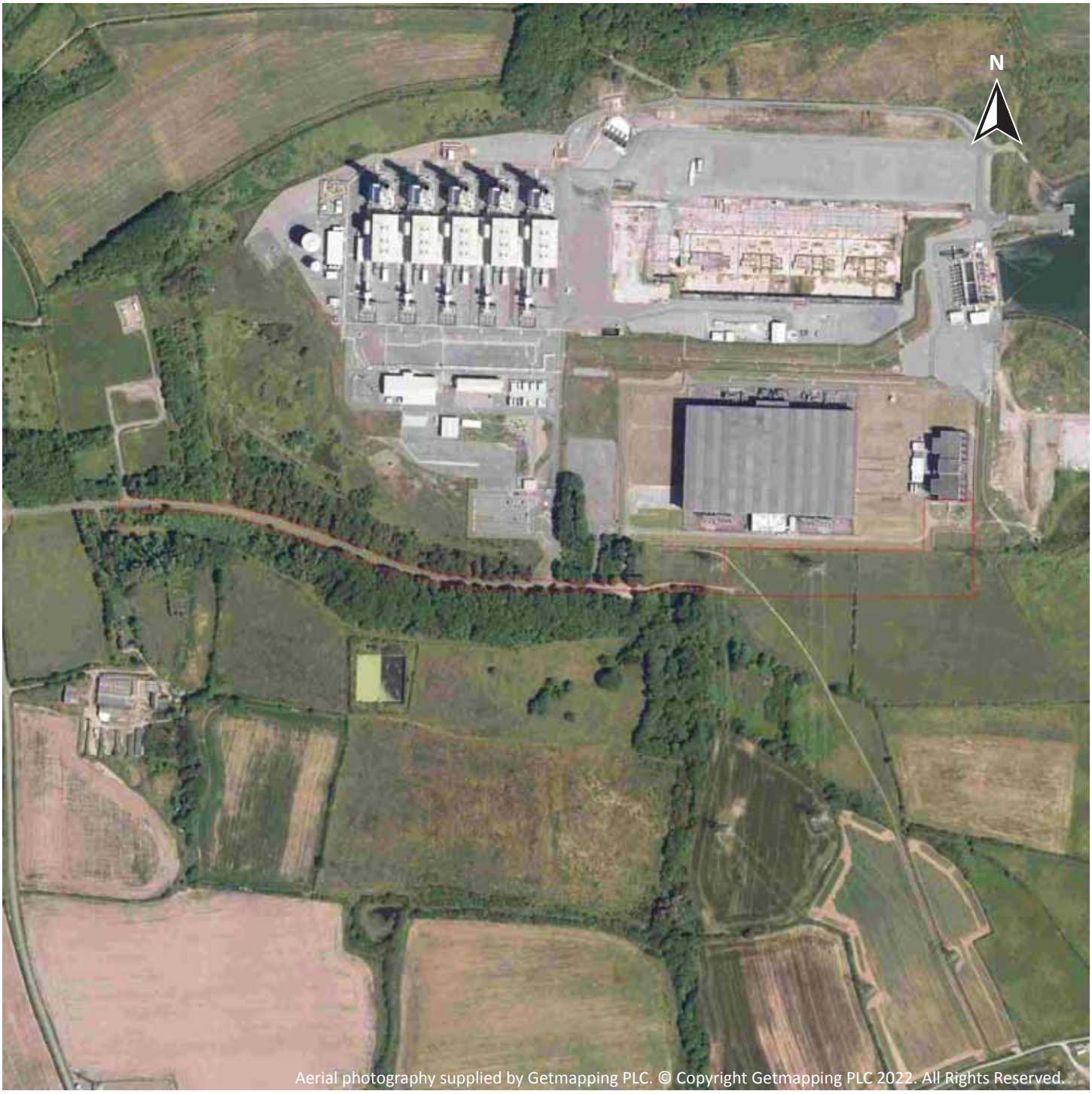
Recent aerial photograph



Capture Date: 14/05/2020

Site Area: 3.49ha

Recent site history - 2017 aerial photograph

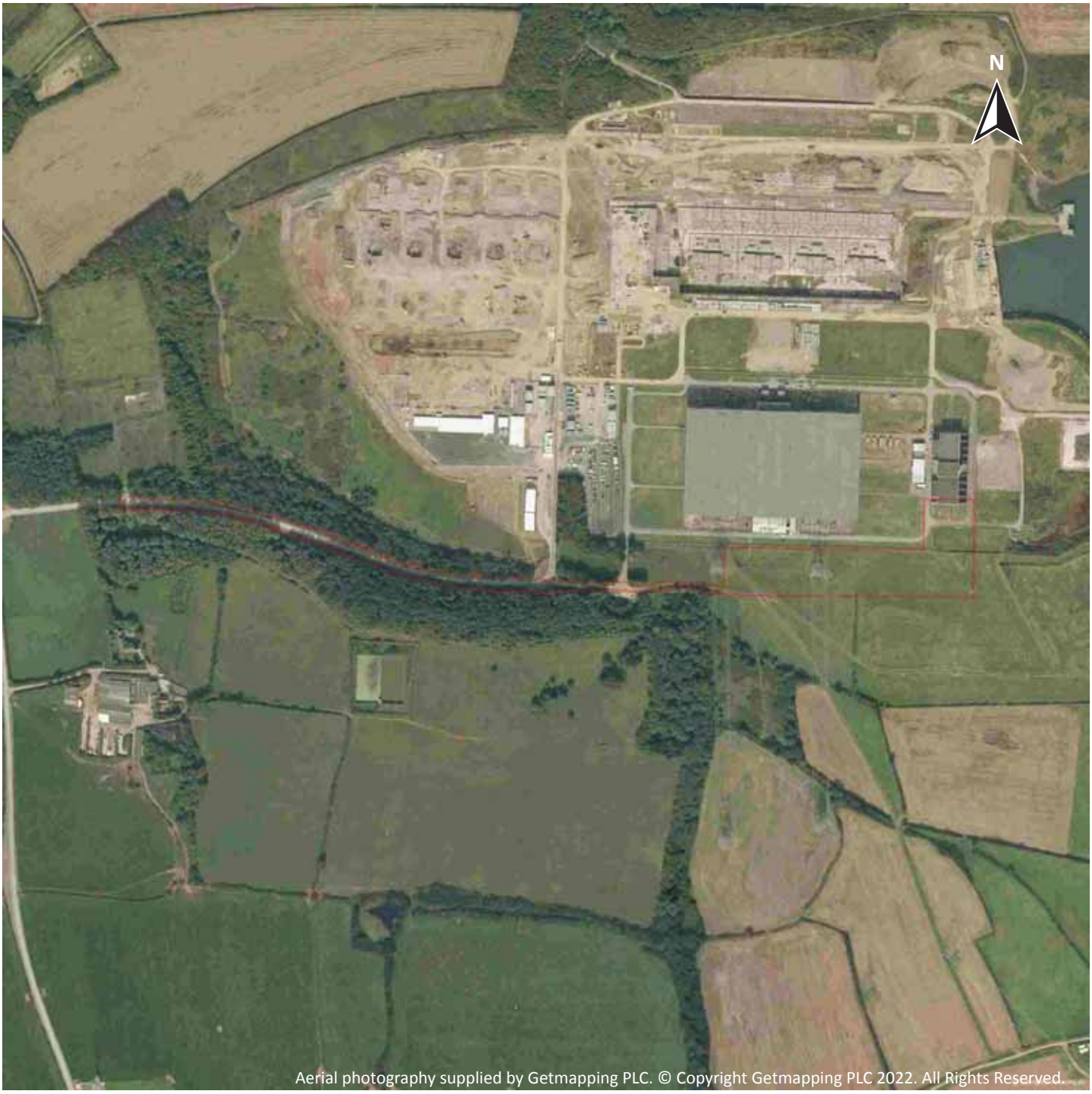


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Capture Date: 18/06/2017

Site Area: 3.49ha

Recent site history - 2009 aerial photograph



Capture Date: 11/09/2009

Site Area: 3.49ha

Recent site history - 2003 aerial photograph



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Capture Date: 14/09/2003

Site Area: 3.49ha

Recent site history - 2000 aerial photograph

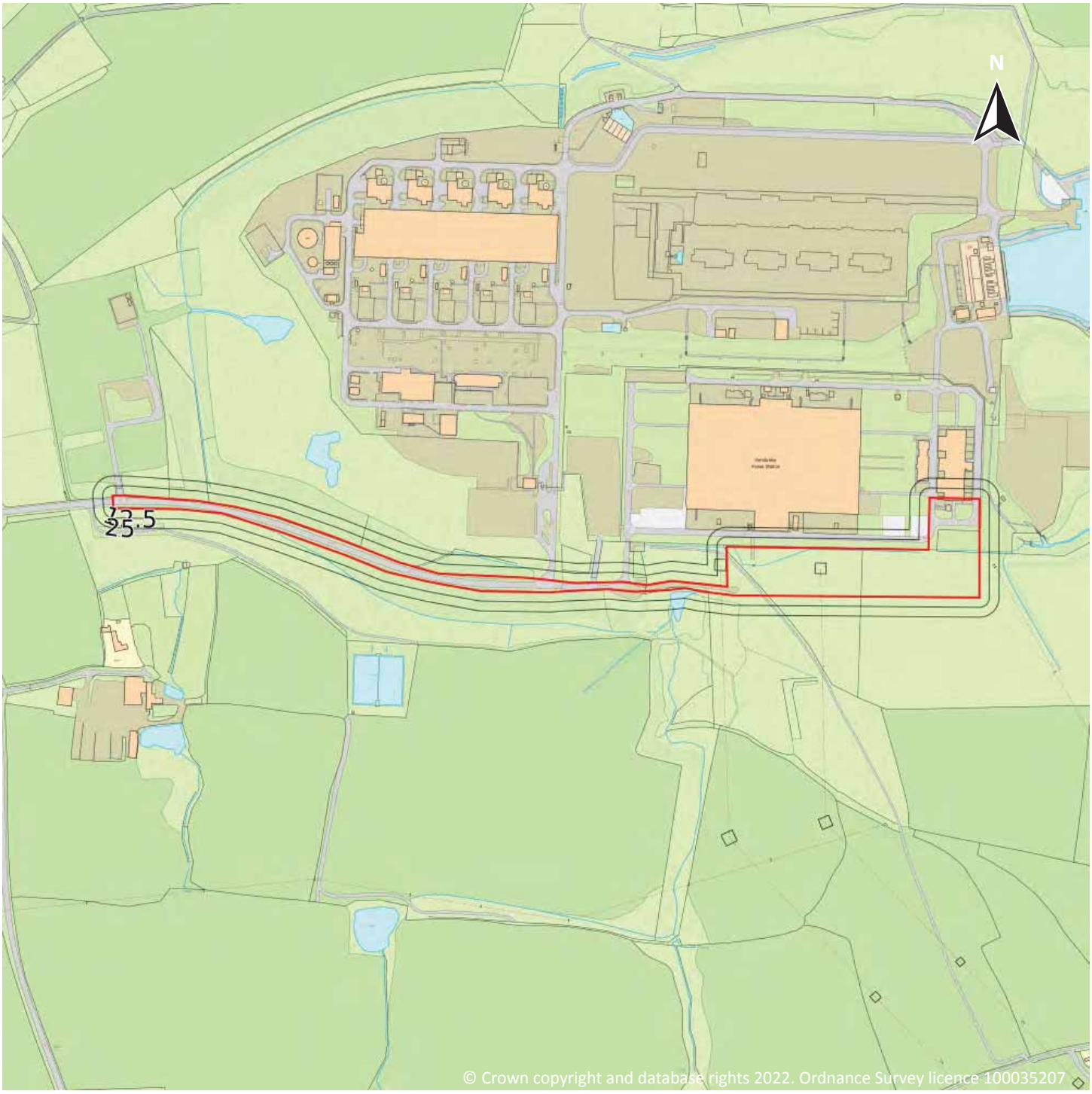


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Capture Date: 21/07/2000

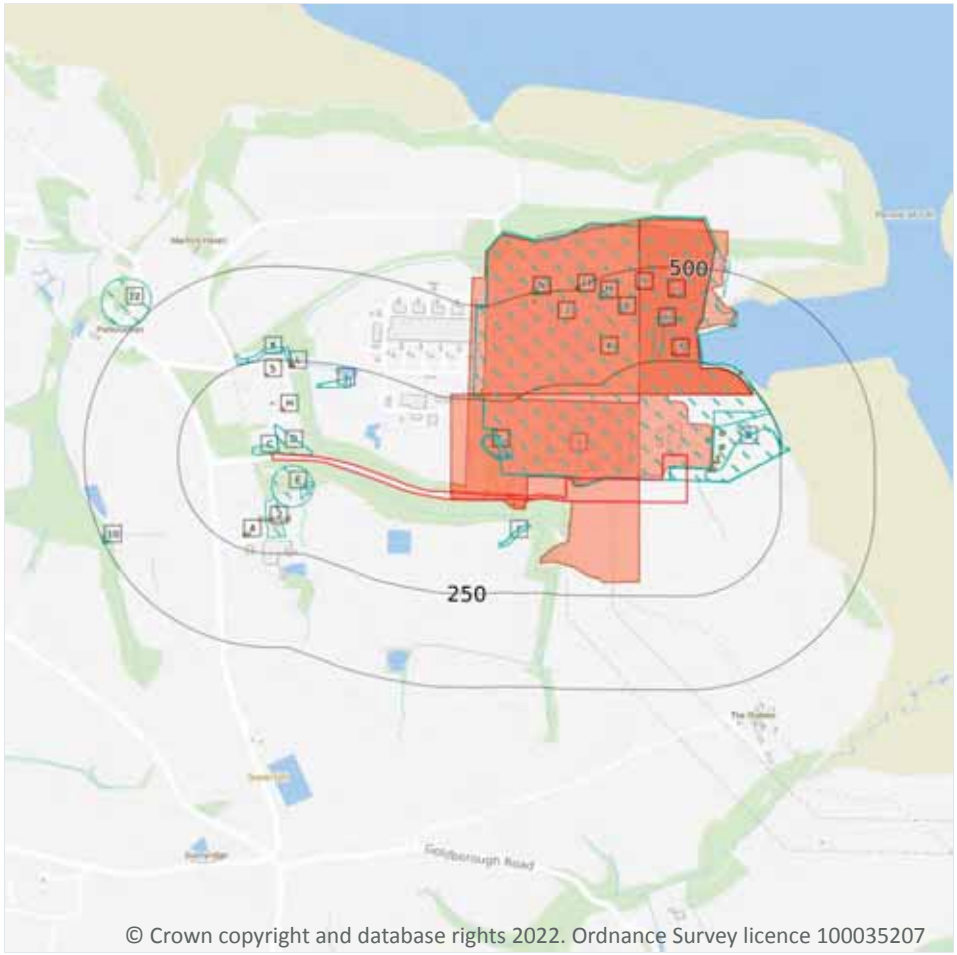
Site Area: 3.49ha

OS MasterMap site plan



Site Area: 3.49ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	37

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 14**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Power Station**	**1994**	**16330**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Power Station**	**1975**	**16495**
B	**On site**	**Sewage Works**	**1994**	**16605**
B	**On site**	**Sewage Works**	**1975**	**16901**
C	0m N	Unspecified Ground Workings	1975	14448
C	0m N	Unspecified Ground Workings	1994	14808
D	1m N	Unspecified Pit	1975	15940
D	1m N	Unspecified Pit	1994	16487
E	15m S	Unspecified Mill	1963	11723
B	48m E	Unspecified Pit	1994	16719
B	50m E	Unspecified Pit	1975	17659
E	56m S	Corn Mill	1864 - 1906	16546
B	65m NE	Chimney	1994	15096
B	65m NE	Chimney	1975	15421
F	66m S	Unspecified Ground Workings	1994	16912
F	66m S	Unspecified Ground Workings	1975	16293
B	92m E	Unspecified Tank	1994	14062
B	92m E	Unspecified Tank	1975	16080
G	95m N	Unspecified Pit	1963	13812
G	95m N	Unspecified Pit	1906 - 1948	15212
G	98m N	Lime Kiln	1864	12278
G	100m N	Unspecified Quarry	1864	12212
2	102m S	Corn Mill	1948	12579
B	109m NE	Unspecified Tank	1994	16089
B	109m NE	Unspecified Tank	1975	16515
B	148m NE	Unspecified Tank	1994	11607
J	183m N	Unspecified Pit	1994	16723
J	183m N	Unspecified Pit	1975	17474
K	231m N	Unspecified Ground Workings	1975	15413

ID	Location	Land use	Dates present	Group ID
K	231m N	Unspecified Ground Workings	1994	17222
6	264m N	Unspecified Ground Workings	1994	12896
M	444m N	Chimney	1994	14773
M	444m N	Chimney	1975	16949
10	485m SW	Unspecified Quarry	1864	12211
12	495m NW	Sand Pit	1864	11832
N	497m N	Unspecified Tank	1975	14163
N	497m N	Unspecified Tank	1994	16177

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**18**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 14**

ID	Location	Land use	Dates present	Group ID
B	66m E	Tanks	1972	1994
E	67m S	Unspecified Tank	1972 - 1993	2504
B	73m E	Tanks	1972	1993
B	79m E	Tanks	1972	2003
B	82m E	Tanks	1972	2004
B	87m E	Unspecified Tank	1972	1825
B	103m NE	Unspecified Tank	1972	1824
H	116m N	Unspecified Tank	1993	1808
4	202m S	Tanks	1972	1992
L	233m N	Unspecified Tank	1972 - 1993	2574

ID	Location	Land use	Dates present	Group ID
L	238m N	Unspecified Tank	1972 - 1993	2711
8	395m N	Tanks	1988	1995
I	423m N	Tanks	1988 - 1993	2099
9	449m N	Unspecified Tank	1988	1819
N	474m N	Tanks	1988	1996
11	491m NW	Tanks	1988	2000
N	494m N	Unspecified Tank	1972 - 1988	2292
N	497m N	Unspecified Tank	1972 - 1988	2692

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**7**

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 14**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Power Station**	**1990 - 1993**	**566**
A	**On site**	**Power Station**	**1972**	**694**
H	133m N	Electricity Substation	1972	432
I	161m N	Power Station	1993	670
3	161m N	Power Station	1988	655
5	210m N	Electricity Substation	1972	431
7	269m N	Electricity Substation	1972 - 1993	708

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	0

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

This data is sourced from Ordnance Survey / Groundsure.

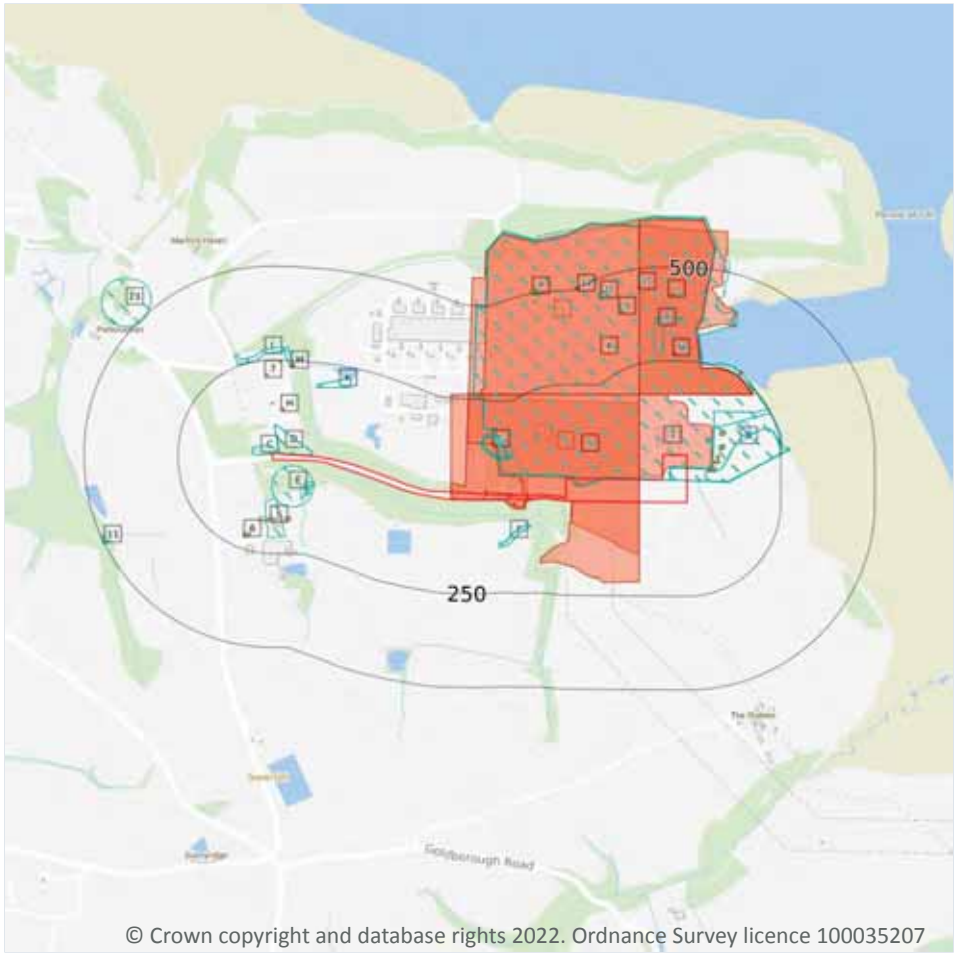
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	39

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Power Station**	**1994**	**16330**
A	**On site**	**Power Station**	**1975**	**16495**
B	**On site**	**Sewage Works**	**1994**	**16605**

ID	Location	Land Use	Date	Group ID
B	**On site**	**Sewage Works**	**1975**	**16901**
C	0m N	Unspecified Ground Workings	1994	14808
C	0m N	Unspecified Ground Workings	1975	14448
D	1m N	Unspecified Pit	1994	16487
D	1m N	Unspecified Pit	1975	15940
E	15m S	Unspecified Mill	1963	11723
B	48m E	Unspecified Pit	1994	16719
B	50m E	Unspecified Pit	1975	17659
E	56m S	Corn Mill	1864	16546
B	65m NE	Chimney	1994	15096
B	65m NE	Chimney	1975	15421
F	66m S	Unspecified Ground Workings	1994	16912
F	66m S	Unspecified Ground Workings	1975	16293
E	68m S	Corn Mill	1906	16546
B	92m E	Unspecified Tank	1994	14062
B	92m E	Unspecified Tank	1975	16080
G	95m N	Unspecified Pit	1963	13812
G	95m N	Unspecified Pit	1948	15212
G	95m N	Unspecified Pit	1906	15212
G	98m N	Lime Kiln	1864	12278
G	100m N	Unspecified Quarry	1864	12212
5	102m S	Corn Mill	1948	12579
B	109m NE	Unspecified Tank	1994	16089
B	109m NE	Unspecified Tank	1975	16515
B	148m NE	Unspecified Tank	1994	11607
K	183m N	Unspecified Pit	1994	16723
K	183m N	Unspecified Pit	1975	17474
L	231m N	Unspecified Ground Workings	1994	17222

ID	Location	Land Use	Date	Group ID
L	231m N	Unspecified Ground Workings	1975	15413
8	264m N	Unspecified Ground Workings	1994	12896
O	444m N	Chimney	1994	14773
O	444m N	Chimney	1975	16949
11	485m SW	Unspecified Quarry	1864	12211
13	495m NW	Sand Pit	1864	11832
P	497m N	Unspecified Tank	1994	16177
P	497m N	Unspecified Tank	1975	14163

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**24**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
B	66m E	Tanks	1972	1994
E	67m S	Unspecified Tank	1972	2504
E	68m S	Unspecified Tank	1993	2504
B	73m E	Tanks	1972	1993
B	79m E	Tanks	1972	2003
B	82m E	Tanks	1972	2004
B	87m E	Unspecified Tank	1972	1825
B	103m NE	Unspecified Tank	1972	1824
H	116m N	Unspecified Tank	1993	1808
6	202m S	Tanks	1972	1992
M	233m N	Unspecified Tank	1993	2574
M	233m N	Unspecified Tank	1972	2574

ID	Location	Land Use	Date	Group ID
M	238m N	Unspecified Tank	1993	2711
M	239m N	Unspecified Tank	1972	2711
9	395m N	Tanks	1988	1995
I	423m N	Tanks	1993	2099
I	424m N	Tanks	1988	2099
10	449m N	Unspecified Tank	1988	1819
P	474m N	Tanks	1988	1996
12	491m NW	Tanks	1988	2000
P	494m N	Unspecified Tank	1972	2292
P	495m N	Unspecified Tank	1988	2292
P	497m N	Unspecified Tank	1972	2692
P	498m N	Unspecified Tank	1988	2692

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**14**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Power Station**	**1972**	**694**
2	**On site**	**Power Station**	**1972**	**694**
3	**On site**	**Power Station**	**1990**	**566**
4	**On site**	**Power Station**	**1993**	**566**
H	133m N	Electricity Substation	1972	432
I	161m N	Power Station	1993	670
I	161m N	Power Station	1972	694
I	161m N	Power Station	1988	655

ID	Location	Land Use	Date	Group ID
J	173m N	Power Station	1988	655
J	173m N	Power Station	1972	694
7	210m N	Electricity Substation	1972	431
N	269m N	Electricity Substation	1993	708
N	269m N	Electricity Substation	1972	708
N	270m N	Electricity Substation	1988	708

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

Historical landfill (LA/OS)

Licensed waste sites

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	2

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
A	64m S	Refuse Tip	1971 mapping	Polygon
A	91m S	Refuse Tip	1971 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	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	8

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

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

ID	Location	Details		
D	318m S	Site Name: Inert Landfill Site Address: Cheveralton Farm, Rhoscrowther, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WIL007 EPR reference: EP3398FY/S002 Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 150000	Issue Date: 24/07/1992 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Surrendered
D	319m S	Site Name: Inert Landfill Site Address: Cheveralton Farm, Rhoscrowther, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: Chevralton Farm, Rhoscrowther, Angle, Pembroke, Pembrokeshire, SA71 5SU	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: WIL007 EPR reference: - Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Surrendered
D	319m S	Site Name: Inert Landfill Site Address: Cheveralton Farm, Rhoscrowther, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WIL007 EPR reference: EA/EPR/EP3398FY/S002 Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 150000	Issue Date: 24/07/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Surrendered
D	319m S	Site Name: - Site Address: Inert Landfill, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: EP3398FY EPR reference: - Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: 24/07/1992 Modified: - Surrendered Date: 31/03/1999 Expiry Date: - Cancelled Date: - Status: Surrender

ID	Location	Details		
D	319m S	Site Name: - Site Address: Inert Landfill, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3398FY EPR reference: - Operator: W J A Williams & Son Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: 24/07/1992 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Surrendered
D	319m S	Site Name: - Site Address: Inert Landfill, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3398FY EPR reference: - Operator: - Waste Management licence No: 34195 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: 24/07/1992 Modified: - Surrendered Date: 31/03/1999 Expiry Date: - Cancelled Date: - Status: Surrender
D	319m S	Site Name: - Site Address: Inert Landfill, Angle, Pembrokeshire, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EP3398FY EPR reference: - Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: 24/07/1992 Modified: - Surrendered Date: 31/03/1999 Expiry Date: - Cancelled Date: - Status: Surrender
D	319m S	Site Name: - Site Address: Inert Landfill, Angle, Pembroke, Pembrokeshire, SA71 5SU Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: EP3398FY EPR reference: - Operator: W J A Williams & Son Waste Management licence No: 34195 Annual Tonnage: 0	Issue Date: 24/07/1992 Effective Date: 24/07/1992 Modified: - Surrendered Date: 31/03/1999 Expiry Date: - Cancelled Date: - Status: Surrender

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

3.7 Waste exemptions

Records within 500m	**4**

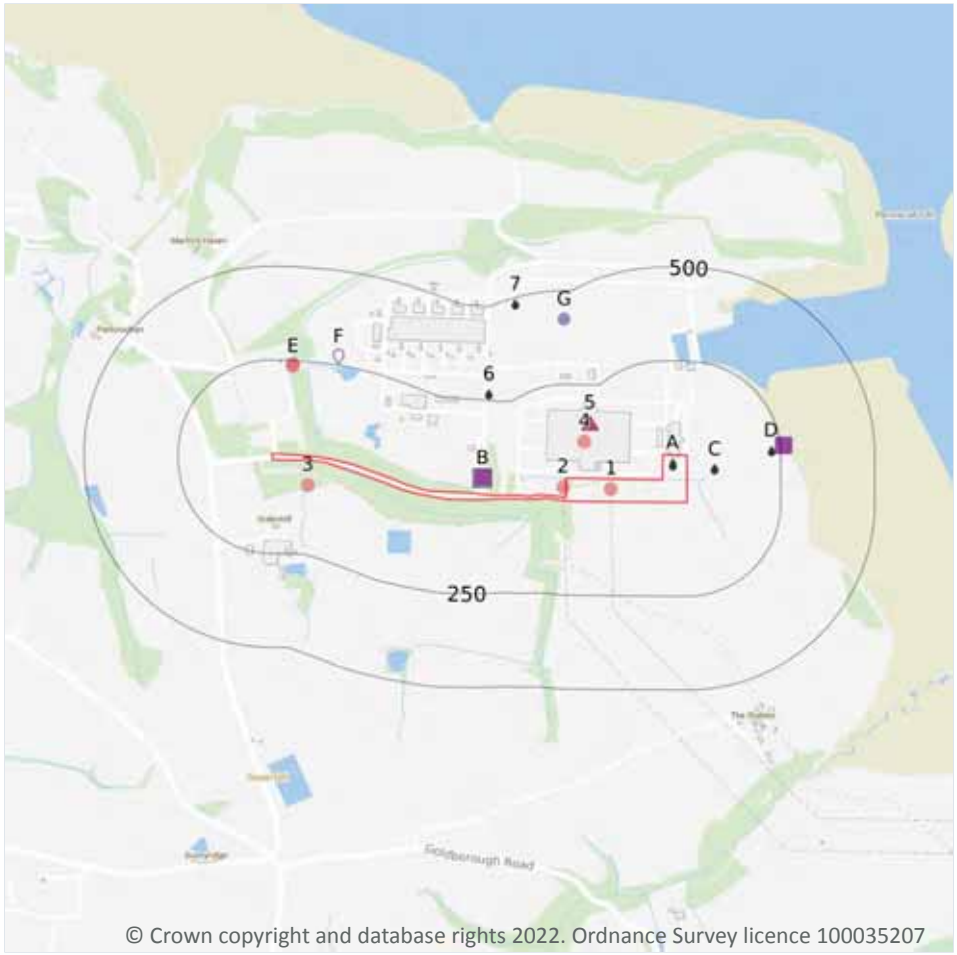
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

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

ID	Location	Site	Reference	Category	Sub-Category	Description
B	120m N	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
B	120m N	National Grid Gas plc, National Grid, Pembroke Sub Station, Pembroke, West Pennar, SA715SS	NRW-WME025717	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	175m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Storing waste exemption	On a farm	Storage of waste in a secure place
C	175m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Using waste exemption	On a farm	Use of waste in construction

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Hazardous substance storage/usage

Historical licensed industrial activities

Part A(1) industrial activities

Licensed Discharges to controlled waters

Pollutant release to surface waters

List 1 Dangerous Substances

List 2 Dangerous Substances

4.1 Recent industrial land uses

Records within 250m	**6**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Pylon**	**Dyfed, SA71**	**Electrical Features**	**Infrastructure and Facilities**
2	8m W	Pylon	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
3	64m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
4	99m N	Power Station	Dyfed, SA71	Energy Production	Industrial Features
E	235m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
E	242m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Details	
5	148m N	Application reference number: 10/0373/HS Application status: Approved Application date: No Details Address: Alstom Power Ltd, Pembroke Power Station, Pembroke, Pembrokeshire, Wales, SA71 5SS	Details: Chemical cleaning of boilers on site for commissioning Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	3

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.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Details	
G	423m N	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AA2666	Original Permit Number: IPCAIRAPP Date Approved: 8-4-1993 Effective Date: 8-4-1993 Status: Superseded By Variation
G	423m N	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AN5853	Original Permit Number: IPCMINVAR Date Approved: 1-7-1994 Effective Date: 1-7-1994 Status: Superseded By Variation
G	423m N	Operator: Rwe Npower Plc Address: Pembroke Power Station, West Pennar, Pembroke, Dyfed, SA71 5SS Process: Combustion Processes Permit Number: AX1182	Original Permit Number: IPCMINVAR Date Approved: 17-12-1996 Effective Date: 31-12-1996 Status: Revoked

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m **5**

Records of Part A(1) 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 29**

ID	Location	Details	
F	272m N	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION EPR/DP333TA Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3338ZK Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 26/07/2013 Effective Date: 26/07/2013 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
F	272m N	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3333TA Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 10/11/2011 Effective Date: 10/11/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	272m N	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: - Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/12/2016 Status: EFFECTIVE

ID	Location	Details	
F	272m N	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	272m N	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 16/10/2020 Effective Date: 16/10/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

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

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

Records within 500m	0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	7

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 29**

ID	Location	Address	Details	
A	**On site**	**OIL INTERCEPTOR@NATIONAL GRID, NATIONAL GRID PEMBROKE, 400/132KV SUBSTATION, PEMBROKE POWER STATION, Pembrokeshire, SA71 5SS**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: TB3890HM Permit Version: 1 Receiving Water: DRAIN LEADING TO PENNAR GUT**	**Status: Effective Issue date: 18/12/2015 Effective Date: 18/12/2015 Revocation Date: -**
A	**On site**	**OIL INTERCEPT@PEMBROKE POWERSTATION, Pembroke Power Station, GRIB SUB STATION, Pembrokeshire, SA71 5SS**	**Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: GB3690HF Permit Version: 1 Receiving Water: DRAIN LEADING TO PENNAR GUT**	**Status: Effective Issue date: 02/10/2015 Effective Date: 02/10/2015 Revocation Date: -**
C	73m E	PEMBROKE POWER STATION WEST PENNA, PEMBROKE POWER STATION WEST PE, WEST PENNAR, SA71 5SS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: BH0055001 Permit Version: 1 Receiving Water: UNNAMED TRIB OF PEMBROKE RIVER	Status: REVOKED - UNSPECIFIED Issue date: 11/11/1965 Effective Date: 11/11/1965 Revocation Date: 12/03/1986
C	73m E	PEMBROKE POWER STATION WEST PENNA, PEMBROKE POWER STATION WEST PE, WEST PENNAR, SA71 5SS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: BH0055001 Permit Version: 2 Receiving Water: UNNAMED TRIB OF PEMBROKE RIVER	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 13/03/1986 Effective Date: 13/03/1986 Revocation Date: 13/02/2003
D	223m E	GREENHILL FARM & PEMBROKE POWER STN, GREENHILL FM & PEMBROKE PWR STN, PEMBNROKESHIRE, WALES, UK	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BH0055002 Permit Version: 1 Receiving Water: PENNAR GUT	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 13/03/1986 Effective Date: 13/03/1986 Revocation Date: 23/09/2009
6	266m N	PEMBROKE POWER STATION WEST PENNA, PEMBROKE POWER STATION WEST PE, WEST PENNAR, SA71 5SS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD008613 Permit Version: 1 Receiving Water: MILFORD HAVEN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 12/01/2010 Effective Date: 12/01/2010 Revocation Date: 31/12/2012
7	482m N	PEMBROKE POWER STATION SITE DRAIN, Pembroke Power Station, WEST PENNAR, PEMBROKE, Pembrokeshire, SA71 5SS	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: HP3820XU Permit Version: 1 Receiving Water: PENNAR GUT	Status: Effective Issue date: 14/06/2011 Effective Date: 14/06/2011 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	4

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 29**

ID	Location	Address	Details	
B	43m N	RWE GENERATION UK PLC, PEMBROKE POWER STATION SITE DRAIN, PEMBROKE POWER STATION, WEST PENNAR, PEMBROKE, PEMBROKESHIRE, SA71 5SS	Permit Number: HP3820XU Permit Version: 0 Status: Effective Discharge Type: -	Effluent Type: Trade Catchment: PENNAR GUT Approval Date: 2011-06-14T00:00:00.000Z
D	257m E	RWE NPOWER PLC, PEMBROKE POWER STATION SITE DRAIN, PEMBROKE POWER STATION, WEST PENNAR, PEMBROKE, PEMBROKESHIRE, SA71 5SS	Permit Number: EPRHP3820XU Permit Version: 1 Status: NEW ISSUED UNDER EPR 2010 Discharge Type: Production and Distribution of Electricity	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Catchment: - Approval Date: 2011-06-14T00:00:00.000Z
D	257m E	RWE GENERATION UK PLC, PEMBROKE POWER STATION SITE DRAIN, PEMBROKE POWER STATION, WEST PENNAR, PEMBROKE, PEMBROKESHIRE, SA71 5SS	Permit Number: HP3820XU Permit Version: - Status: Effective Discharge Type: -	Effluent Type: Trade Catchment: PENNAR GUT Approval Date: 2011-06-14T00:00:00.000Z
D	257m E	RWE Generation UK plc, PEMBROKE POWER STATION SITE DRAIN, Pembroke Power Station, WEST PENNAR, PEMBROKE, Pembrokeshire, SA71 5SS	Permit Number: HP3820XU Permit Version: 1 Status: Effective Discharge Type: -	Effluent Type: Trade Catchment: PENNAR GUT Approval Date: 2011-06-14T01:00:00.000Z

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.

4.16 List 1 Dangerous Substances

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Name	Status	Receiving Water	Authorised Substances
B	43m N	Pembroke Power Station Site Drainage	Active	Milford Haven, Any	Mercury (other), Cadmium

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 29**

ID	Location	Name	Status	Receiving Water	Authorised Substances
B	43m N	Pembroke Power Station Site Drainage	Active	Milford Haven	Arsenic, Copper, Lead, Nickel, pH, Vanadium, Zinc

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

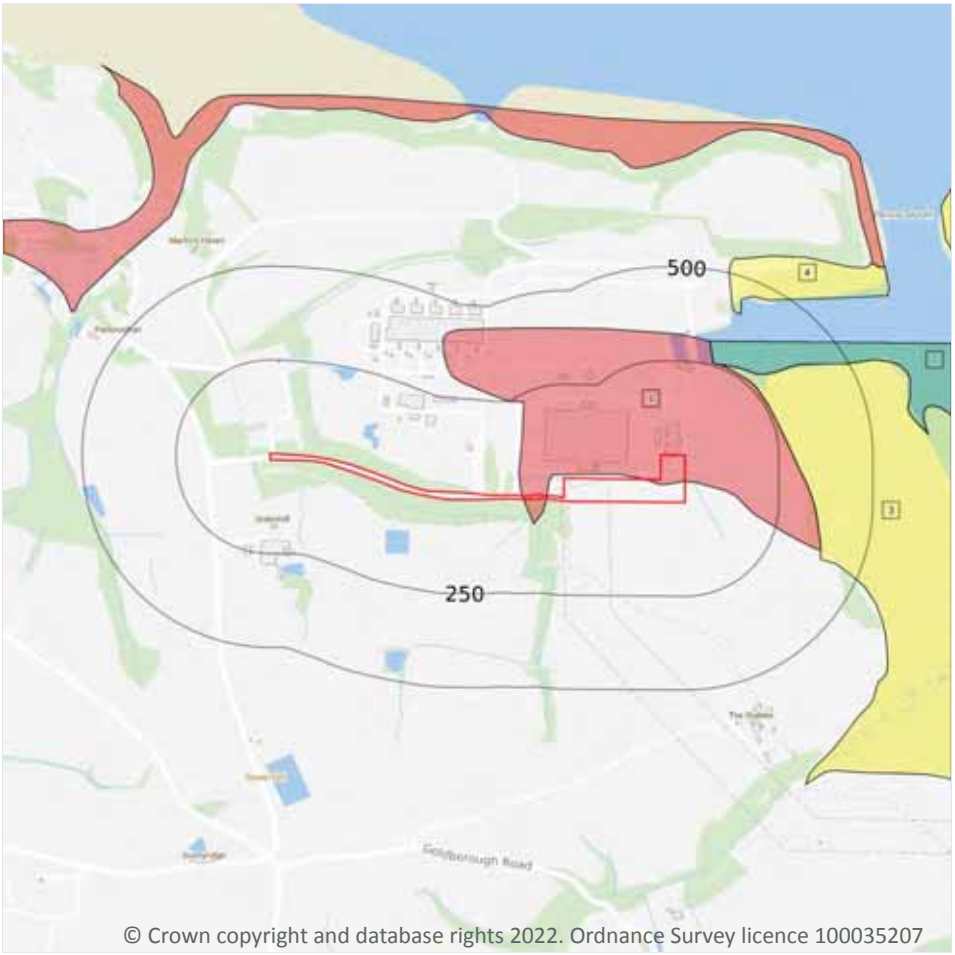
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



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Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	4

Aquifer status of groundwater held within superficial geology.

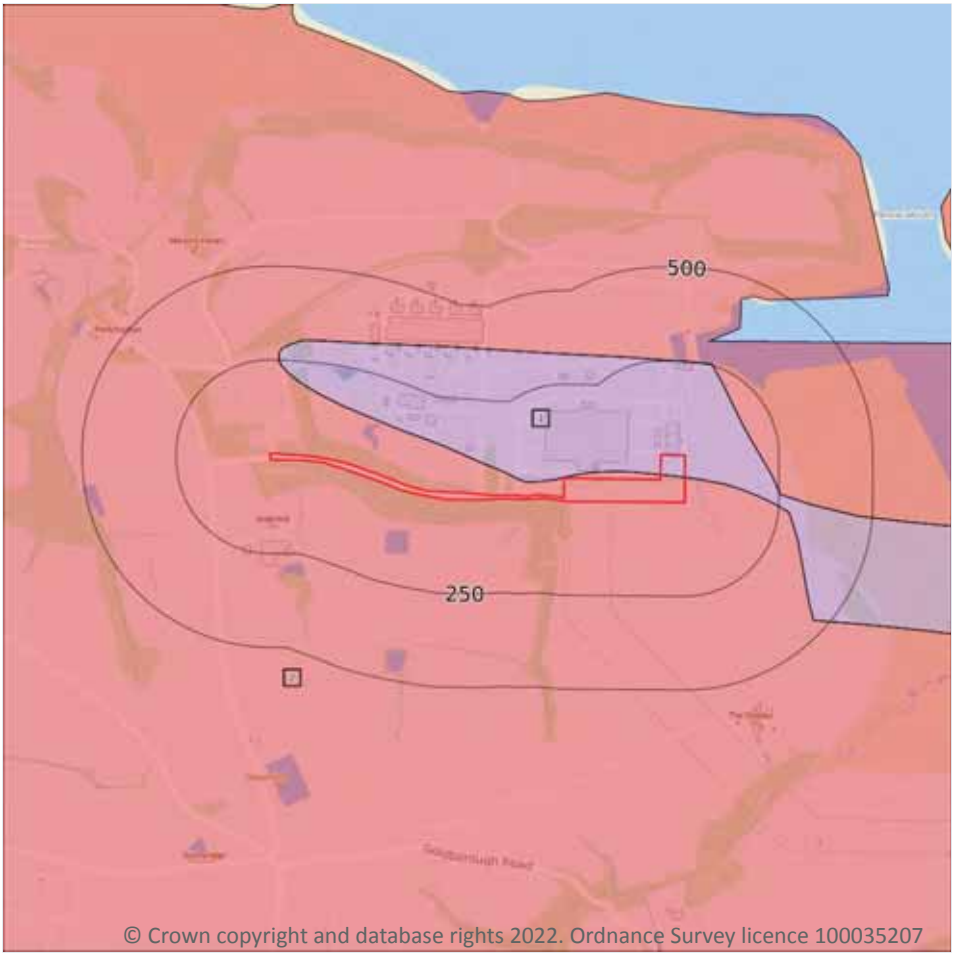
Features are displayed on the Hydrogeology map on **page 38**

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	256m N	Unknown	Unknown

ID	Location	Designation	Description
3	258m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	404m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

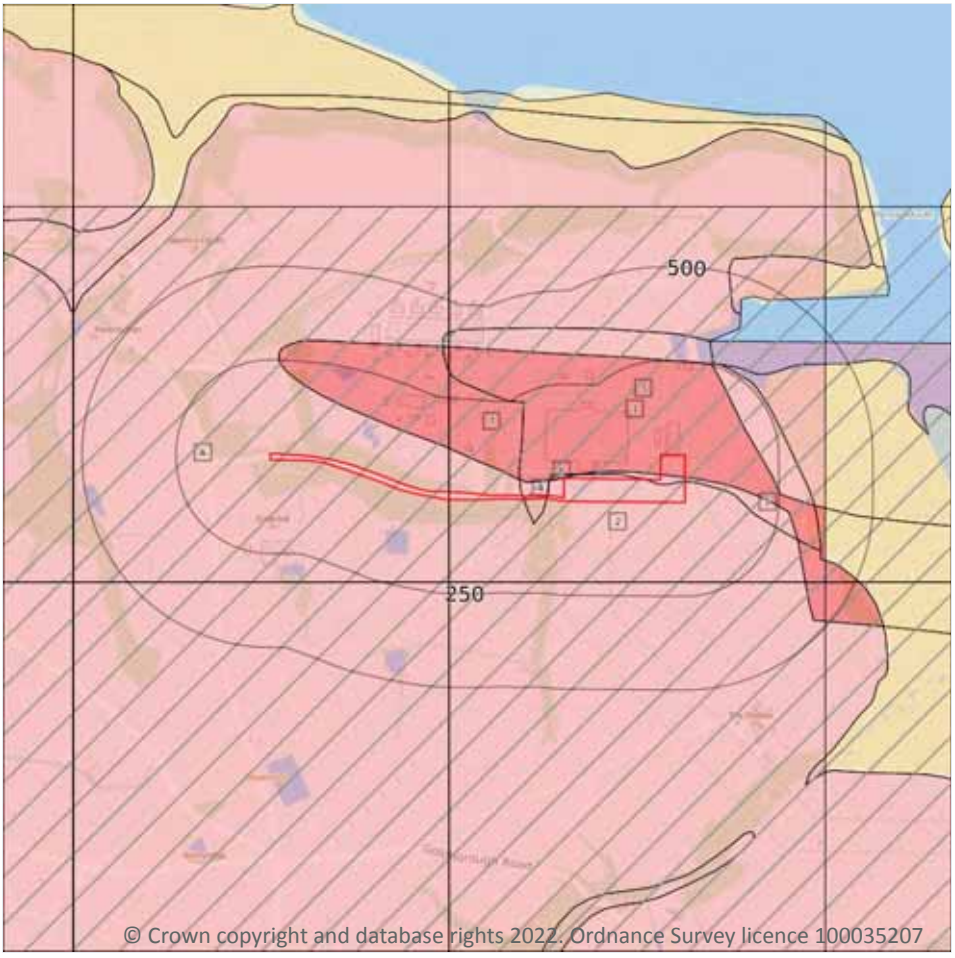
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 40**

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

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

Groundwater vulnerability



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	7

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 42**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures**
2	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
4	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
5	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
A	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
6	1m N	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
7	41m N	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High 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	2

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
3	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**22.0%**
A	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**1.0%**

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.

Abstractions and Source Protection Zones



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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	0

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

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

5.7 Surface water abstractions

Records within 2000m	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 45**

ID	Location	Details	
1	254m N	Status: Active Licence No: 22/61/6/0156 Details: Non Evaporative Cooling - Low Direct Source: - Point: - Data Type: Line Name: - Easting: 193650 Northing: 202650	Annual Volume (m^3): 1,200,000,000 Max Daily Volume (m^3): 3,456,000 Original Application No: - Original Start Date: Oct 13 2014 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
A	423m S	Status: Active Licence No: 22/61/6/0144 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192880 Northing: 201810	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	438m S	Status: Historical Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR IN FIELD NO.0556 AT GREENHILL FARM. Data Type: Point Name: RWE Npower plc Easting: 192850 Northing: 201800	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 4546 Original Application No: - Original Start Date: 19/07/1984 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
A	438m S	Status: Active Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm. Point: - Data Type: Point Name: - Easting: 192850 Northing: 201800	Annual Volume (m^3): 4,546 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 30 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
B	486m W	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: RWE Npower plc Easting: 192050 Northing: 202220	Annual Volume (m^3): 6060 Max Daily Volume (m^3): 1206 Original Application No: - Original Start Date: 28/06/1988 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
B	486m W	Status: Active Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm Point: - Data Type: Point Name: - Easting: 192050 Northing: 202220	Annual Volume (m^3): 6,060 Max Daily Volume (m^3): 1,255.20 Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
B	493m W	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: Kenniford Easting: 192050 Northing: 202190	Annual Volume (m^3): 6059.8 Max Daily Volume (m^3): 1205.6 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 28/06/1988 Version End Date: -
B	510m W	Status: Active Licence No: 22/61/6/0147 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192020 Northing: 202250	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1573m SW	Status: Historical Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY UNNAMED STREAM Data Type: Point Name: Allen-Mirehouse Easting: 191090 Northing: 201680	Annual Volume (m^3): 7545.5 Max Daily Volume (m^3): 7545.5 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -

ID	Location	Details	
-	1573m SW	Status: Active Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191090 Northing: 201680	Annual Volume (m^3): 7,545.50 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1626m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191820 Northing: 200860	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 819 Original Application No: - Original Start Date: 24/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1626m SW	Status: Active Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191820 Northing: 200860	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): 1,320 Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1636m SW	Status: Active Licence No: 22/61/6/0135 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191740 Northing: 200890	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1640m SW	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191750 Northing: 200880	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 818.28 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/05/1985 Version End Date: -

ID	Location	Details	
-	1677m S	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM IN FIELD NO. 3553, TO FILL RESERVOIR Data Type: Point Name: Woods Easting: 191950 Northing: 200750	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: 21/08/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1897m SW	Status: Historical Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: INLAND WATER,RESERVOIR ON UNNAMED STREAM RHOSCROWTHER Data Type: Point Name: Woods Easting: 191120 Northing: 201050	Annual Volume (m^3): 15911 Max Daily Volume (m^3): 15911 Original Application No: - Original Start Date: 29/05/1996 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -
-	1897m SW	Status: Active Licence No: 22/61/6/0118 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: May 29 1996 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1897m SW	Status: Active Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 15,911 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - 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.

6 Hydrology



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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	**33**

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 51**

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)**	**-**

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)**	**-**
B	**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)**	**-**
C	3m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	12m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	22m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	26m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	29m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	35m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	37m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	37m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	39m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	42m S	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
C	47m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	47m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	52m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	74m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	77m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	77m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	78m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	79m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	85m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	91m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	94m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	214m S	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
O	214m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	225m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	237m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	239m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	240m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	241m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	21

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 51**

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 51**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
D	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**163**	**Coastal streams of South Pembs and South Milford Haven - Pendine to Landshipping**	**Cleddau and Pembrokeshire Coastal Rivers**

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.

Features are displayed on the Hydrology map on **page 51**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
9	207m N	Transitional	MILFORD HAVEN INNER	GB531006114100	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	**1**

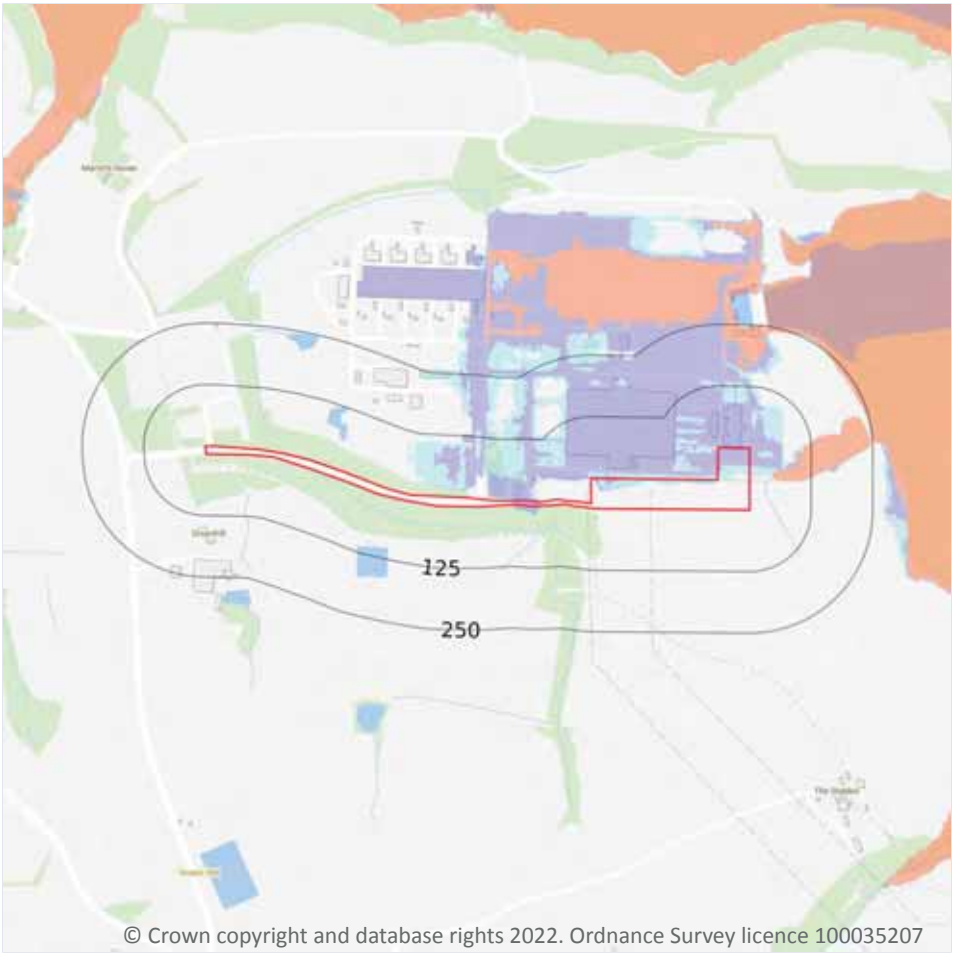
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 51**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Pembrokeshire Carboniferous Limestone**	**GB41002G206000**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding



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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	80

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 56**

Distance	Flood risk category
On site	**Medium**
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.

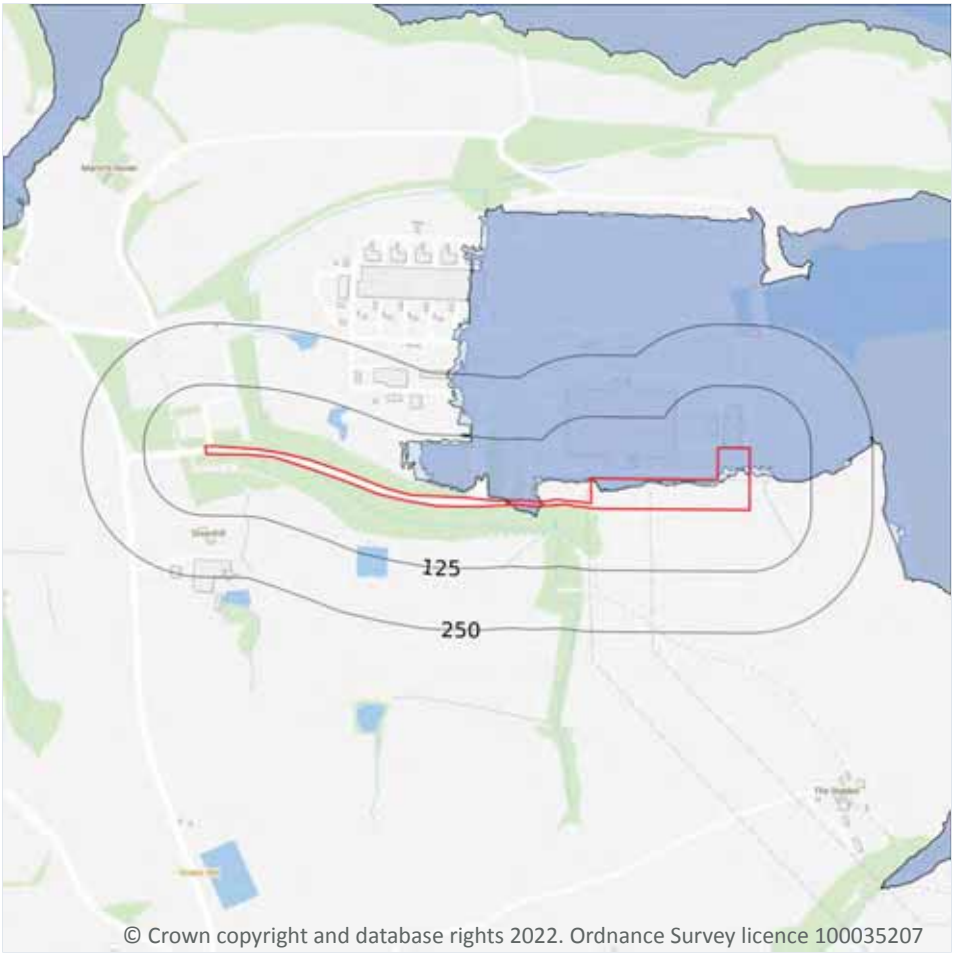
7.5 Flood Storage Areas

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



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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 56**

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

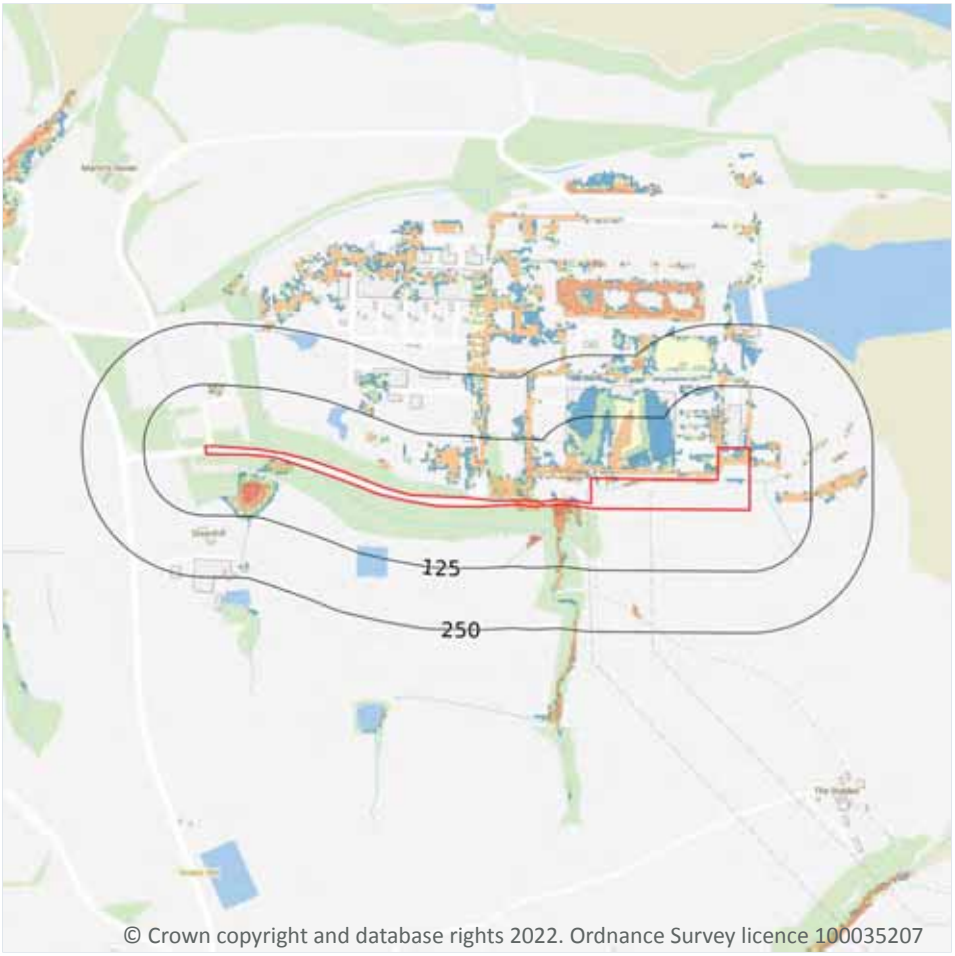
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 56**

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

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

8 Surface water flooding



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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, Greater than 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 60**

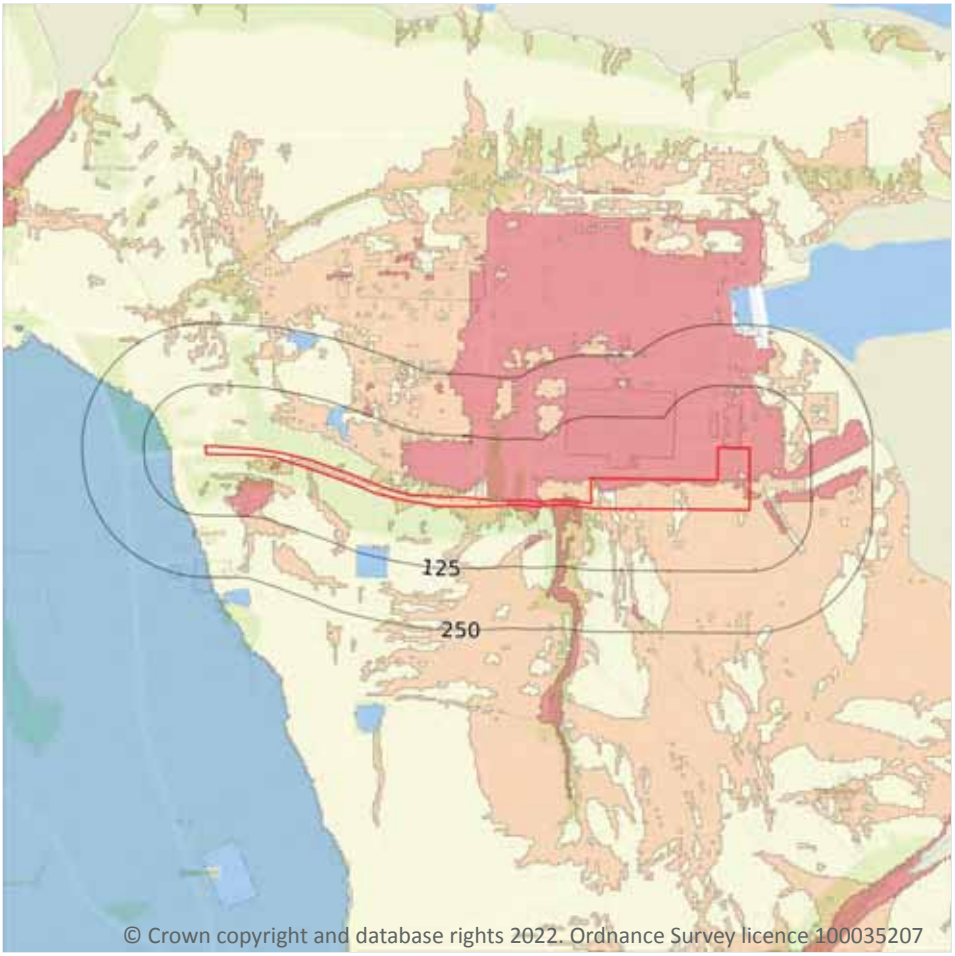
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

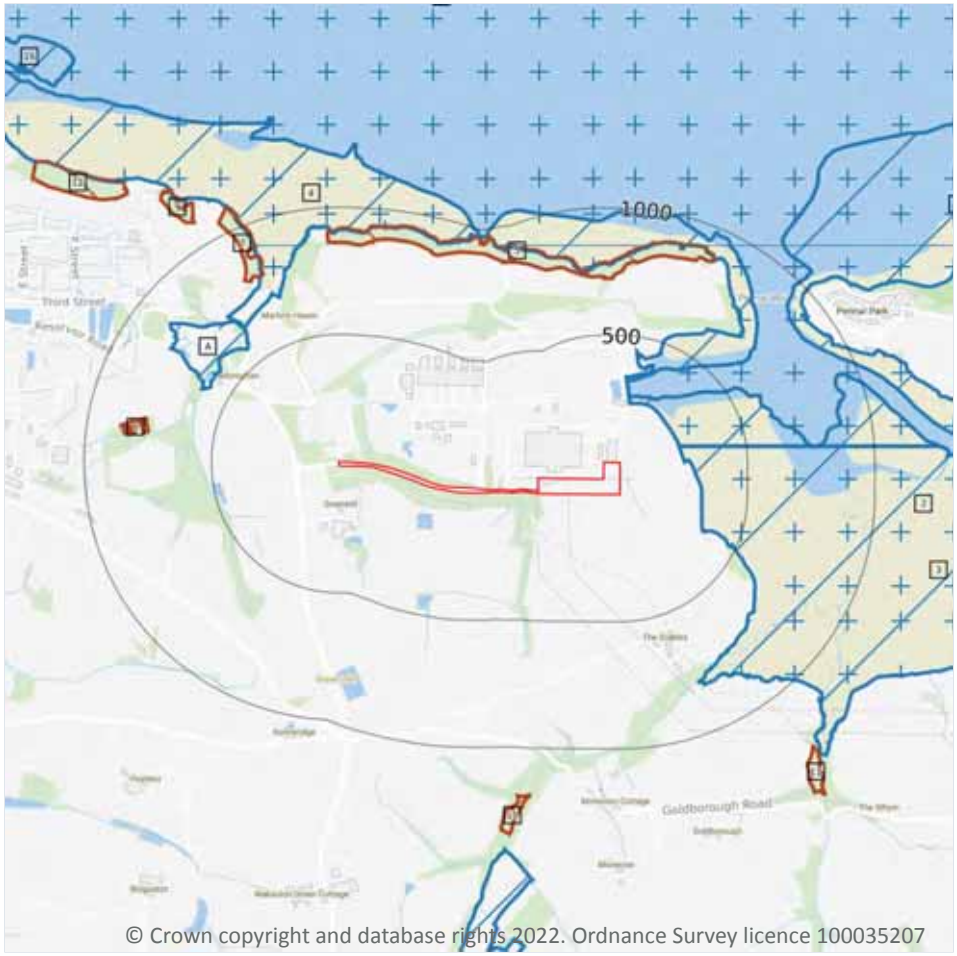
Highest risk on site	**High**
Highest risk within 50m	**High**

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 62**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Areas of Conservation (SAC)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	**7**

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 63**

ID	Location	Name	Data source
1	235m N	MILFORD HAVEN WATERWAY	Natural Resources Wales

ID	Location	Name	Data source
3	241m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
4	370m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
A	568m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
13	1402m S	GWEUNYDD SOMERTON MEADOWS	Natural Resources Wales
16	1851m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
-	1919m N	MILFORD HAVEN WATERWAY	Natural Resources Wales

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	**3**

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.

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Features of interest	Habitat description	Data source
2	235m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

ID	Location	Name	Features of interest	Habitat description	Data source
A	568m NW	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
8	852m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	9

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

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Woodland Type
5	724m N	Unknown	Ancient Semi Natural Woodland
6	758m W	Unknown	Ancient Semi Natural Woodland
7	788m NW	Unknown	Restored Ancient Woodland Site
9	1099m NW	Unknown	Restored Ancient Woodland Site
10	1186m S	Unknown	Ancient Semi Natural Woodland
11	1246m SE	Unknown	Ancient Semi Natural Woodland
12	1341m NW	Unknown	Restored Ancient Woodland Site
-	1795m W	Unknown	Ancient Semi Natural Woodland
-	1809m SE	Unknown	Ancient Semi Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

This data is sourced from 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.

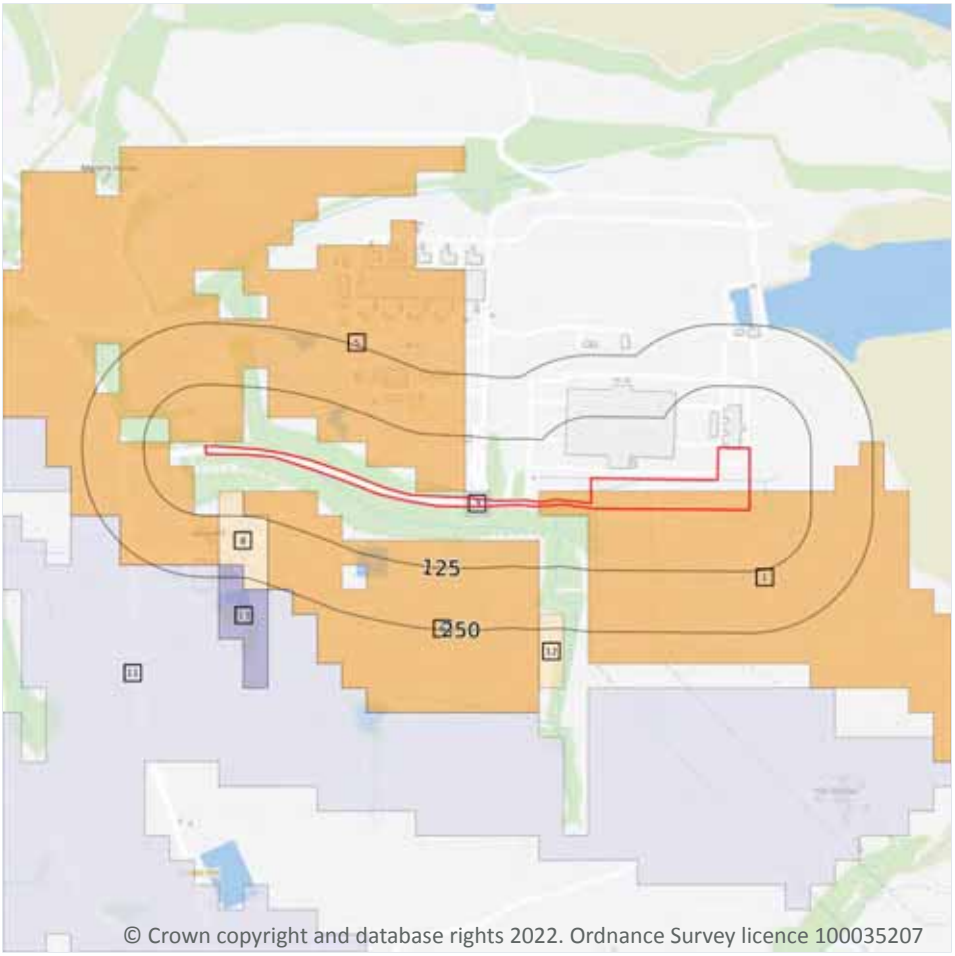
11.7 Registered Parks and Gardens

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



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Site Outline

Search buffers in metres (m)

Grade 1 - excellent quality

Grade 2 - very good quality

Grade 3a - good quality

Grade 3b - moderate quality

Grade 4 - poor quality

Grade 5 - very poor quality

Timber felling licences

Open Access land

12.1 Agricultural Land Classification

Records within 250m	8

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 72**

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Good quality agricultural land**
3	**On site**	**Grade 3b**	**Moderate quality agricultural land**
5	8m N	Grade 2	Good quality agricultural land

ID	Location	Classification	Description
6	39m S	Grade 2	Good quality agricultural land
8	75m S	Grade 3a	Good to moderate quality agricultural land
11	215m SW	Grade 3b	Moderate quality agricultural land
12	220m S	Grade 3a	Good to moderate quality agricultural land
13	224m S	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 76**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	4

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 80**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW244_245_pembroke_and_linney_head_v4**
2	224m W	No coverage	Full	Full	No coverage	EW244_245_pembroke_and_linney_head_v4
3	304m N	No coverage	Full	Full	No coverage	EW228_haverfordwest_v4

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
4	384m NW	No coverage	Full	Full	No coverage	EW227_milford_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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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 83**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**
2	258m NE	TFD-XSZC	TIDAL FLAT DEPOSITS	SAND, SILT AND CLAY
3	304m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	404m N	TFD-XSZC	TIDAL FLAT DEPOSITS	SAND, SILT AND CLAY

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

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

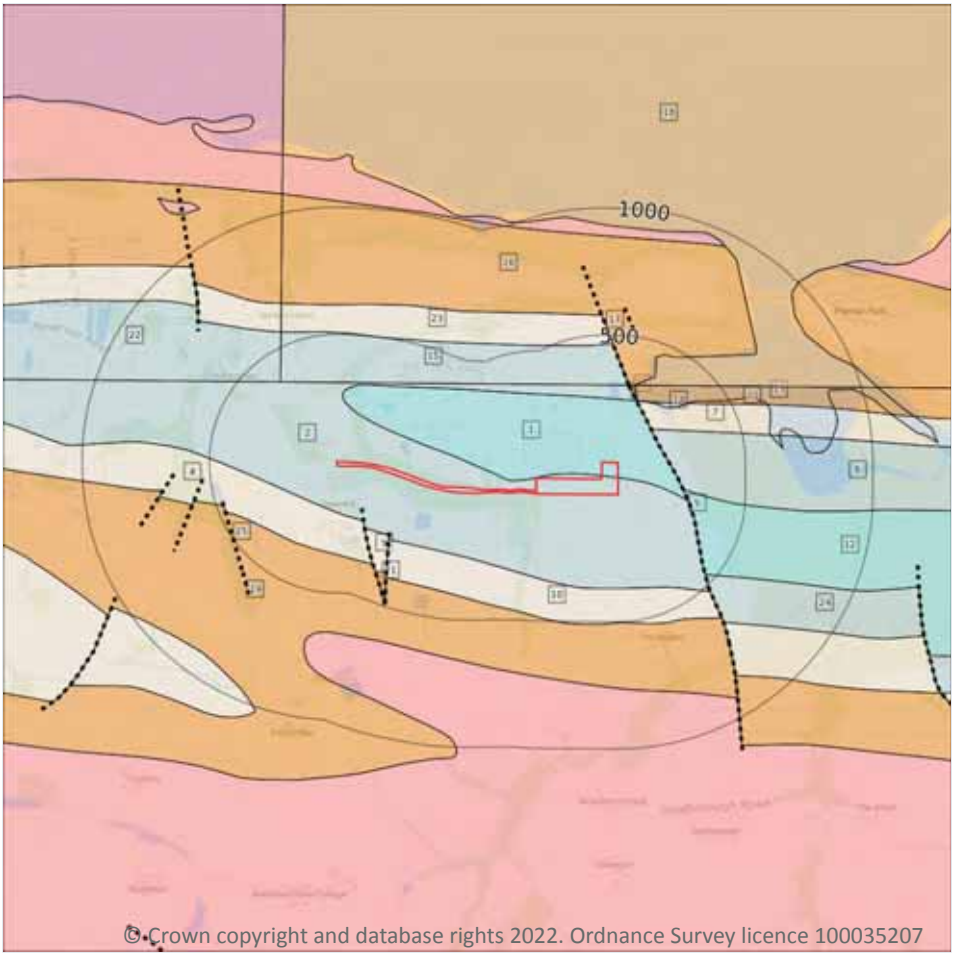
15.7 Landslip permeability (50k)

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



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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	20

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 85**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BGUO-LMST**	**BLACK ROCK SUBGROUP AND GULLY OOLITE FORMATION (UNDIFFERENTIATED) - LIMESTONE**	**TOURNAISIAN**
2	**On site**	**AVO-LSMD**	**AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED**	**TOURNAISIAN**
4	171m SW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN

ID	Location	LEX Code	Description	Rock age
6	174m NE	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
7	184m NE	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
9	231m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
10	235m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
11	254m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
12	254m E	BGUO-LMST	BLACK ROCK SUBGROUP AND GULLY OOLITE FORMATION (UNDIFFERENTIATED) - LIMESTONE	TOURNAISIAN
13	256m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
14	260m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
15	304m N	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
16	307m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
18	311m N	COB-SDST	COSHESTON GROUP - SANDSTONE	LOCHKOVIAN
19	339m S	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
20	357m NE	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
21	368m S	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
22	384m NW	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
23	462m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
24	465m SE	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN

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**	**Low**
On site	**Fracture**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	5

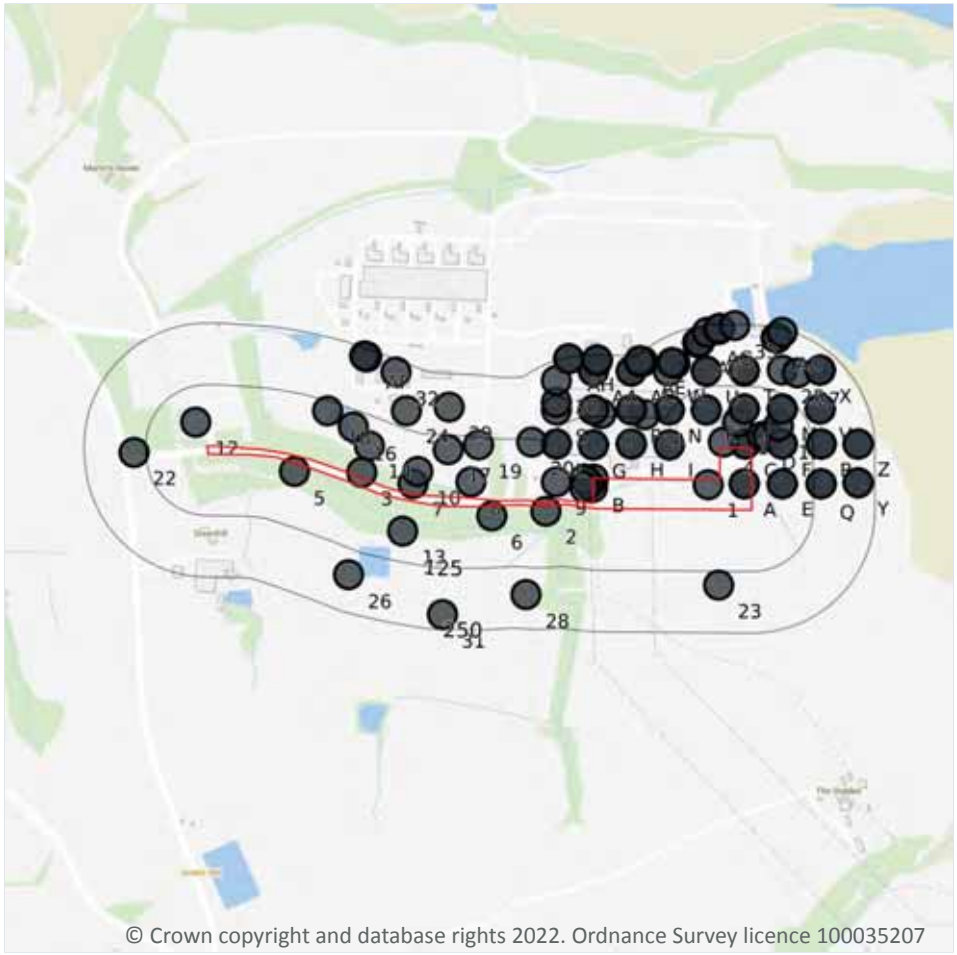
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 85**

ID	Location	Category	Description
3	164m S	FAULT	Fault, observed, displacement unknown
5	174m NE	FAULT	Fault, observed, displacement unknown
8	222m S	FAULT	Fault, inferred, displacement unknown
17	307m N	FAULT	Fault, inferred, displacement unknown
25	472m W	FAULT	Fault, observed, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m	176

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 88**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**193538 202264**	**PEMBROKE POWER STATION 300**	**-**	**Y**	**N/A**
A	**On site**	**193612 202265**	**PEMBROKE POWER STATION 301**	**-**	**Y**	**N/A**
A	**On site**	**193612 202265**	**PEMBROKE POWER STATION 301A**	**-**	**Y**	**N/A**

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	**On site**	**193305 202274**	**PEMBROKE POWER STATION A91**	**-**	**Y**	**N/A**
B	1m W	193304 202258	PEMBROKE POWER STATION A92	-	Y	N/A
C	8m N	193613 202346	PEMBROKE POWER STATION 308A	-	Y	N/A
C	8m N	193613 202346	PEMBROKE POWER STATION 308	-	Y	N/A
B	8m W	193297 202265	PEMBROKE POWER STATION A60	-	Y	N/A
2	10m S	193210 202210	ANGLE BAY. 6	-	Y	N/A
3	11m N	192836 202289	PEMBROKE POWER STATION 270	-	Y	N/A
4	11m N	193570 202350	MILFORD HAVEN POWER STATION 6	-	Y	N/A
B	16m W	193289 202275	PEMBROKE POWER STATION A94	-	Y	N/A
5	17m S	192700 202290	ANGLE BAY. 4	-	Y	N/A
B	17m W	193288 202258	PEMBROKE POWER STATION A93	-	Y	N/A
6	20m S	193100 202200	PEMBROKE P.S. JNV.	-	Y	N/A
7	23m N	192940 202266	PEMBROKE POWER STATION 269	-	Y	N/A
8	32m N	193057 202269	PEMBROKE POWER STATION 268	-	Y	N/A
D	32m NE	193649 202361	PEMBROKE POWER STATION A62	-	Y	N/A
9	37m N	193230 202270	ANGLE BAY. A	-	Y	N/A
D	41m NE	193660 202361	PEMBROKE POWER STATION A61	-	Y	N/A
10	48m N	192950 202290	ANGLE BAY. 5B	-	Y	N/A
11	53m N	193599 202391	PEMBROKE POWER STATION A53	-	Y	N/A
12	54m NW	192500 202390	ANGLE BAY. 4A	-	Y	N/A
13	62m S	192920 202170	ANGLE BAY. 5A	-	Y	N/A
E	62m E	193689 202266	PEMBROKE POWER STATION 302A	-	Y	N/A
E	62m E	193689 202266	PEMBROKE POWER STATION 302	-	Y	N/A
F	63m E	193689 202346	PEMBROKE POWER STATION 307	-	Y	N/A
F	63m E	193689 202346	PEMBROKE POWER STATION 307A	-	Y	N/A
14	67m N	192851 202343	PEMBROKE POWER STATION 287	-	Y	N/A
G	68m N	193305 202345	PEMBROKE POWER STATION 311	-	Y	N/A
G	68m N	193305 202345	PEMBROKE POWER STATION 311A	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
H	71m N	193382 202346	PEMBROKE POWER STATION 310A	-	Y	N/A
H	71m N	193382 202346	PEMBROKE POWER STATION 310	-	Y	N/A
I	71m N	193459 202345	PEMBROKE POWER STATION 309A	-	Y	N/A
I	71m N	193459 202345	PEMBROKE POWER STATION 309	-	Y	N/A
15	72m NE	193682 202383	PEMBROKE POWER STATION A65	-	Y	N/A
J	79m N	193612 202417	PEMBROKE POWER STATION 315	-	Y	N/A
J	79m N	193612 202417	PEMBROKE POWER STATION 315A	-	Y	N/A
K	82m N	193535 202416	PEMBROKE POWER STATION 227	-	Y	N/A
K	82m N	193535 202416	PEMBROKE POWER STATION 227A	-	Y	N/A
16	91m N	192820 202380	MILFORD HAVEN POWER STATION 1	-	Y	N/A
17	96m N	193012 202335	PEMBROKE POWER STATION 286	-	Y	N/A
L	101m NW	193231 202346	PEMBROKE POWER STATION 312	-	Y	N/A
L	101m NW	193231 202346	PEMBROKE POWER STATION 312A	-	Y	N/A
M	102m NE	193689 202418	PEMBROKE POWER STATION 316A	-	Y	N/A
M	102m NE	193689 202418	PEMBROKE POWER STATION 316	-	Y	N/A
18	105m N	192768 202413	PEMBROKE POWER STATION 266	-	Y	N/A
19	109m N	193074 202344	PEMBROKE POWER STATION 267	-	Y	N/A
20	118m N	193180 202350	MILFORD HAVEN POWER STATION 2	-	Y	N/A
N	129m NW	193459 202415	PEMBROKE POWER STATION 314	-	Y	N/A
N	129m NW	193459 202415	PEMBROKE POWER STATION 314A	-	Y	N/A
21	130m N	193409 202405	PEMBROKE POWER STATION A52	-	Y	N/A
O	132m N	193322 202408	PEMBROKE POWER STATION A51	-	Y	N/A
O	138m N	193305 202415	PEMBROKE POWER STATION 313A	-	Y	N/A
O	138m N	193305 202415	PEMBROKE POWER STATION 313	-	Y	N/A
P	140m N	193382 202415	PEMBROKE POWER STATION 228	-	Y	N/A
P	140m N	193382 202415	PEMBROKE POWER STATION 228A	-	Y	N/A
Q	140m E	193767 202266	PEMBROKE POWER STATION 303	-	Y	N/A
Q	140m E	193767 202266	PEMBROKE POWER STATION 303A	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
R	141m E	193767 202346	PEMBROKE POWER STATION 306A	-	Y	N/A
R	141m E	193767 202346	PEMBROKE POWER STATION 306	-	Y	N/A
22	150m W	192374 202329	PEMBROKE POWER STATION 271	-	Y	N/A
23	153m S	193560 202060	MILFORD HAVEN POWER STATION 22	-	Y	N/A
S	157m NW	193231 202415	PEMBROKE POWER STATION 246	-	Y	N/A
T	157m N	193612 202495	PEMBROKE POWER STATION 322	-	Y	N/A
T	158m N	193612 202496	PEMBROKE POWER STATION 321A	-	Y	N/A
U	159m N	193535 202495	PEMBROKE POWER STATION 226A	-	Y	N/A
U	159m N	193535 202495	PEMBROKE POWER STATION 226	-	Y	N/A
V	160m NE	193765 202418	PEMBROKE POWER STATION 317A	-	Y	N/A
V	160m NE	193765 202418	PEMBROKE POWER STATION 317	-	Y	N/A
24	161m N	192927 202414	PEMBROKE POWER STATION 283	-	Y	N/A
25	170m N	193688 202496	PEMBROKE POWER STATION 225	-	Y	N/A
S	171m NW	193230 202430	ANGLE BAY. B	-	Y	N/A
26	176m S	192810 202080	MILFORD HAVEN POWER STATION 20	-	Y	N/A
27	179m NE	193720 202490	MILFORD HAVEN POWER STATION 32	-	Y	N/A
28	180m S	193170 202040	MILFORD HAVEN POWER STATION 21	-	Y	N/A
29	182m N	193014 202421	PEMBROKE POWER STATION 284	-	Y	N/A
W	189m NW	193457 202495	PEMBROKE POWER STATION 322A	-	Y	N/A
W	194m NW	193472 202510	Pembroke CCGT Power Station: Ground Investigation RW10	-	Y	N/A
W	198m NW	193466 202512	Pembroke CCGT Power Station: Ground Investigation TPW10	-	Y	N/A
W	198m NW	193466 202512	Pembroke CCGT Power Station: Ground Investigation W10	-	Y	N/A
X	210m NE	193765 202496	PEMBROKE POWER STATION 321	-	Y	N/A
X	211m NE	193765 202497	PEMBROKE POWER STATION 320	-	Y	N/A
X	211m NE	193765 202497	PEMBROKE POWER STATION 320A	-	Y	N/A
30	212m N	193230 202475	PEMBROKE POWER STATION 247	-	Y	N/A
Y	216m E	193843 202267	PEMBROKE POWER STATION 304A	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
Y	216m E	193843 202267	PEMBROKE POWER STATION 304	-	Y	N/A
Z	217m E	193843 202347	PEMBROKE POWER STATION 305	-	Y	N/A
Z	217m E	193843 202347	PEMBROKE POWER STATION 305A	-	Y	N/A
AA	217m N	193305 202494	PEMBROKE POWER STATION 323A	-	Y	N/A
AA	217m N	193305 202494	PEMBROKE POWER STATION 323	-	Y	N/A
AB	218m N	193517 202552	Pembroke CCGT Power Station: Ground Investigation TPW11	-	Y	N/A
AB	218m N	193517 202552	Pembroke CCGT Power Station: Ground Investigation W11	-	Y	N/A
AB	218m N	193521 202553	Pembroke CCGT Power Station: Ground Investigation RW11	-	Y	N/A
AC	220m N	193382 202495	PEMBROKE POWER STATION 229A	-	Y	N/A
AC	220m N	193382 202495	PEMBROKE POWER STATION 229	-	Y	N/A
31	220m S	193000 202000	PEMBROKE POWER STATION A43	-	Y	N/A
32	226m N	192906 202492	PEMBROKE POWER STATION 285	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A3	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A6	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A13	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A16	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A30	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A32	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A35	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A38	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A39	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A41	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A46	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A47	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A48	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A49	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A50	-	Y	N/A

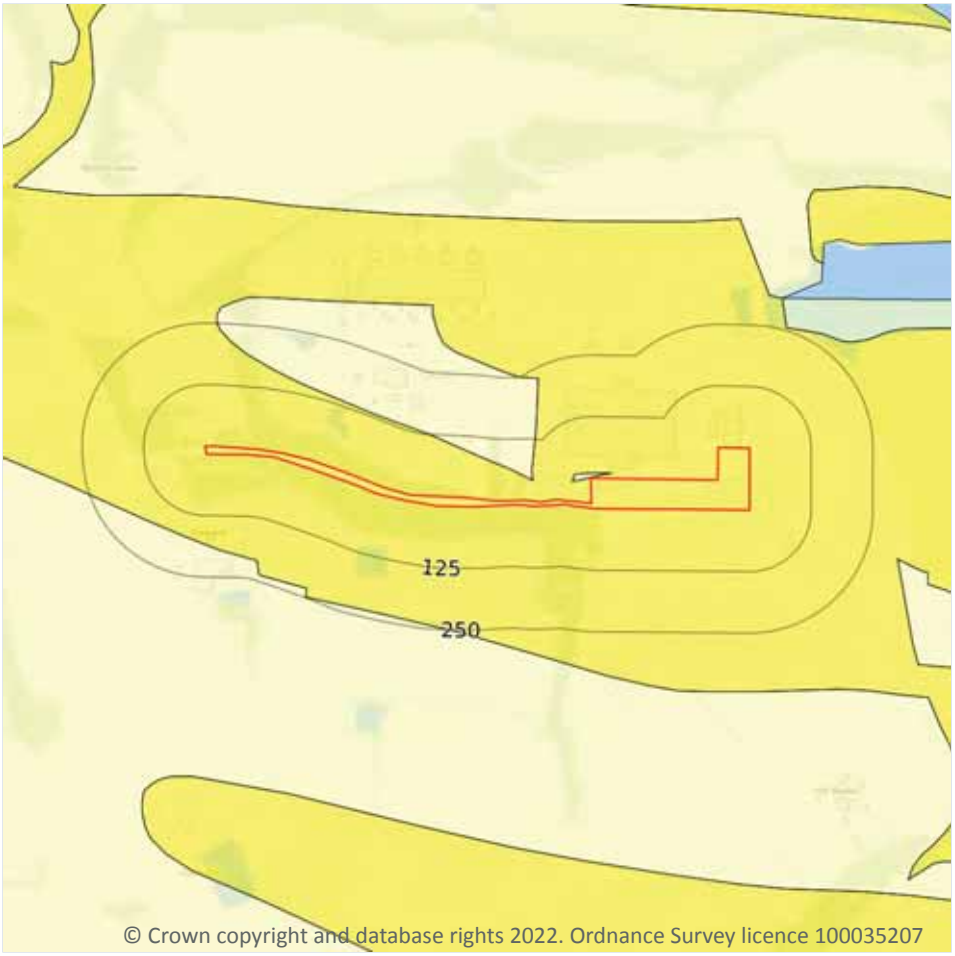
ID	Location	Grid reference	Name	Length	Confidential	Web link
AD	229m N	193678 202561	PEMBROKE POWER STATION A56	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A59	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A70	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A96	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A100	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A102	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CN1	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CN2	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CS1	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CS2	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CW1	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A1	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A5	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A12	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A20	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A21	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A34	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A101	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A45	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CS3	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A2	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A8A	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A18	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A4	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A8	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A11	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A14	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A15	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
AD	229m N	193678 202561	PEMBROKE POWER STATION A17	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A31	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A33	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A40	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A42	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A44	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A66	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A67	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A68	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A69	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A71	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION 329A	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A95	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION A97	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CE	-	Y	N/A
AD	229m N	193678 202561	PEMBROKE POWER STATION CE1	-	Y	N/A
AE	235m NW	193405 202513	Pembroke CCGT Power Station: Ground Investigation RW9A	-	Y	N/A
AF	235m N	192847 202524	Pembroke CCGT Power Station: Ground Investigation RW1	-	Y	N/A
AF	235m N	192847 202524	Pembroke CCGT Power Station: Ground Investigation TPRW1	-	Y	N/A
AF	236m N	192842 202526	Pembroke CCGT Power Station: Ground Investigation W1	-	Y	N/A
AG	236m N	193537 202574	PEMBROKE POWER STATION 240	-	Y	N/A
AE	238m N	193400 202513	Pembroke CCGT Power Station: Ground Investigation TPW9	-	Y	N/A
AE	238m N	193400 202513	Pembroke CCGT Power Station: Ground Investigation W9	-	Y	N/A
AA	239m N	193314 202515	Pembroke CCGT Power Station: Ground Investigation TPW8	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
AA	239m N	193314 202515	Pembroke CCGT Power Station: Ground Investigation W8	-	Y	N/A
AE	240m NW	193401 202516	Pembroke CCGT Power Station: Ground Investigation RW9	-	Y	N/A
AG	240m N	193560 202579	Pembroke CCGT Power Station: Ground Investigation RW12A	-	Y	N/A
AG	240m N	193560 202579	Pembroke CCGT Power Station: Ground Investigation RW12	-	Y	N/A
AA	242m N	193314 202518	Pembroke CCGT Power Station: Ground Investigation RW8	-	Y	N/A
AG	242m N	193561 202581	Pembroke CCGT Power Station: Ground Investigation TPW12	-	Y	N/A
AG	242m N	193561 202581	Pembroke CCGT Power Station: Ground Investigation W12	-	Y	N/A
AD	243m N	193688 202573	PEMBROKE POWER STATION 239	-	Y	N/A
AH	248m N	193255 202519	Pembroke CCGT Power Station: Ground Investigation TPW7	-	Y	N/A
AH	248m N	193255 202519	Pembroke CCGT Power Station: Ground Investigation W7	-	Y	N/A
33	249m N	193593 202587	Pembroke CCGT Power Station: Ground Investigation RW13	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	3

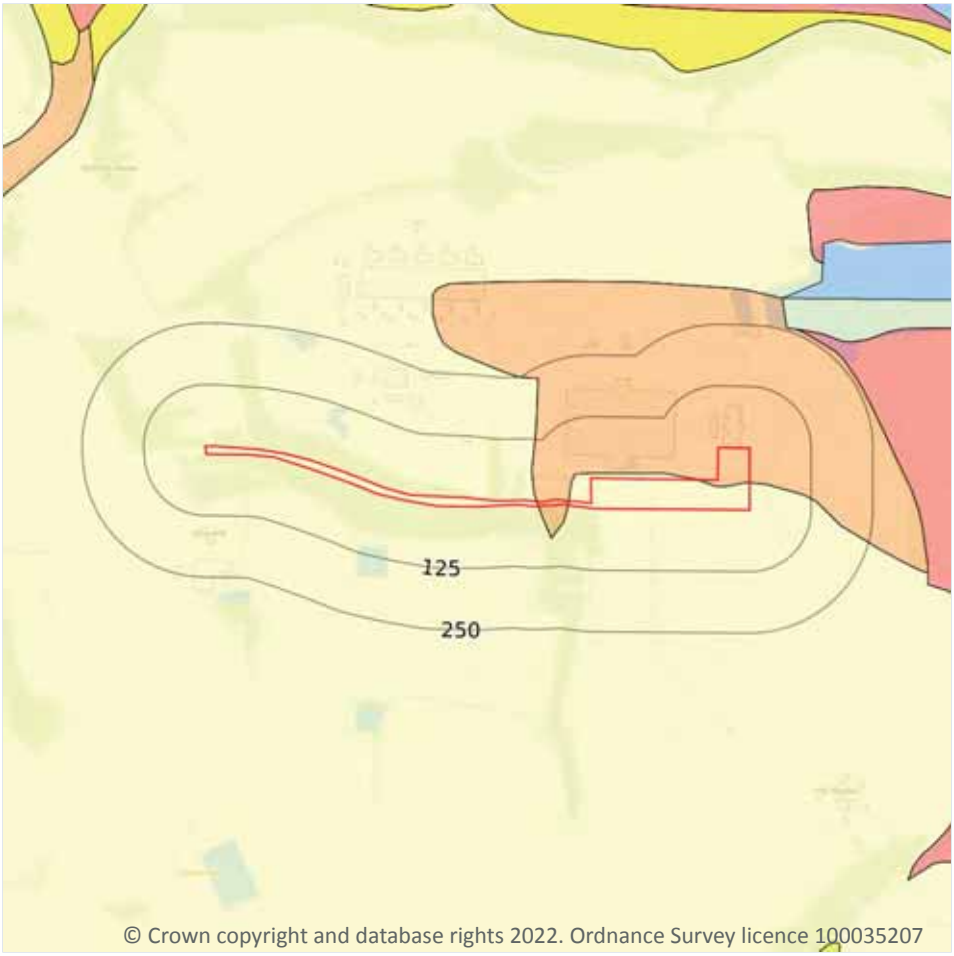
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 96**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**
2m N	Negligible	Ground conditions predominantly non-plastic.
42m N	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	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.

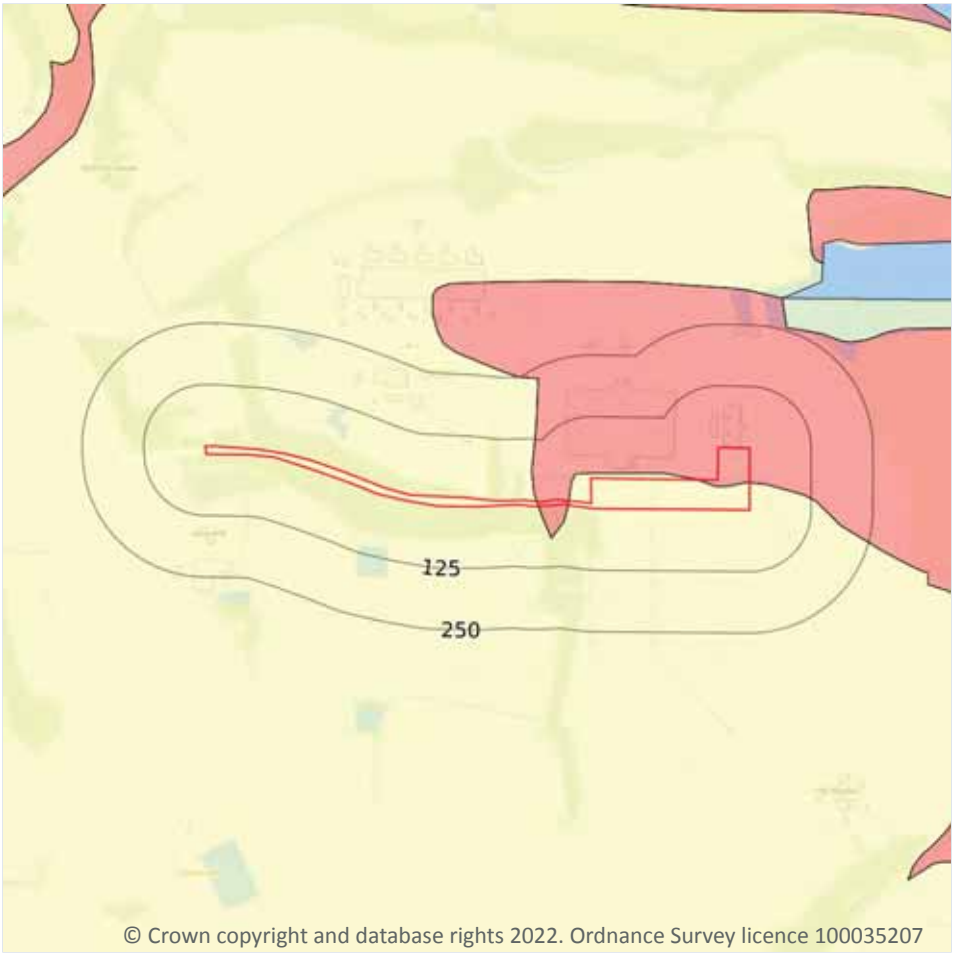
Features are displayed on the Natural ground subsidence - Running sands map on **page 98**

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

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



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

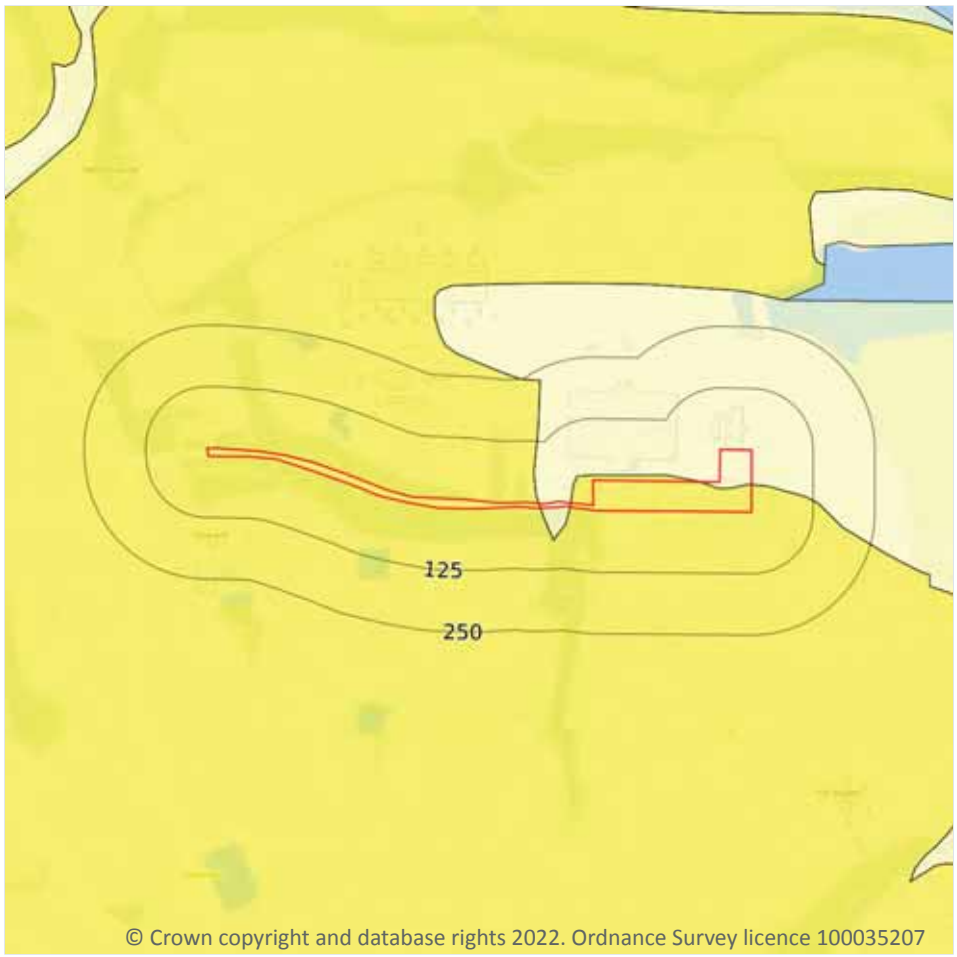
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 100**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	**2**

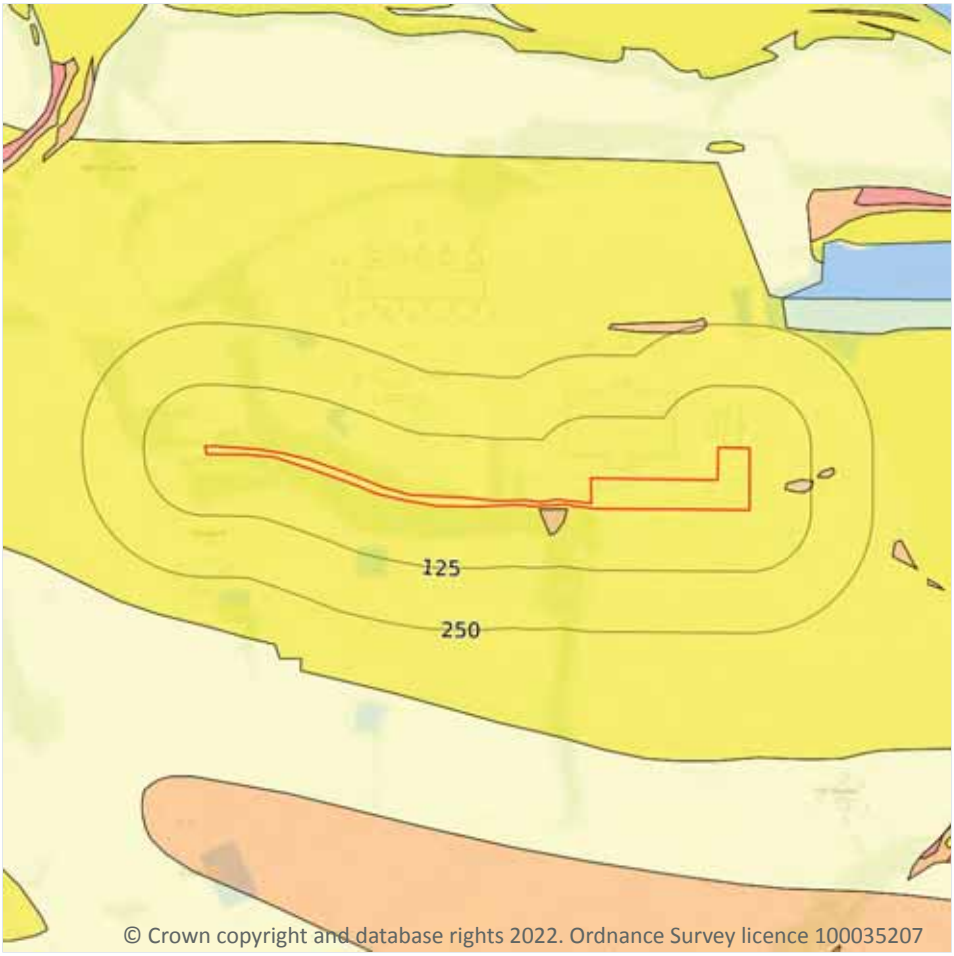
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 102**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	2

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.

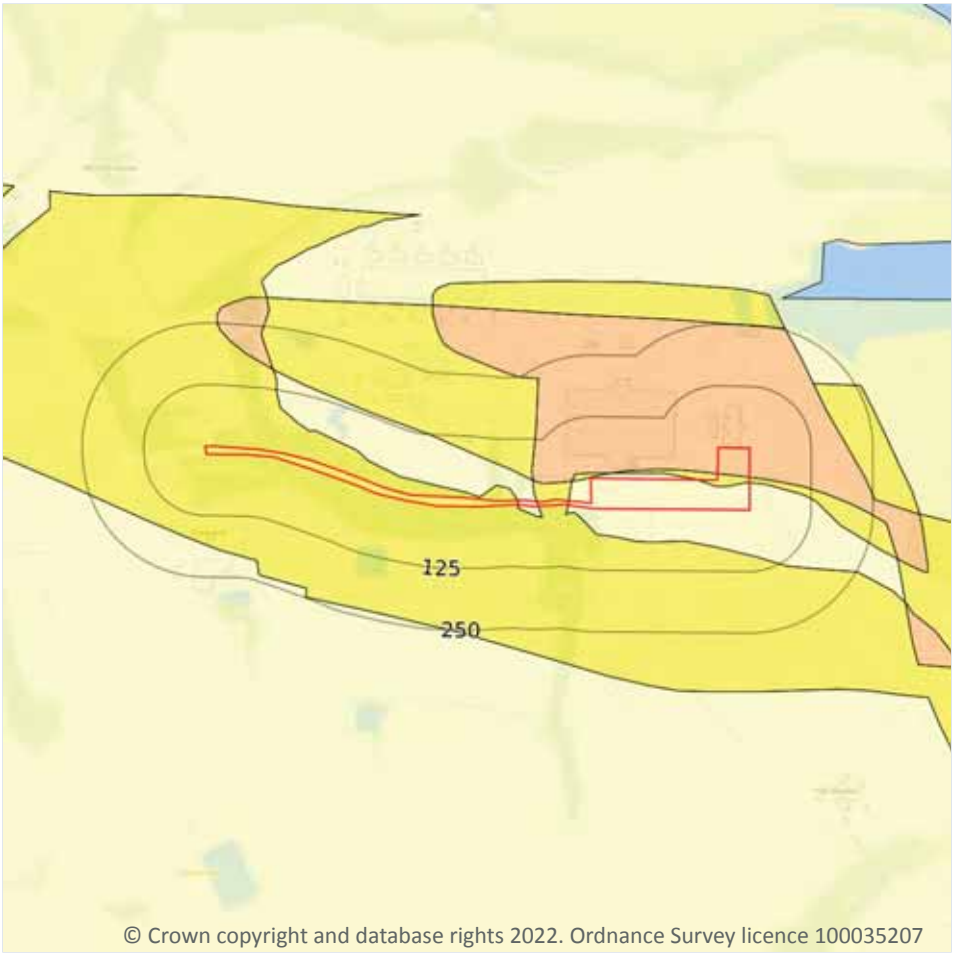
Features are displayed on the Natural ground subsidence - Landslides map on **page 103**

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.**

Location	Hazard rating	Details
6m S	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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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	5

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 105**

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

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.**
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**
2m N	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.
42m N	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



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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	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	21

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 107**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Sewage Works**	**1994**	**1:10000**
A	**On site**	**Sewage Works**	**1975**	**1:10000**
B	0m N	Unspecified Ground Workings	1994	1:10000
B	0m N	Unspecified Ground Workings	1975	1:10000
C	1m N	Unspecified Pit	1994	1:10000
C	1m N	Unspecified Pit	1975	1:10000
A	48m E	Unspecified Pit	1994	1:10000
A	50m E	Unspecified Pit	1975	1:10000
D	66m S	Unspecified Ground Workings	1994	1:10000
D	66m S	Unspecified Ground Workings	1975	1:10000
2	70m S	Pond	1963	1:10560
E	95m N	Unspecified Pit	1963	1:10560
E	95m N	Unspecified Pit	1948	1:10560
E	95m N	Unspecified Pit	1906	1:10560
F	100m S	Reservoir	1994	1:10000
F	100m S	Reservoir	1975	1:10000
E	100m N	Unspecified Quarry	1864	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	183m N	Unspecified Pit	1994	1:10000
G	183m N	Unspecified Pit	1975	1:10000
H	231m N	Unspecified Ground Workings	1994	1:10000
H	231m N	Unspecified Ground Workings	1975	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	**5**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 107**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**

ID	Location	Name	Commodity	Class	Likelihood
3	171m SW	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
4	184m NE	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
10	634m S	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
13	885m N	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

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.

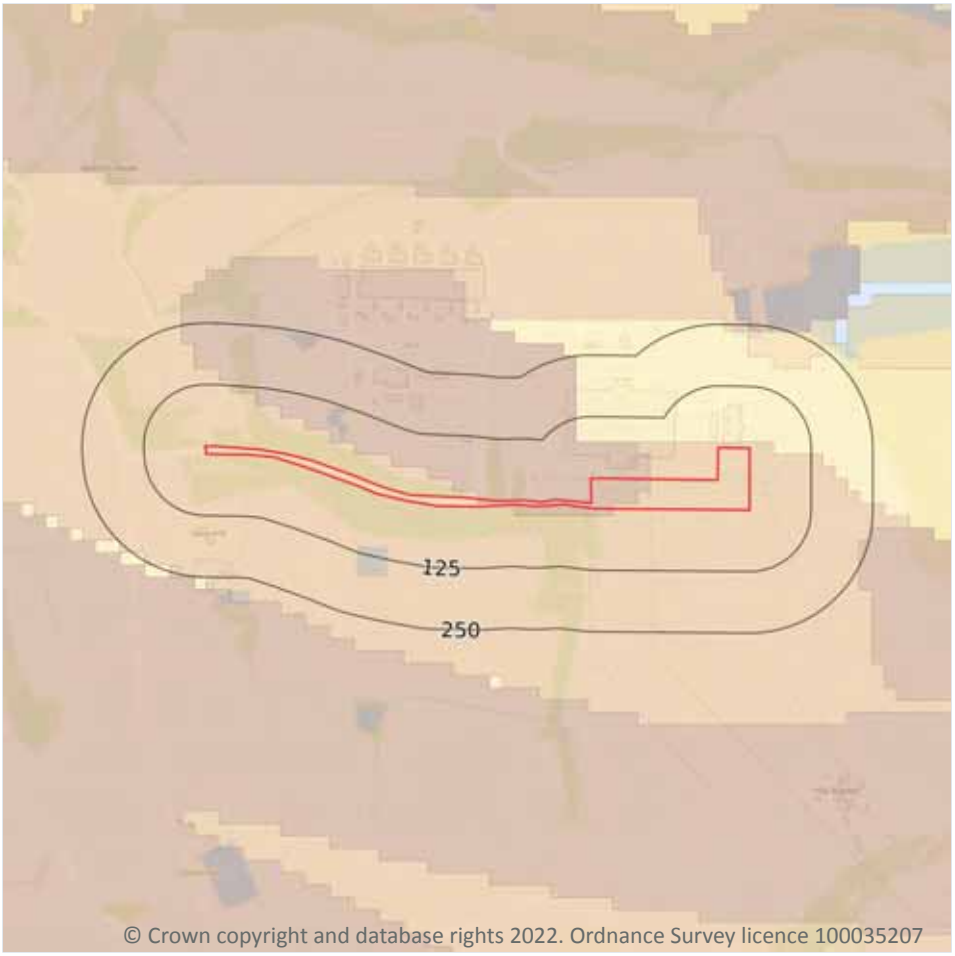
18.13 Clay mining

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 112**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**
On site	**Between 5% and 10%**	**Basic**

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	11

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**
2m N	15 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
4m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
10m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
23m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m NW	15 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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HYDROGEN PIPELINE

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

JFR2786 RWE Pembroke

Order Details

Date: 07/07/2022

Your ref: JFR2786 RWE Pembroke

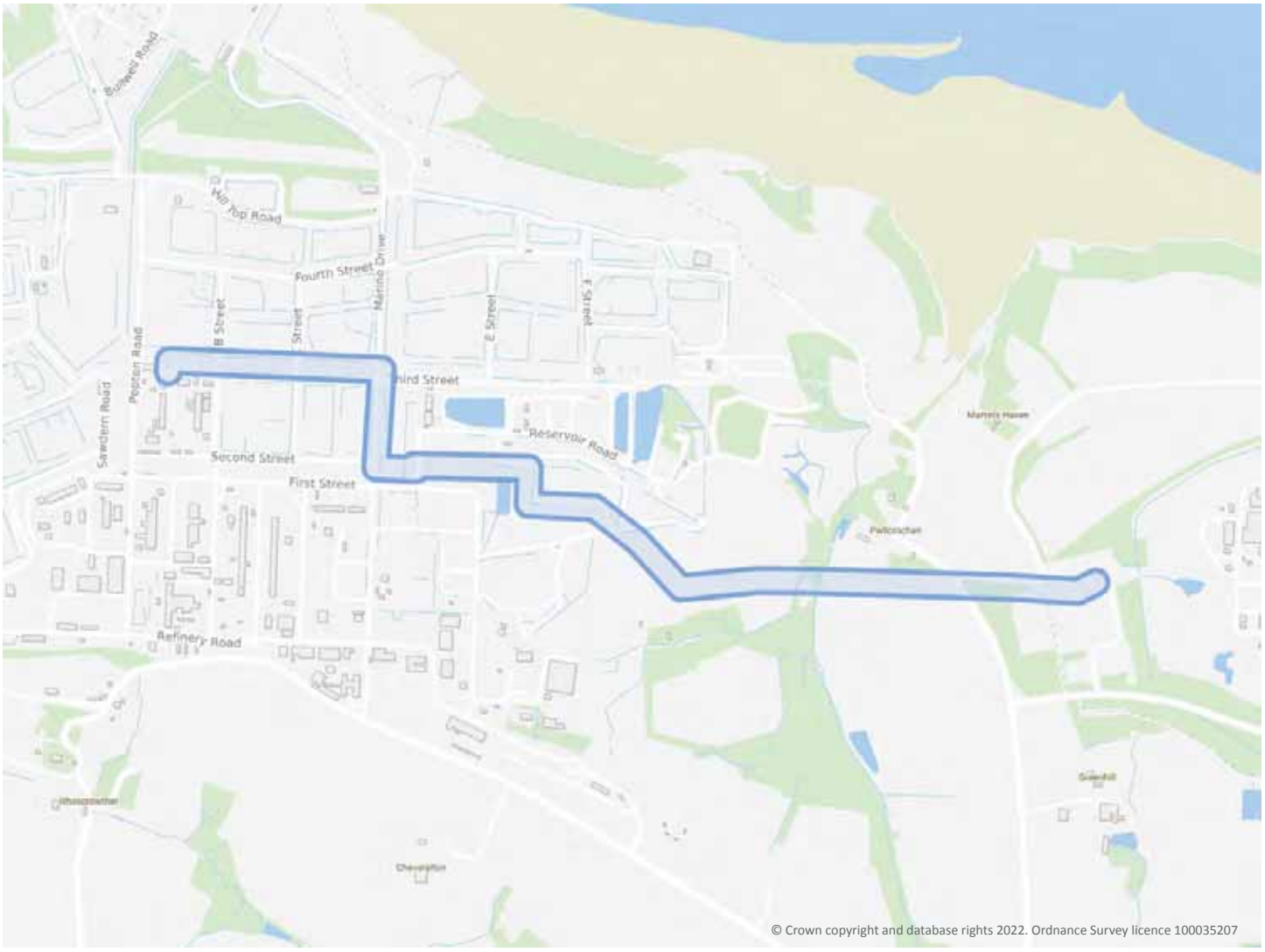
Our Ref: GSIP-2022-12844-10866

Site Details

Location: 191398 202782

Area: 11.58 ha

Authority: Sir Benfro - Pembrokeshire County Council



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Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

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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	7	33	85	60	-
20	1.2	Historical tanks	6	34	105	62	-
28	1.3	Historical energy features	2	2	7	10	-
29	1.4	Historical petrol stations	0	0	0	0	-
29	1.5	Historical garages	0	0	0	0	-
30	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
31	2.1	Historical industrial land uses	7	33	85	61	-
38	2.2	Historical tanks	7	54	142	78	-
49	2.3	Historical energy features	2	2	10	12	-
50	2.4	Historical petrol stations	0	0	0	0	-
50	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
51	3.1	Active or recent landfill	0	0	0	0	-
51	3.2	Historical landfill (BGS records)	0	0	0	0	-
52	3.3	Historical landfill (LA/mapping records)	0	0	1	0	-
52	3.4	Historical landfill (EA/NRW records)	0	0	1	0	-
52	3.5	Historical waste sites	2	0	0	0	-
53	3.6	Licensed waste sites	0	0	0	0	-
53	3.7	Waste exemptions	0	0	1	5	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
55	4.1	Recent industrial land uses	4	19	84	-	-
62	4.2	Current or recent petrol stations	0	0	0	0	-
62	4.3	Electricity cables	0	0	0	0	-
62	4.4	Gas pipelines	0	0	0	0	-
62	4.5	Sites determined as Contaminated Land	0	0	0	0	-

62	4.6	Control of Major Accident Hazards (COMAH)	2	0	0	0	-
63	4.7	Regulated explosive sites	0	0	0	0	-
63	4.8	Hazardous substance storage/usage	0	0	0	0	-
63	4.9	Historical licensed industrial activities (IPC)	0	0	0	24	-
66	4.10	Licensed industrial activities (Part A(1))	35	0	5	0	-
73	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
73	4.12	Radioactive Substance Authorisations	0	0	0	7	-
74	4.13	Licensed Discharges to controlled waters	0	0	1	0	-
74	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
75	4.15	Pollutant release to public sewer	0	0	0	0	-
75	4.16	List 1 Dangerous Substances	0	0	0	0	-
75	4.17	List 2 Dangerous Substances	0	0	0	0	-
75	4.18	Pollution Incidents (EA/NRW)	0	1	4	3	-
76	4.19	Pollution inventory substances	0	0	0	0	-
77	4.20	Pollution inventory waste transfers	0	0	0	0	-
77	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
78	5.1	Superficial aquifer	Identified (within 500m)				
80	5.2	Bedrock aquifer	Identified (within 500m)				
82	5.3	Groundwater vulnerability	Identified (within 50m)				
84	5.4	Groundwater vulnerability- soluble rock risk	Identified (within 0m)				
84	5.5	Groundwater vulnerability- local information	None (within 0m)				
85	5.6	Groundwater abstractions	0	0	0	0	0
86	5.7	Surface water abstractions	0	0	0	4	28
92	5.8	Potable abstractions	0	0	0	0	0
93	5.9	Source Protection Zones	0	0	0	0	-
93	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
94	6.1	Water Network (OS MasterMap)	36	66	241	-	-

121	**6.2**	**Surface water features**	1	34	159	-	-
121	**6.3**	**WFD Surface water body catchments**	2	-	-	-	-
122	6.4	WFD Surface water bodies	0	0	0	-	-
122	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
123	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
123	7.2	Historical Flood Events	0	0	0	-	-
123	7.3	Flood Defences	0	0	0	-	-
124	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
124	7.5	Flood Storage Areas	0	0	0	-	-
125	7.6	Flood Zone 2	None (within 50m)				
125	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
126	**8.1**	**Surface water flooding**	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
128	**9.1**	**Groundwater flooding**	Moderate-High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
129	**10.1**	**Sites of Special Scientific Interest (SSSI)**	0	1	0	1	11
130	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
130	**10.3**	**Special Areas of Conservation (SAC)**	0	1	0	1	3
132	10.4	Special Protection Areas (SPA)	0	0	0	0	0
132	10.5	National Nature Reserves (NNR)	0	0	0	0	0
132	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
132	**10.7**	**Designated Ancient Woodland**	0	1	0	2	5
133	10.8	Biosphere Reserves	0	0	0	0	0
133	10.9	Forest Parks	0	0	0	0	0
133	10.10	Marine Conservation Zones	0	0	0	0	0
133	10.11	Green Belt	0	0	0	0	0
134	10.12	Proposed Ramsar sites	0	0	0	0	0

134	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
134	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
134	10.15	Nitrate Sensitive Areas	0	0	0	0	0
135	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
136	10.17	SSSI Impact Risk Zones	0	-	-	-	-
136	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
137	11.1	World Heritage Sites	0	0	0	-	-
138	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
138	11.3	National Parks	0	0	0	-	-
138	**11.4**	**Listed Buildings**	0	2	2	-	-
139	11.5	Conservation Areas	0	0	0	-	-
139	11.6	Scheduled Ancient Monuments	0	0	0	-	-
139	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
140	**12.1**	**Agricultural Land Classification**	Grade 3b (within 250m)				
141	12.2	Open Access Land	0	0	0	-	-
141	12.3	Tree Felling Licences	0	0	0	-	-
141	12.4	Environmental Stewardship Schemes	0	0	0	-	-
142	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
143	13.1	Priority Habitat Inventory	0	0	0	-	-
143	13.2	Habitat Networks	0	0	0	-	-
143	13.3	Open Mosaic Habitat	0	0	0	-	-
143	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
144	**14.1**	**10k Availability**	Identified (within 500m)				
145	14.2	Artificial and made ground (10k)	0	0	0	0	-
146	14.3	Superficial geology (10k)	0	0	0	0	-

146	14.4	Landslip (10k)	0	0	0	0	-
147	14.5	Bedrock geology (10k)	0	0	0	0	-
147	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
148	**15.1**	**50k Availability**	Identified (within 500m)				
150	15.2	Artificial and made ground (50k)	0	0	0	0	-
150	15.3	Artificial ground permeability (50k)	0	0	-	-	-
151	**15.4**	**Superficial geology (50k)**	0	0	1	3	-
152	15.5	Superficial permeability (50k)	None (within 50m)				
152	15.6	Landslip (50k)	0	0	0	0	-
152	15.7	Landslip permeability (50k)	None (within 50m)				
153	**15.8**	**Bedrock geology (50k)**	4	2	5	8	-
154	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
155	**15.10**	**Bedrock faults and other linear features (50k)**	1	0	2	5	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
156	**16.1**	**BGS Boreholes**	3	27	116	-	-
Page	Section	Natural ground subsidence					
163	**17.1**	**Shrink swell clays**	Very low (within 50m)				
165	**17.2**	**Running sands**	Negligible (within 50m)				
166	**17.3**	**Compressible deposits**	Negligible (within 50m)				
167	**17.4**	**Collapsible deposits**	Very low (within 50m)				
168	**17.5**	**Landslides**	Very low (within 50m)				
170	**17.6**	**Ground dissolution of soluble rocks**	Low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
172	18.1	Natural cavities	0	0	0	0	-
173	18.2	BritPits	0	0	0	0	-
173	**18.3**	**Surface ground workings**	1	4	25	-	-
174	18.4	Underground workings	0	0	0	0	0
174	18.5	Historical Mineral Planning Areas	0	0	0	0	-

175	**18.6**	**Non-coal mining**	2	0	1	1	7
176	18.7	Mining cavities	0	0	0	0	0
176	18.8	JPB mining areas	None (within 0m)				
176	18.9	Coal mining	None (within 0m)				
177	18.10	Brine areas	None (within 0m)				
177	18.11	Gypsum areas	None (within 0m)				
177	18.12	Tin mining	None (within 0m)				
177	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
178	**19.1**	**Radon**	Between 10% and 30% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
180	**20.1**	**BGS Estimated Background Soil Chemistry**	12	8	-	-	-
181	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
181	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
182	21.1	Underground railways (London)	0	0	0	-	-
182	21.2	Underground railways (Non-London)	0	0	0	-	-
182	21.3	Railway tunnels	0	0	0	-	-
182	21.4	Historical railway and tunnel features	0	0	0	-	-
182	21.5	Royal Mail tunnels	0	0	0	-	-
183	21.6	Historical railways	0	0	0	-	-
183	21.7	Railways	0	0	0	-	-
183	21.8	Crossrail 1	0	0	0	0	-
183	21.9	Crossrail 2	0	0	0	0	-
183	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 14/05/2020

Site Area: 11.58ha

Recent site history - 2017 aerial photograph



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Capture Date: 18/06/2017

Site Area: 11.58ha

Recent site history - 2009 aerial photograph



Capture Date: 11/09/2009

Site Area: 11.58ha

Recent site history - 2003 aerial photograph



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Capture Date: 14/09/2003

Site Area: 11.58ha

Recent site history - 2000 aerial photograph

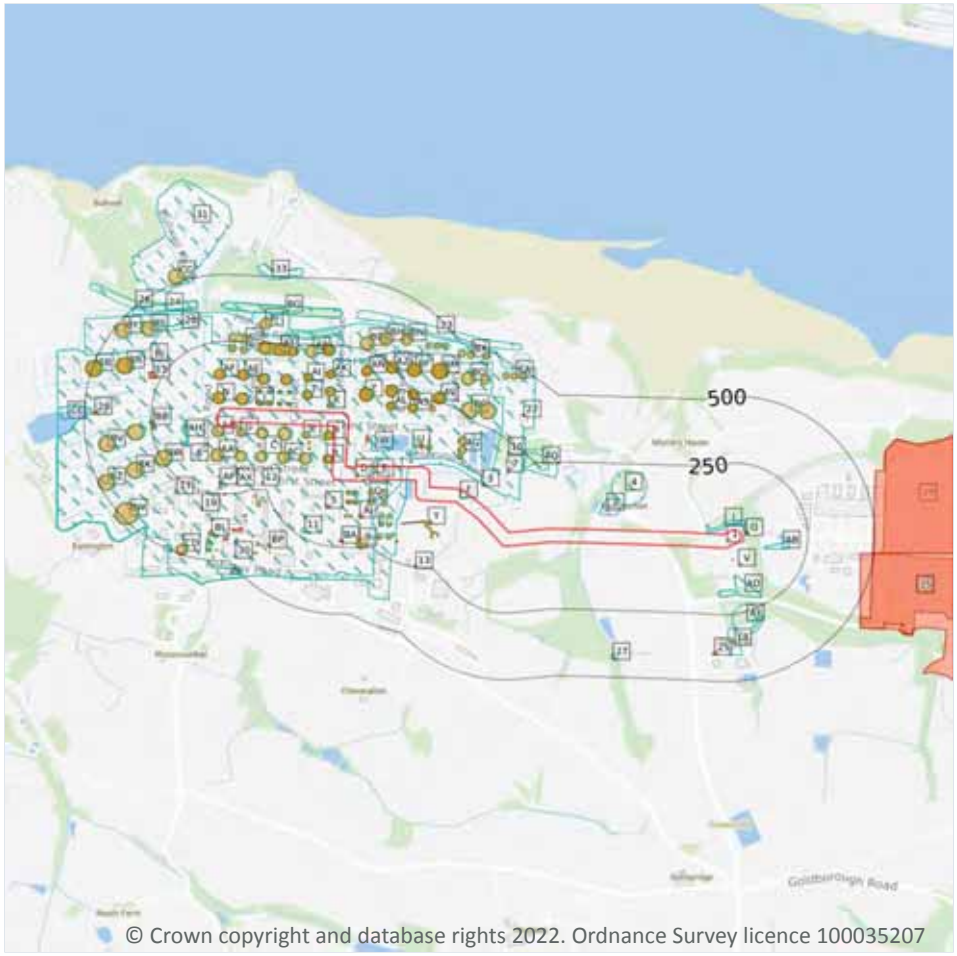


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Capture Date: 17/06/2000

Site Area: 11.58ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	185

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**	**Unspecified Tank**	**1975**	**11598**

ID	Location	Land use	Dates present	Group ID
B	**On site**	**Unspecified Tank**	**1975**	**14197**
B	**On site**	**Unspecified Tank**	**1994**	**17131**
C	**On site**	**Oil Refinery**	**1994**	**14522**
C	**On site**	**Oil Refinery**	**1975**	**16446**
E	**On site**	**Unspecified Heap**	**1975**	**12323**
F	**On site**	**Incinerator**	**1975**	**11777**
H	2m W	Unspecified Tank	1975	15872
H	2m W	Unspecified Tank	1994	17137
I	5m N	Unspecified Ground Workings	1975	15413
I	5m N	Unspecified Ground Workings	1994	17222
C	15m S	Unspecified Tank	1994	15310
C	15m S	Unspecified Tank	1975	17244
E	16m N	Unspecified Pit	1975	11111
J	16m N	Unspecified Tank	1994	15270
J	16m N	Unspecified Tank	1975	15619
J	17m N	Unspecified Tank	1994	15451
J	17m N	Unspecified Tank	1975	15710
L	17m N	Unspecified Tank	1975	14237
L	17m N	Unspecified Tank	1994	16599
K	18m N	Unspecified Tank	1994	16810
K	18m N	Unspecified Tank	1975	17238
J	19m N	Unspecified Tank	1975	14929
J	19m N	Unspecified Tank	1994	15277
J	19m N	Unspecified Tank	1975	15714
J	19m N	Unspecified Tank	1994	16886
C	19m S	Unspecified Tank	1994	14335
C	19m S	Unspecified Tank	1975	17481
N	20m N	Unspecified Tank	1975	14400

ID	Location	Land use	Dates present	Group ID
N	20m N	Unspecified Tank	1994	15099
G	23m S	Unspecified Tank	1975	11600
P	25m S	Unspecified Tank	1994	16032
P	25m S	Unspecified Tank	1975	16990
Q	35m S	Unspecified Tanks	1994	11300
R	35m S	Unspecified Tanks	1994	11302
S	37m S	Unspecified Tanks	1994	16103
S	37m S	Unspecified Tanks	1975	17270
T	47m N	Unspecified Tank	1975	15223
T	47m N	Unspecified Tank	1994	15650
U	47m N	Unspecified Ground Workings	1975	12893
2	54m N	Grave Yard	1864	13454
W	56m N	Unspecified Pit	1975	11115
J	62m N	Unspecified Tank	1994	15210
J	62m N	Unspecified Tank	1975	16339
J	63m N	Unspecified Tank	1975	16616
J	63m N	Unspecified Tank	1994	16819
X	63m N	Unspecified Tank	1975	14628
X	63m N	Unspecified Tank	1994	17379
J	63m N	Unspecified Tank	1994	13959
J	63m N	Unspecified Tank	1975	15267
J	65m N	Unspecified Tank	1975	15384
J	65m N	Unspecified Tank	1994	15787
U	71m N	Unspecified Tank	1994	11603
S	72m S	Unspecified Tanks	1975	14529
S	72m S	Unspecified Tanks	1994	15133
Y	74m S	Unspecified Tank	1994	11602
P	78m W	Unspecified Tank	1975	13858

ID	Location	Land use	Dates present	Group ID
P	78m W	Unspecified Tank	1994	17053
AA	82m S	Unspecified Tank	1975	11599
Z	85m NE	Unspecified Tank	1975	14707
Z	85m NE	Unspecified Tank	1994	15985
4	96m N	Sand Pit	1864	11832
AB	96m E	Unspecified Pit	1994	16723
AB	96m E	Unspecified Pit	1975	17474
J	98m N	Unspecified Tank	1994	16583
J	98m N	Unspecified Tank	1975	16787
J	98m N	Unspecified Tank	1975	13994
J	98m N	Unspecified Tank	1994	15153
AA	103m SE	Unspecified Tank	1975	11601
AC	105m S	Unspecified Tank	1994	15954
AC	105m S	Unspecified Tank	1975	17543
AD	107m S	Unspecified Pit	1975	15940
AD	107m S	Unspecified Pit	1994	16487
C	107m S	Unspecified Tank	1994	15368
C	107m S	Unspecified Tank	1975	16692
AE	110m N	Unspecified Tank	1975	15134
AE	110m N	Unspecified Tank	1994	16262
AF	110m N	Unspecified Tank	1975	14506
AF	110m N	Unspecified Tank	1994	14734
AH	111m W	Unspecified Ground Workings	1994	16461
AH	111m W	Unspecified Ground Workings	1975	15668
R	111m SW	Unspecified Tanks	1994	11303
AI	112m N	Unspecified Tank	1994	15272
AI	112m N	Unspecified Tank	1975	17037
AA	112m S	Chimney	1994	13525

ID	Location	Land use	Dates present	Group ID
AG	114m N	Unspecified Tanks	1994	11298
R	124m S	Unspecified Tanks	1994	11301
AK	131m N	Unspecified Tank	1975	14788
AK	131m N	Unspecified Tank	1994	15675
AL	154m E	Unspecified Tank	1975	14458
AL	154m E	Unspecified Tank	1994	14857
AM	158m S	Unspecified Ground Workings	1975	14448
AM	158m S	Unspecified Ground Workings	1994	14808
R	165m SW	Unspecified Tanks	1994	11304
AN	167m NE	Unspecified Tank	1994	14241
AN	167m NE	Unspecified Tank	1975	14549
AO	170m NE	Unspecified Tank	1994	14676
AO	170m NE	Unspecified Tank	1975	16480
AQ	191m N	Refuse Heap	1994	16691
AP	202m S	Chimney	1975	13526
AR	205m N	Unspecified Tanks	1994	15738
AR	205m N	Unspecified Tanks	1975	17665
AS	206m N	Unspecified Tank	1975	15282
AS	206m N	Unspecified Tank	1994	17079
AT	206m N	Unspecified Tanks	1994	16012
AT	206m N	Unspecified Tanks	1975	17166
AW	210m SW	Unspecified Tank	1994	14908
AW	210m SW	Unspecified Tank	1975	15781
AX	210m S	Chimneys	1975	11650
AU	211m N	Unspecified Tanks	1994	11226
AQ	211m NE	Refuse Heap	1975	15240
AU	214m N	Unspecified Tanks	1994	11227
11	214m SW	Unspecified Pit	1906	11112

ID	Location	Land use	Dates present	Group ID
AX	222m S	Chimneys	1975	11651
AY	222m S	Unspecified Mill	1963	11723
AZ	229m NE	Unspecified Tank	1994	15494
AZ	229m NE	Unspecified Tank	1975	16708
BB	231m W	Unspecified Tanks	1994	13815
BB	231m W	Unspecified Tanks	1975	17679
BC	243m NE	Unspecified Tanks	1975	14829
BC	243m NE	Unspecified Tanks	1994	17588
AS	244m E	Unspecified Tank	1975	14086
AS	244m E	Unspecified Tank	1994	15305
AV	245m N	Unspecified Tank	1994	15245
AV	245m N	Unspecified Tank	1975	17558
BD	255m N	Unspecified Tank	1994	11595
16	273m N	Unspecified Ground Workings	1994	12890
BG	277m W	Unspecified Tank	1975	14453
BG	277m W	Unspecified Tank	1994	16375
AY	279m S	Corn Mill	1864 - 1906	16546
BF	283m NE	Unspecified Tank	1994	14648
BF	283m NE	Unspecified Tank	1975	16272
17	288m SW	Chimney	1994	13524
18	299m S	Corn Mill	1948	12579
BH	301m NE	Unspecified Tank	1994	11594
BI	302m N	Unspecified Tank	1994	11597
20	324m N	Unspecified Heap	1975	12322
BK	325m SW	Unspecified Tank	1994	15695
BK	325m SW	Unspecified Tank	1975	15850
BM	339m N	Unspecified Tank	1994	14187
BM	339m N	Unspecified Tank	1975	14719

ID	Location	Land use	Dates present	Group ID
BN	346m NE	Unspecified Tank	1994	11593
BO	350m NE	Unspecified Tank	1975	14173
BO	350m NE	Unspecified Tank	1994	15139
BQ	355m N	Unspecified Heap	1975	14831
BQ	356m N	Unspecified Heap	1994	16524
BR	357m NW	Unspecified Tank	1975	14098
BR	357m NW	Unspecified Tank	1994	15123
23	358m N	Unspecified Heap	1994	12324
BS	372m NW	Unspecified Tank	1994	11424
BS	380m NW	Unspecified Heap	1975	12321
BT	384m NE	Unspecified Tank	1994	11589
24	385m N	Unspecified Heap	1975	15487
BL	389m S	Unspecified Tanks	1975	15389
BL	389m S	Unspecified Tanks	1994	17124
BV	389m W	Unspecified Tank	1994	14880
BV	389m W	Unspecified Tank	1975	15697
26	391m N	Unspecified Heap	1994	14003
BU	396m NE	Unspecified Tanks	1994	11299
27	412m S	Unspecified Quarry	1864	12211
BL	417m S	Chimney	1994	14451
BL	417m S	Chimney	1975	14847
BL	423m S	Unspecified Tanks	1994	14491
BL	423m S	Unspecified Tanks	1975	15664
BW	435m SW	Unspecified Tank	1994	16624
BW	435m SW	Unspecified Tank	1975	16930
BX	436m N	Unspecified Tanks	1994	11305
BY	438m NW	Unspecified Tank	1994	11426
BZ	440m SW	Unspecified Tank	1975	14963

ID	Location	Land use	Dates present	Group ID
BZ	440m SW	Unspecified Tank	1994	17349
CA	446m N	Unspecified Tanks	1994	11306
CB	459m W	Unspecified Tank	1994	14868
CB	459m W	Unspecified Tank	1975	15026
CD	461m S	Unspecified Tank	1975	15078
CD	461m S	Unspecified Tank	1994	16109
CC	465m NE	Unspecified Tank	1994	11590
30	466m SW	Chimney	1994	13523
CE	474m W	Sludge Pond	1994	14190
CE	474m W	Sludge Pond	1975	17004
31	480m NW	Unspecified Commercial/Industrial	1994	15485
32	482m SW	Unspecified Tank	1994	11423
CF	483m SW	Electric Substation	1975	17252
33	488m N	Cuttings	1994	11354
CF	489m SW	Electric Substation	1994	15603
CG	498m N	Unspecified Tank	1994	11425

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**207**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	**On site**	**Unspecified Tank**	**1988**	**1782**
D	**On site**	**Unspecified Tank**	**1988**	**1783**

ID	Location	Land use	Dates present	Group ID
E	**On site**	**Unspecified Tank**	**1969**	**1792**
E	**On site**	**Tanks**	**1988**	**1997**
E	**On site**	**Tanks**	**1969 - 1988**	**2646**
F	**On site**	**Unspecified Tank**	**1988**	**1806**
A	1m SW	Unspecified Tank	1969	1411
B	3m W	Unspecified Tank	1988	2500
B	3m W	Unspecified Tank	1969	2591
H	6m W	Unspecified Tank	1969	2960
H	6m W	Unspecified Tank	1988	2165
D	9m N	Unspecified Tank	1988	1781
C	14m S	Unspecified Tank	1969 - 1994	2715
J	16m N	Tanks	1969 - 1974	2156
J	16m N	Tanks	1988	2669
K	16m N	Unspecified Tank	1969 - 1988	2134
J	17m N	Tanks	1969 - 1974	2395
J	17m N	Tanks	1988	2218
L	17m N	Unspecified Tank	1969 - 1974	2260
L	17m N	Unspecified Tank	1988	2076
C	19m S	Unspecified Tank	1969 - 1994	2251
J	19m N	Tanks	1988	2256
J	19m N	Tanks	1969 - 1974	2871
J	19m N	Tanks	1969 - 1974	2042
J	19m N	Tanks	1988	2193
N	21m N	Unspecified Tank	1969 - 1974	2753
O	21m E	Unspecified Tank	1972 - 1993	2574
G	22m S	Unspecified Tank	1969	1407
N	23m N	Unspecified Tank	1988	2117
O	23m E	Unspecified Tank	1972 - 1993	2711

ID	Location	Land use	Dates present	Group ID
P	25m S	Unspecified Tank	1969 - 1994	2782
M	26m N	Unspecified Tank	1969 - 1988	2098
H	28m S	Unspecified Tank	1994	2926
B	29m W	Unspecified Tank	1994	2595
S	37m S	Unspecified Tank	1969 - 1988	2664
S	37m S	Unspecified Tank	1969 - 1988	2738
R	39m S	Unspecified Tank	1988	1793
Q	40m S	Unspecified Tank	1988	1791
T	45m N	Unspecified Tank	1969 - 1974	2073
T	45m N	Unspecified Tank	1988	2497
X	60m N	Unspecified Tank	1988	2460
X	60m N	Unspecified Tank	1969 - 1978	2946
P	61m S	Unspecified Tank	1994	1778
J	62m N	Tanks	1969 - 1974	2068
J	63m N	Tanks	1988	2891
J	63m N	Tanks	1969 - 1988	2992
J	63m N	Tanks	1969 - 1988	2868
J	63m N	Tanks	1969 - 1988	2074
3	64m NE	Unspecified Tank	1988	1807
U	66m N	Unspecified Tank	1988	1800
U	69m N	Tanks	1969	1998
S	72m S	Unspecified Tank	1988	1780
S	72m S	Tanks	1969	1991
S	73m S	Unspecified Tank	1988	1779
C	75m S	Unspecified Tank	1994	1406
V	75m SE	Unspecified Tank	1993	1808
U	76m N	Unspecified Tank	1988	1802
Y	76m S	Unspecified Tank	1988	1803

ID	Location	Land use	Dates present	Group ID
Y	76m S	Unspecified Tank	1988	1804
Q	78m S	Unspecified Tank	1988	1790
Z	79m NE	Unspecified Tank	1988	2654
Z	79m NE	Unspecified Tank	1969 - 1978	2729
R	80m S	Unspecified Tank	1988	1794
Z	80m NE	Unspecified Tank	1973	2829
P	83m S	Unspecified Tank	1994	1777
P	84m W	Unspecified Tank	1969 - 1994	2889
U	84m N	Unspecified Tank	1969	1795
U	84m N	Unspecified Tank	1969	1801
AA	84m S	Unspecified Tank	1969	1410
U	92m N	Unspecified Tank	1988	1799
J	95m N	Unspecified Tank	1988	2710
J	96m N	Unspecified Tank	1969 - 1974	2943
J	96m N	Unspecified Tank	1988	2850
J	96m N	Unspecified Tank	1969 - 1974	2626
5	97m S	Tanks	1988	1990
U	99m N	Unspecified Tank	1988	1798
AA	100m SE	Unspecified Tank	1969	1408
AC	104m S	Unspecified Tank	1969 - 1994	2573
U	107m N	Unspecified Tank	1988	1796
C	107m S	Unspecified Tank	1969 - 1994	2545
AE	107m N	Unspecified Tank	1969 - 1974	2398
AE	107m N	Unspecified Tank	1988	2401
AF	108m N	Unspecified Tank	1988	2302
AG	109m N	Unspecified Tank	1988	2079
AF	109m N	Unspecified Tank	1969 - 1974	2090
AG	111m N	Unspecified Tank	1988	2864

ID	Location	Land use	Dates present	Group ID
AI	112m N	Unspecified Tank	1969 - 1974	2132
AI	113m N	Unspecified Tank	1988	2111
R	120m SW	Unspecified Tank	1988	1787
AJ	123m S	Tanks	1969 - 1988	2237
AK	128m N	Unspecified Tank	1973	2575
AK	128m N	Unspecified Tank	1969 - 1978	2970
AJ	128m S	Tanks	1969 - 1988	2913
AK	128m N	Unspecified Tank	1988	2385
R	130m S	Unspecified Tank	1988	1788
AG	131m N	Unspecified Tank	1988	2757
R	139m SW	Unspecified Tank	1988	1786
AL	148m E	Unspecified Tank	1988	2512
AL	148m E	Unspecified Tank	1978	2741
AL	149m E	Unspecified Tank	1973	2329
AG	152m NE	Unspecified Tank	1988	3003
AG	153m NE	Unspecified Tank	1988	2135
6	158m SW	Unspecified Tank	1994	1397
AN	159m NE	Unspecified Tank	1988	2275
AN	161m NE	Unspecified Tank	1969 - 1978	2740
R	161m S	Unspecified Tank	1988	1789
AN	162m NE	Unspecified Tank	1973	2759
AO	166m NE	Unspecified Tank	1969 - 1978	2624
AO	166m NE	Unspecified Tank	1973	2279
AO	166m NE	Unspecified Tank	1988	2491
R	174m SW	Unspecified Tank	1988	1785
AP	184m S	Unspecified Tank	1994	1409
R	196m SW	Unspecified Tank	1988	1784
AR	204m N	Unspecified Tank	1974 - 1988	2865

ID	Location	Land use	Dates present	Group ID
AS	205m N	Unspecified Tank	1988	2340
AS	205m N	Unspecified Tank	1978	2362
AT	205m N	Tanks	1988	2917
AS	205m N	Unspecified Tank	1973	2383
AT	205m N	Tanks	1974	2984
8	207m N	Unspecified Tank	1974	1776
AU	207m N	Unspecified Tank	1988	1413
AT	209m N	Tanks	1974	2139
AV	210m N	Unspecified Tank	1988	1797
AU	211m N	Unspecified Tank	1988	1412
9	213m S	Tanks	1969 - 1988	2096
AR	213m N	Unspecified Tank	1973 - 1978	2498
AR	213m N	Unspecified Tank	1988	2982
10	214m NE	Unspecified Tank	1972 - 1988	2257
AW	216m SW	Unspecified Tank	1969 - 1974	2831
AP	218m S	Unspecified Tank	1994	1405
AZ	223m NE	Unspecified Tank	1988	2888
AZ	224m NE	Unspecified Tank	1973	2372
AZ	225m NE	Unspecified Tank	1969 - 1978	2847
BB	236m W	Unspecified Tank	1969 - 1974	2986
AS	237m E	Unspecified Tank	1988	2416
AS	238m E	Unspecified Tank	1969 - 1978	2531
AS	238m E	Unspecified Tank	1973	2404
BC	239m NE	Unspecified Tank	1986	1817
AV	243m N	Unspecified Tank	1988	2126
AV	243m N	Unspecified Tank	1973	2254
AV	243m N	Unspecified Tank	1969 - 1978	2352
BB	243m W	Unspecified Tank	1969 - 1974	2565

ID	Location	Land use	Dates present	Group ID
13	243m S	Unspecified Tank	1990 - 1993	2880
AP	247m S	Unspecified Tank	1994	1404
AU	249m N	Tanks	1988	1979
BD	251m N	Unspecified Tank	1988	1767
14	258m S	Unspecified Tank	1969	1398
BE	270m S	Unspecified Tank	1994	1403
AP	270m S	Unspecified Tank	1969 - 1994	2428
BF	276m NE	Unspecified Tank	1988	2412
BF	277m NE	Unspecified Tank	1969 - 1978	2280
BF	277m NE	Unspecified Tank	1973	2524
BC	281m N	Unspecified Tank	1986	1818
BE	283m W	Tanks	1994	1982
BG	284m W	Unspecified Tank	1969 - 1974	2593
AY	288m S	Unspecified Tank	1972 - 1993	2504
BH	295m NE	Unspecified Tank	1988	1769
BI	300m N	Unspecified Tank	1988	1414
BJ	315m NW	Tanks	1988	1879
BJ	319m NW	Tanks	1988	1880
BK	331m SW	Unspecified Tank	1969 - 1974	3000
BL	333m S	Tanks	1994	1984
BM	335m N	Unspecified Tank	1978	2264
BM	336m N	Unspecified Tank	1973	2309
BM	336m N	Unspecified Tank	1988	2121
BL	337m S	Tanks	1994	1985
BN	339m NE	Unspecified Tank	1988	1770
BL	339m S	Tanks	1994	1983
BO	343m NE	Unspecified Tank	1973 - 1986	2245
21	344m N	Unspecified Tank	1988	1415

ID	Location	Land use	Dates present	Group ID
BP	345m SW	Tanks	1994	1989
BL	356m S	Unspecified Tank	1994	1402
BR	363m NW	Unspecified Tank	1969 - 1974	2024
BP	365m SW	Unspecified Tank	1994	1401
BR	366m NW	Unspecified Tank	1988	2250
BM	370m N	Unspecified Tank	1988	1810
BP	371m SW	Tanks	1994	1987
BP	372m SW	Tanks	1994	1988
BT	379m NE	Unspecified Tank	1986	1816
BS	380m NW	Unspecified Tank	1988	1419
25	388m S	Tanks	1972	1992
BU	388m NE	Unspecified Tank	1988	1768
BL	391m S	Unspecified Tank	1969 - 1994	2731
BV	396m W	Unspecified Tank	1969 - 1974	2173
BP	400m SW	Tanks	1994	1986
BL	403m S	Unspecified Tank	1969 - 1994	2614
BU	412m NE	Unspecified Tank	1988	1772
BL	431m S	Unspecified Tank	1969 - 1994	2303
BX	436m N	Unspecified Tank	1986	1809
BU	438m NE	Unspecified Tank	1988	1773
BW	440m SW	Unspecified Tank	1974	1396
BX	443m N	Unspecified Tank	1986	1811
CA	443m NE	Unspecified Tank	1986	1813
28	446m W	Tanks	1988	1870
BY	446m NW	Unspecified Tank	1988	1418
BZ	446m SW	Unspecified Tank	1969 - 1974	2452
BL	454m S	Unspecified Tank	1969 - 1994	2576
CA	455m NE	Unspecified Tank	1986	1814

ID	Location	Land use	Dates present	Group ID
BL	456m S	Unspecified Tank	1969 - 1994	2770
CC	461m NE	Unspecified Tank	1986	1812
CD	464m S	Unspecified Tank	1969 - 1974	2863
CB	466m W	Unspecified Tank	1969 - 1974	2274
CB	467m W	Unspecified Tank	1988	2734
CA	470m NE	Unspecified Tank	1986	1815
BL	486m S	Unspecified Tank	1969	1400
CD	493m S	Unspecified Tank	1969	2855
CG	493m N	Unspecified Tank	1993	1416

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**21**

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	**On site**	**Electricity Substation**	**1972**	**431**
G	**On site**	**Electricity Substation**	**1994**	**417**
M	17m N	Electricity Substation	1988	428
V	50m S	Electricity Substation	1972	432
W	69m E	Electricity Substation	1969 - 1988	817
AH	118m W	Electricity Substation	1969 - 1974	784
7	165m NE	Electricity Substation	1972 - 1988	603
R	174m SW	Electricity Substation	1988	427
12	222m S	Electricity Substation	1994	420

ID	Location	Land use	Dates present	Group ID
BA	223m S	Electricity Substation	1969	425
BA	226m S	Electricity Substation	1988	426
15	265m NW	Electricity Substation	1988	413
19	310m S	Electricity Substation	1994	421
22	358m NE	Electricity Substation	1986	430
BL	379m S	Electricity Substation	1969 - 1994	644
BL	410m S	Electricity Substation	1994	422
BL	415m S	Electricity Substation	1969	423
29	450m E	Power Station	1972	694
CF	493m SW	Electricity Substation	1969	424
34	494m E	Power Station	1988	655
35	495m E	Power Station	1990 - 1993	566

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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	0

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

This data is sourced from Ordnance Survey / Groundsure.

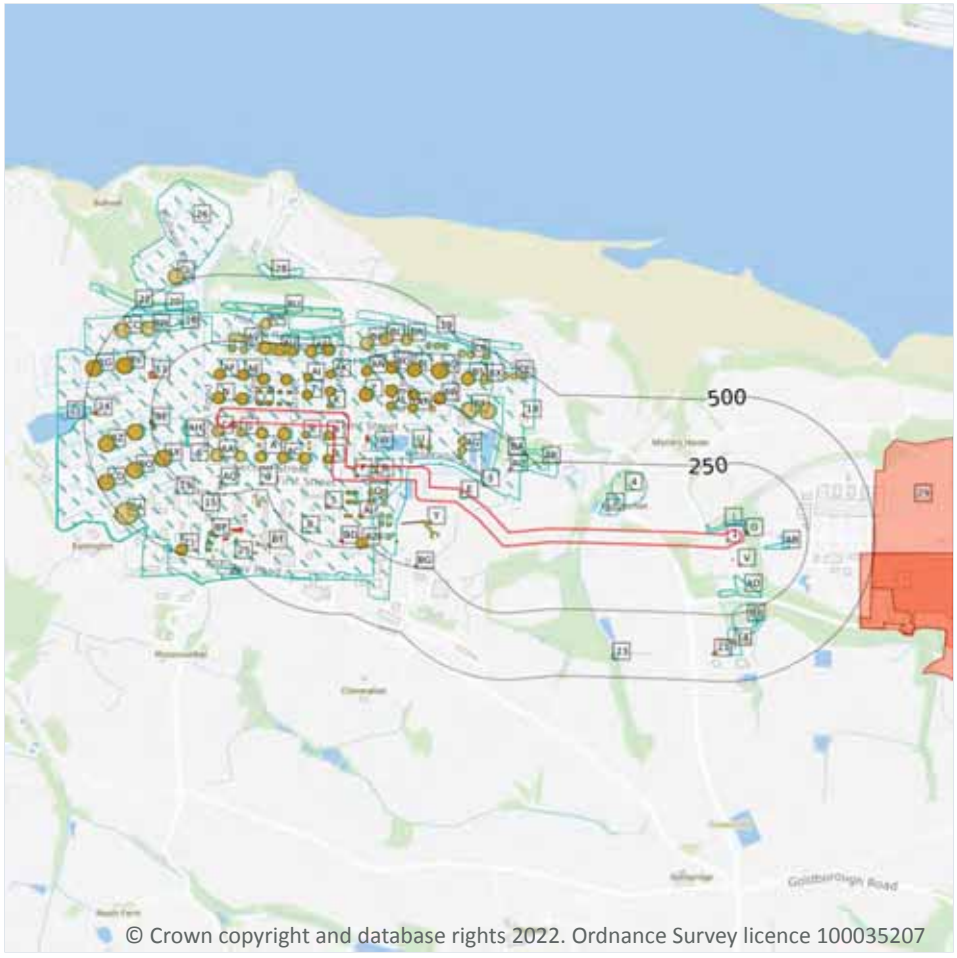
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	186

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 31**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Oil Refinery**	**1994**	**14522**
A	**On site**	**Oil Refinery**	**1975**	**16446**
B	**On site**	**Unspecified Heap**	**1975**	**12323**

ID	Location	Land Use	Date	Group ID
C	**On site**	**Unspecified Tank**	**1975**	**11598**
D	**On site**	**Unspecified Tank**	**1994**	**17131**
D	**On site**	**Unspecified Tank**	**1975**	**14197**
E	**On site**	**Incinerator**	**1975**	**11777**
H	2m W	Unspecified Tank	1994	17137
H	2m W	Unspecified Tank	1975	15872
I	5m N	Unspecified Ground Workings	1994	17222
I	5m N	Unspecified Ground Workings	1975	15413
A	15m S	Unspecified Tank	1994	15310
A	15m S	Unspecified Tank	1975	17244
B	16m N	Unspecified Pit	1975	11111
J	16m N	Unspecified Tank	1994	15270
J	16m N	Unspecified Tank	1975	15619
J	17m N	Unspecified Tank	1994	15451
J	17m N	Unspecified Tank	1975	15710
L	17m N	Unspecified Tank	1994	16599
L	17m N	Unspecified Tank	1975	14237
K	18m N	Unspecified Tank	1994	16810
K	18m N	Unspecified Tank	1975	17238
J	19m N	Unspecified Tank	1994	15277
J	19m N	Unspecified Tank	1975	14929
J	19m N	Unspecified Tank	1994	16886
J	19m N	Unspecified Tank	1975	15714
A	19m S	Unspecified Tank	1994	14335
A	19m S	Unspecified Tank	1975	17481
N	20m N	Unspecified Tank	1994	15099
N	20m N	Unspecified Tank	1975	14400
G	23m S	Unspecified Tank	1975	11600

ID	Location	Land Use	Date	Group ID
P	25m S	Unspecified Tank	1994	16032
P	25m S	Unspecified Tank	1975	16990
Q	35m S	Unspecified Tanks	1994	11300
R	35m S	Unspecified Tanks	1994	11302
S	37m S	Unspecified Tanks	1994	16103
S	37m S	Unspecified Tanks	1975	17270
T	47m N	Unspecified Tank	1994	15650
T	47m N	Unspecified Tank	1975	15223
U	47m N	Unspecified Ground Workings	1975	12893
2	54m N	Grave Yard	1864	13454
W	56m N	Unspecified Pit	1975	11115
J	62m N	Unspecified Tank	1994	15210
J	62m N	Unspecified Tank	1975	16339
J	63m N	Unspecified Tank	1994	16819
J	63m N	Unspecified Tank	1975	16616
X	63m N	Unspecified Tank	1994	17379
X	63m N	Unspecified Tank	1975	14628
J	63m N	Unspecified Tank	1994	13959
J	63m N	Unspecified Tank	1975	15267
J	65m N	Unspecified Tank	1994	15787
J	65m N	Unspecified Tank	1975	15384
U	71m N	Unspecified Tank	1994	11603
S	72m S	Unspecified Tanks	1994	15133
S	72m S	Unspecified Tanks	1975	14529
Y	74m S	Unspecified Tank	1994	11602
P	78m W	Unspecified Tank	1994	17053
P	78m W	Unspecified Tank	1975	13858
AA	82m S	Unspecified Tank	1975	11599

ID	Location	Land Use	Date	Group ID
Z	85m NE	Unspecified Tank	1994	15985
Z	85m NE	Unspecified Tank	1975	14707
4	96m N	Sand Pit	1864	11832
AB	96m E	Unspecified Pit	1994	16723
AB	96m E	Unspecified Pit	1975	17474
J	98m N	Unspecified Tank	1994	16583
J	98m N	Unspecified Tank	1975	16787
J	98m N	Unspecified Tank	1994	15153
J	98m N	Unspecified Tank	1975	13994
AA	103m SE	Unspecified Tank	1975	11601
AC	105m S	Unspecified Tank	1994	15954
AC	105m S	Unspecified Tank	1975	17543
AD	107m S	Unspecified Pit	1994	16487
AD	107m S	Unspecified Pit	1975	15940
A	107m S	Unspecified Tank	1994	15368
A	107m S	Unspecified Tank	1975	16692
AE	110m N	Unspecified Tank	1994	16262
AE	110m N	Unspecified Tank	1975	15134
AF	110m N	Unspecified Tank	1994	14734
AF	110m N	Unspecified Tank	1975	14506
AH	111m W	Unspecified Ground Workings	1994	16461
AH	111m W	Unspecified Ground Workings	1975	15668
R	111m SW	Unspecified Tanks	1994	11303
AI	112m N	Unspecified Tank	1994	15272
AI	112m N	Unspecified Tank	1975	17037
AA	112m S	Chimney	1994	13525
AG	114m N	Unspecified Tanks	1994	11298
R	124m S	Unspecified Tanks	1994	11301

ID	Location	Land Use	Date	Group ID
AK	131m N	Unspecified Tank	1994	15675
AK	131m N	Unspecified Tank	1975	14788
AL	154m E	Unspecified Tank	1994	14857
AL	154m E	Unspecified Tank	1975	14458
AM	158m S	Unspecified Ground Workings	1994	14808
AM	158m S	Unspecified Ground Workings	1975	14448
R	165m SW	Unspecified Tanks	1994	11304
AN	167m NE	Unspecified Tank	1994	14241
AN	167m NE	Unspecified Tank	1975	14549
AP	170m NE	Unspecified Tank	1994	14676
AP	170m NE	Unspecified Tank	1975	16480
AR	191m N	Refuse Heap	1994	16691
AQ	202m S	Chimney	1975	13526
AS	205m N	Unspecified Tanks	1994	15738
AS	205m N	Unspecified Tanks	1975	17665
AT	206m N	Unspecified Tank	1994	17079
AT	206m N	Unspecified Tank	1975	15282
AU	206m N	Unspecified Tanks	1994	16012
AU	206m N	Unspecified Tanks	1975	17166
AX	210m SW	Unspecified Tank	1994	14908
AX	210m SW	Unspecified Tank	1975	15781
AY	210m S	Chimneys	1975	11650
AV	211m N	Unspecified Tanks	1994	11226
AR	211m NE	Refuse Heap	1975	15240
AV	214m N	Unspecified Tanks	1994	11227
8	214m SW	Unspecified Pit	1906	11112
AY	222m S	Chimneys	1975	11651
BB	222m S	Unspecified Mill	1963	11723

ID	Location	Land Use	Date	Group ID
BC	229m NE	Unspecified Tank	1994	15494
BC	229m NE	Unspecified Tank	1975	16708
BE	231m W	Unspecified Tanks	1994	13815
BE	231m W	Unspecified Tanks	1975	17679
BF	243m NE	Unspecified Tanks	1994	17588
BF	243m NE	Unspecified Tanks	1975	14829
AT	244m E	Unspecified Tank	1994	15305
AT	244m E	Unspecified Tank	1975	14086
AW	245m N	Unspecified Tank	1994	15245
AW	245m N	Unspecified Tank	1975	17558
BH	255m N	Unspecified Tank	1994	11595
12	273m N	Unspecified Ground Workings	1994	12890
BK	277m W	Unspecified Tank	1994	16375
BK	277m W	Unspecified Tank	1975	14453
BB	279m S	Corn Mill	1864	16546
BJ	283m NE	Unspecified Tank	1994	14648
BJ	283m NE	Unspecified Tank	1975	16272
BB	285m S	Corn Mill	1906	16546
13	288m SW	Chimney	1994	13524
14	299m S	Corn Mill	1948	12579
BL	301m NE	Unspecified Tank	1994	11594
BM	302m N	Unspecified Tank	1994	11597
16	324m N	Unspecified Heap	1975	12322
BO	325m SW	Unspecified Tank	1994	15695
BO	325m SW	Unspecified Tank	1975	15850
BQ	339m N	Unspecified Tank	1994	14187
BQ	339m N	Unspecified Tank	1975	14719
BR	346m NE	Unspecified Tank	1994	11593

ID	Location	Land Use	Date	Group ID
BS	350m NE	Unspecified Tank	1994	15139
BS	350m NE	Unspecified Tank	1975	14173
BU	355m N	Unspecified Heap	1975	14831
BU	356m N	Unspecified Heap	1994	16524
BV	357m NW	Unspecified Tank	1994	15123
BV	357m NW	Unspecified Tank	1975	14098
19	358m N	Unspecified Heap	1994	12324
BW	372m NW	Unspecified Tank	1994	11424
BW	380m NW	Unspecified Heap	1975	12321
BX	384m NE	Unspecified Tank	1994	11589
20	385m N	Unspecified Heap	1975	15487
BP	389m S	Unspecified Tanks	1994	17124
BP	389m S	Unspecified Tanks	1975	15389
BZ	389m W	Unspecified Tank	1994	14880
BZ	389m W	Unspecified Tank	1975	15697
22	391m N	Unspecified Heap	1994	14003
BY	396m NE	Unspecified Tanks	1994	11299
23	412m S	Unspecified Quarry	1864	12211
BP	417m S	Chimney	1994	14451
BP	417m S	Chimney	1975	14847
BP	423m S	Unspecified Tanks	1994	14491
BP	423m S	Unspecified Tanks	1975	15664
CA	435m SW	Unspecified Tank	1994	16624
CA	435m SW	Unspecified Tank	1975	16930
CB	436m N	Unspecified Tanks	1994	11305
CC	438m NW	Unspecified Tank	1994	11426
CD	440m SW	Unspecified Tank	1994	17349
CD	440m SW	Unspecified Tank	1975	14963

ID	Location	Land Use	Date	Group ID
CE	446m N	Unspecified Tanks	1994	11306
CG	459m W	Unspecified Tank	1994	14868
CG	459m W	Unspecified Tank	1975	15026
CI	461m S	Unspecified Tank	1994	16109
CI	461m S	Unspecified Tank	1975	15078
CH	465m NE	Unspecified Tank	1994	11590
25	466m SW	Chimney	1994	13523
CJ	474m W	Sludge Pond	1994	14190
CJ	474m W	Sludge Pond	1975	17004
26	480m NW	Unspecified Commercial/Industrial	1994	15485
27	482m SW	Unspecified Tank	1994	11423
CK	483m SW	Electric Substation	1975	17252
28	488m N	Cuttings	1994	11354
CK	489m SW	Electric Substation	1994	15603
CL	498m N	Unspecified Tank	1994	11425

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**281**

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 31**

ID	Location	Land Use	Date	Group ID
B	**On site**	**Tanks**	**1988**	**1997**
B	**On site**	**Tanks**	**1988**	**2646**
B	**On site**	**Tanks**	**1969**	**2646**
B	**On site**	**Unspecified Tank**	**1969**	**1792**
E	**On site**	**Unspecified Tank**	**1988**	**1806**

ID	Location	Land Use	Date	Group ID
F	**On site**	**Unspecified Tank**	**1988**	**1782**
F	**On site**	**Unspecified Tank**	**1988**	**1783**
C	1m SW	Unspecified Tank	1969	1411
D	3m W	Unspecified Tank	1988	2500
D	3m W	Unspecified Tank	1969	2591
H	6m W	Unspecified Tank	1988	2165
H	6m W	Unspecified Tank	1969	2960
F	9m N	Unspecified Tank	1988	1781
A	14m S	Unspecified Tank	1994	2715
A	15m S	Unspecified Tank	1969	2715
J	16m N	Tanks	1974	2156
J	16m N	Tanks	1969	2156
J	16m N	Tanks	1988	2669
K	16m N	Unspecified Tank	1988	2134
K	16m N	Unspecified Tank	1973	2134
J	17m N	Tanks	1974	2395
J	17m N	Tanks	1969	2395
K	17m N	Unspecified Tank	1969	2134
K	17m N	Unspecified Tank	1978	2134
J	17m N	Tanks	1988	2218
L	17m N	Unspecified Tank	1974	2260
L	17m N	Unspecified Tank	1969	2260
L	17m N	Unspecified Tank	1988	2076
A	19m S	Unspecified Tank	1994	2251
J	19m N	Tanks	1988	2256
J	19m N	Tanks	1974	2871
J	19m N	Tanks	1969	2871
J	19m N	Tanks	1974	2042

ID	Location	Land Use	Date	Group ID
J	19m N	Tanks	1969	2042
J	19m N	Tanks	1988	2193
A	19m S	Unspecified Tank	1969	2251
N	21m N	Unspecified Tank	1974	2753
N	21m N	Unspecified Tank	1969	2753
O	21m E	Unspecified Tank	1993	2574
O	22m E	Unspecified Tank	1972	2574
G	22m S	Unspecified Tank	1969	1407
N	23m N	Unspecified Tank	1988	2117
O	23m E	Unspecified Tank	1972	2711
O	23m E	Unspecified Tank	1993	2711
P	25m S	Unspecified Tank	1994	2782
P	25m S	Unspecified Tank	1969	2782
M	26m N	Unspecified Tank	1988	2098
M	26m N	Unspecified Tank	1969	2098
H	28m S	Unspecified Tank	1994	2926
H	28m S	Unspecified Tank	1969	2960
D	29m W	Unspecified Tank	1969	2591
D	29m W	Unspecified Tank	1994	2595
S	37m S	Unspecified Tank	1988	2664
S	37m S	Unspecified Tank	1969	2664
S	37m S	Unspecified Tank	1988	2738
S	37m S	Unspecified Tank	1969	2738
R	39m S	Unspecified Tank	1988	1793
Q	40m S	Unspecified Tank	1988	1791
T	45m N	Unspecified Tank	1974	2073
T	45m N	Unspecified Tank	1969	2073
T	45m N	Unspecified Tank	1988	2497

ID	Location	Land Use	Date	Group ID
X	60m N	Unspecified Tank	1973	2946
X	60m N	Unspecified Tank	1988	2460
P	61m S	Unspecified Tank	1994	1778
X	61m N	Unspecified Tank	1969	2946
X	61m N	Unspecified Tank	1978	2946
J	62m N	Tanks	1974	2068
J	62m N	Tanks	1969	2068
J	63m N	Tanks	1974	2992
J	63m N	Tanks	1969	2992
J	63m N	Tanks	1988	2891
J	63m N	Tanks	1988	2992
J	63m N	Tanks	1988	2868
J	63m N	Tanks	1988	2074
J	63m N	Tanks	1974	2074
J	63m N	Tanks	1969	2074
J	63m N	Tanks	1974	2868
J	63m N	Tanks	1969	2868
3	64m NE	Unspecified Tank	1988	1807
U	66m N	Unspecified Tank	1988	1800
U	69m N	Tanks	1969	1998
S	72m S	Unspecified Tank	1988	1780
S	72m S	Tanks	1969	1991
S	73m S	Unspecified Tank	1988	1779
A	75m S	Unspecified Tank	1994	1406
V	75m SE	Unspecified Tank	1993	1808
U	76m N	Unspecified Tank	1988	1802
Y	76m S	Unspecified Tank	1988	1803
Y	76m S	Unspecified Tank	1988	1804

ID	Location	Land Use	Date	Group ID
Q	78m S	Unspecified Tank	1988	1790
Z	79m NE	Unspecified Tank	1988	2654
Z	79m NE	Unspecified Tank	1969	2729
Z	79m NE	Unspecified Tank	1978	2729
R	80m S	Unspecified Tank	1988	1794
Z	80m NE	Unspecified Tank	1973	2829
P	83m S	Unspecified Tank	1994	1777
P	84m W	Unspecified Tank	1994	2889
U	84m N	Unspecified Tank	1969	1795
P	84m W	Unspecified Tank	1969	2889
U	84m N	Unspecified Tank	1969	1801
AA	84m S	Unspecified Tank	1969	1410
U	92m N	Unspecified Tank	1988	1799
J	95m N	Unspecified Tank	1988	2710
J	96m N	Unspecified Tank	1974	2943
J	96m N	Unspecified Tank	1969	2943
J	96m N	Unspecified Tank	1988	2850
J	96m N	Unspecified Tank	1974	2626
J	96m N	Unspecified Tank	1969	2626
5	97m S	Tanks	1988	1990
U	99m N	Unspecified Tank	1988	1798
AA	100m SE	Unspecified Tank	1969	1408
AC	104m S	Unspecified Tank	1969	2573
U	107m N	Unspecified Tank	1988	1796
AC	107m S	Unspecified Tank	1994	2573
A	107m S	Unspecified Tank	1969	2545
AE	107m N	Unspecified Tank	1974	2398
AE	107m N	Unspecified Tank	1969	2398

ID	Location	Land Use	Date	Group ID
AE	107m N	Unspecified Tank	1988	2401
A	108m S	Unspecified Tank	1994	2545
AF	108m N	Unspecified Tank	1988	2302
AG	109m N	Unspecified Tank	1988	2079
AF	109m N	Unspecified Tank	1974	2090
AF	109m N	Unspecified Tank	1969	2090
AG	111m N	Unspecified Tank	1988	2864
AI	112m N	Unspecified Tank	1974	2132
AI	112m N	Unspecified Tank	1969	2132
AI	113m N	Unspecified Tank	1988	2111
R	120m SW	Unspecified Tank	1988	1787
AJ	123m S	Tanks	1988	2237
AJ	123m S	Tanks	1969	2237
AK	128m N	Unspecified Tank	1969	2970
AK	128m N	Unspecified Tank	1978	2970
AK	128m N	Unspecified Tank	1973	2575
AJ	128m S	Tanks	1988	2913
AJ	128m S	Tanks	1969	2913
AK	128m N	Unspecified Tank	1988	2385
R	130m S	Unspecified Tank	1988	1788
AG	131m N	Unspecified Tank	1988	2757
AG	133m NE	Unspecified Tank	1988	2757
R	139m SW	Unspecified Tank	1988	1786
AL	148m E	Unspecified Tank	1988	2512
AL	148m E	Unspecified Tank	1978	2741
AL	149m E	Unspecified Tank	1973	2329
AG	152m NE	Unspecified Tank	1988	3003
AG	153m NE	Unspecified Tank	1988	2135

ID	Location	Land Use	Date	Group ID
6	158m SW	Unspecified Tank	1994	1397
AN	159m NE	Unspecified Tank	1988	2275
AN	161m NE	Unspecified Tank	1969	2740
AN	161m NE	Unspecified Tank	1978	2740
R	161m S	Unspecified Tank	1988	1789
AN	162m NE	Unspecified Tank	1973	2759
AP	166m NE	Unspecified Tank	1969	2624
AP	166m NE	Unspecified Tank	1978	2624
AP	166m NE	Unspecified Tank	1973	2279
AP	166m NE	Unspecified Tank	1988	2491
R	174m SW	Unspecified Tank	1988	1785
AQ	184m S	Unspecified Tank	1994	1409
R	196m SW	Unspecified Tank	1988	1784
AS	204m N	Unspecified Tank	1988	2865
AS	204m N	Unspecified Tank	1974	2865
AT	205m N	Unspecified Tank	1988	2340
AT	205m N	Unspecified Tank	1978	2362
AU	205m N	Tanks	1988	2917
AT	205m N	Unspecified Tank	1973	2383
AU	205m N	Tanks	1974	2984
7	207m N	Unspecified Tank	1974	1776
AV	207m N	Unspecified Tank	1988	1413
AU	209m N	Tanks	1974	2139
AW	210m N	Unspecified Tank	1988	1797
AV	211m N	Unspecified Tank	1988	1412
AZ	213m S	Tanks	1988	2096
AZ	213m S	Tanks	1969	2096
AS	213m N	Unspecified Tank	1978	2498

ID	Location	Land Use	Date	Group ID
AS	213m N	Unspecified Tank	1988	2982
AS	213m N	Unspecified Tank	1973	2498
BA	214m NE	Unspecified Tank	1988	2257
BA	214m NE	Unspecified Tank	1972	2257
AS	215m N	Unspecified Tank	1988	2982
AX	216m SW	Unspecified Tank	1969	2831
AX	216m SW	Unspecified Tank	1974	2831
AS	216m N	Unspecified Tank	1974	2498
AQ	218m S	Unspecified Tank	1994	1405
BC	223m NE	Unspecified Tank	1988	2888
BC	224m NE	Unspecified Tank	1973	2372
BC	225m NE	Unspecified Tank	1969	2847
BC	225m NE	Unspecified Tank	1978	2847
BE	236m W	Unspecified Tank	1969	2986
BE	236m W	Unspecified Tank	1974	2986
AT	237m E	Unspecified Tank	1988	2416
AT	238m E	Unspecified Tank	1969	2531
AT	238m E	Unspecified Tank	1978	2531
AT	238m E	Unspecified Tank	1973	2404
BF	239m NE	Unspecified Tank	1986	1817
AW	243m N	Unspecified Tank	1969	2352
AW	243m N	Unspecified Tank	1978	2352
AW	243m N	Unspecified Tank	1973	2254
AW	243m N	Unspecified Tank	1988	2126
BE	243m W	Unspecified Tank	1969	2565
BE	243m W	Unspecified Tank	1974	2565
BG	243m S	Unspecified Tank	1990	2880
BG	244m S	Unspecified Tank	1993	2880

ID	Location	Land Use	Date	Group ID
AQ	247m S	Unspecified Tank	1994	1404
AV	249m N	Tanks	1988	1979
BH	251m N	Unspecified Tank	1988	1767
10	258m S	Unspecified Tank	1969	1398
BI	270m S	Unspecified Tank	1994	1403
AQ	270m S	Unspecified Tank	1969	2428
AQ	272m S	Unspecified Tank	1994	2428
BJ	276m NE	Unspecified Tank	1988	2412
BJ	277m NE	Unspecified Tank	1969	2280
BJ	277m NE	Unspecified Tank	1978	2280
BJ	277m NE	Unspecified Tank	1973	2524
BF	281m N	Unspecified Tank	1986	1818
BI	283m W	Tanks	1994	1982
BK	284m W	Unspecified Tank	1969	2593
BK	284m W	Unspecified Tank	1974	2593
BB	288m S	Unspecified Tank	1972	2504
BB	289m S	Unspecified Tank	1993	2504
BL	295m NE	Unspecified Tank	1988	1769
BM	300m N	Unspecified Tank	1988	1414
BN	315m NW	Tanks	1988	1879
BN	319m NW	Tanks	1988	1880
BO	331m SW	Unspecified Tank	1969	3000
BO	331m SW	Unspecified Tank	1974	3000
BP	333m S	Tanks	1994	1984
BQ	335m N	Unspecified Tank	1978	2264
BQ	336m N	Unspecified Tank	1973	2309
BQ	336m N	Unspecified Tank	1988	2121
BP	337m S	Tanks	1994	1985

ID	Location	Land Use	Date	Group ID
BR	339m NE	Unspecified Tank	1988	1770
BP	339m S	Tanks	1994	1983
BS	343m NE	Unspecified Tank	1986	2245
BS	344m NE	Unspecified Tank	1973	2245
17	344m N	Unspecified Tank	1988	1415
BT	345m SW	Tanks	1994	1989
BP	356m S	Unspecified Tank	1994	1402
BV	363m NW	Unspecified Tank	1974	2024
BV	363m NW	Unspecified Tank	1969	2024
BT	365m SW	Unspecified Tank	1994	1401
BV	366m NW	Unspecified Tank	1988	2250
BQ	370m N	Unspecified Tank	1988	1810
BT	371m SW	Tanks	1994	1987
BT	372m SW	Tanks	1994	1988
BX	379m NE	Unspecified Tank	1986	1816
BW	380m NW	Unspecified Tank	1988	1419
21	388m S	Tanks	1972	1992
BY	388m NE	Unspecified Tank	1988	1768
BP	391m S	Unspecified Tank	1969	2731
BP	392m S	Unspecified Tank	1994	2731
BZ	396m W	Unspecified Tank	1969	2173
BZ	396m W	Unspecified Tank	1974	2173
BT	400m SW	Tanks	1994	1986
BP	403m S	Unspecified Tank	1969	2614
BP	403m S	Unspecified Tank	1994	2614
BY	412m NE	Unspecified Tank	1988	1772
BP	431m S	Unspecified Tank	1969	2303
BP	431m S	Unspecified Tank	1994	2303

ID	Location	Land Use	Date	Group ID
CB	436m N	Unspecified Tank	1986	1809
BY	438m NE	Unspecified Tank	1988	1773
CA	440m SW	Unspecified Tank	1974	1396
CB	443m N	Unspecified Tank	1986	1811
CE	443m NE	Unspecified Tank	1986	1813
24	446m W	Tanks	1988	1870
CC	446m NW	Unspecified Tank	1988	1418
CD	446m SW	Unspecified Tank	1969	2452
CD	446m SW	Unspecified Tank	1974	2452
BP	454m S	Unspecified Tank	1969	2576
CE	455m NE	Unspecified Tank	1986	1814
BP	455m S	Unspecified Tank	1994	2576
BP	456m S	Unspecified Tank	1969	2770
BP	456m S	Unspecified Tank	1994	2770
CH	461m NE	Unspecified Tank	1986	1812
CI	464m S	Unspecified Tank	1969	2863
CI	464m S	Unspecified Tank	1974	2863
CG	466m W	Unspecified Tank	1974	2274
CG	466m W	Unspecified Tank	1969	2274
CG	467m W	Unspecified Tank	1988	2734
CE	470m NE	Unspecified Tank	1986	1815
BP	486m S	Unspecified Tank	1969	1400
CI	493m S	Unspecified Tank	1969	2855
CL	493m N	Unspecified Tank	1993	1416

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**26**

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

Features are displayed on the Past land use - un-grouped map on **page 31**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Electricity Substation**	**1972**	**431**
G	**On site**	**Electricity Substation**	**1994**	**417**
M	17m N	Electricity Substation	1988	428
V	50m S	Electricity Substation	1972	432
W	69m E	Electricity Substation	1969	817
W	69m E	Electricity Substation	1988	817
AH	118m W	Electricity Substation	1969	784
AH	118m W	Electricity Substation	1974	784
AO	165m NE	Electricity Substation	1988	603
AO	165m NE	Electricity Substation	1972	603
R	174m SW	Electricity Substation	1988	427
9	222m S	Electricity Substation	1994	420
BD	223m S	Electricity Substation	1969	425
BD	226m S	Electricity Substation	1988	426
11	265m NW	Electricity Substation	1988	413
15	310m S	Electricity Substation	1994	421
18	358m NE	Electricity Substation	1986	430
BP	379m S	Electricity Substation	1994	644
BP	381m S	Electricity Substation	1969	644
BP	410m S	Electricity Substation	1994	422
BP	415m S	Electricity Substation	1969	423
CF	450m E	Power Station	1972	694
CK	492m SW	Electricity Substation	1969	424

ID	Location	Land Use	Date	Group ID
29	494m E	Power Station	1988	655
CF	495m E	Power Station	1990	566
CF	496m E	Power Station	1993	566

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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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 51**

ID	Location	Site address	Source	Data type
B	203m NE	Refuse Tip	1971 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	1

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 51**

ID	Location	Details		
B	188m NE	Site Address: Disused Refuse Tip, Texaco Refinery Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	2

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

Features are displayed on the Waste and landfill map on **page 51**

ID	Location	Address	Further Details	Date
A	**On site**	**Site Address: N/A**	**Type of Site: Incinerator** **Planning application reference: N/A** **Description: N/A** **Data source: Historic Mapping** **Data Type: Polygon**	**1971**
A	**On site**	**Site Address: N/A**	**Type of Site: Incinerator** **Planning application reference: N/A** **Description: N/A** **Data source: Historic Mapping** **Data Type: Polygon**	**1975**

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	**6**

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.

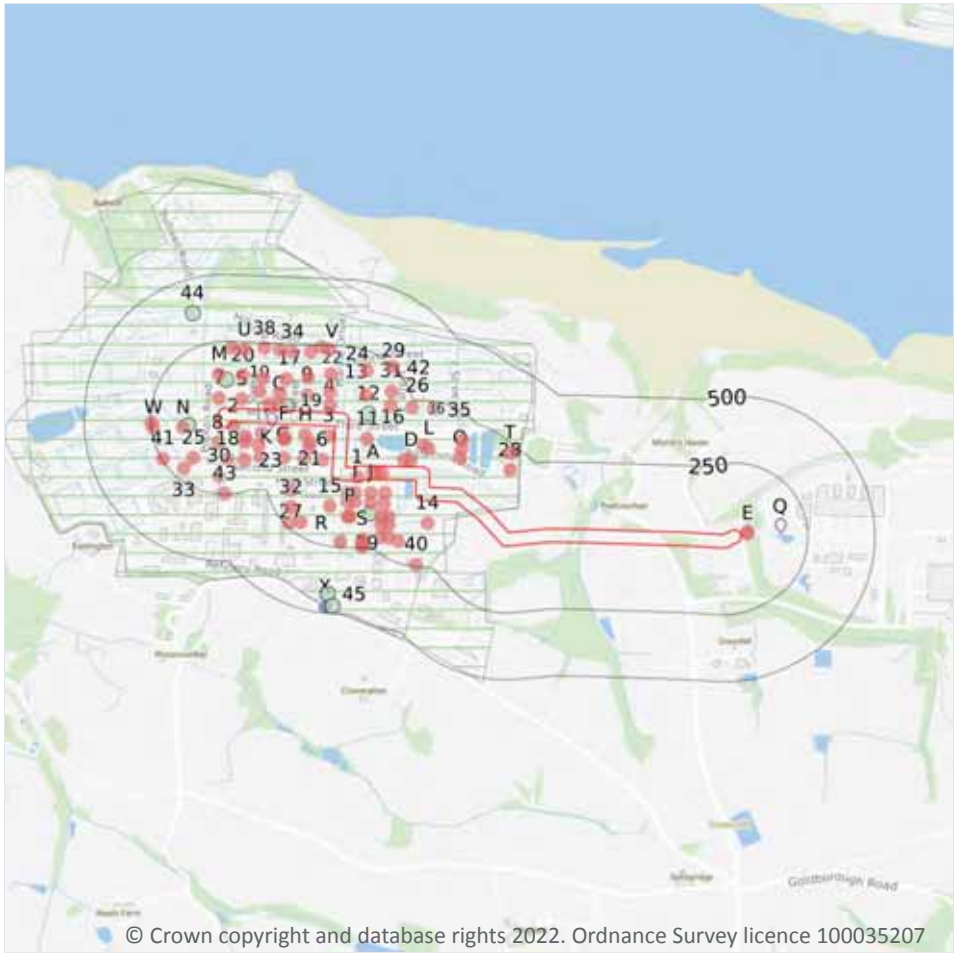
Features are displayed on the Waste and landfill map on **page 51**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	68m N	DCWW, FIELD 26, Pembroke, SA715TL	NRW-WME027489	Storing waste exemption	Not on a farm	Storage of sludge
C	371m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Storing waste exemption	On a farm	Storage of waste in a secure place
C	371m S	Pembroke 21C Community Interest Company, Green Hill Farm, Pwllcrochan, Pembroke, Pembrokeshire, SA715TJ	NRW-WME020124	Using waste exemption	On a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
2	398m N	DCWW, Lambeeth Farm, Pwllcrochan, Pembroke, Sir Benfro, SA71 5TP	NRW-WME047963	Storing waste exemption	Not on a farm	Storage of sludge
D	440m W	Valero Energy Ltd, Valero Energy Ltd, Pembroke Refinery, Pembroke, Sir Benfro, SA71 5SJ	NRW-WME061657	Using waste exemption	Not on a farm	Use of waste in construction
D	440m W	Valero Energy Ltd, Valero Energy Ltd, Pembroke Refinery, Pembroke, Sir Benfro, SA71 5SJ	NRW-WME052635	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

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

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Control of Major Accident Hazards

Historical licensed industrial activities

Part A(1) industrial activities

Radioactive Substance Authorisations

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	107

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 55**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**
A	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**
A	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Tank**	**Dyfed, SA71**	**Tanks (Generic)**	**Industrial Features**
2	12m SE	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
3	22m W	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
C	24m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
D	25m N	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
C	25m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
4	25m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
E	26m E	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
E	27m E	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
D	28m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
5	36m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
F	38m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
G	38m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
H	39m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
6	40m W	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
7	41m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
I	45m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
I	45m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
J	49m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	50m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
K	53m S	Chimney	Dyfed, SA71	Chimneys	Industrial Features
F	54m S	Hertel	Pembroke Refinery, Pembroke, Dyfed, SA71 5SJ	Industrial Engineers	Engineering Services
F	54m S	Ainscough Crane Hire Ltd	Pembroke Refinery, Pembroke, Dyfed, SA71 5SJ	Lifting and Handling Equipment	Industrial Products
F	54m S	Valero	Pembroke Refinery, Pembroke, Dyfed, SA71 5SJ	Oil and Gas Extraction, Refinery and Product Manufacture	Extractive Industries
8	61m S	Chimney	Dyfed, SA71	Chimneys	Industrial Features
9	63m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
H	66m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
10	68m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
C	68m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
K	71m S	Chimney	Dyfed, SA71	Chimneys	Industrial Features
L	73m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
11	74m E	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
13	76m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
I	80m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
L	80m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
I	80m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
G	83m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
14	84m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
H	87m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	89m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	90m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
15	102m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
16	105m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
H	105m W	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
O	115m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
17	117m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
18	118m S	Chimney	Dyfed, SA71	Chimneys	Industrial Features
19	118m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
20	126m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
21	127m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	127m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
G	127m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
M	129m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
22	129m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
N	132m W	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
P	133m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
P	134m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
P	134m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
23	137m SE	Chimney	Dyfed, SA71	Chimneys	Industrial Features
J	138m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
24	143m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	147m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
O	149m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
25	156m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
26	165m E	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
27	165m W	Chimney	Dyfed, SA71	Chimneys	Industrial Features
28	166m NE	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
J	169m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
O	170m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
J	176m SW	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
29	180m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
J	180m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
30	182m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
31	188m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
32	194m SW	Chimney	Dyfed, SA71	Chimneys	Industrial Features
J	202m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
R	208m SW	Pylon	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
33	209m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	216m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
T	217m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
34	220m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
35	221m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
36	221m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	222m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
U	222m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
V	224m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
U	226m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	228m S	Tanks	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	228m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
37	228m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
38	231m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
39	232m S	Electricity Sub Station	Dyfed, SA71	Electrical Features	Infrastructure and Facilities
V	233m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	234m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
R	236m SW	Mast (Telecommunication)	Dyfed, SA71	Telecommunications Features	Infrastructure and Facilities
S	240m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
40	241m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
W	242m W	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
V	245m N	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
41	245m SW	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
S	246m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
42	246m NE	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
43	248m S	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features
W	249m W	Tank	Dyfed, SA71	Tanks (Generic)	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	2

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.

Features are displayed on the Current industrial land use map on **page 55**

ID	Location	Company	Address	Operational status	Tier
B	**On site**	**Pembroke Cracking Co**	**Pembroke Cracking Co,Pembroke**	**Historical NIHHS Site**	**-**

ID	Location	Company	Address	Operational status	Tier
B	**On site**	**Valero Energy Limited**	**Valero Energy Limited, Pembroke Refinery, Pembroke, Pembrokeshire, SA71 5SJ**	**Current COMAH Site**	**COMAH Upper Tier Operator**

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	**24**

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.

Features are displayed on the Current industrial land use map on **page 55**

ID	Location	Details	
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Combustion Processes Permit Number: AA2712	Original Permit Number: IPCAIRAPP Date Approved: 29-2-1992 Effective Date: 29-2-1992 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: AF7894	Original Permit Number: IPCAIRAPP Date Approved: 12-1-1994 Effective Date: 12-1-1994 Status: Superseded By Variation

ID	Location	Details	
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Combustion Processes Permit Number: AJ2194	Original Permit Number: IPCMINVAR Date Approved: 30-6-1993 Effective Date: 30-6-1993 Status: Revoked
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: AT5836	Original Permit Number: IPCMINVAR Date Approved: 26-9-1995 Effective Date: 27-9-1995 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: AX4220	Original Permit Number: IPCMINVAR Date Approved: 21-3-1997 Effective Date: 27-3-1997 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: AZ1418	Original Permit Number: IPCMINVAR Date Approved: 25-9-1997 Effective Date: 30-9-1997 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BA4728	Original Permit Number: IPCMINVAR Date Approved: 29-4-1998 Effective Date: 6-5-1998 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BB6262	Original Permit Number: IPCMAJVAR Date Approved: 9-11-1998 Effective Date: 17-11-1998 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BE5513	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BF1505	Original Permit Number: IPCMINVAR Date Approved: 28-1-1999 Effective Date: 31-1-1999 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BG4631	Original Permit Number: IPCMINVAR Date Approved: 23-7-1999 Effective Date: 30-7-1999 Status: Superseded By Variation

ID	Location	Details	
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BH1140	Original Permit Number: IPCMINVAR Date Approved: 13-10-1999 Effective Date: 25-10-1999 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BH6931	Original Permit Number: IPCMINVAR Date Approved: 3-3-2000 Effective Date: 10-3-2000 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BH6940	Original Permit Number: IPCMINVAR Date Approved: 18-1-2000 Effective Date: 28-1-2000 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BH7458	Original Permit Number: IPCMINVAR Date Approved: 6-3-2000 Effective Date: 13-3-2000 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BK5517	Original Permit Number: IPCMINVAR Date Approved: 17-5-2001 Effective Date: 25-5-2001 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BM2667	Original Permit Number: IPCMINVAR Date Approved: 26-3-2002 Effective Date: 31-3-2002 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BT3323	Original Permit Number: IPCMINVAR Date Approved: 17-12-2002 Effective Date: 31-12-2002 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BV8075	Original Permit Number: IPCMINVAR Date Approved: 15-10-2003 Effective Date: 17-10-2003 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BX4160	Original Permit Number: IPCMINVAR Date Approved: 19-3-2004 Effective Date: 1-4-2004 Status: Superseded By Variation

ID	Location	Details	
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BY3819	Original Permit Number: IPCMINVAR Date Approved: 5-10-2004 Effective Date: 7-10-2004 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: BZ2150	Original Permit Number: IPCMINVAR Date Approved: 26-4-2005 Effective Date: 27-4-2005 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: CA2576	Original Permit Number: IPCMINVAR Date Approved: 24-2-2006 Effective Date: 24-2-2006 Status: Superseded By Variation
X	477m S	Operator: Chevron Ltd Address: Pembroke Plant, PO Box 10, Pembroke, Dyfed, SA71 5SJ Process: Petroleum Processes Permit Number: CA3513	Original Permit Number: IPCMINVAR Date Approved: 21-3-2006 Effective Date: 21-3-2006 Status: Revoked - Now Ippc

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m **40**

Records of Part A(1) 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 55**

ID	Location	Details	
B	**On site**	**Operator: CHEVRON LIMITED** **Installation Name: PEMBROKE REFINARY** **Process: ASSOCIATED PROCESS** **Permit Number: GP3933HY** **Original Permit Number: QP3033LW**	**EPR Reference: -** **Issue Date: 11/09/2010** **Effective Date: 11/09/2010** **Last date noted as effective: 17/11/2015** **Status: SUPERCEDED**

ID	Location	Details	
B	On site	Operator: CHEVRON LIMITED Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: GP3933HY Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 11/09/2010 Effective Date: 11/09/2010 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: CHEVRON LIMITED Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: GP3933HY Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 11/09/2010 Effective Date: 11/09/2010 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: CHEVRON LIMITED Installation Name: PEMBROKE REFINARY Process: ASSOCIATED PROCESS Permit Number: QP3033LW Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 20/12/2007 Effective Date: 20/12/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: CHEVRON LIMITED Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: QP3033LW Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 20/12/2007 Effective Date: 20/12/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: CHEVRON LIMITED Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: QP3033LW Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 20/12/2007 Effective Date: 20/12/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: ASSOCIATED PROCESS Permit Number: CP3639CA Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 05/04/2012 Effective Date: 05/04/2012 Last date noted as effective: 17/11/2015 Status: SUPERCEDED

ID	Location	Details	
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: CP3639CA Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 05/04/2012 Effective Date: 05/04/2012 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: CP3639CA Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 05/04/2012 Effective Date: 05/04/2012 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: ASSOCIATED PROCESS Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 17/11/2015 Status: SUPERCEDED

ID	Location	Details	
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: ASSOCIATED PROCESS Permit Number: YP3432FB Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 21/09/2011 Effective Date: 21/09/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: YP3432FB Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 21/09/2011 Effective Date: 21/09/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: YP3432FB Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 21/09/2011 Effective Date: 21/09/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY EPR/YP3930EX Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 01/01/2014 Effective Date: 01/01/2014 Last date noted as effective: 17/11/2015 Status: TRANSFER EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY EPR/YP3930EX Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 01/01/2014 Effective Date: 01/01/2014 Last date noted as effective: 17/11/2015 Status: TRANSFER EFFECTIVE

ID	Location	Details	
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY EPR/YP3930EX Process: GASIFICATION, LIQUIFAC. AND REFINING; ANY PYROLYSIS HEAT TREATMENT ETC OF COAL CARBONACEOUS MATERIAL ETC (UNLESS COAL DRYING/MAKING CHARCOAL)NISATION, DISTILLATION AND OTHER PROCESSES Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 01/01/2014 Effective Date: 01/01/2014 Last date noted as effective: 17/11/2015 Status: TRANSFER EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY EPR/YP3930EX Process: GASIFICATION, LIQUIFAC. AND REFINING; PETROL STORAGE Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 01/01/2014 Effective Date: 01/01/2014 Last date noted as effective: 17/11/2015 Status: TRANSFER EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: CREATED BY IED - DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 01/07/2013 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: CREATED BY IED - DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: PP3937ZK Original Permit Number: QP3033LW	EPR Reference: - Issue Date: 26/03/2013 Effective Date: 26/03/2013 Last date noted as effective: 01/07/2013 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINARY Process: - Permit Number: QP3033LW Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 01/01/2014 Effective Date: 01/01/2014 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 20/10/2017 Effective Date: 20/10/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE

ID	Location	Details	
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 20/10/2017 Effective Date: 20/10/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 20/10/2017 Effective Date: 20/10/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 20/10/2017 Effective Date: 20/10/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 20/10/2017 Effective Date: 20/10/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: - Permit Number: YP3930EX Original Permit Number: -	EPR Reference: - Issue Date: 03/03/2017 Effective Date: 03/03/2017 Last date noted as effective: 01/04/2017 Status: ISSUED
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING ONE OR MORE OF THE FOLLOWING ACTIVITIES - PHYSICO-CHEMICAL TREATMENT Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 06/11/2020 Effective Date: 06/11/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE
B	On site	Operator: VALERO ENERGY LTD Installation Name: PEMBROKE REFINERY Process: DISPOSAL OF NON-HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 50 TONNES PER DAY (OR 100 TONNES PER DAY IF THE ONLY WASTE TREATMENT ACTIVITY IS ANAEROBIC DIGESTION) INVOLVING ONE OR MORE OF THE FOLLOWING ACTIVITIES, AND EXCLUDING ACTIVITIES COVERED BY COUNCIL DIRECTIVE 91/271/EEC CONCERNING URBAN WASTE-WATER TREATMENT(4)—BIOLOGICAL TREATMENT Permit Number: YP3930EX Original Permit Number: YP3930EX	EPR Reference: - Issue Date: 06/11/2020 Effective Date: 06/11/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

ID	Location	Details	
B	**On site**	**Operator: VALERO ENERGY LTD** **Installation Name: PEMBROKE REFINERY** **Process: -** **Permit Number: YP3930EX** **Original Permit Number: YP3930EX**	**EPR Reference: -** **Issue Date: 06/11/2020** **Effective Date: 06/11/2020** **Last date noted as effective: 01/01/2022** **Status: EFFECTIVE**
B	**On site**	**Operator: VALERO ENERGY LTD** **Installation Name: PEMBROKE REFINERY** **Process: -** **Permit Number: YP3930EX** **Original Permit Number: YP3930EX**	**EPR Reference: -** **Issue Date: 06/11/2020** **Effective Date: 06/11/2020** **Last date noted as effective: 01/01/2022** **Status: EFFECTIVE**
B	**On site**	**Operator: VALERO ENERGY LTD** **Installation Name: PEMBROKE REFINERY** **Process: -** **Permit Number: YP3930EX** **Original Permit Number: YP3930EX**	**EPR Reference: -** **Issue Date: 06/11/2020** **Effective Date: 06/11/2020** **Last date noted as effective: 01/01/2022** **Status: EFFECTIVE**
Q	149m E	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION EPR/DP333TA Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3338ZK Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 26/07/2013 Effective Date: 26/07/2013 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
Q	149m E	Operator: RWE NPOWER PLC Installation Name: PEMBROKE POWER STATION Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3333TA Original Permit Number: DP3333TA	EPR Reference: - Issue Date: 10/11/2011 Effective Date: 10/11/2011 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
Q	149m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: - Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
Q	149m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 27/05/2016 Effective Date: 27/05/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
Q	149m E	Operator: RWE GENERATION UK PLC Installation Name: PEMBROKE POWER STATION Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: DP3333TA Original Permit Number: BP3338ZK	EPR Reference: - Issue Date: 16/10/2020 Effective Date: 16/10/2020 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

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

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

Records within 500m	0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	7

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

Features are displayed on the Current industrial land use map on **page 55**

ID	Location	Address	Details	
X	477m S	Chevron Ltd, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AR2317 Date of approval: 06/10/1995	Effective from: 06/10/1995 Last date of update: 01/01/2015 Status: Superseded By Variation
X	477m S	Chevron Ltd, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AR2317 Date of approval: 06/08/2008	Effective from: 06/08/2008 Last date of update: 01/01/2015 Status: Effective
X	477m S	Chevron Ltd, Pembroke Plant, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AR2384 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation
X	477m S	Chevron Ltd, Pembroke Plant, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AR2384 Date of approval: 06/10/1995	Effective from: 30/10/1995 Last date of update: 01/01/2015 Status: Superseded By Variation
X	477m S	Chevron Ltd, Pembroke Plant, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AR2384 Date of approval: 14/11/2002	Effective from: 12/12/2002 Last date of update: 01/01/2015 Status: Superseded By Variation

ID	Location	Address	Details	
X	477m S	Chevron Ltd, Pembroke Plant, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AR2384 Date of approval: 01/12/2003	Effective from: 01/01/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
X	477m S	Chevron Ltd, Pembroke Plant, Po Box 10, Pembroke, Dyfed, SA71 5SJ	Operator: Chevron Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AR2384 Date of approval: 06/08/2008	Effective from: 04/09/2008 Last date of update: 01/01/2015 Status: Effective

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

4.13 Licensed Discharges to controlled waters

Records within 500m **1**

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 55**

ID	Location	Address	Details	
T	232m NE	PEMBOKE PLANT PEMBROKE DYFED, PEMBROKE DYFED, DYFED	Effluent Type: UNSPECIFIED Permit Number: BP0229801 Permit Version: 1 Receiving Water: TRIBUTARY OF PWLLCROCHAN STREA	Status: REVOKED AND REPLACED BY IPC AUTHORISATION Issue date: 13/08/1993 Effective Date: 13/08/1993 Revocation Date: 30/03/1994

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m **0**

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	8

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 55**

ID	Location	Details	
C	15m N	Incident Date: 12/08/2002 Incident Identification: 99639 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
12	75m E	Incident Date: 01/09/2017 Incident Identification: 1704667 Pollutant: Inorganic Chemicals / Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: No Details Land Impact: No Details Air Impact: Category 2 (Significant)

ID	Location	Details	
M	106m N	Incident Date: 05/10/2002 Incident Identification: 112806 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
N	112m W	Incident Date: 05/09/2003 Incident Identification: 187850 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
J	124m S	Incident Date: 21/10/2003 Incident Identification: 197479 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
44	373m N	Incident Date: 20/07/2013 Incident Identification: 1136348 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
45	425m S	Incident Date: 24/06/2014 Incident Identification: 1248668 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
X	472m S	Incident Date: 26/05/2002 Incident Identification: 81198 Pollutant: Contaminated Water Pollutant Description: Chemically Contaminated Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	**0**

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



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Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

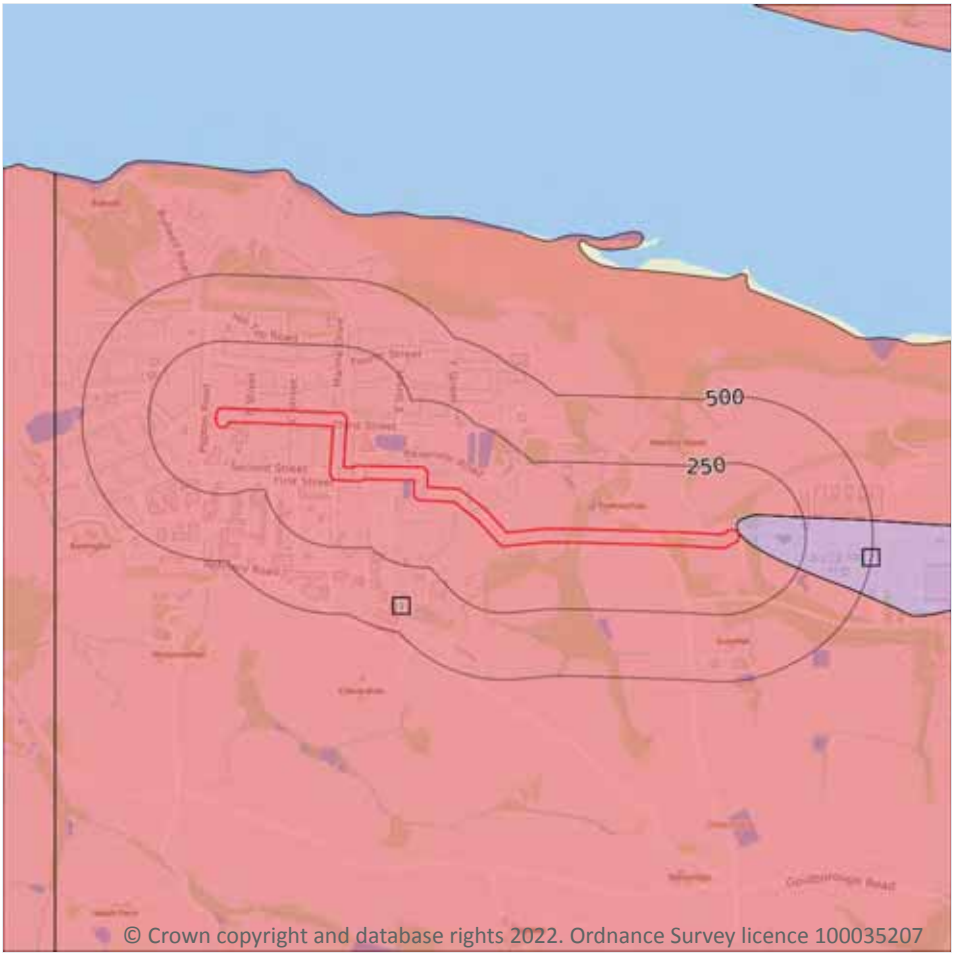
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 78**

ID	Location	Designation	Description
1	129m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	432m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

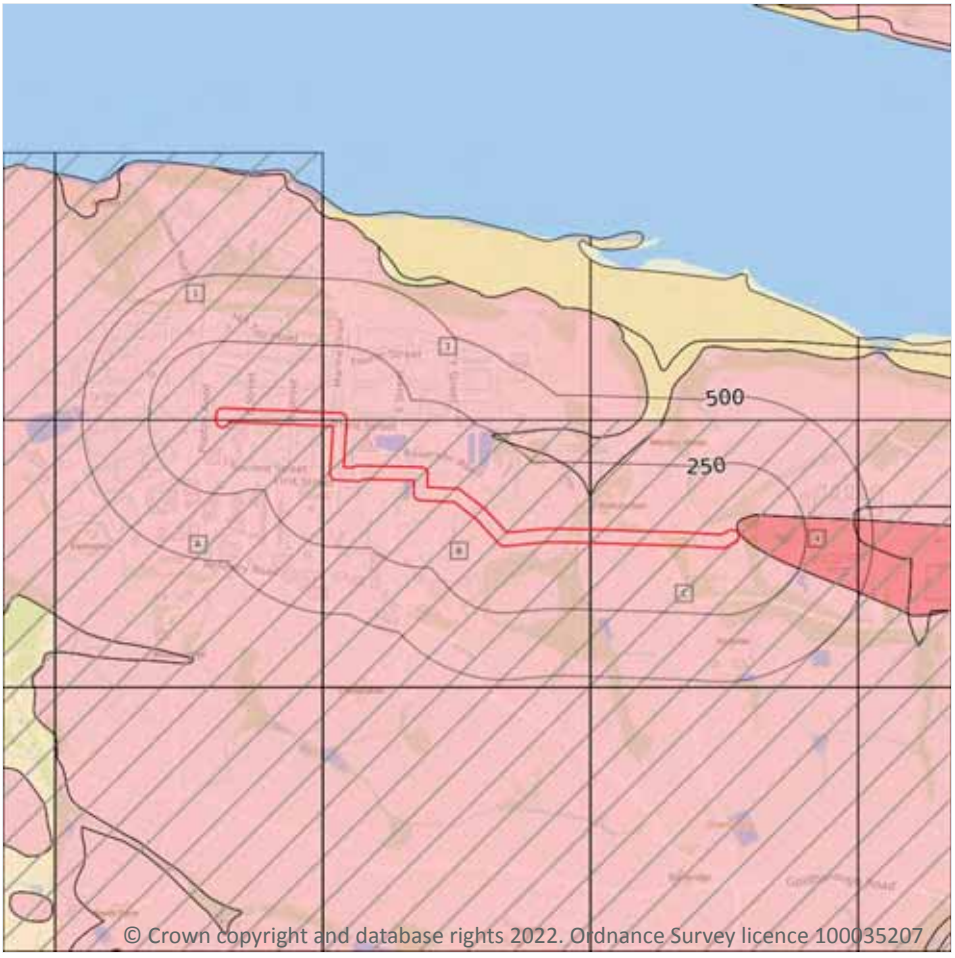
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 80**

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	3m NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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	6

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 82**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: 40-70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
3	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
A	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
B	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
C	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
4	2m NE	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High 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
2	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**2.0%**
A	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**45.0%**
B	**Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.**	**50.0%**
C	**Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.**	**1.0%**

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

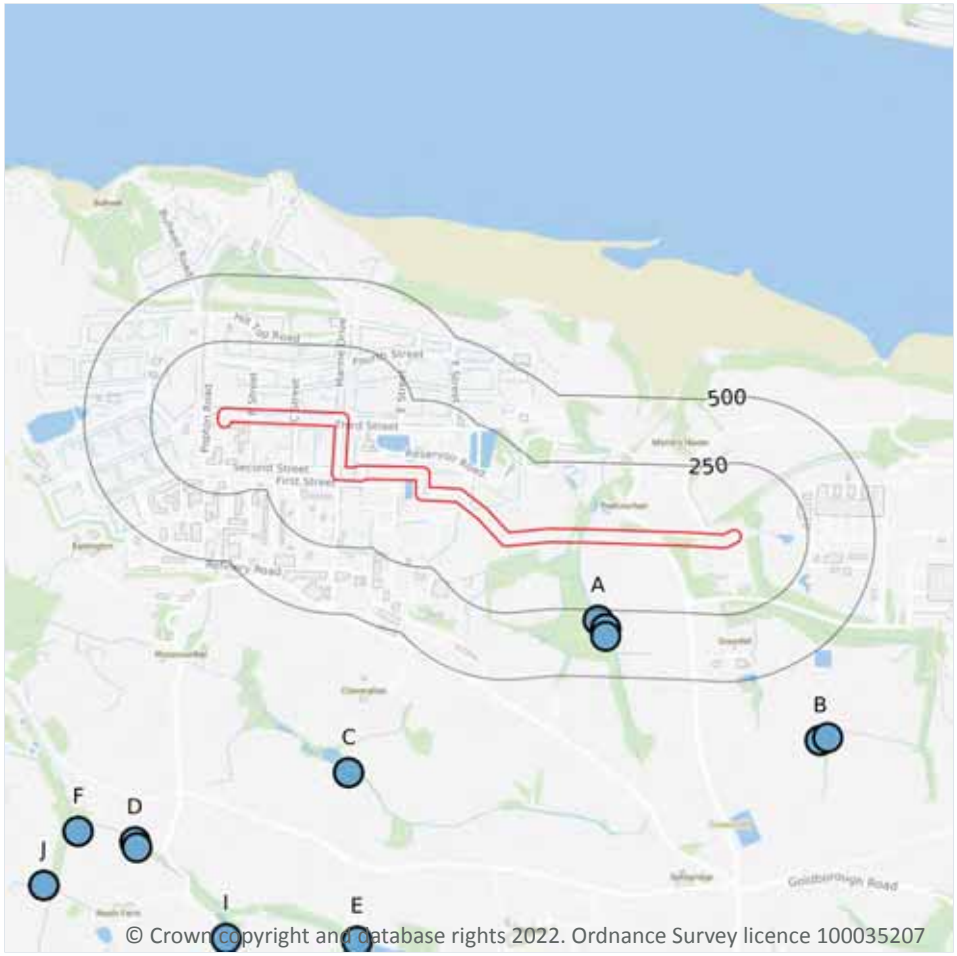
5.5 Groundwater vulnerability- local information

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.

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	0

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

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

5.7 Surface water abstractions

Records within 2000m	**32**

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 85**

ID	Location	Details	
A	289m S	Status: Active Licence No: 22/61/6/0147 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192020 Northing: 202250	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	318m S	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: RWE Npower plc Easting: 192050 Northing: 202220	Annual Volume (m^3): 6060 Max Daily Volume (m^3): 1206 Original Application No: - Original Start Date: 28/06/1988 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
A	318m S	Status: Active Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm Point: - Data Type: Point Name: - Easting: 192050 Northing: 202220	Annual Volume (m^3): 6,060 Max Daily Volume (m^3): 1,255.20 Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
A	348m S	Status: Historical Licence No: 22/61/6/0081 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY STREAM IN FIELD NO.2400,GREENHILL FARM Data Type: Point Name: Kenniford Easting: 192050 Northing: 202190	Annual Volume (m^3): 6059.8 Max Daily Volume (m^3): 1205.6 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 28/06/1988 Version End Date: -

ID	Location	Details	
B	801m SE	Status: Historical Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR IN FIELD NO.0556 AT GREENHILL FARM. Data Type: Point Name: RWE Npower plc Easting: 192850 Northing: 201800	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 4546 Original Application No: - Original Start Date: 19/07/1984 Expiry Date: - Issue No: 102 Version Start Date: 24/11/2011 Version End Date: -
B	801m SE	Status: Active Licence No: 22/61/6/0064 Details: Spray Irrigation - Storage - High Direct Source: Reservoir South-East of Greenhill Farm. Point: - Data Type: Point Name: - Easting: 192850 Northing: 201800	Annual Volume (m^3): 4,546 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 2 2016 12:00AM Expiry Date: Mar 30 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
B	805m SE	Status: Active Licence No: 22/61/6/0144 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 192880 Northing: 201810	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
C	1027m SW	Status: Historical Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FILLED BY UNNAMED STREAM Data Type: Point Name: Allen-Mirehouse Easting: 191090 Northing: 201680	Annual Volume (m^3): 7545.5 Max Daily Volume (m^3): 7545.5 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -
C	1027m SW	Status: Active Licence No: 22/61/6/0040 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191090 Northing: 201680	Annual Volume (m^3): 7,545.50 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1098m E	Status: Active Licence No: 22/61/6/0156 Details: Non Evaporative Cooling - Low Direct Source: - Point: - Data Type: Line Name: - Easting: 193650 Northing: 202650	Annual Volume (m^3): 1,200,000,000 Max Daily Volume (m^3): 3,456,000 Original Application No: - Original Start Date: Oct 13 2014 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
D	1551m SW	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM TO FILL SUMP POND N.W. NEATH BRIDGE Data Type: Point Name: Woods Easting: 190290 Northing: 201420	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: 21/08/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
D	1551m SW	Status: Active Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 190290 Northing: 201420	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
D	1564m SW	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM TO FILL SUMP POND N.W. NEATH BRIDGE Data Type: Point Name: Woods Easting: 190300 Northing: 201400	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -
E	1577m S	Status: Historical Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: INLAND WATER,RESERVOIR ON UNNAMED STREAM RHOSCROWTHER Data Type: Point Name: Woods Easting: 191120 Northing: 201050	Annual Volume (m^3): 15911 Max Daily Volume (m^3): 15911 Original Application No: - Original Start Date: 29/05/1996 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -

ID	Location	Details	
E	1577m S	Status: Active Licence No: 22/61/6/0118 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: May 29 1996 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
E	1577m S	Status: Active Licence No: 22/61/6/0117 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191120 Northing: 201050	Annual Volume (m^3): 15,911 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
F	1605m S	Status: Historical Licence No: 22/61/6/0105 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR FED BY LAND DRAINS IN RHOSCROWTHER Data Type: Point Name: Woods Easting: 190080 Northing: 201460	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 1000 Original Application No: - Original Start Date: 19/07/1995 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -
F	1605m S	Status: Active Licence No: 22/61/6/0105 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 190080 Northing: 201460	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): 2,400 Original Application No: - Original Start Date: Apr 1 2001 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1638m S	Status: Active Licence No: 22/61/6/0135 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 191740 Northing: 200890	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1649m S	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191750 Northing: 200880	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 818.28 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/05/1985 Version End Date: -
-	1673m S	Status: Historical Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: RESERVOIR CAPACITY 3MG IN FIELD NO. OS 8100 AT HOPLASS Data Type: Point Name: Kenniford Easting: 191820 Northing: 200860	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 819 Original Application No: - Original Start Date: 24/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1673m S	Status: Active Licence No: 22/61/6/0068 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 191820 Northing: 200860	Annual Volume (m^3): 13,638 Max Daily Volume (m^3): 1,320 Original Application No: - Original Start Date: Apr 1 2007 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1725m NW	Status: Active Licence No: WA/061/0006/002 Details: Hydraulic Testing - Very Low Direct Source: Cleddau Point: - Data Type: Point Name: - Easting: 189220 Northing: 204060	Annual Volume (m^3): 274,000 Max Daily Volume (m^3): 12,000 Original Application No: - Original Start Date: Apr 4 2017 12:00AM Expiry Date: Mar 31 2025 12:00AM Issue No: - Version Start Date: - Version End Date: -
I	1765m S	Status: Historical Licence No: 22/61/6/0021 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM IN FIELD 154 AT NEATH FARM, ANGLE Data Type: Point Name: Woods Easting: 190630 Northing: 201060	Annual Volume (m^3): 9092 Max Daily Volume (m^3): 9092 Original Application No: - Original Start Date: 26/03/1991 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2005 Version End Date: -

ID	Location	Details	
I	1765m S	Status: Active Licence No: 22/61/6/0021 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 190630 Northing: 201060	Annual Volume (m^3): 9,092 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Mar 31 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1790m S	Status: Historical Licence No: 22/61/6/0069 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: UNNAMED STREAM IN FIELD NO. 3553, TO FILL RESERVOIR Data Type: Point Name: Woods Easting: 191950 Northing: 200750	Annual Volume (m^3): 13638 Max Daily Volume (m^3): 13638 Original Application No: - Original Start Date: 21/08/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
J	1838m S	Status: Historical Licence No: 22/61/6/0120 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: IMPOUNDING OF UN-NAMED TRIB OF DAUCLEDDAU AT ANGLE Data Type: Point Name: Hathway Easting: 189950 Northing: 201260	Annual Volume (m^3): 2700 Max Daily Volume (m^3): 2700 Original Application No: - Original Start Date: 16/04/1997 Expiry Date: - Issue No: 101 Version Start Date: 24/10/2008 Version End Date: -
J	1838m S	Status: Active Licence No: 22/61/6/0120 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 189950 Northing: 201260	Annual Volume (m^3): 2,700 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Oct 24 2008 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
J	1838m S	Status: Active Licence No: 22/61/6/0122 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 189950 Northing: 201260	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Oct 24 2008 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1987m SW	Status: Historical Licence No: 22/61/6/0114 Details: Spray Irrigation - Storage Direct Source: EAW Surface Water Point: INLAND WATER UNNAMED TRIB AT KILPAISON FARM Data Type: Point Name: Hathway Easting: 189350 Northing: 201440	Annual Volume (m^3): 13636 Max Daily Volume (m^3): 13636 Original Application No: - Original Start Date: 13/02/1996 Expiry Date: - Issue No: 101 Version Start Date: 24/10/2008 Version End Date: -
-	1987m SW	Status: Active Licence No: 22/61/6/0113 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 189350 Northing: 201440	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Oct 24 2008 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1987m SW	Status: Active Licence No: 22/61/6/0114 Details: Spray Irrigation - Storage - High Direct Source: - Point: - Data Type: Point Name: - Easting: 189350 Northing: 201440	Annual Volume (m^3): 13,636 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Oct 24 2008 12:00AM Expiry Date: - Issue No: - Version Start Date: - 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.

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	**343**

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 94**

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)**	**-**

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.	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.	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.	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)	-

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.	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.	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.	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)	-
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)	-
B	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)	-

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)**	**-**
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)**	**-**
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)**	**-**
E	1m N	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
E	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	2m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	2m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	4m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	4m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	4m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	4m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	5m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
5	5m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	5m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	6m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	6m S	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
E	7m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	8m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	8m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	11m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	11m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	12m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	12m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	12m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	13m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	13m S	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	17m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	18m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	21m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	24m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	27m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	27m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
A	29m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	31m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	37m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	37m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	37m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	38m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	39m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	39m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	40m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	41m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	41m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	41m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	41m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
A	41m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	41m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	42m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	42m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	43m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	43m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	44m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	45m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	45m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	47m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	50m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	51m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	51m S	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
U	51m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	52m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	54m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	55m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	56m N	Reservoir. An area of non-tidal water used for storing water.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	58m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	59m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	59m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	63m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	63m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	63m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	64m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	64m 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
R	66m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	67m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	67m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	68m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	68m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	70m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	71m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	71m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	72m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	74m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	75m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	75m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	76m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
G	76m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	77m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	79m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	80m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	80m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	80m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	81m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	81m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	82m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	85m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	86m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	87m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	87m N	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
V	87m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
V	87m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	87m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	88m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	88m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	88m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	88m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	88m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	88m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	88m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AD	88m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	89m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
T	89m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	89m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	89m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	89m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	89m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	89m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	90m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	90m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	94m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	95m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	95m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	95m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	96m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
G	98m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	99m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	100m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	100m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	101m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AC	102m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	102m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	103m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	104m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	106m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	106m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	106m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	107m S	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
T	107m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	107m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	107m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	107m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	107m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	108m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	108m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	109m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	110m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	112m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	112m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	113m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	114m N	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
AF	117m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	117m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	119m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	119m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	119m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	120m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	120m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	121m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	121m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	123m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	125m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	125m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	125m S	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
AN	126m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	126m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	126m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	127m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	127m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	127m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	131m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	133m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	138m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	144m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	148m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	149m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	149m N	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
AC	149m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	150m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	150m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	153m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	154m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	154m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	154m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	158m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AQ	160m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	160m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	160m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	161m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	161m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
E	162m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	162m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	163m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AS	163m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	164m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	167m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	167m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	168m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	168m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	170m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	170m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	174m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	177m NE	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
E	177m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	179m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	179m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AS	179m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	179m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	180m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	180m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	180m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	182m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	182m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	183m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	183m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	183m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
V	185m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	185m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	185m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	186m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AU	186m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	189m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	189m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	190m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	190m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	190m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	191m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	192m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	192m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
G	193m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AV	194m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	194m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	194m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	195m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	197m N	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	198m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	198m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	199m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AZ	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	199m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	200m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	201m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	202m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	202m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	202m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	203m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	203m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	203m S	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
BA	206m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	213m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AE	214m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	214m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	214m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	215m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	215m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	216m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	217m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	218m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AM	219m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	221m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	223m S	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
AS	224m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	224m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	225m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AW	228m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	230m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	230m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	231m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	236m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	236m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	239m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	239m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	239m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	239m N	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
V	239m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	240m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
V	240m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	240m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	240m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	241m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	241m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BD	241m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	243m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	245m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	245m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	246m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	246m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
V	246m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	247m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	247m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AE	249m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**194**

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 94**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**2**

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

Features are displayed on the Hydrology map on **page 94**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**163**	**Coastal streams of South Pembs and South Milford Haven - Pendine to Landshipping**	**Cleddau and Pembrokeshire Coastal Rivers**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
4	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**327**	**Coastal streams of South Pembs and South Milford Haven - Pendine to Landshipping**	**Cleddau and Pembrokeshire Coastal Rivers**

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

6.4 WFD Surface water bodies

Records identified	**0**

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.

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.

Features are displayed on the Hydrology map on **page 94**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Pembrokeshire Carboniferous Limestone**	**GB41002G206000**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



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, Greater than 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 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 126**

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

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

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 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	**Moderate-High**
Highest risk within 50m	**Moderate-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 128**

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 Areas of Conservation (SAC)

Special Protection Areas (SPA)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	13

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 129**

ID	Location	Name	Data source
A	36m N	MILFORD HAVEN WATERWAY	Natural Resources Wales

ID	Location	Name	Data source
2	284m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
10	835m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
11	859m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
12	887m N	MILFORD HAVEN WATERWAY	Natural Resources Wales
13	948m W	MILFORD HAVEN WATERWAY	Natural Resources Wales
14	1004m SW	MILFORD HAVEN WATERWAY	Natural Resources Wales
15	1102m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
17	1314m E	MILFORD HAVEN WATERWAY	Natural Resources Wales
19	1506m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
20	1581m NW	MILFORD HAVEN WATERWAY	Natural Resources Wales
23	1832m S	GWEUNYDD SOMERTON MEADOWS	Natural Resources Wales
24	1903m N	MILFORD HAVEN WATERWAY	Natural Resources Wales

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	5

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.

Features are displayed on the Environmental designations map on **page 129**

ID	Location	Name	Features of interest	Habitat description	Data source
A	36m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
3	284m N	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
6	559m NE	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
16	1183m W	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
18	1450m NW	Pembrokeshire Marine / Sir Benfro Forol	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Bottlenose dolphin; Harbour porpoise; Otter; Grey seal; Shore dock.	Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	8

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

Features are displayed on the Environmental designations map on **page 129**

ID	Location	Name	Woodland Type
1	24m S	Unknown	Ancient Semi Natural Woodland
4	466m N	Unknown	Restored Ancient Woodland Site
5	497m NE	Unknown	Restored Ancient Woodland Site
7	610m N	Unknown	Ancient Semi Natural Woodland

ID	Location	Name	Woodland Type
8	679m NE	Unknown	Restored Ancient Woodland Site
9	798m S	Unknown	Ancient Semi Natural Woodland
21	1659m SE	Unknown	Ancient Semi Natural Woodland
22	1809m SW	Unknown	Restored Ancient Woodland Site

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



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Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	4

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

Features are displayed on the Visual and cultural designations map on **page 137**

ID	Location	Name	Grade	Reference Number	Listed date
1	14m SW	Garden Arch at Old Henllan, Situated some 60m N of the remaining structure of Old Henllan, on N boundary of site.	II	6590	29/09/1993
2	36m N	Former National School Building, Situated on S side of lane from Wallaston Cross, some 100m ESE of church.	II	6588	29/09/1993
3	69m N	Former Church of Saint Mary, Situated in sloping churchyard between Texaco Oil Refinery and Pembroke Power Station and S of inlet at Pwllcrochan Flats. To be converted to a private house (1993).	II*	6587	14/05/1970

ID	Location	Name	Grade	Reference Number	Listed date
4	76m S	Stone Building (now as a Barn) at Old Henllan, Situated in a hollow some 250m N of Hentland Farm, which lies N of road to Rhoscrowther some 1 km E of the Texaco Oil Refinery.	II	6589	29/09/1993

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.

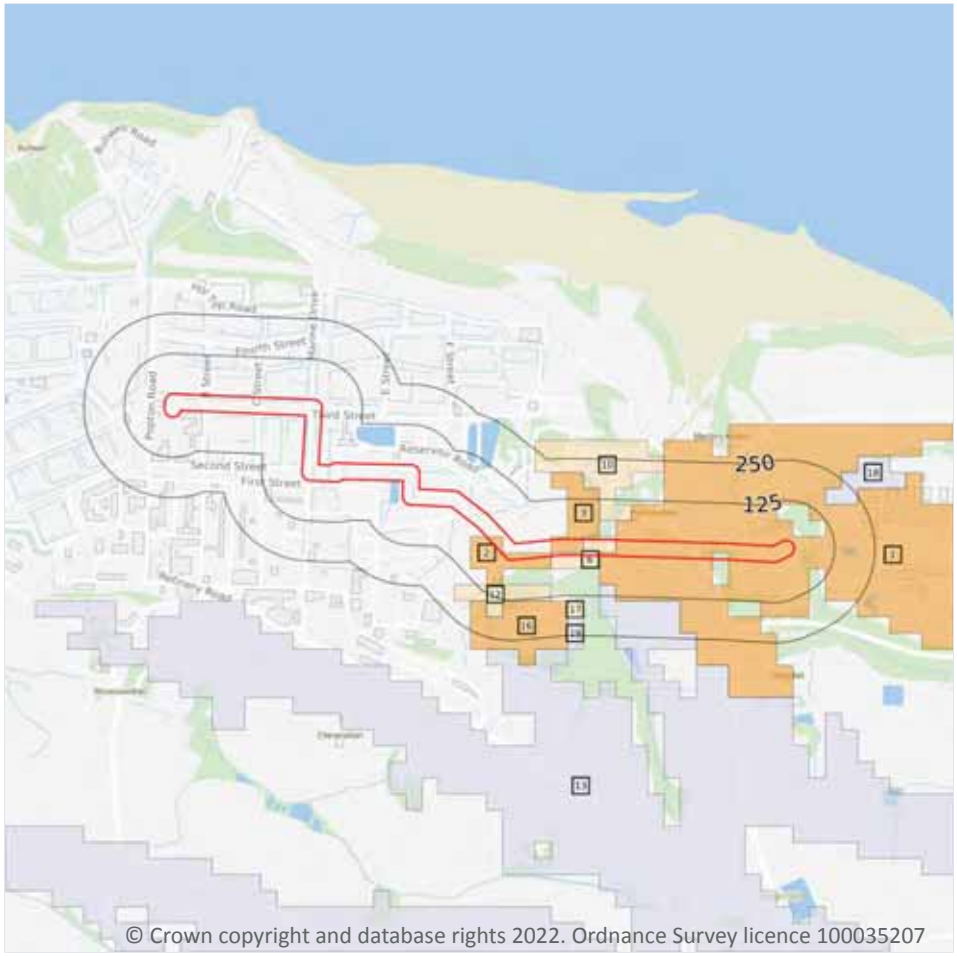
11.7 Registered Parks and Gardens

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 3a - good quality

Grade 3b - moderate quality

Grade 4 - poor quality

Grade 5 - very poor quality

Timber felling licences

Open Access land

12.1 Agricultural Land Classification

Records within 250m	11

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 140**

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Good quality agricultural land**
2	**On site**	**Grade 2**	**Good quality agricultural land**
3	**On site**	**Grade 2**	**Good quality agricultural land**

ID	Location	Classification	Description
6	**On site**	**Grade 3a**	**Good to moderate quality agricultural land**
10	59m N	Grade 3a	Good to moderate quality agricultural land
12	78m S	Grade 3a	Good to moderate quality agricultural land
13	90m S	Grade 3b	Moderate quality agricultural land
16	128m S	Grade 2	Good quality agricultural land
17	142m S	Grade 3a	Good to moderate quality agricultural land
18	157m NE	Grade 3b	Moderate quality agricultural land
19	192m S	Grade 3b	Moderate quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	**0**

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

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

12.3 Tree Felling Licences

Records within 250m	**0**

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**0**

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 144**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

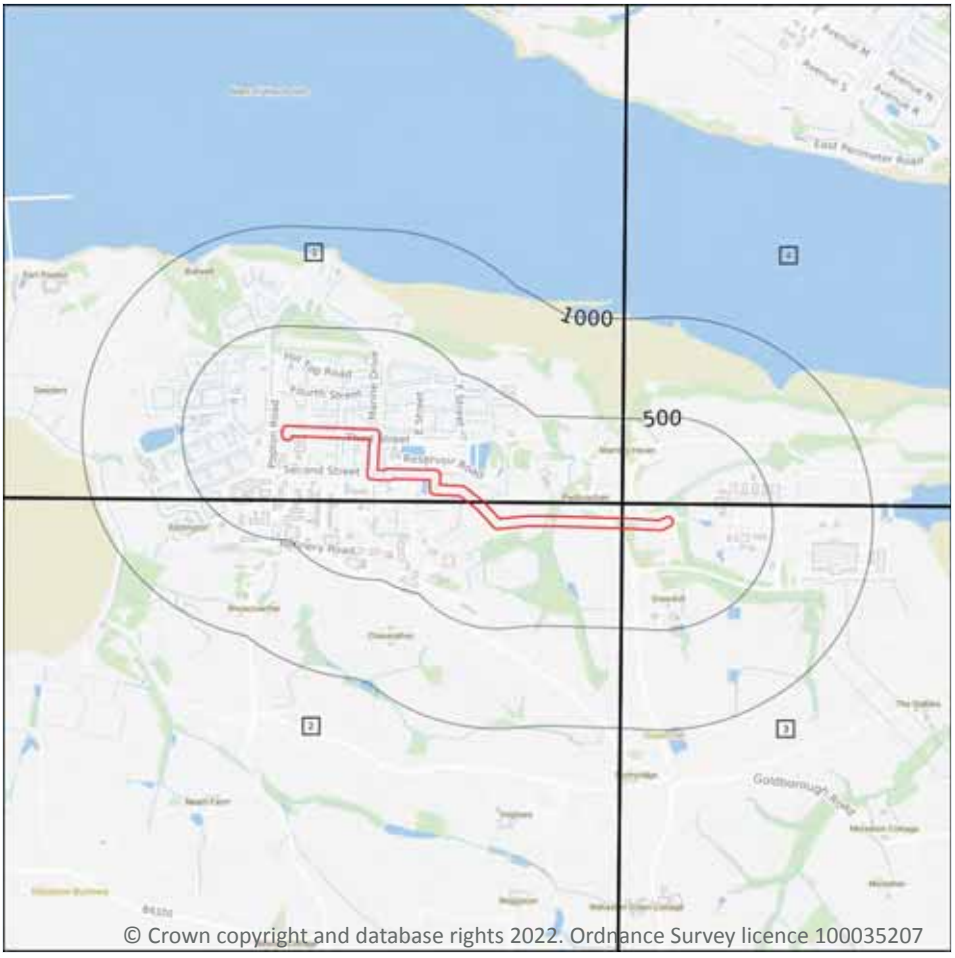
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	4

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 148**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW227_milford_v4
2	On site	No coverage	Full	Full	No coverage	EW244_245_pembroke_and_linney_head_v4
3	On site	No coverage	Full	Full	No coverage	EW244_245_pembroke_and_linney_head_v4

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
4	64m N	No coverage	Full	Full	No coverage	EW228_haverfordwest_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **4**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 151**

ID	Location	LEX Code	Description	Rock description
1	129m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	432m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	437m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	498m N	RBDU-XSV	RAISED BEACH DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

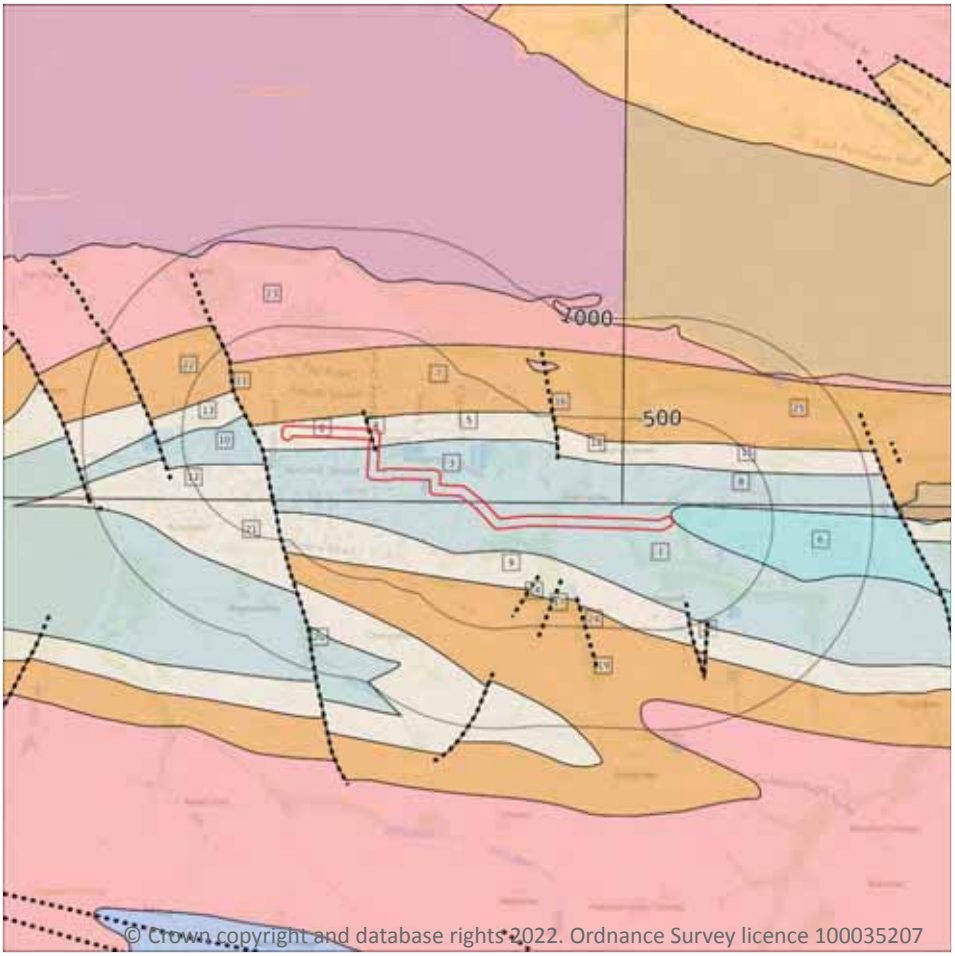
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	19

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 153**

ID	Location	LEX Code	Description	Rock age
1	On site	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
2	On site	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
3	On site	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN

ID	Location	LEX Code	Description	Rock age
5	**On site**	**SES-SDST**	**SKRINKLE SANDSTONE FORMATION - SANDSTONE**	**FAMENNIAN**
6	3m NE	BGUO-LMST	BLACK ROCK SUBGROUP AND GULLY OOLITE FORMATION (UNDIFFERENTIATED) - LIMESTONE	TOURNAISIAN
7	20m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
8	65m N	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
9	110m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
10	115m SW	AVO-LSMD	AVON GROUP - LIMESTONE AND MUDSTONE, INTERBEDDED	TOURNAISIAN
12	154m SW	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
13	201m W	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
15	260m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
18	271m N	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
19	281m S	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
21	308m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN
22	313m NW	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
23	349m N	MIH-ARSD	MILFORD HAVEN GROUP - ARGILLACEOUS ROCKS AND [SUBEQUAL/SUBORDINATE] SANDSTONE, INTERBEDDED	-
25	370m N	RDWC-CONG	RIDGEWAY CONGLOMERATE FORMATION - CONGLOMERATE	PRAGIAN
27	461m S	SES-SDST	SKRINKLE SANDSTONE FORMATION - SANDSTONE	FAMENNIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **4**

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**	**Low**

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Moderate**
3m E	Fracture	Very High	High
20m NE	Fracture	Moderate	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**8**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 153**

ID	Location	Category	Description
4	**On site**	**FAULT**	**Fault, inferred, displacement unknown**
11	115m SW	FAULT	Fault, observed, displacement unknown
14	249m S	FAULT	Fault, observed, displacement unknown
16	263m N	FAULT	Fault, observed, displacement unknown
17	267m S	FAULT	Fault, observed, displacement unknown
20	308m S	FAULT	Fault, observed, displacement unknown
24	354m S	FAULT	Fault, observed, displacement unknown
26	382m S	FAULT	Fault, observed, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m	146

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 156**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	191510 202680	TEXACO PEMBROKE REFINERY CB5	11.23	N	16131237
A	On site	191100 202810	PEMBROKE REFINERY MILFORD HAVEN P77A	-	Y	N/A
A	On site	191100 202790	PEMBROKE REFINERY MILFORD HAVEN P77	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
2	5m E	191090 202930	PEMBROKE REFINERY MILFORD HAVEN P24	-	Y	N/A
B	7m E	191090 202890	PEMBROKE REFINERY MILFORD HAVEN TP11	-	Y	N/A
A	8m N	191100 202830	PEMBROKE REFINERY MILFORD HAVEN P77B	-	Y	N/A
B	8m E	191090 202880	PEMBROKE REFINERY MILFORD HAVEN P26	-	Y	N/A
3	11m E	191100 202990	PEMBROKE REFINERY MILFORD HAVEN P76	-	Y	N/A
4	12m N	190760 203050	PEMBROKE REFINERY MILFORD HAVEN P35	-	Y	N/A
5	13m N	190790 203050	PEMBROKE REFINERY MILFORD HAVEN P16	-	Y	N/A
C	14m N	190820 203050	PEMBROKE REFINERY MILFORD HAVEN P21	-	Y	N/A
D	15m N	190850 203050	PEMBROKE REFINERY MILFORD HAVEN P22	-	Y	N/A
D	16m N	190870 203050	PEMBROKE REFINERY MILFORD HAVEN P32	-	Y	N/A
6	19m S	191000 202960	PEMBROKE REFINERY MILFORD HAVEN P19	-	Y	N/A
A	20m E	191100 202850	PEMBROKE REFINERY MILFORD HAVEN 25	-	Y	N/A
7	20m SW	190600 202960	PEMBROKE REFINERY MILFORD HAVEN P8	-	Y	N/A
8	20m W	191010 202850	PEMBROKE REFINERY MILFORD HAVEN P20	-	Y	N/A
9	22m S	190920 202960	PEMBROKE REFINERY MILFORD HAVEN P18	-	Y	N/A
10	27m W	191000 202800	PEMBROKE REFINERY MILFORD HAVEN P75	-	Y	N/A
11	34m W	191000 202910	PEMBROKE REFINERY MILFORD HAVEN TP24	-	Y	N/A
C	34m N	190820 203070	PEMBROKE REFINERY MILFORD HAVEN TP13	-	Y	N/A
12	39m S	190760 202950	PEMBROKE REFINERY MILFORD HAVEN P12	-	Y	N/A
13	39m N	190700 203080	PEMBROKE REFINERY MILFORD HAVEN P31	-	Y	N/A
E	41m S	190690 202950	PEMBROKE REFINERY MILFORD HAVEN P9	-	Y	N/A
14	42m NW	190600 203080	PEMBROKE REFINERY MILFORD HAVEN P28	-	Y	N/A
15	42m E	191127 202924	MILFORD HAVEN 9	7.62	N	16091970
C	43m N	190800 203080	PEMBROKE REFINERY MILFORD HAVEN P23	-	Y	N/A
C	44m N	190830 203080	PEMBROKE REFINERY MILFORD HAVEN P64	-	Y	N/A
F	45m S	190850 202940	PEMBROKE REFINERY MILFORD HAVEN P13	-	Y	N/A
16	49m N	190940 203080	PEMBROKE REFINERY MILFORD HAVEN P38	-	Y	N/A
E	61m S	190690 202930	PEMBROKE REFINERY MILFORD HAVEN P70	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
17	64m E	191150 202940	PEMBROKE REFINERY MILFORD HAVEN 9	-	Y	N/A
C	65m N	190840 203100	PEMBROKE REFINERY MILFORD HAVEN 6	-	Y	N/A
F	65m S	190850 202920	PEMBROKE REFINERY MILFORD HAVEN P74	-	Y	N/A
G	66m S	190600 202910	PEMBROKE REFINERY MILFORD HAVEN TP8	-	Y	N/A
G	66m S	190600 202910	PEMBROKE REFINERY MILFORD HAVEN P69	-	Y	N/A
C	66m N	190862 203100	MILFORD HAVEN 6	6.85	N	16091966
18	67m S	191220 202710	TEXACO PEMBROKE REFINERY CB6	13.57	N	16131241
19	69m N	190700 203110	PEMBROKE REFINERY MILFORD HAVEN TP12	-	Y	N/A
20	75m N	191080 203100	PEMBROKE REFINERY MILFORD HAVEN P40	-	Y	N/A
21	76m SW	190990 202720	TEXACO PEMBROKE REFINERY CB7	14.44	N	16131244
H	76m N	190630 203120	PEMBROKE REFINERY MILFORD HAVEN 5	-	Y	N/A
22	79m N	190940 203110	PEMBROKE REFINERY MILFORD HAVEN TP14	-	Y	N/A
E	81m S	190690 202910	PEMBROKE REFINERY MILFORD HAVEN 23	-	Y	N/A
23	82m S	190920 202900	PEMBROKE REFINERY MILFORD HAVEN TP10	-	Y	N/A
I	82m N	191010 203110	PEMBROKE REFINERY MILFORD HAVEN P39	-	Y	N/A
F	85m S	190850 202900	PEMBROKE REFINERY MILFORD HAVEN 24	-	Y	N/A
H	85m N	190611 203128	MILFORD HAVEN 5	6.7	N	16091965
24	86m S	190810 202900	PEMBROKE REFINERY MILFORD HAVEN TP9	-	Y	N/A
I	102m N	191010 203130	PEMBROKE REFINERY MILFORD HAVEN 19	-	Y	N/A
25	104m NE	191630 202780	PEMBROKE REFINERY MILFORD HAVEN 16	-	Y	N/A
F	105m S	190850 202880	PEMBROKE REFINERY MILFORD HAVEN P73	-	Y	N/A
26	106m N	190860 203140	PEMBROKE REFINERY MILFORD HAVEN P33	-	Y	N/A
H	107m N	190610 203150	PEMBROKE REFINERY MILFORD HAVEN P29	-	Y	N/A
27	109m N	190700 203150	PEMBROKE REFINERY MILFORD HAVEN P30	-	Y	N/A
28	110m W	190920 202850	PEMBROKE REFINERY MILFORD HAVEN P17	-	Y	N/A
29	112m N	190770 203150	PEMBROKE REFINERY MILFORD HAVEN P34	-	Y	N/A
30	113m NE	191170 203090	PEMBROKE REFINERY MILFORD HAVEN P41	-	Y	N/A
31	114m S	190600 202860	PEMBROKE REFINERY MILFORD HAVEN P10	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
32	119m N	190940 203150	PEMBROKE REFINERY MILFORD HAVEN P36	-	Y	N/A
33	122m S	190680 202860	PEMBROKE REFINERY MILFORD HAVEN P11	-	Y	N/A
F	125m S	190850 202860	PEMBROKE REFINERY MILFORD HAVEN P15	-	Y	N/A
34	128m S	190760 202860	PEMBROKE REFINERY MILFORD HAVEN P14	-	Y	N/A
35	131m S	192500 202390	ANGLE BAY. 4A	-	Y	N/A
36	132m N	191010 203160	PEMBROKE REFINERY MILFORD HAVEN P37	-	Y	N/A
37	142m NE	191170 203130	PEMBROKE REFINERY MILFORD HAVEN TP15	-	Y	N/A
38	145m N	191080 203170	PEMBROKE REFINERY MILFORD HAVEN P43	-	Y	N/A
39	147m S	191200 202630	TEXACO PEMBROKE REFINERY PROBE CP5	6.13	N	16131312
40	154m S	190560 202830	PEMBROKE REFINERY MILFORD HAVEN 7	-	Y	N/A
41	163m SW	190900 202690	TEXACO PEMBROKE REFINERY CB8	7.3	N	16131246
42	164m S	190600 202810	PEMBROKE REFINERY MILFORD HAVEN P68	-	Y	N/A
43	165m S	190850 202820	PEMBROKE REFINERY MILFORD HAVEN P72	-	Y	N/A
44	168m NE	191240 203080	PEMBROKE REFINERY MILFORD HAVEN P49	-	Y	N/A
45	169m S	190680 202810	PEMBROKE REFINERY MILFORD HAVEN P71	-	Y	N/A
46	183m NE	191170 203180	PEMBROKE REFINERY MILFORD HAVEN P42	-	Y	N/A
47	186m NE	191660 202860	PEMBROKE REFINERY MILFORD HAVEN TP28	-	Y	N/A
48	192m S	190557 202791	MILFORD HAVEN 7	7.16	N	16091967
49	193m NE	191240 203130	PEMBROKE REFINERY MILFORD HAVEN P44	-	Y	N/A
50	198m S	192374 202329	PEMBROKE POWER STATION 271	-	Y	N/A
J	203m W	190830 202750	PEMBROKE REFINERY MILFORD HAVEN 8	-	Y	N/A
51	207m NE	192743 202654	Pembroke CCGT Power Station: Ground Investigation TP1	-	Y	N/A
K	212m S	190620 202760	PEMBROKE REFINERY SUPPLEMENTARY P127	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY P107	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY 31	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY 42	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY 47	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY 48	-	Y	N/A

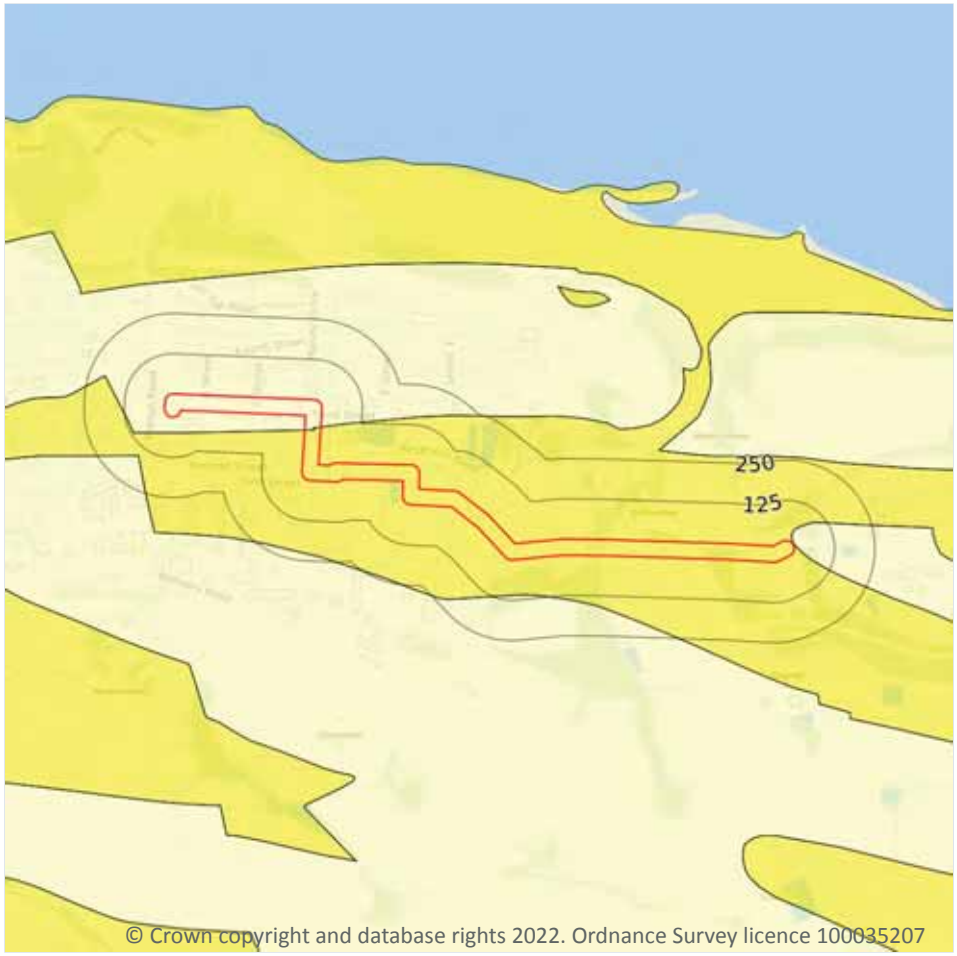
ID	Location	Grid reference	Name	Length	Confidential	Web link
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY P106	-	Y	N/A
K	212m S	190610 202760	PEMBROKE REFINERY SUPPLEMENTARY P105	-	Y	N/A
K	213m S	190600 202760	PEMBROKE REFINERY SUPPLEMENTARY P126	-	Y	N/A
K	213m S	190600 202760	PEMBROKE REFINERY SUPPLEMENTARY P125	-	Y	N/A
L	214m SW	191503 202390	Pembroke Refinery BH1	-	Y	N/A
M	214m S	190660 202760	PEMBROKE REFINERY SUPPLEMENTARY P152	-	Y	N/A
M	216m S	190670 202760	PEMBROKE REFINERY SUPPLEMENTARY 43	-	Y	N/A
M	216m S	190670 202760	PEMBROKE REFINERY SUPPLEMENTARY P153	-	Y	N/A
52	216m E	192770 202579	PEMBROKE POWER STATION 202	-	Y	N/A
53	217m N	190650 203260	TEXACO PEMBROKE REFINERY PROBE CP1	6.63	N	16131293
J	218m W	190818 202734	MILFORD HAVEN 8	8.53	N	16091968
54	219m S	190970 202570	TEXACO PEMBROKE REFINERY PROBE CP6	6.9	N	16131313
K	222m S	190620 202750	PEMBROKE REFINERY SUPPLEMENTARY P110	-	Y	N/A
K	222m S	190620 202750	PEMBROKE REFINERY SUPPLEMENTARY P109	-	Y	N/A
K	222m S	190610 202750	PEMBROKE REFINERY SUPPLEMENTARY P51B	-	Y	N/A
K	222m S	190610 202750	PEMBROKE REFINERY MILFORD HAVEN 26	-	Y	N/A
K	222m S	190610 202750	PEMBROKE REFINERY SUPPLEMENTARY 32	-	Y	N/A
K	222m S	190610 202750	PEMBROKE REFINERY SUPPLEMENTARY P108	-	Y	N/A
M	223m S	190700 202760	PEMBROKE REFINERY SUPPLEMENTARY P155	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY MILFORD HAVEN P50	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY SUPPLEMENTARY 33	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY SUPPLEMENTARY P103	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY MILFORD HAVEN P50A	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY SUPPLEMENTARY P102	-	Y	N/A
K	223m S	190600 202750	PEMBROKE REFINERY SUPPLEMENTARY P104	-	Y	N/A
M	224m S	190660 202750	PEMBROKE REFINERY SUPPLEMENTARY P130	-	Y	N/A
K	224m S	190590 202750	PEMBROKE REFINERY SUPPLEMENTARY 34	-	Y	N/A
L	225m SW	191483 202395	Pembroke Refinery TP2	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
M	226m S	190670 202750	PEMBROKE REFINERY SUPPLEMENTARY P131	-	Y	N/A
M	226m S	190670 202750	PEMBROKE REFINERY SUPPLEMENTARY P132	-	Y	N/A
55	227m SW	190850 202650	TEXACO PEMBROKE REFINERY CB9	10.0	N	16131248
M	228m S	190680 202750	PEMBROKE REFINERY SUPPLEMENTARY P133	-	Y	N/A
M	230m S	190690 202750	PEMBROKE REFINERY SUPPLEMENTARY 44	-	Y	N/A
M	230m S	190690 202750	PEMBROKE REFINERY SUPPLEMENTARY P135	-	Y	N/A
M	230m S	190690 202750	PEMBROKE REFINERY SUPPLEMENTARY P134	-	Y	N/A
N	231m NE	191670 202910	PEMBROKE REFINERY MILFORD HAVEN 15	-	Y	N/A
N	231m NE	191670 202910	PEMBROKE REFINERY MILFORD HAVEN TP26	-	Y	N/A
K	232m S	190620 202740	PEMBROKE REFINERY MILFORD HAVEN P51	-	Y	N/A
M	233m S	190700 202750	PEMBROKE REFINERY SUPPLEMENTARY P136	-	Y	N/A
K	233m S	190600 202740	PEMBROKE REFINERY MILFORD HAVEN P53	-	Y	N/A
M	234m S	190660 202740	PEMBROKE REFINERY MILFORD HAVEN P55	-	Y	N/A
M	234m S	190660 202740	PEMBROKE REFINERY SUPPLEMENTARY P137	-	Y	N/A
M	236m S	190670 202740	PEMBROKE REFINERY SUPPLEMENTARY P138	-	Y	N/A
56	237m E	192773 202661	PEMBROKE POWER STATION 201	-	Y	N/A
M	237m S	190680 202740	PEMBROKE REFINERY SUPPLEMENTARY P139	-	Y	N/A
M	237m S	190680 202740	PEMBROKE REFINERY MILFORD HAVEN 27	-	Y	N/A
O	238m E	192787 202616	Pembroke CCGT Power Station: Ground Investigation S8	-	Y	N/A
57	239m SW	190510 202760	TEXACO PEMBROKE REFINERY CB14	12.45	N	16131275
58	240m NE	191290 203140	PEMBROKE REFINERY MILFORD HAVEN 20	-	Y	N/A
59	240m NE	191250 203190	PEMBROKE REFINERY MILFORD HAVEN P46	-	Y	N/A
K	242m S	190620 202730	PEMBROKE REFINERY SUPPLEMENTARY P112	-	Y	N/A
K	242m S	190610 202730	PEMBROKE REFINERY SUPPLEMENTARY 35	-	Y	N/A
K	242m S	190610 202730	PEMBROKE REFINERY SUPPLEMENTARY P111	-	Y	N/A
M	242m S	190700 202740	PEMBROKE REFINERY MILFORD HAVEN P56	-	Y	N/A
O	242m E	192792 202615	Pembroke CCGT Power Station: Ground Investigation RS8	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
O	242m E	192792 202615	Pembroke CCGT Power Station: Ground Investigation TPRS8	-	Y	N/A
M	243m S	190650 202730	PEMBROKE REFINERY MILFORD HAVEN P57	-	Y	N/A
60	243m SW	191455 202398	Pembroke Refinery TP1	-	Y	N/A
O	245m E	192795 202615	Pembroke CCGT Power Station: Ground Investigation RS8A	-	Y	N/A

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	3

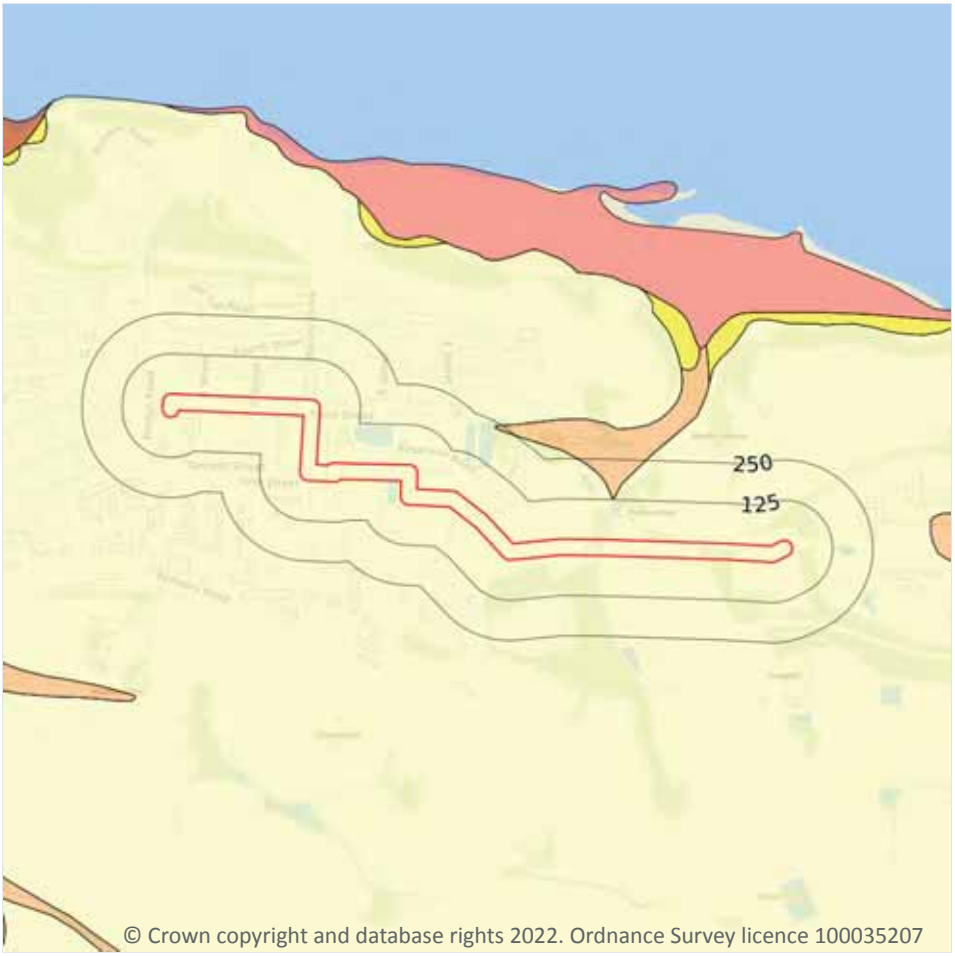
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 163**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**
3m NE	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

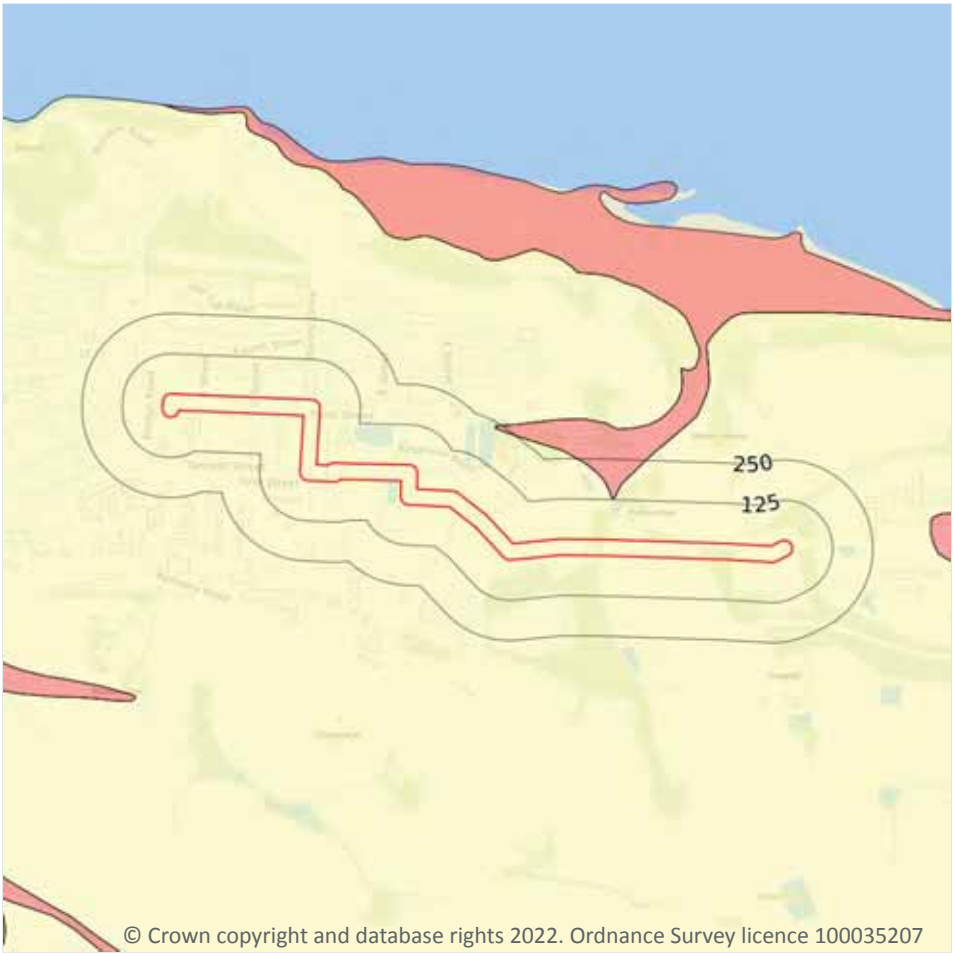
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 165**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

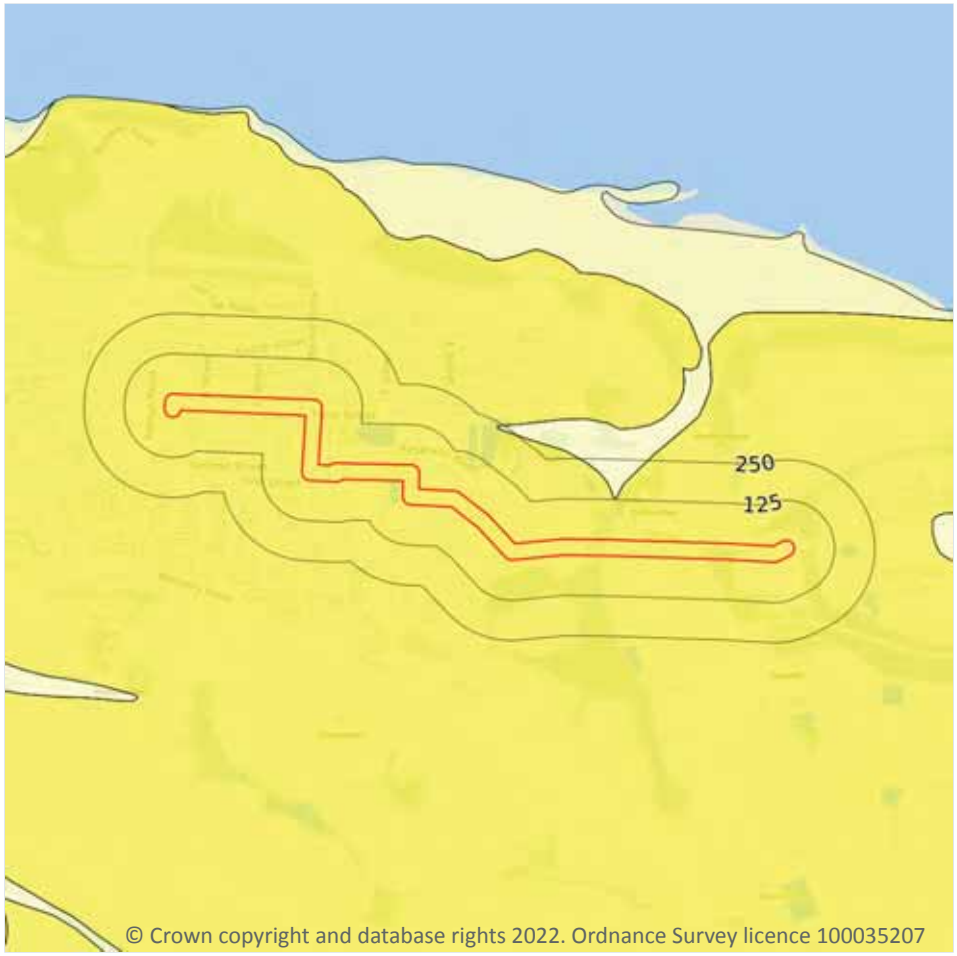
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 166**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	**1**

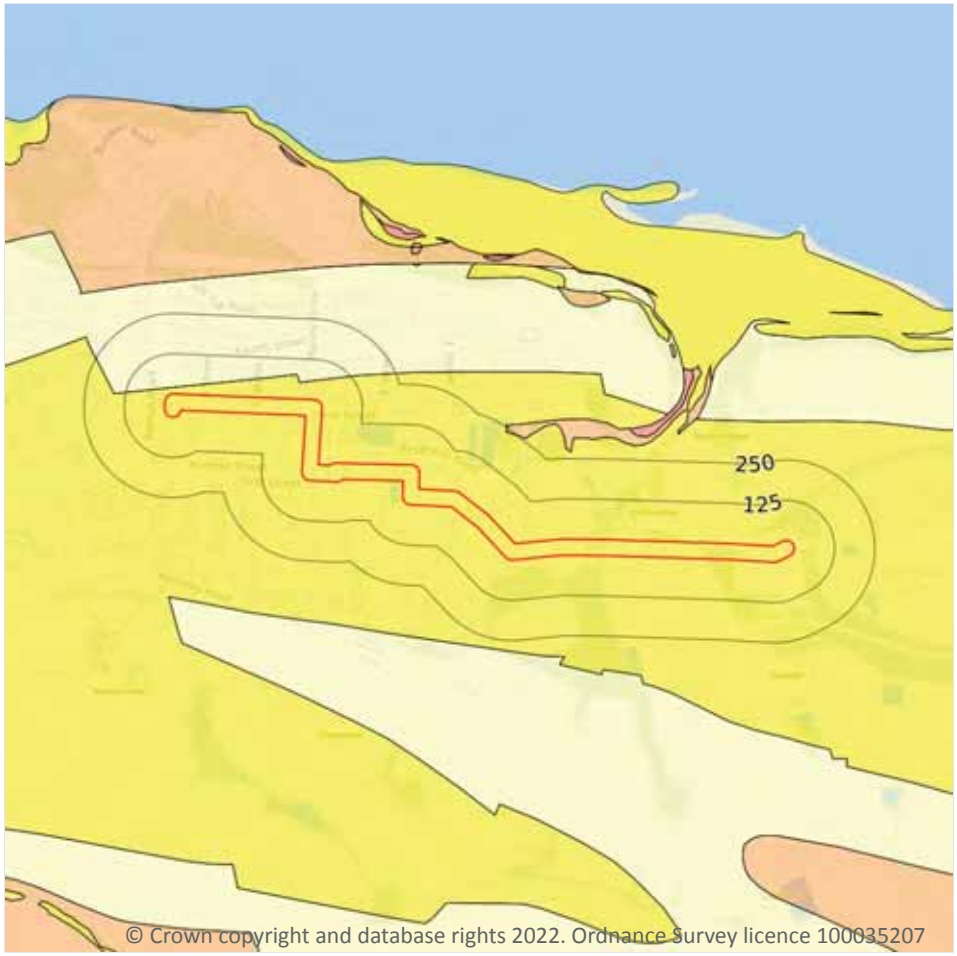
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 167**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	2

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.

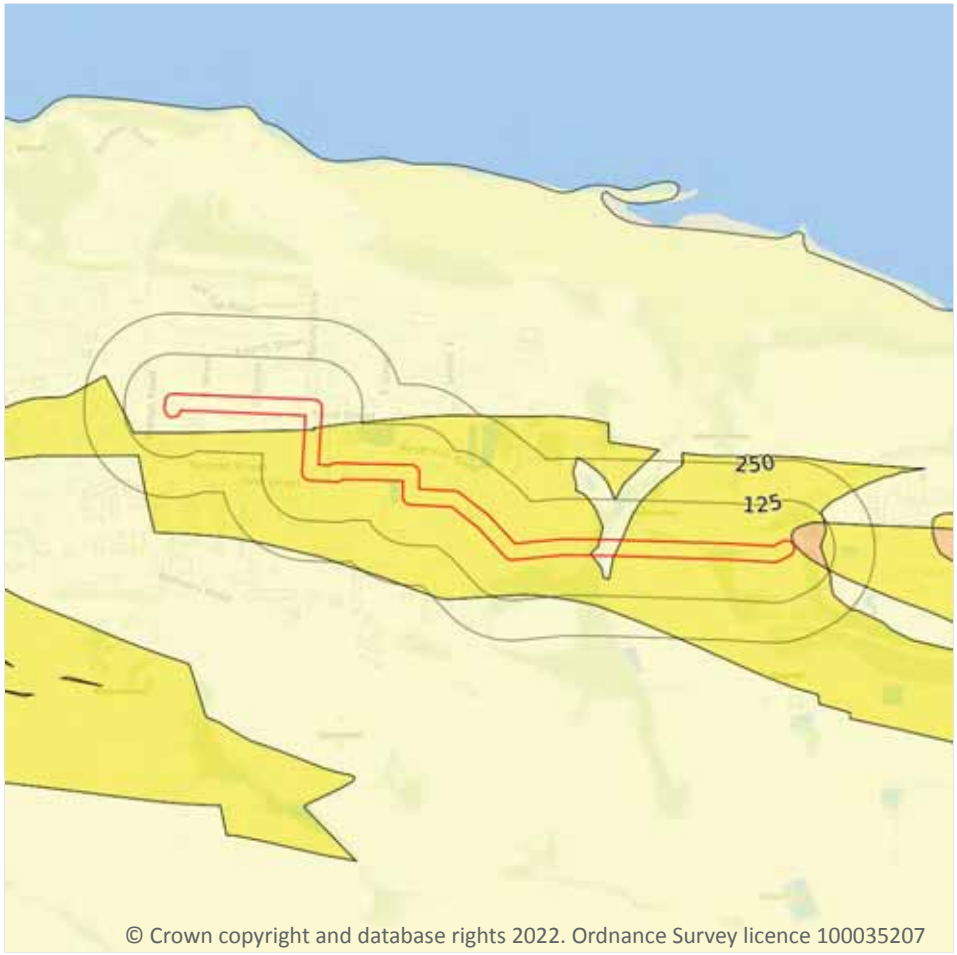
Features are displayed on the Natural ground subsidence - Landslides map on **page 168**

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.**

Location	Hazard rating	Details
20m N	Negligible	Slope instability problems are not thought 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



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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	3

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 170**

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

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.**
3m NE	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.

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	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	30

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 172**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Unspecified Heap**	**1975**	**1:10000**
A	5m N	Unspecified Ground Workings	1994	1:10000
A	5m N	Unspecified Ground Workings	1975	1:10000
4	16m N	Unspecified Pit	1975	1:10000
5	47m N	Unspecified Ground Workings	1975	1:10000
6	54m N	Grave Yard	1864	1:10560
7	56m N	Unspecified Pit	1975	1:10000
B	59m N	Pond	1975	1:10000
B	61m N	Reservoir	1994	1:10000
8	85m NE	Reservoirs	1975	1:10000
9	96m N	Sand Pit	1864	1:10560
C	96m E	Unspecified Pit	1994	1:10000
C	96m E	Unspecified Pit	1975	1:10000
10	102m NE	Ponds	1994	1:10000
D	107m S	Unspecified Pit	1994	1:10000
D	107m S	Unspecified Pit	1975	1:10000
E	111m W	Unspecified Ground Workings	1994	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
E	111m W	Unspecified Ground Workings	1975	1:10000
F	133m N	Pond	1994	1:10000
F	133m N	Pond	1975	1:10000
G	158m S	Unspecified Ground Workings	1994	1:10000
G	158m S	Unspecified Ground Workings	1975	1:10000
H	191m N	Refuse Heap	1994	1:10000
I	204m S	Pond	1864	1:10560
I	208m SW	Pond	1963	1:10560
H	211m NE	Refuse Heap	1975	1:10000
I	213m SW	Pond	1948	1:10560
I	213m SW	Pond	1906	1:10560
I	213m S	Ponds	1937	1:10560
I	214m SW	Unspecified Pit	1906	1:10560

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	**11**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 172**

ID	Location	Name	Commodity	Class	Likelihood
2	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
3	**On site**	**Not available**	**Vein Mineral**	**A**	**Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered**
11	110m S	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
15	349m N	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
25	601m W	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
26	602m W	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
28	612m W	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
29	679m SW	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

ID	Location	Name	Commodity	Class	Likelihood
30	682m NE	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
33	755m NW	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
35	850m S	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

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.

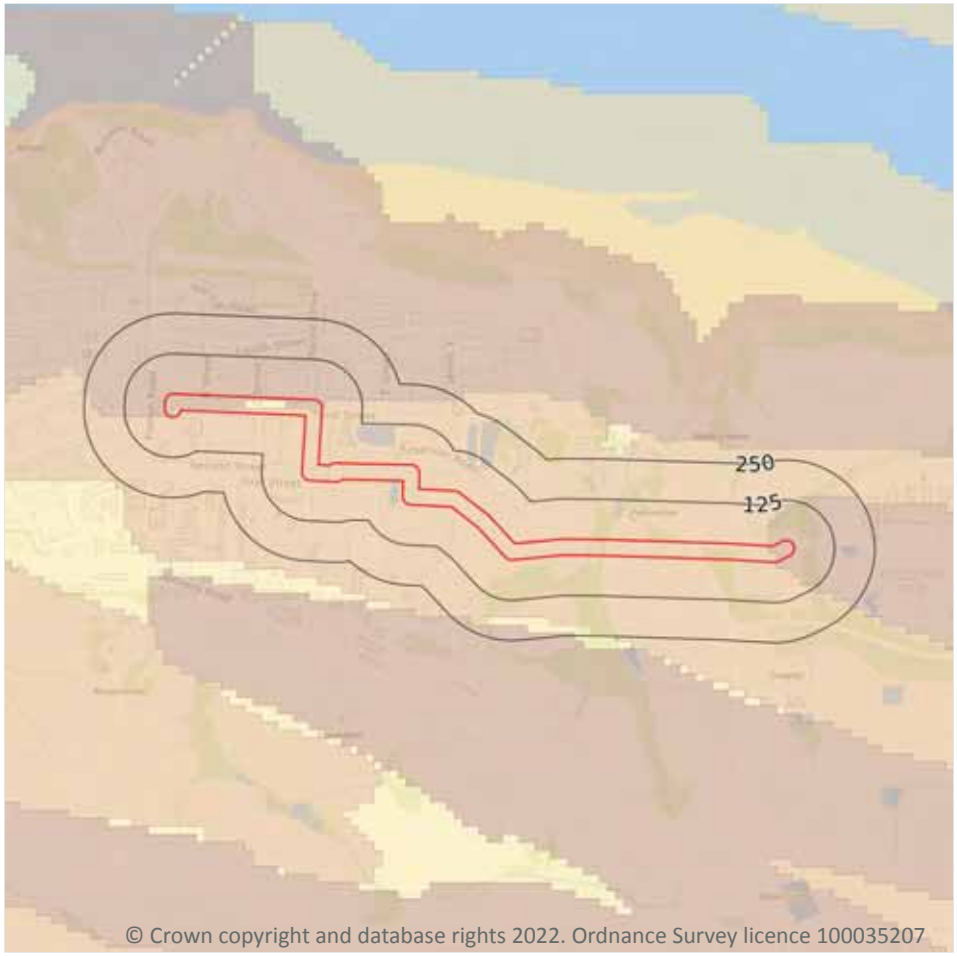
18.13 Clay mining

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	3

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 178**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**
On site	**Between 10% and 30%**	**Full**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 5% and 10%**	**Basic**

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	20

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**
3m E	15 mg/kg	No data	100 mg/kg	50 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
18m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
20m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
20m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
21m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
28m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
40m SE	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.

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.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

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

Appendix C
PHOTOGRAPHS

ELECTROLYSER SITE



Photo 01: Natural gas Above Ground Installation



Photo 02: Access gate to electrolyser area



Photo 03: Area of hardstanding within electrolyser area



Photo 04: Softstanding around fenced electrolyser area



Photo 05: Field surrounding site



Photo 06: Access road



Photo 07: View of water treatment plant from water pipeline route



Photo 08: View of water treatment plant from water pipeline route



Photo 09: Surrounding grassland



Photo 10: High pressure gas line indicator pole



Photo 11: Surrounding grassland



Photo 12: View of water treatment plant from water pipeline route



Photo 13: Road that runs along cable route



Photo 14: Road that runs along cable route



Photo 15: Pylon and power lines running north to south crosses the eastern area of the cable



Photo 16: Gate along access track



Photo 17: Pylon and power lines



Photo 18: Minor road

HYDROGEN PIPELINE



Photo 01: Minor road crossing central area of site



Photo 02: Concrete channel, possibly drainage



Photo 03: Evidence of fly tipping



Photo 04: Land farm signpost



Photo 05: Open grassland



Photo 06: Public walkway on eastern site boundary



Photo 01: Access gate to agricultural field



Photo 02: Dense vegetation



Photo 03: Agricultural field



Photo 04: Land farm signpost



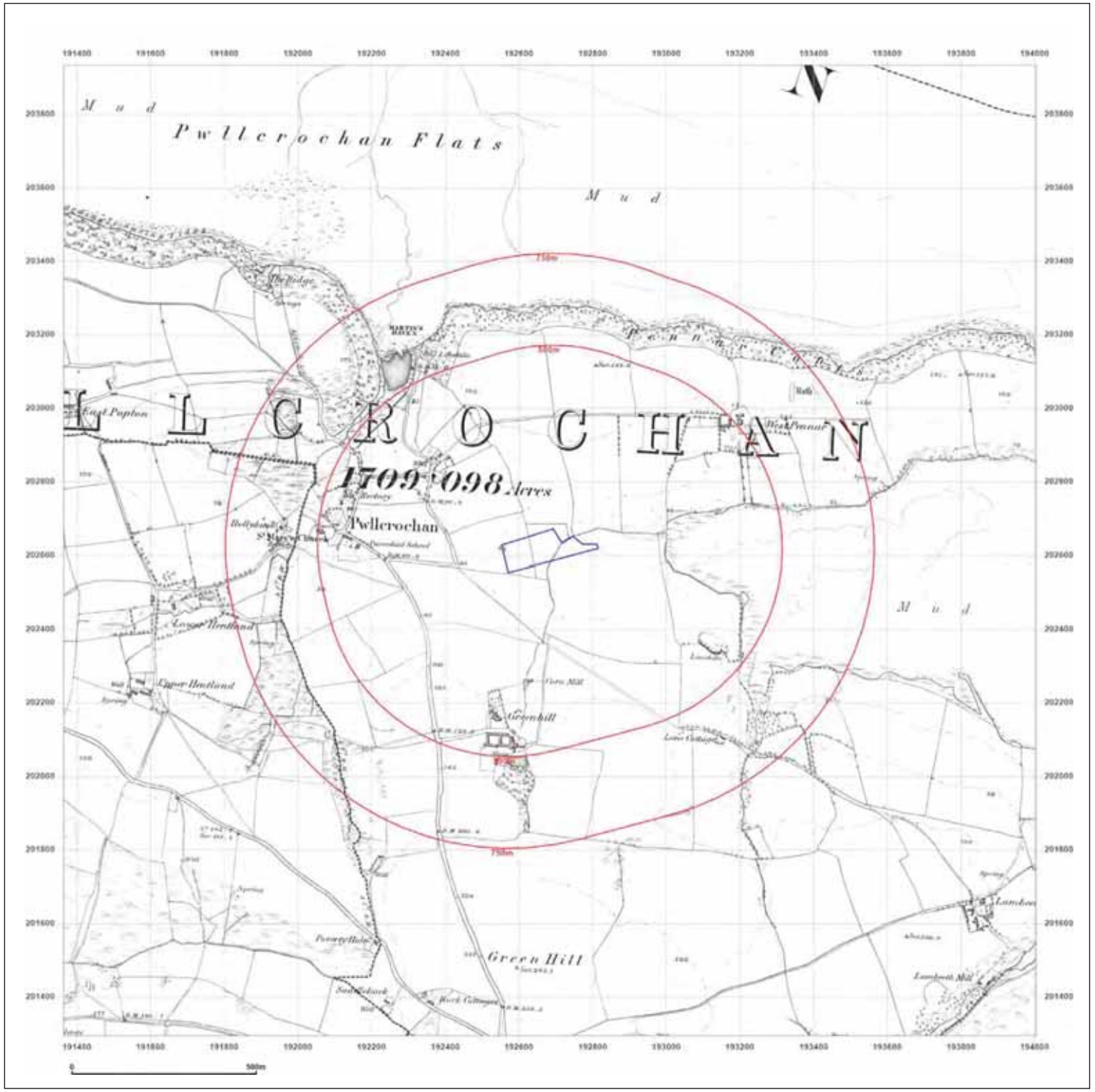
Photo 05: Open grassland



Photo 06: Agricultural with view of power station

Appendix D
HISTORICAL MAPS

ELECTROLYSER SITE



Groundsure INSIGHTS

Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560

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

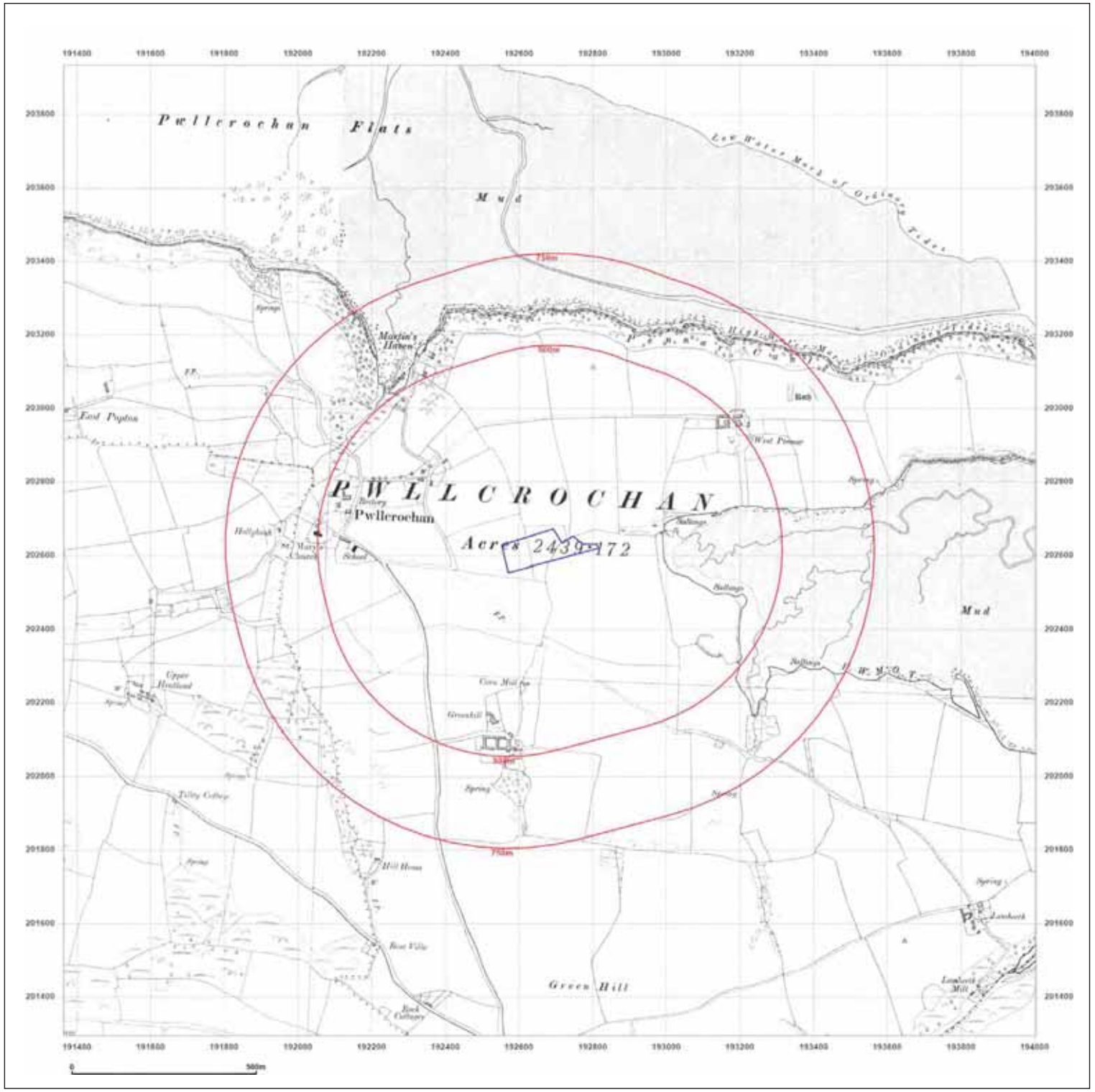
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Production date: 04 July 2022

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



Groundsure INSIGHTS

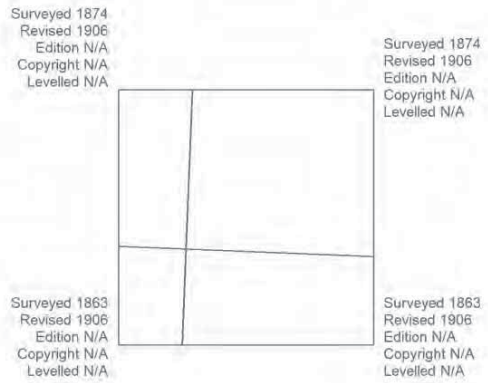
Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: County Series
Map date: 1906
Scale: 1:10,560
Printed at: 1:10,560

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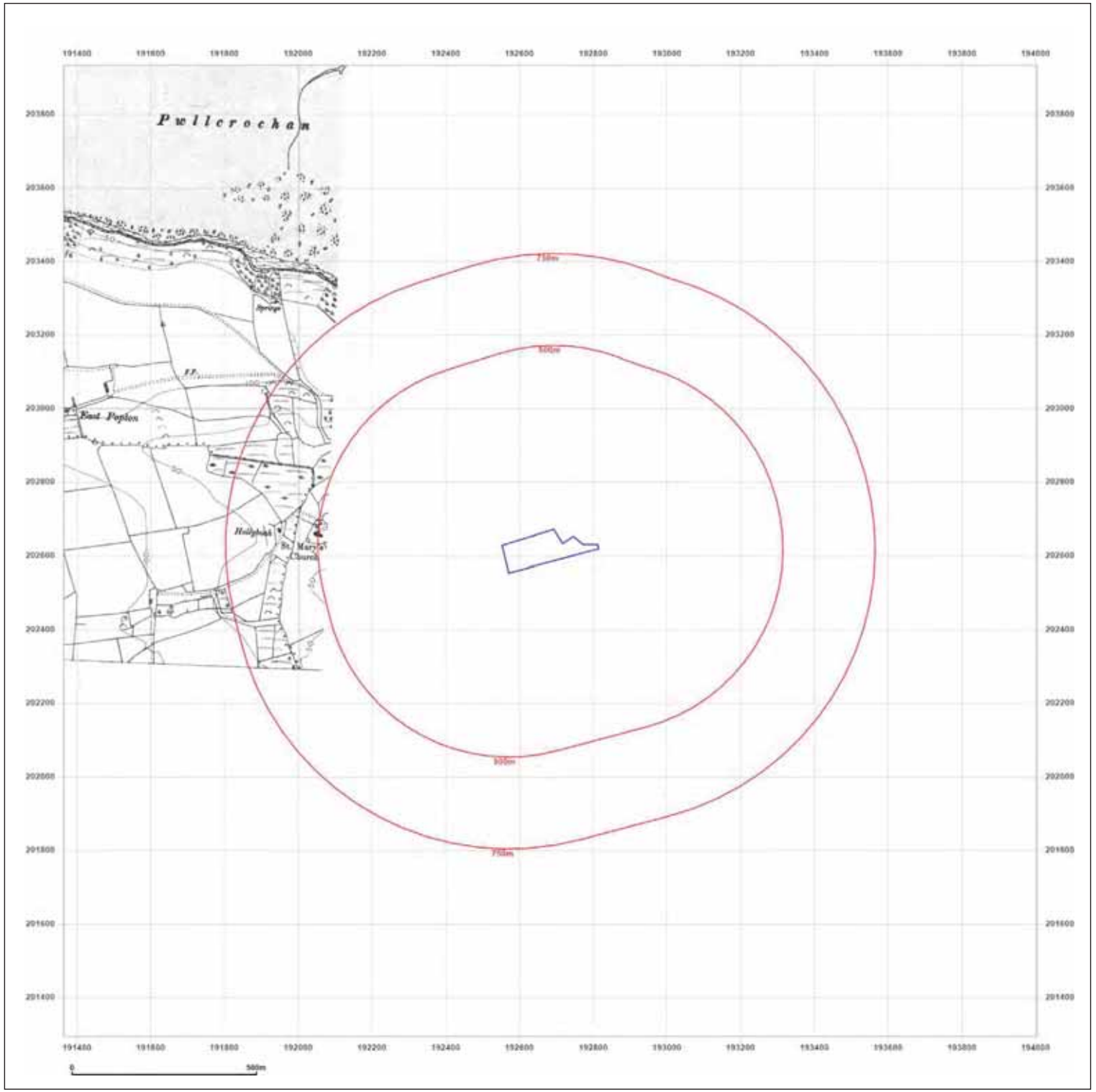
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Map legend available at:
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Groundsure INSIGHTS

Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

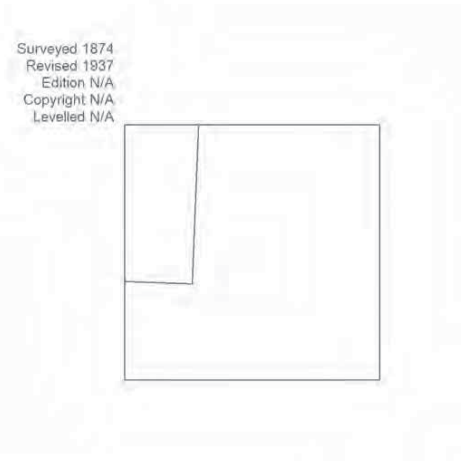
Map Name: County Series

Map date: **1937**

Scale: 1:10,560

Printed at: 1:10,560

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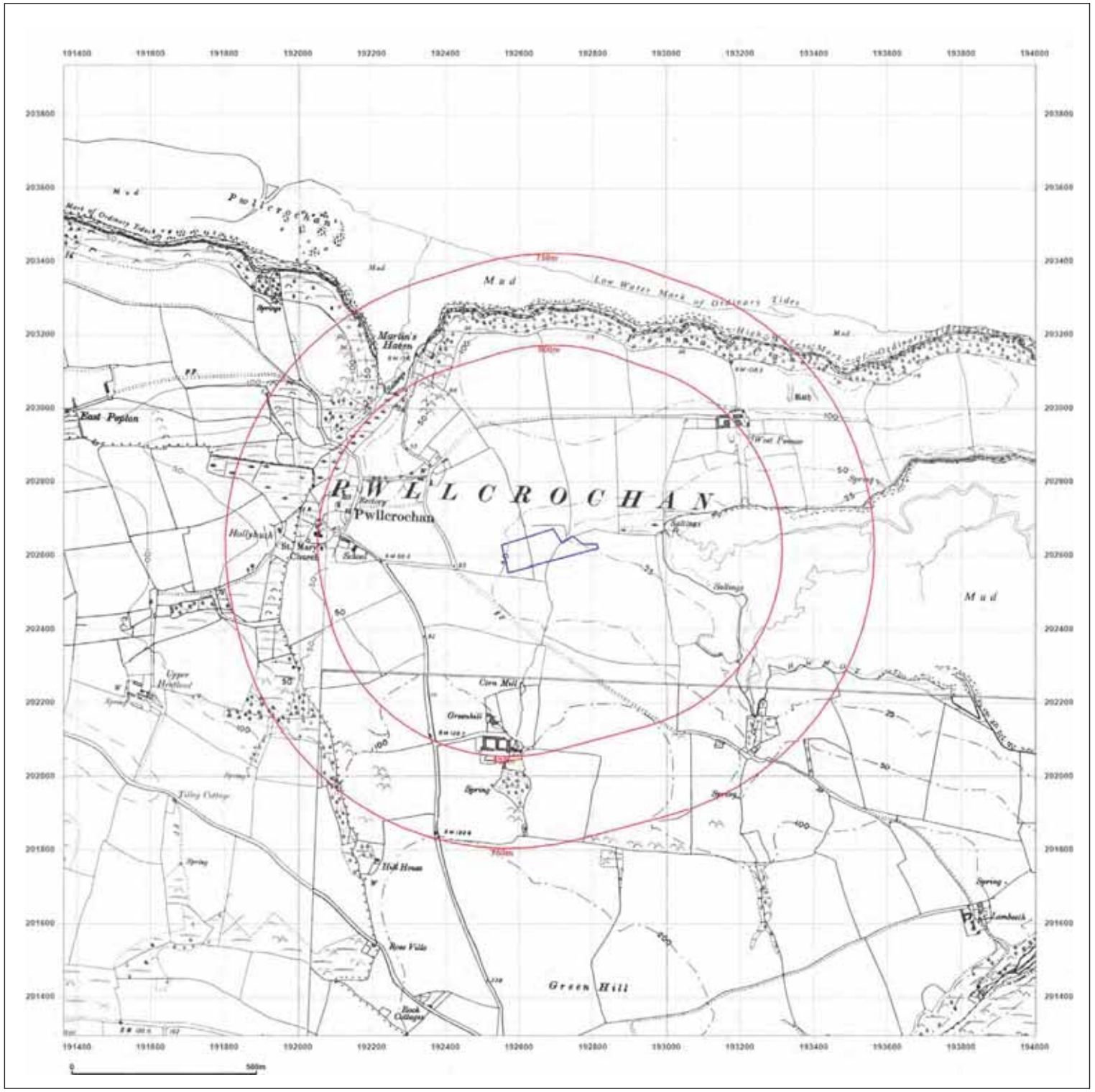
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Map legend available at:
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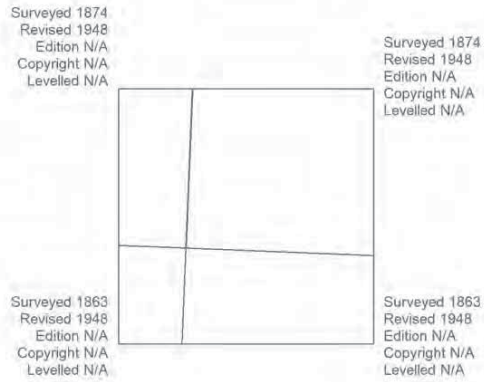
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192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: County Series
Map date: **1948**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



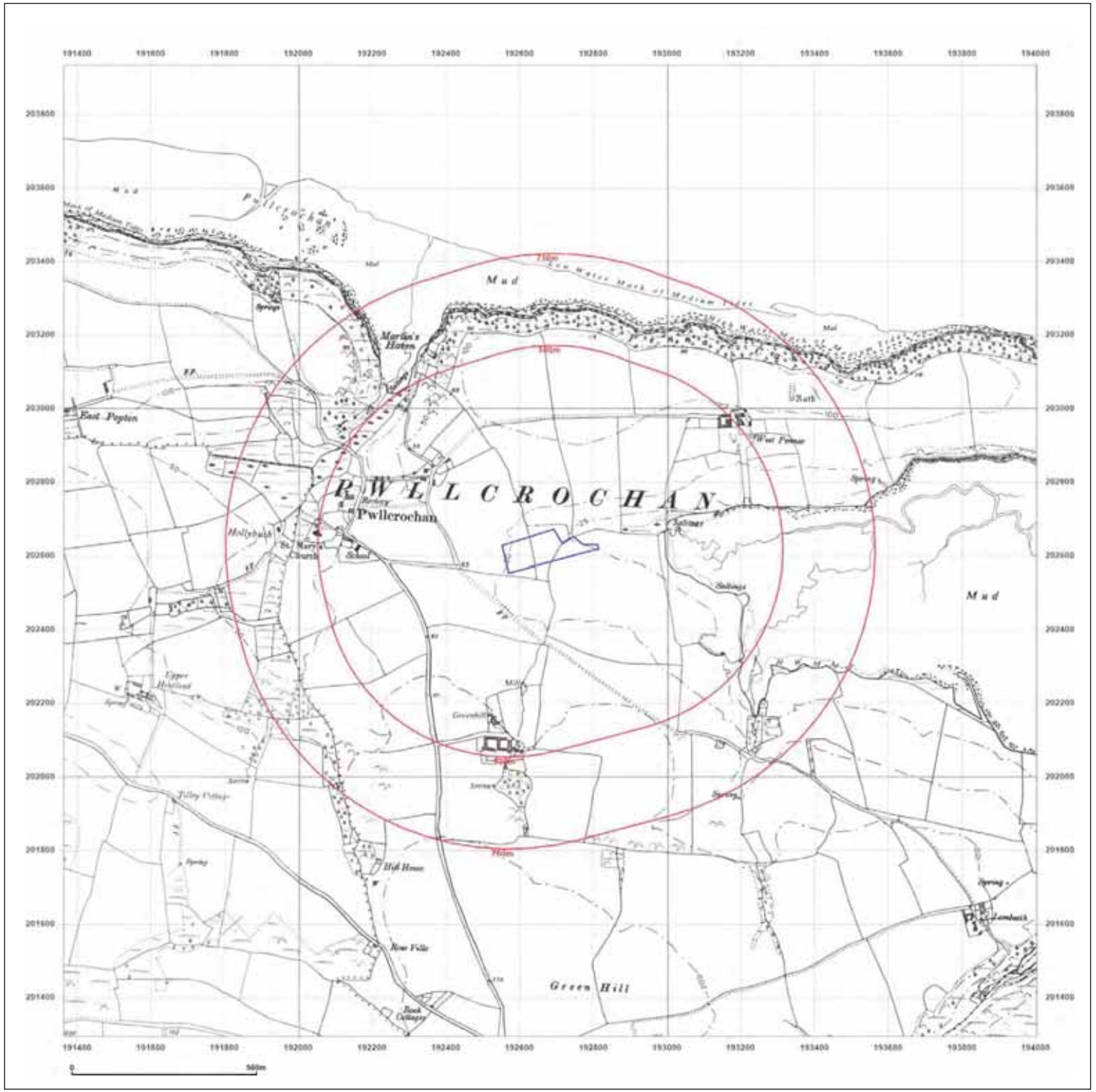
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Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: Provisional
Map date: 1964
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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

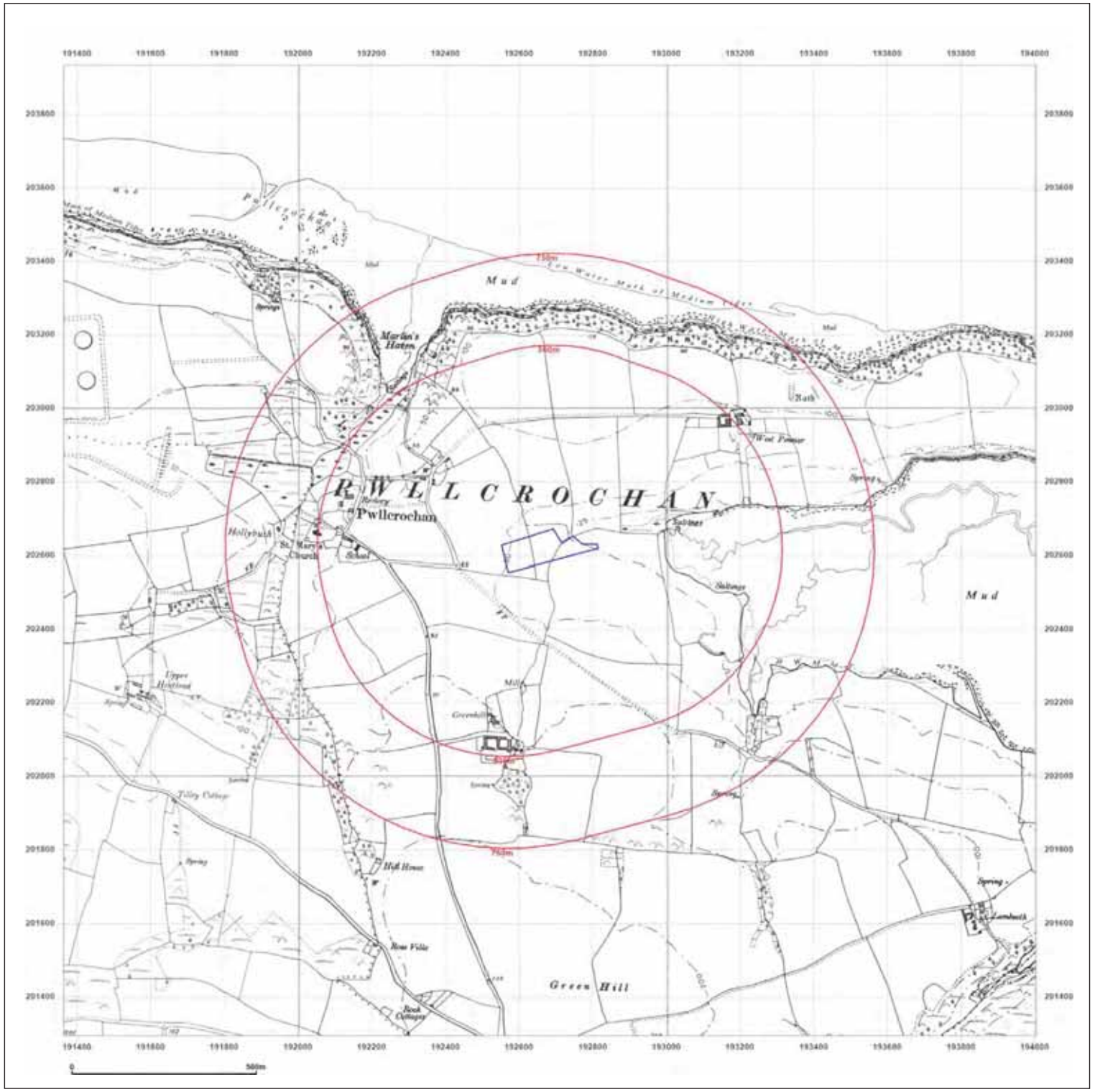
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Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: Provisional
Map date: 1968
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1968
Edition 1968
Copyright 1964
Levelled N/A

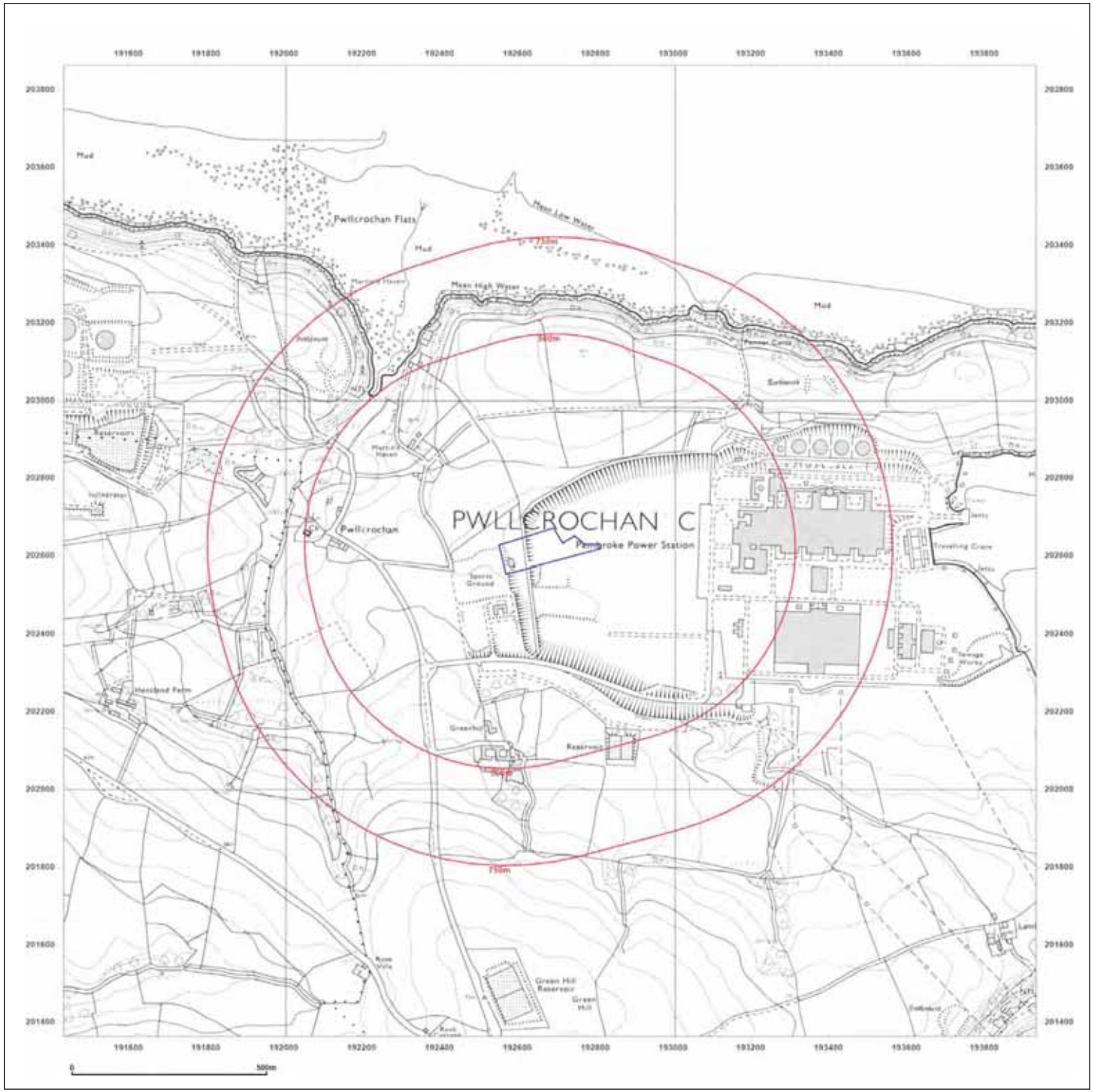
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Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: National Grid
Map date: **1976**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

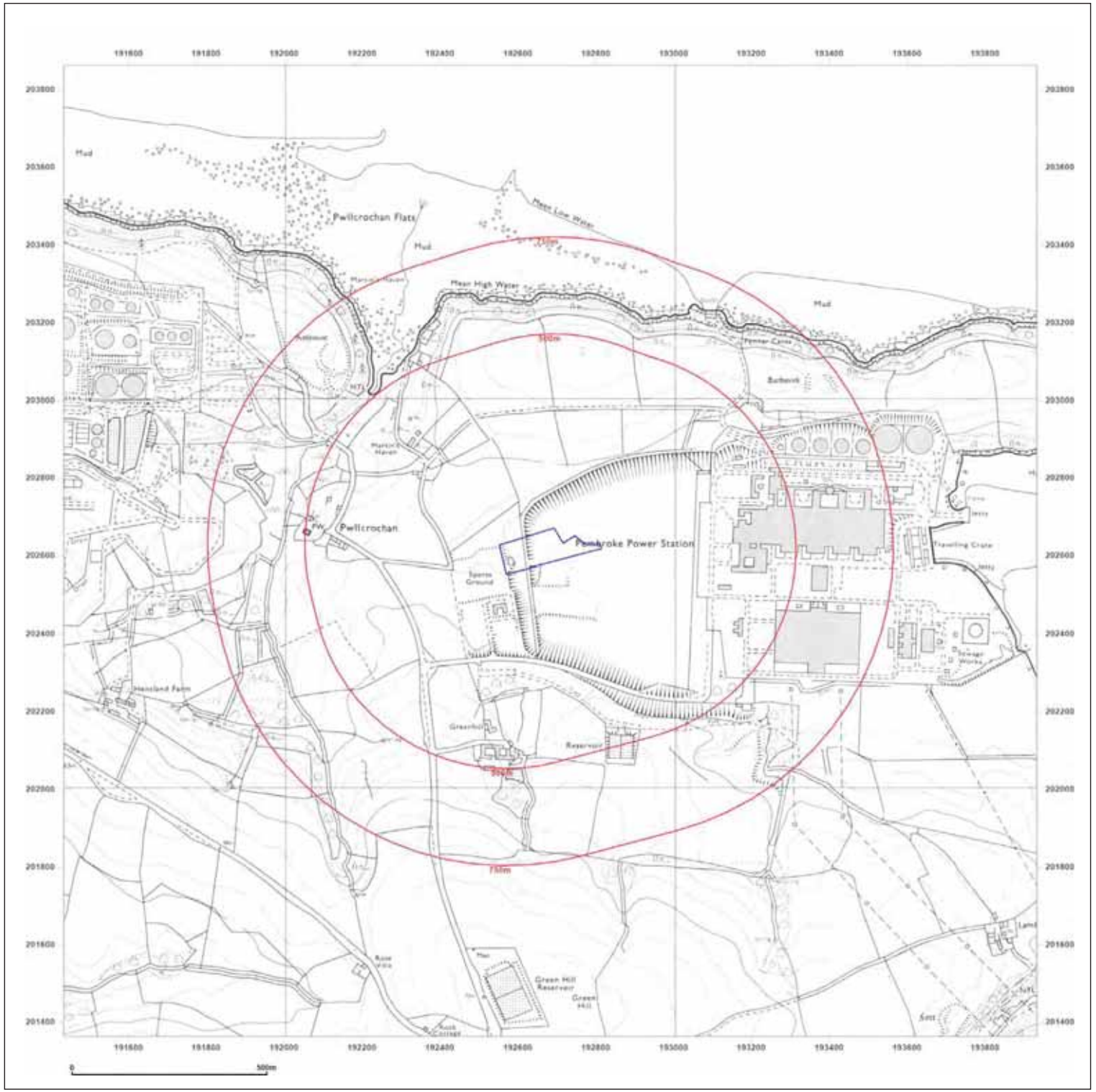
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Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: National Grid
Map date: 1994
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

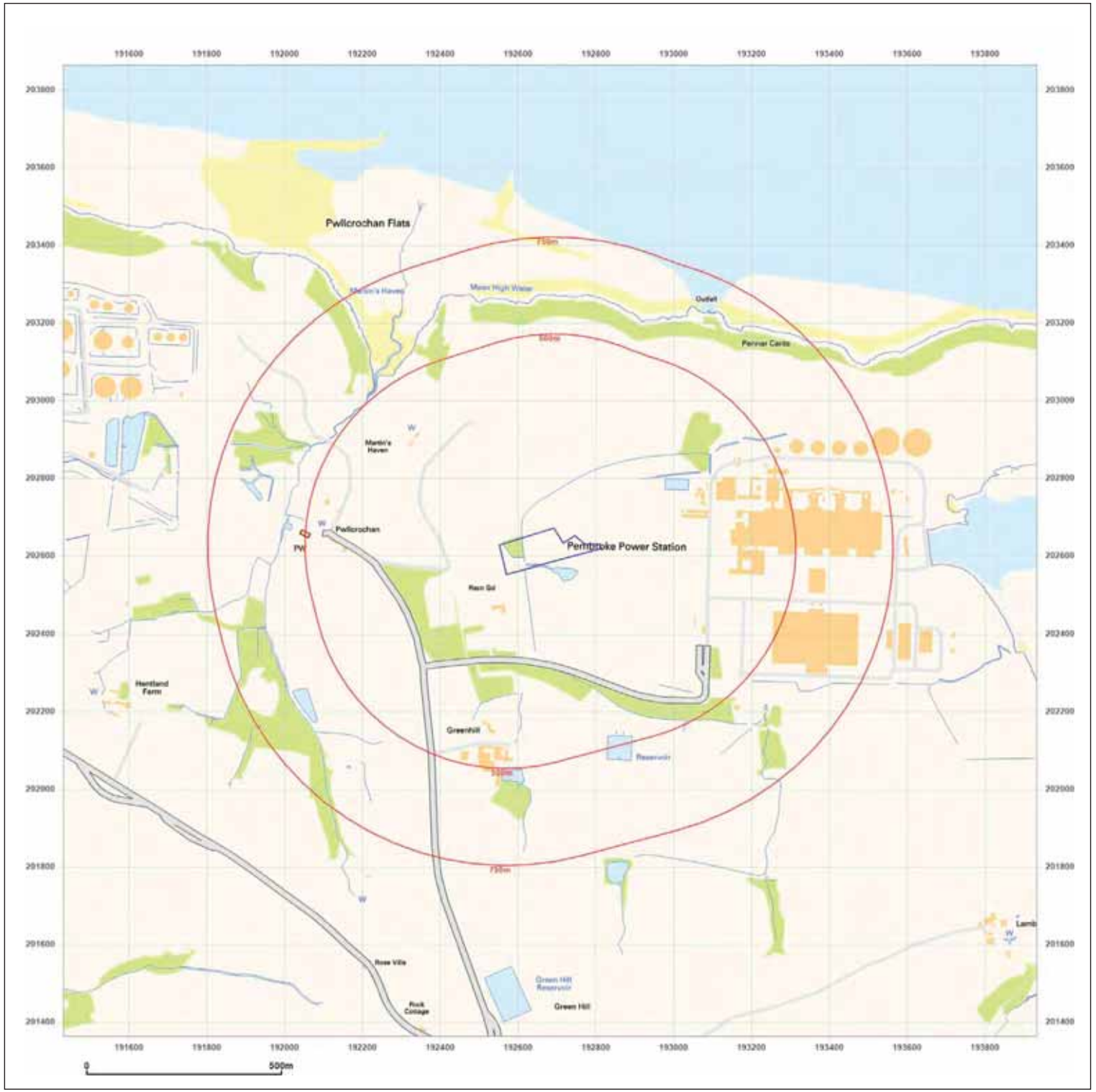
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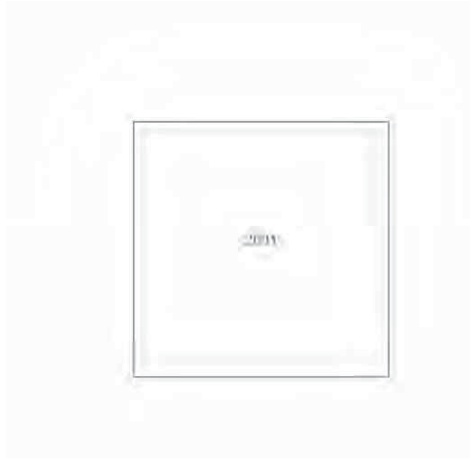
Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



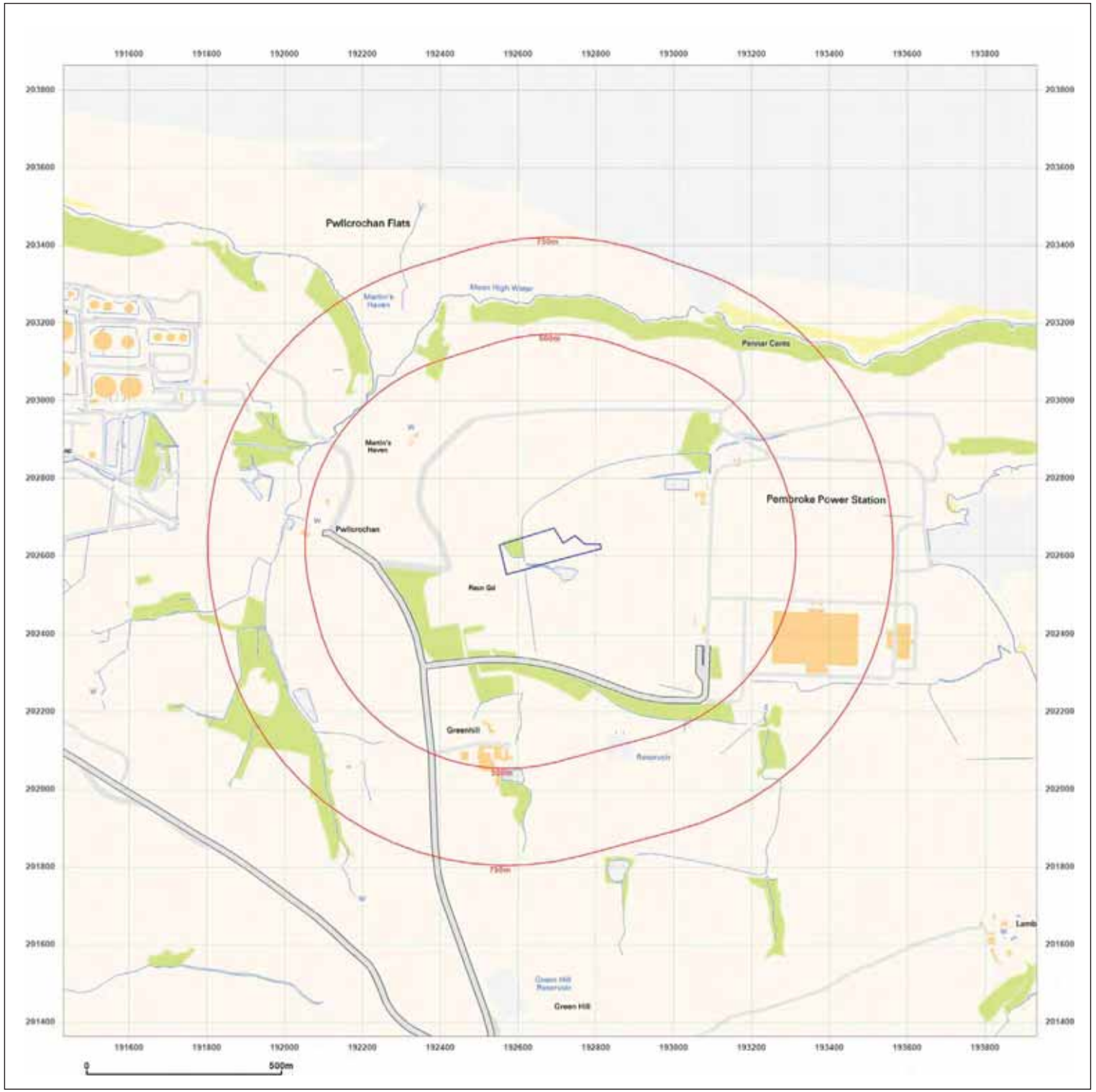
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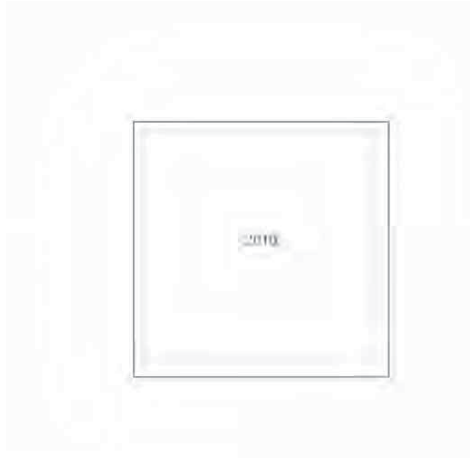
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Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



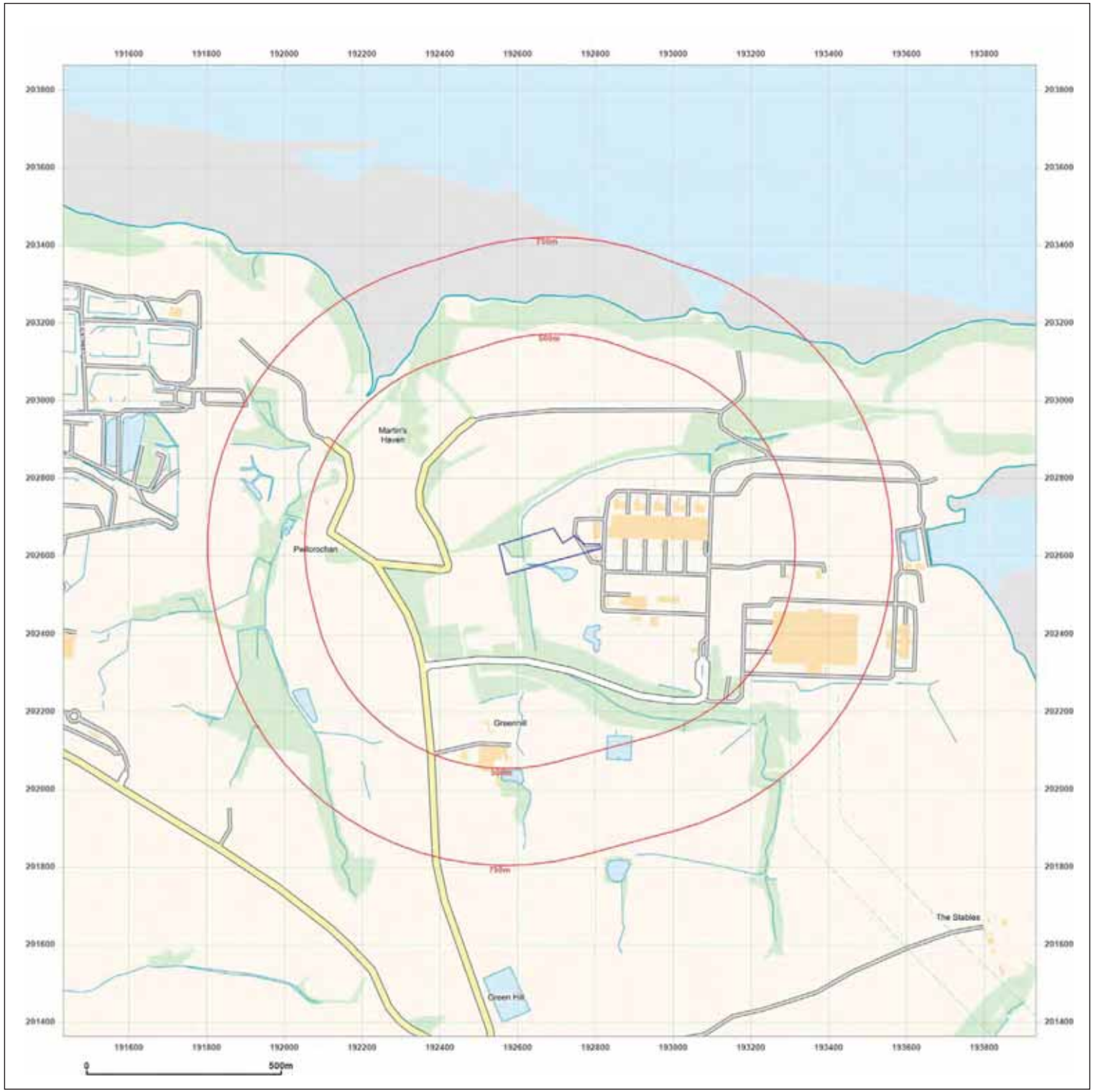
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Site Details:

192620 , 202604

Client Ref: JFR2786_Water_Pipeline_PO-827
Report Ref: GS-8873287
Grid Ref: 192683, 202613

Map Name: National Grid
Map date: 2022
Scale: 1:10,000
Printed at: 1:10,000

N
W E
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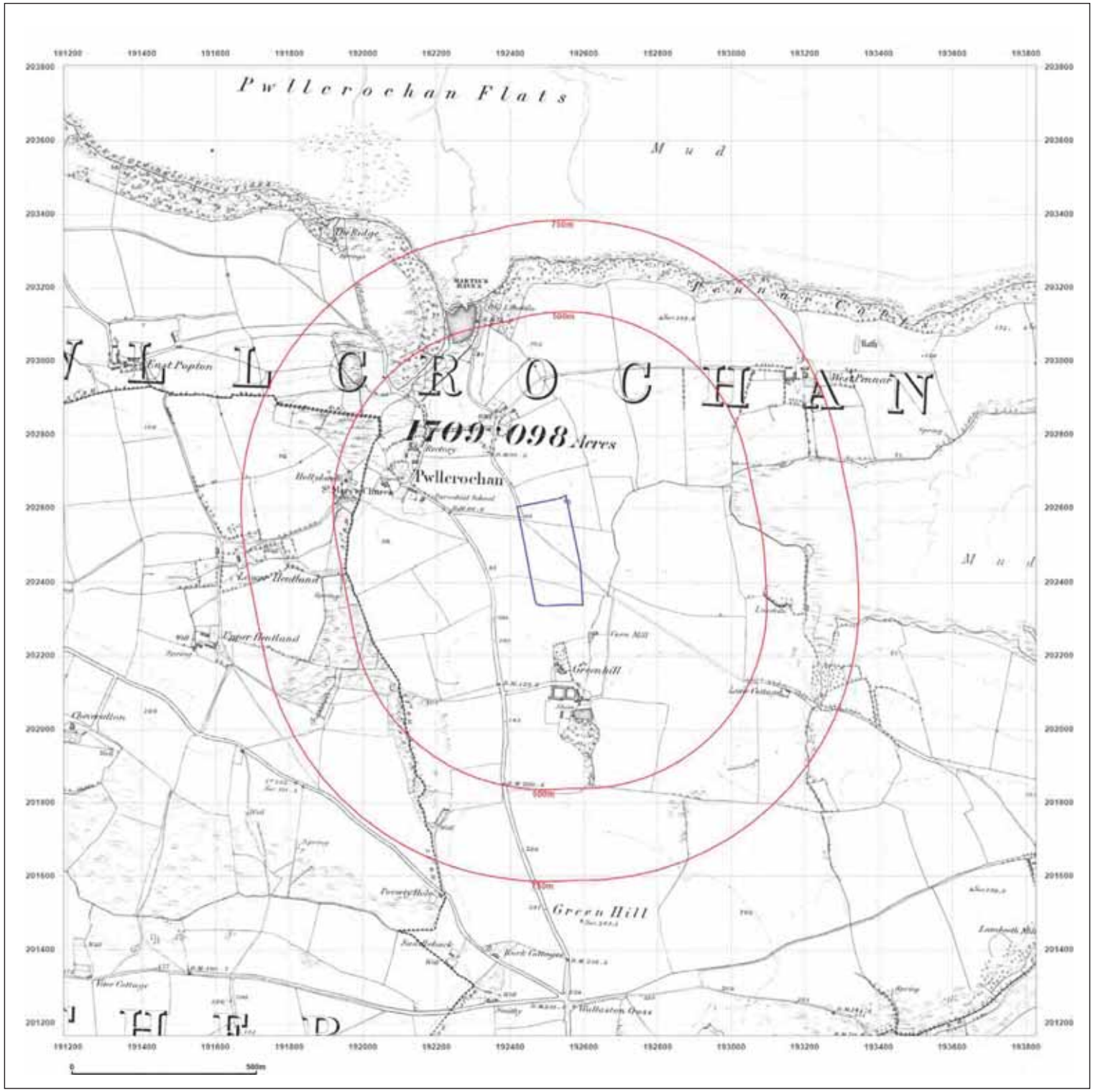
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Groundsure INSIGHTS

Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560

N
W E
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Surveyed 1864
Revised 1864
Edition N/A
Copyright N/A
Levelled N/A

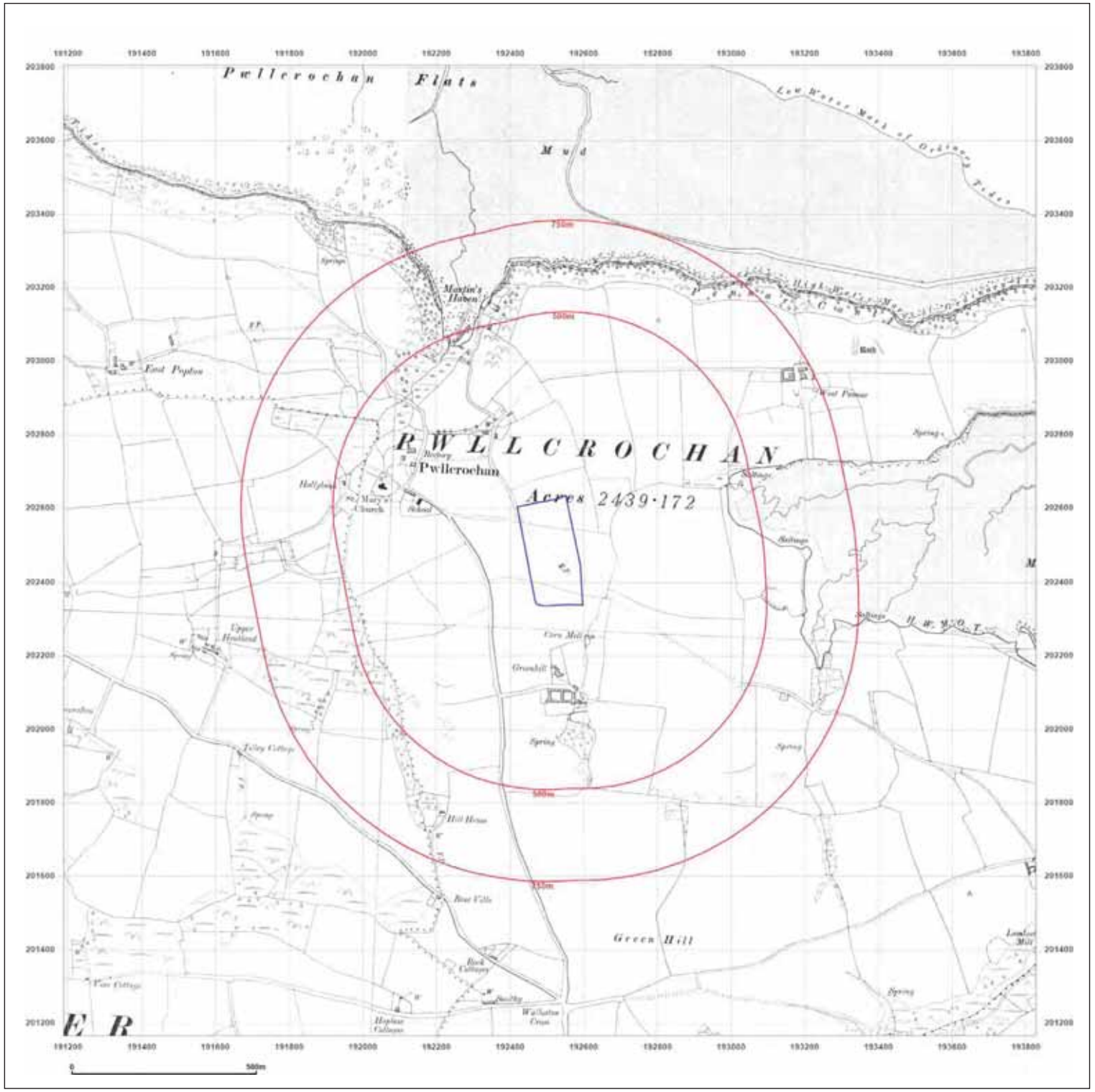
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Groundsure INSIGHTS

Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: County Series
Map date: 1906
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1863
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1863
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

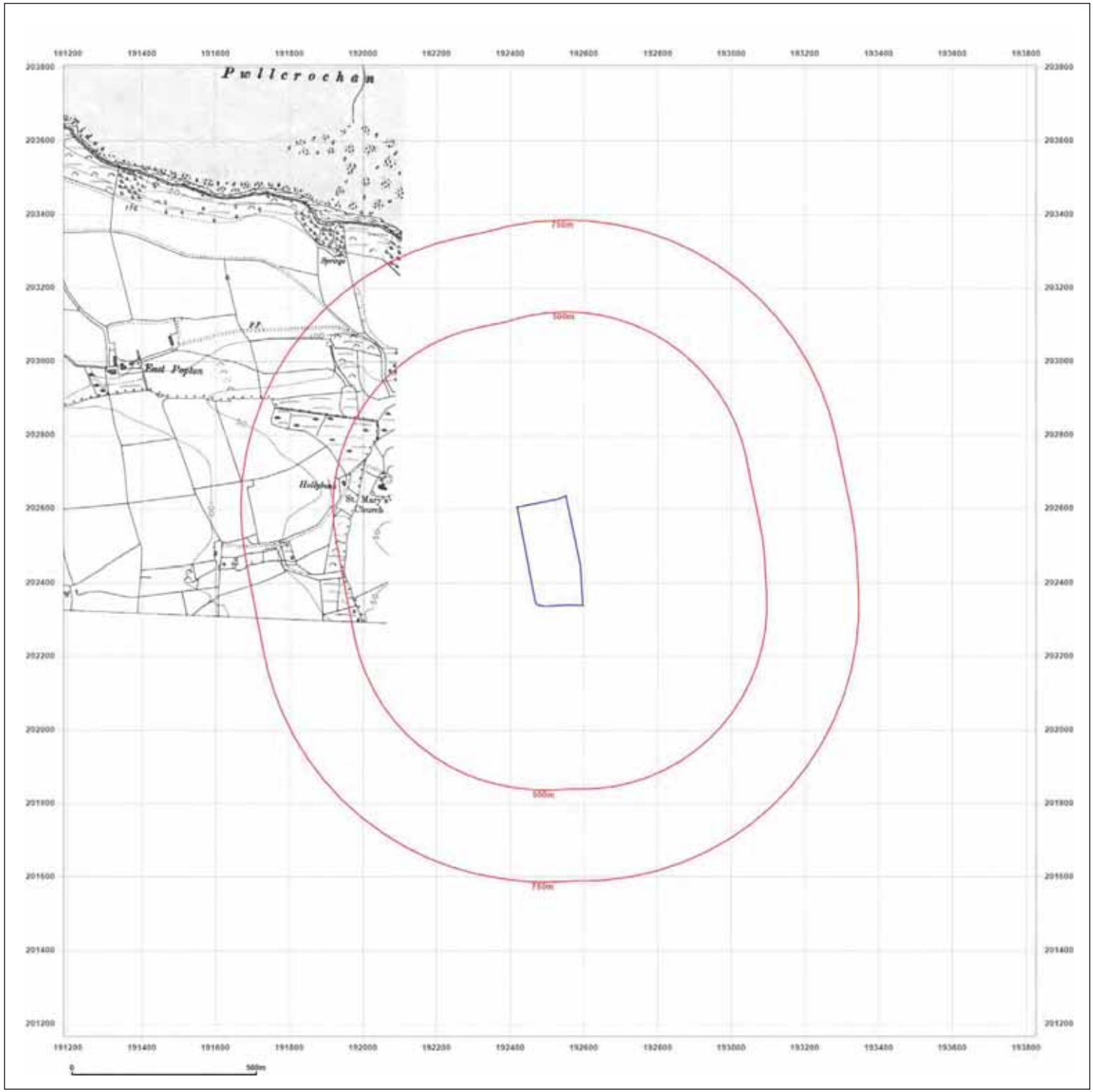
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Production date: 04 July 2022

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Groundsure INSIGHTS

Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

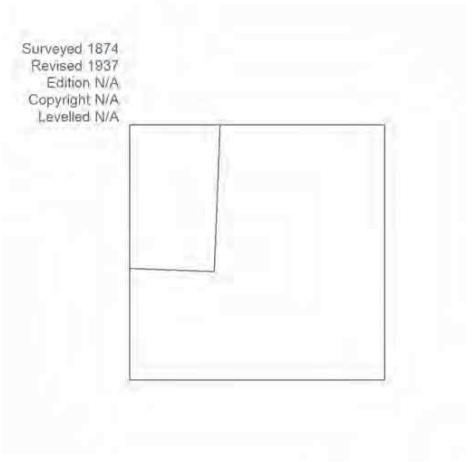
Map Name: County Series

Map date: **1937**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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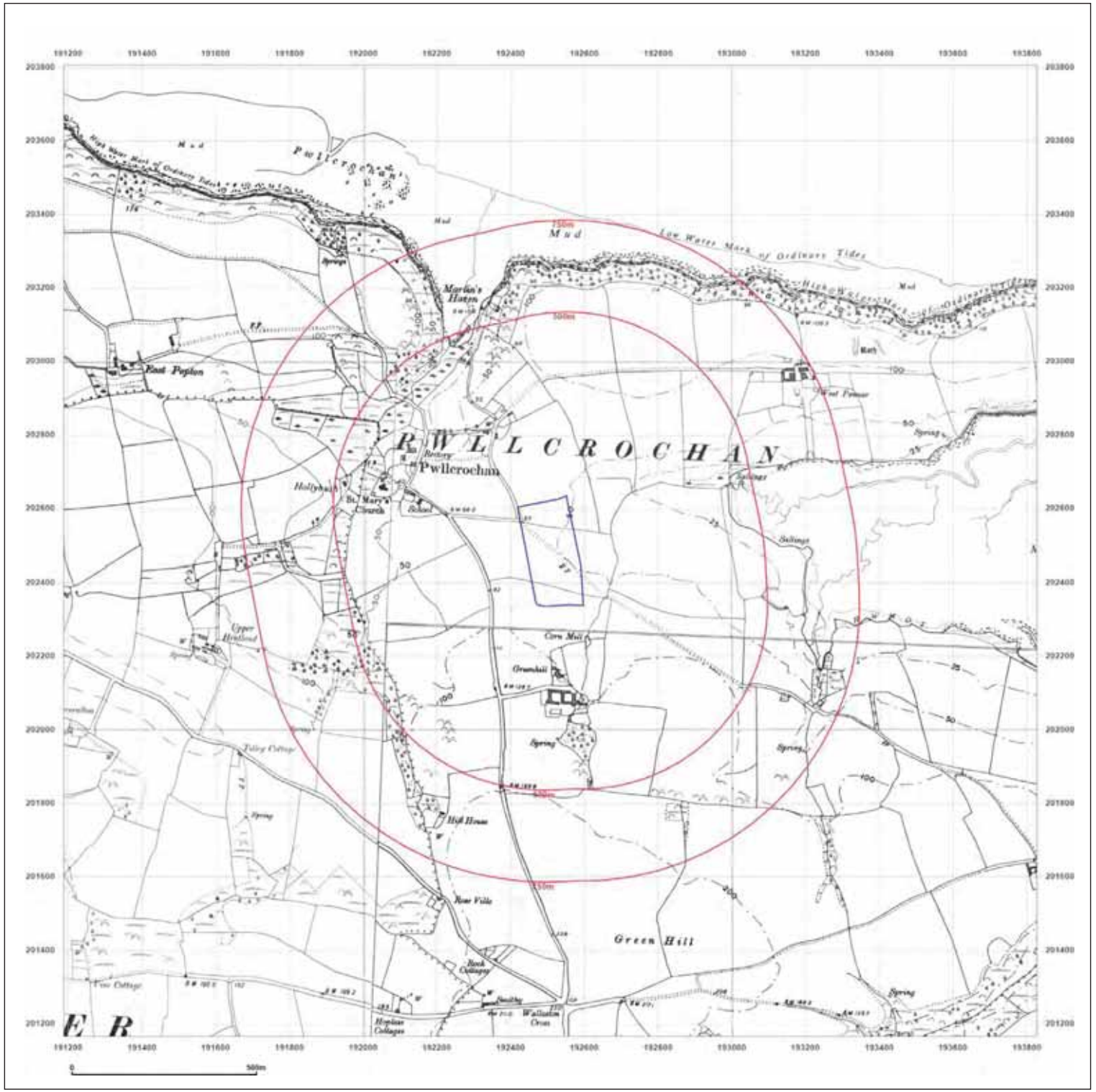
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Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: County Series
Map date: **1948**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1863
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1863
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

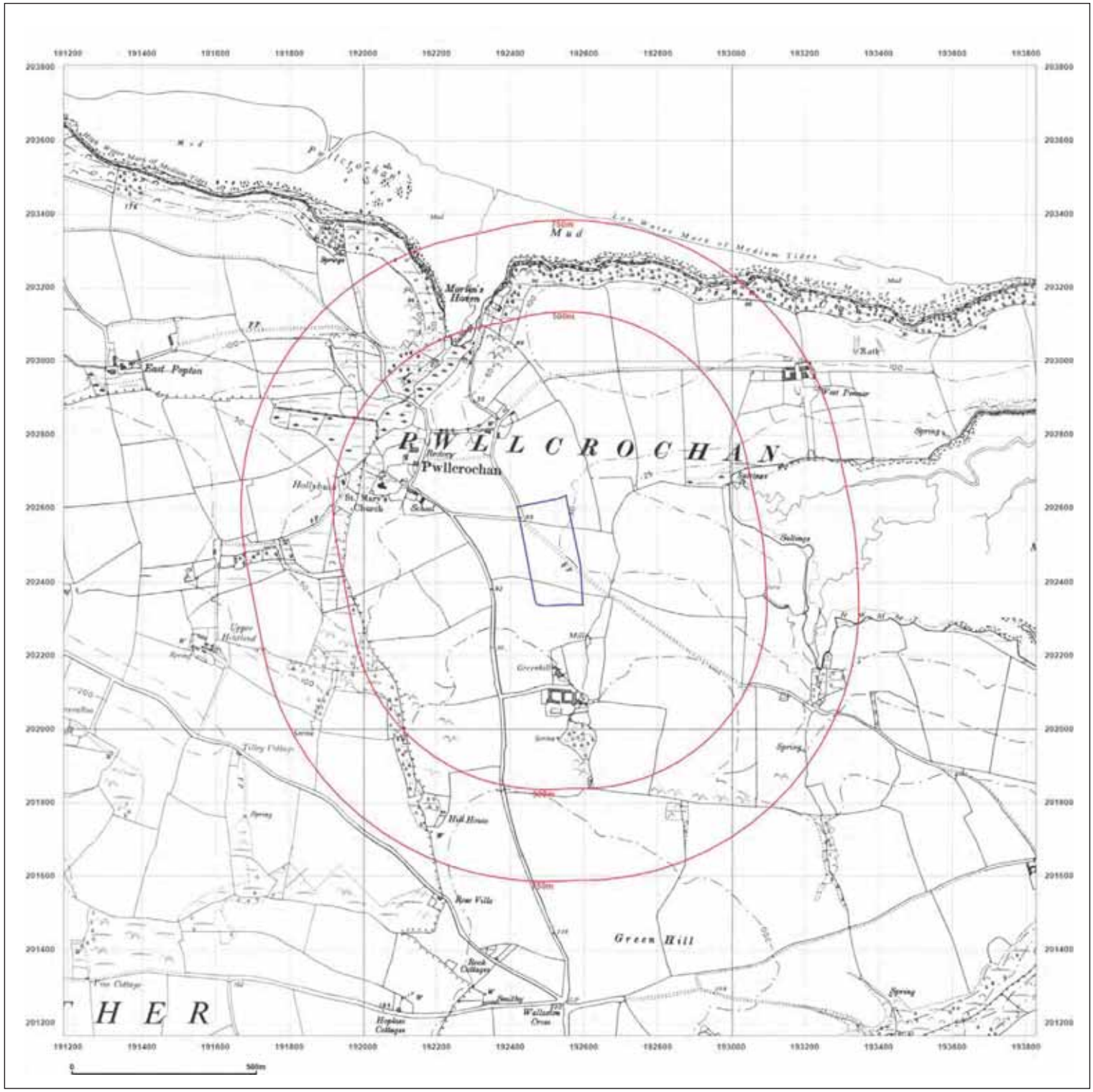
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Production date: 04 July 2022

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Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: Provisional
Map date: 1964
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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

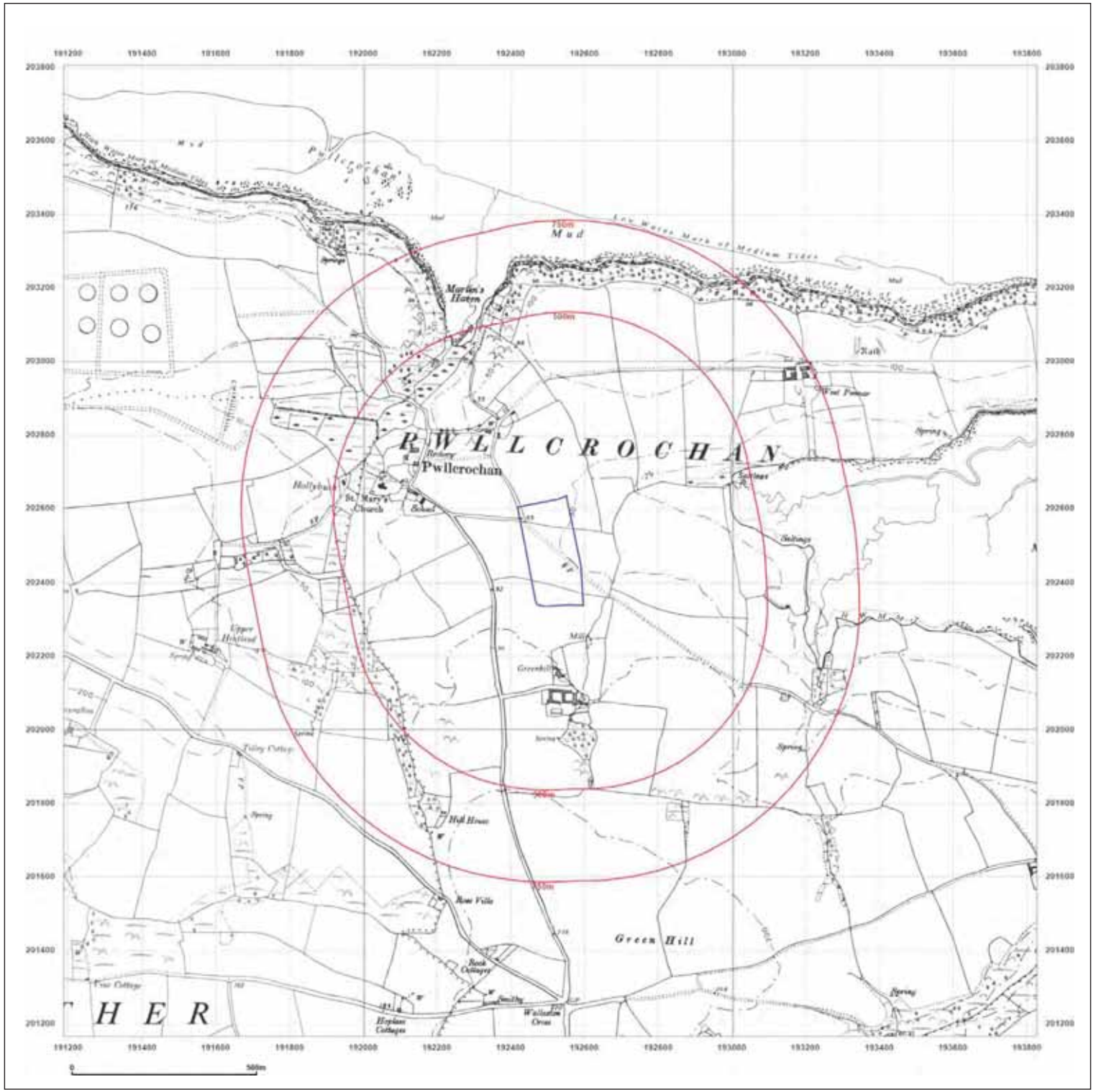
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Groundsure INSIGHTS

Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: Provisional
Map date: 1968
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1968
Edition 1968
Copyright 1964
Levelled N/A

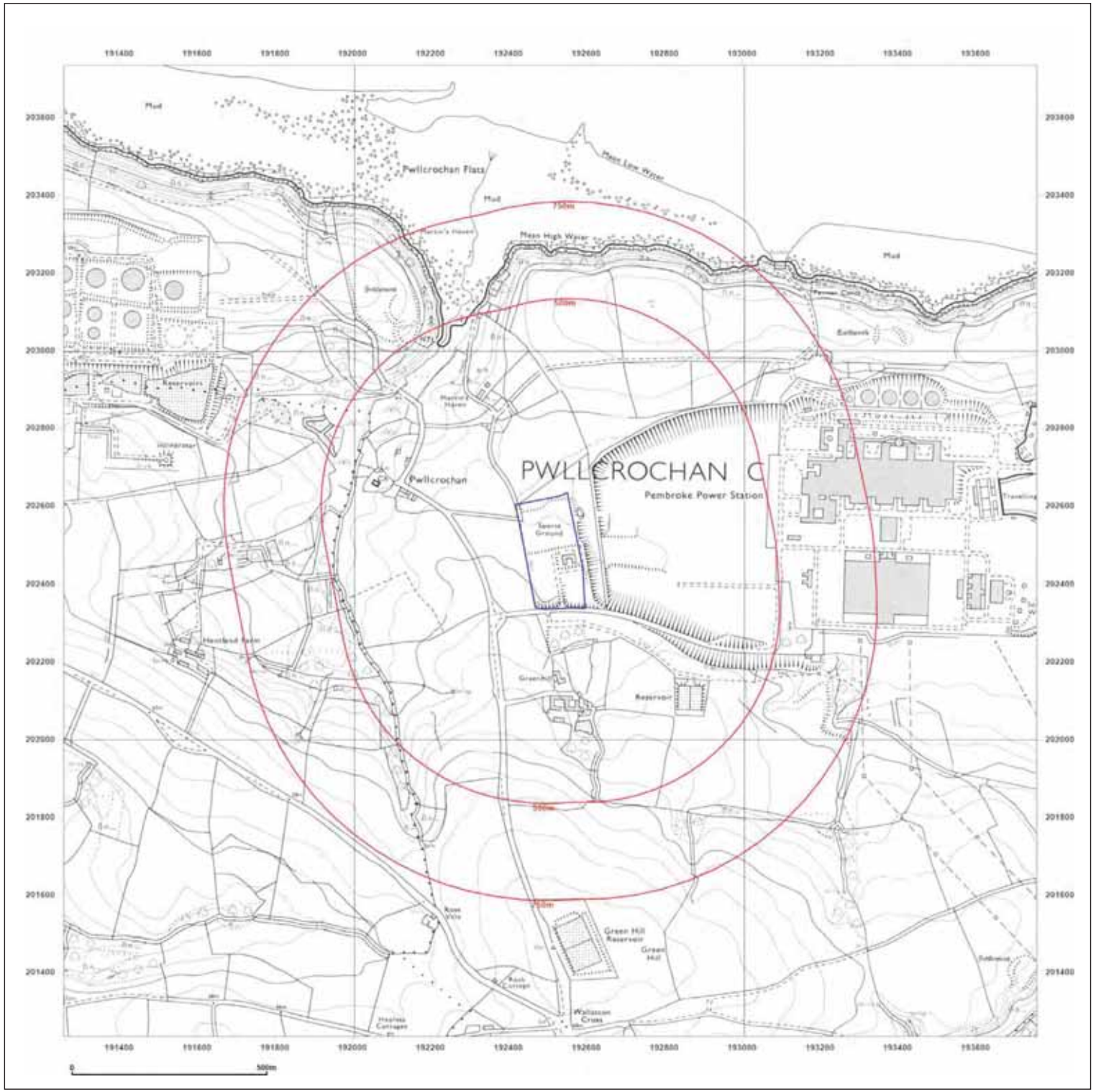
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Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: National Grid

Map date: **1976**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S



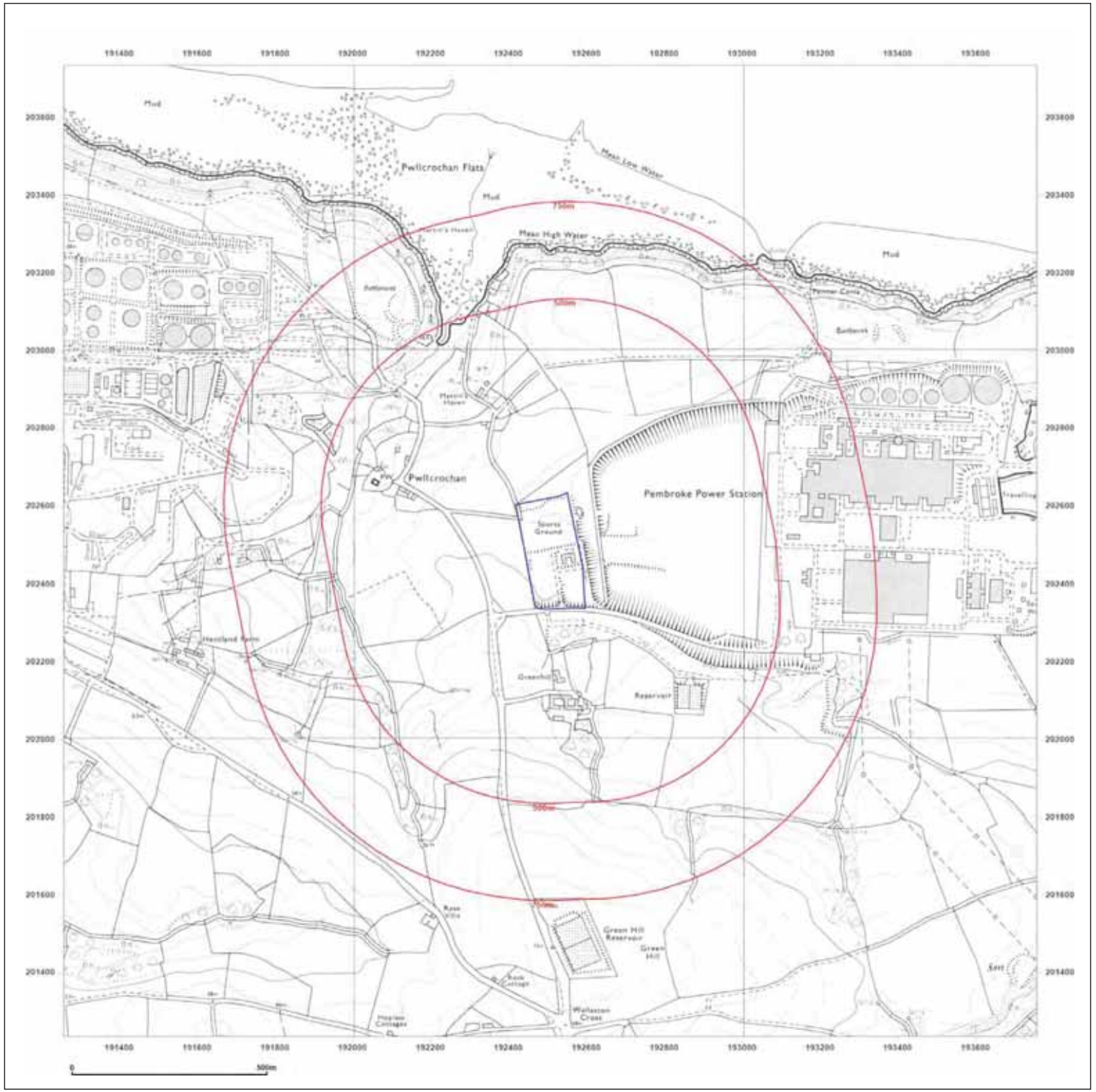
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Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

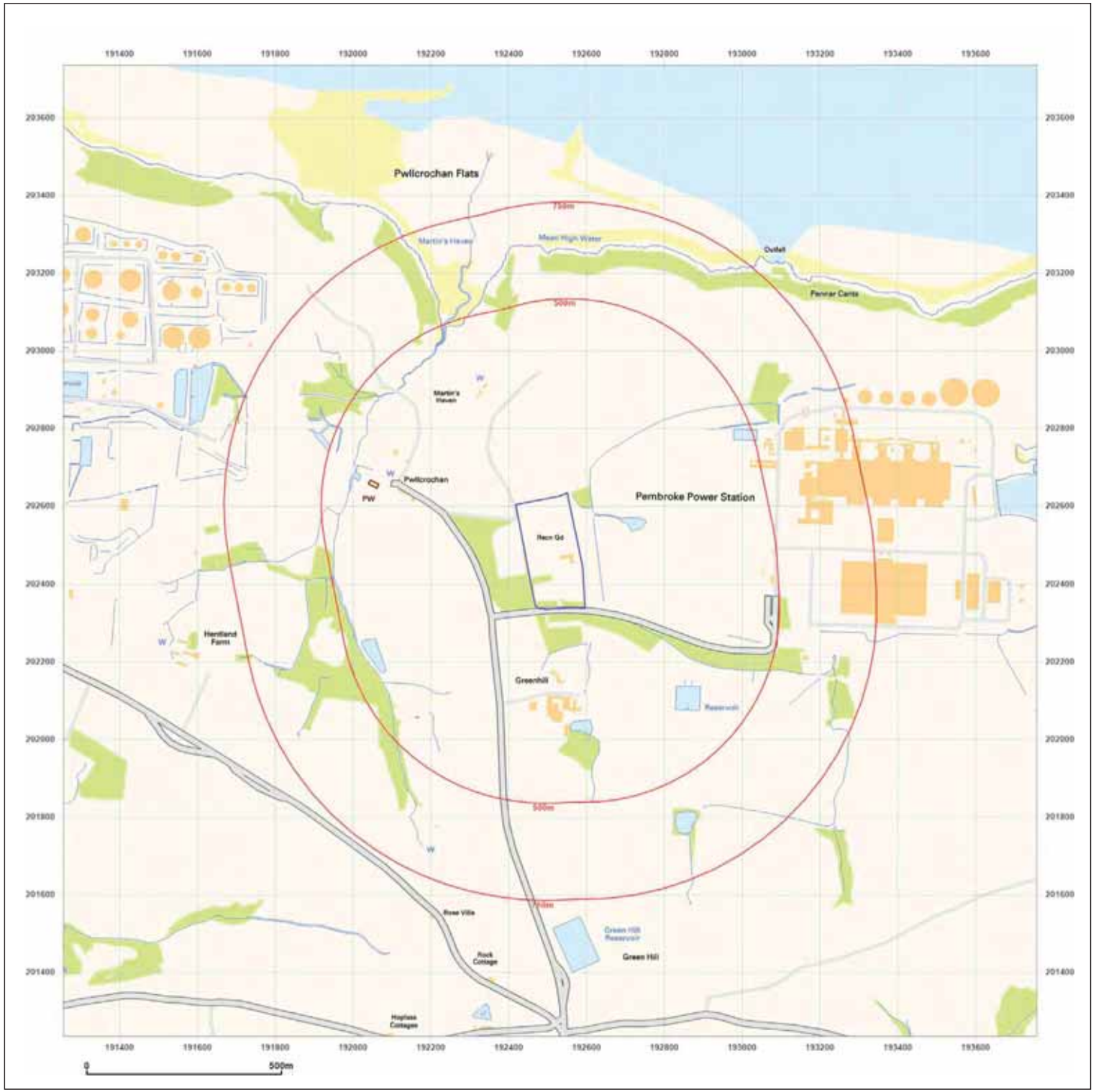
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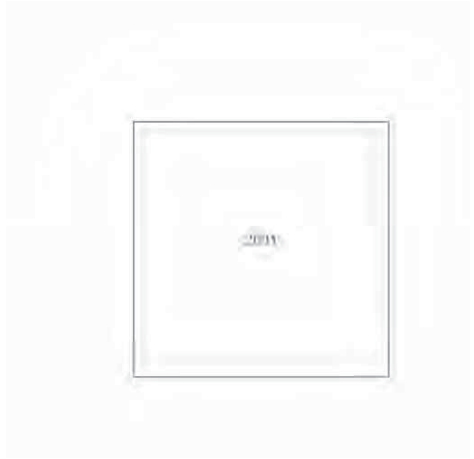
Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

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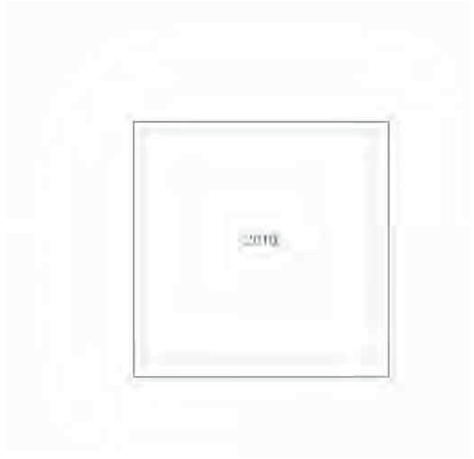
Site Details:

192526 , 202515

Client Ref: JFR2786_Electrolyser_Area_PO22-828
Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



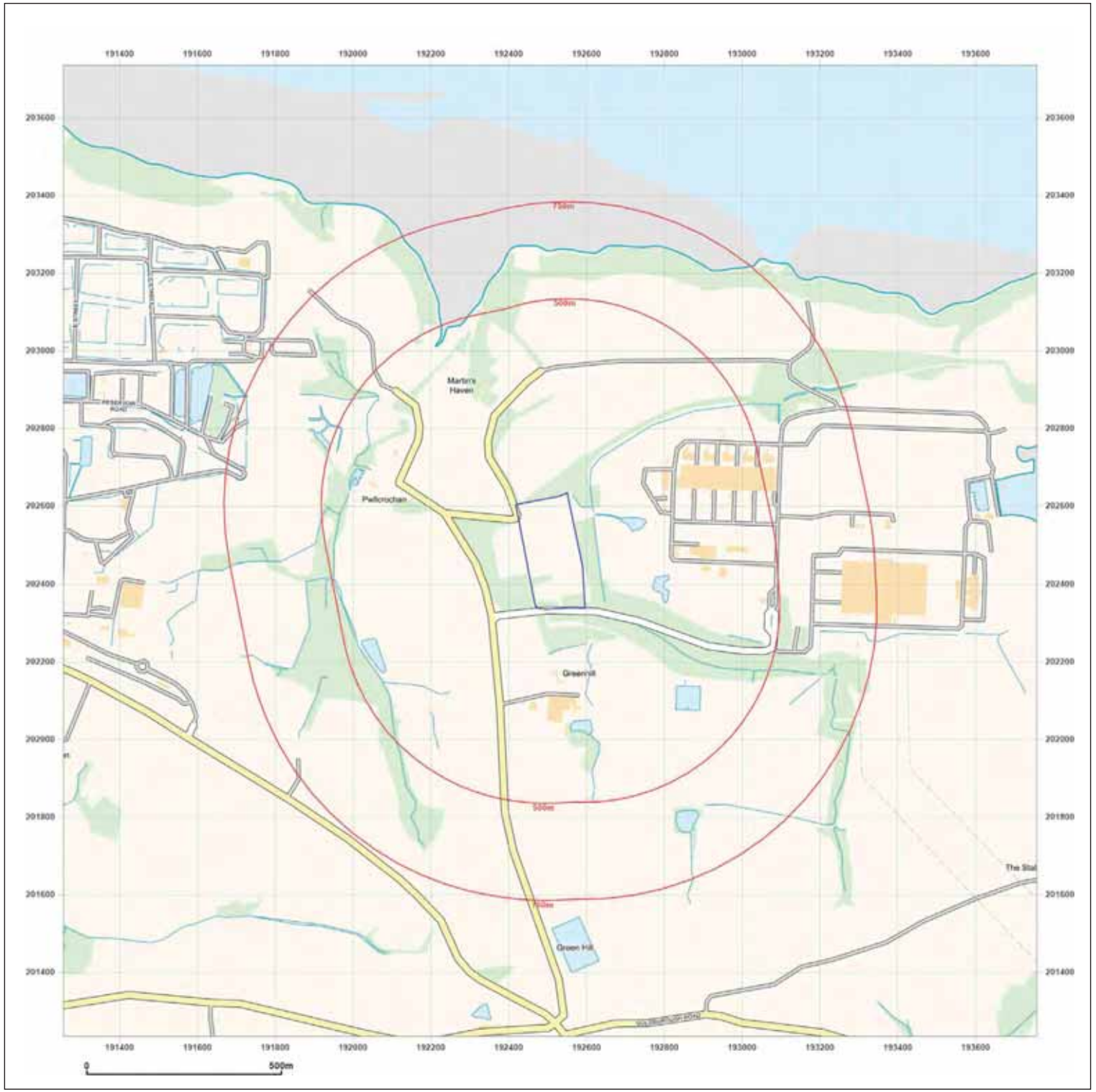
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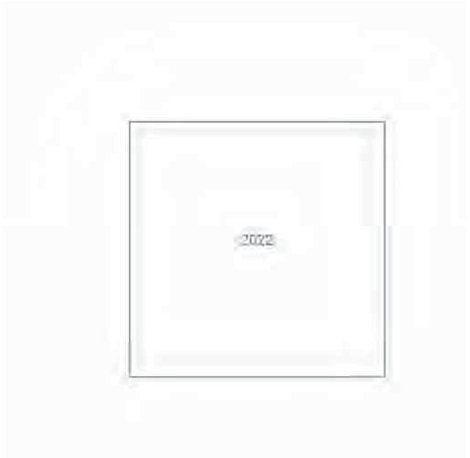
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Report Ref: GS-8873299
Grid Ref: 192507, 202485

Map Name: National Grid
Map date: 2022
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



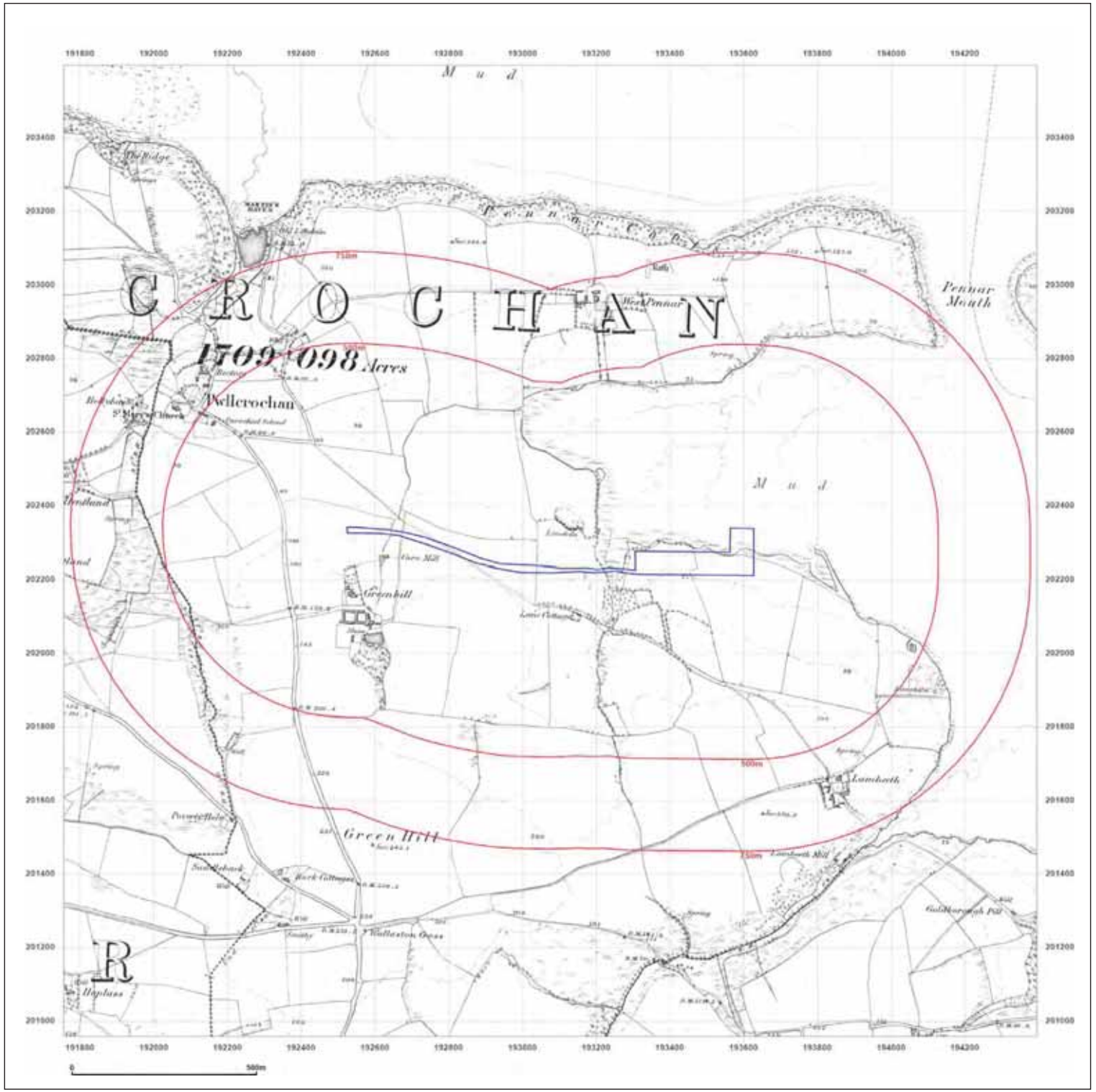
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560

N
W E
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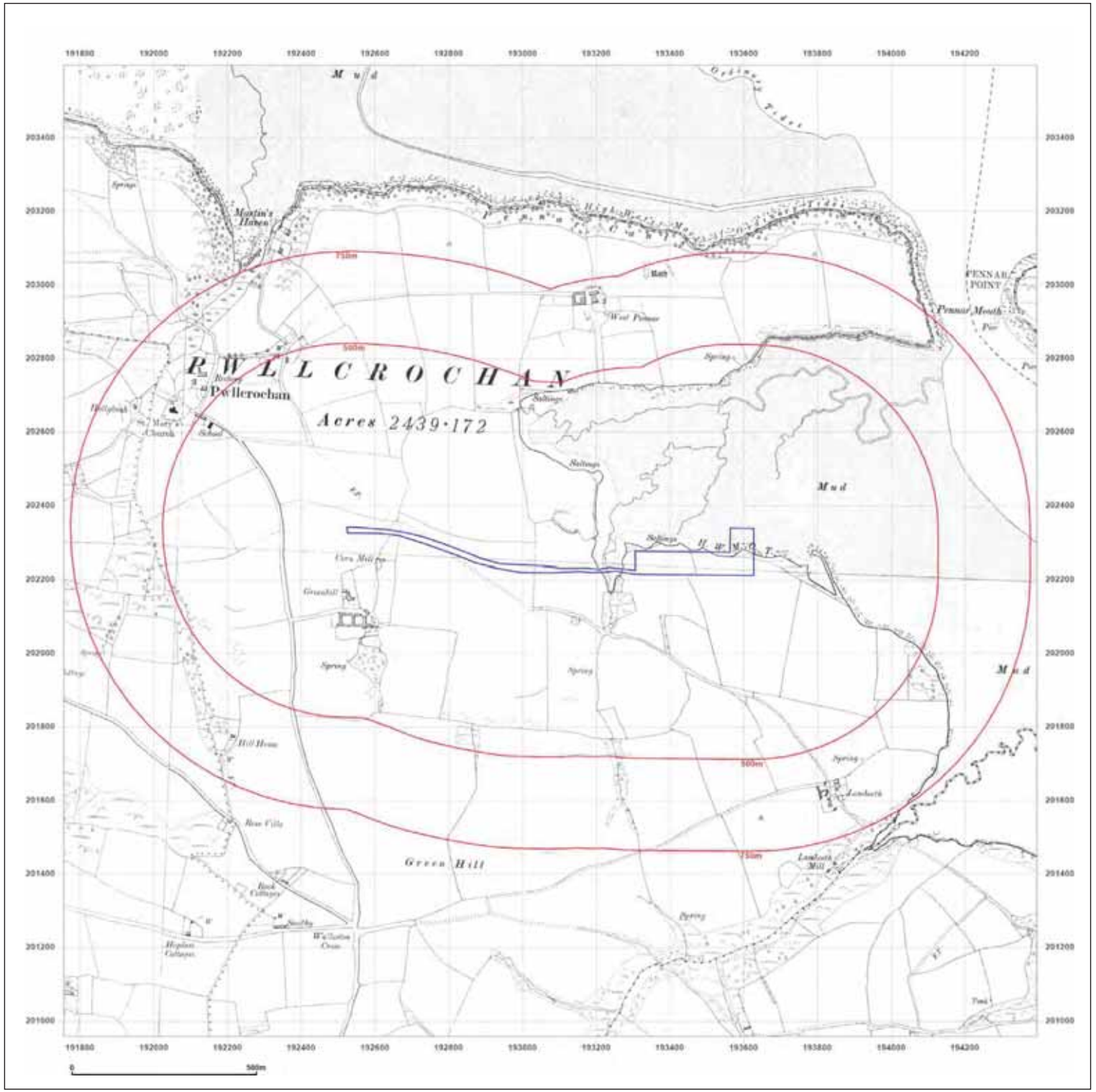
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

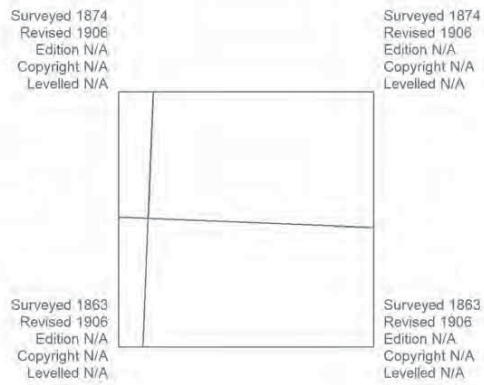
Map Name: County Series

Map date: 1906

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



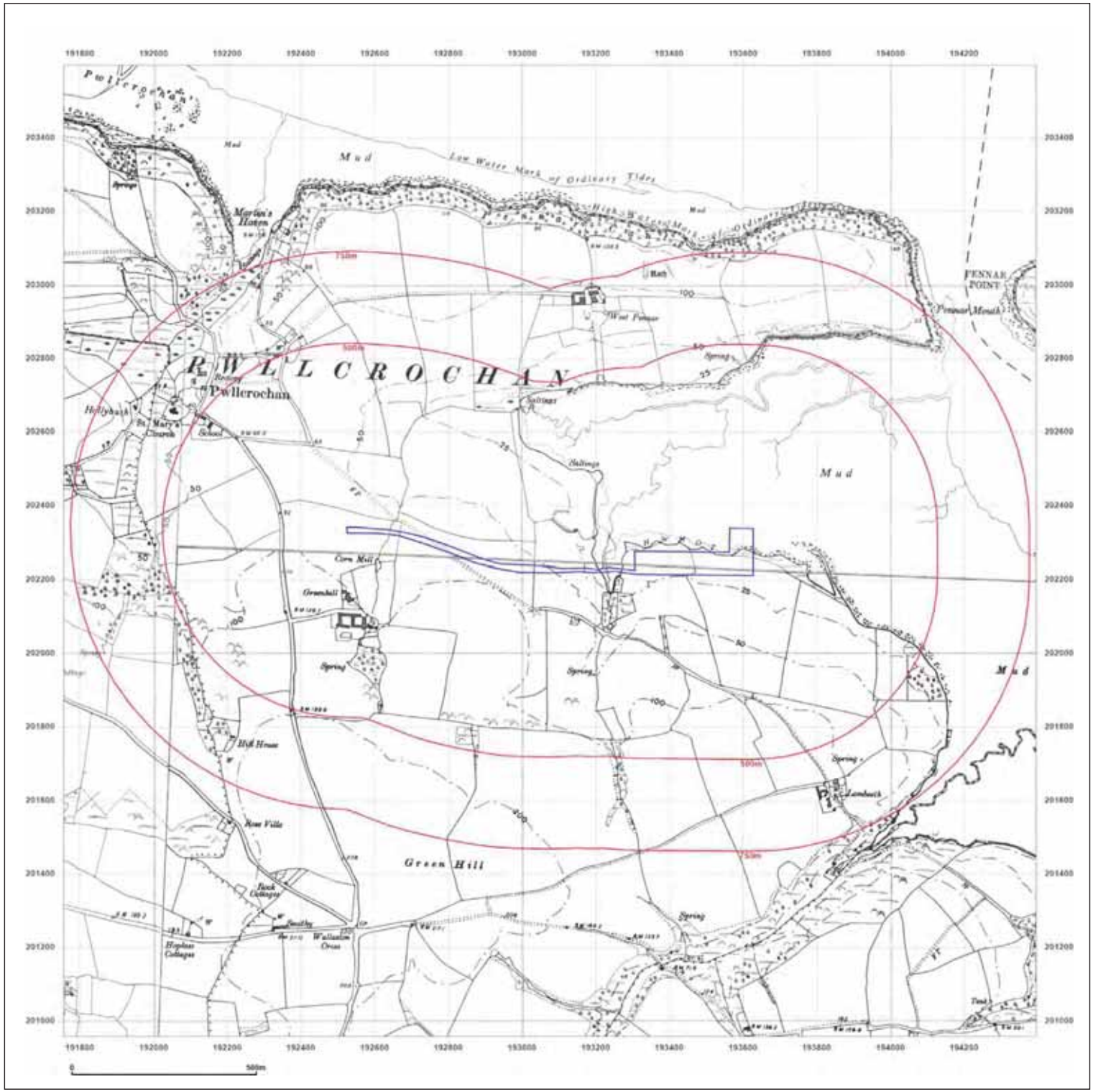
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Groundsure INSIGHTS

Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

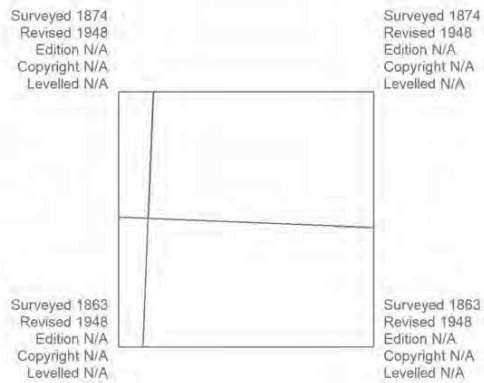
Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



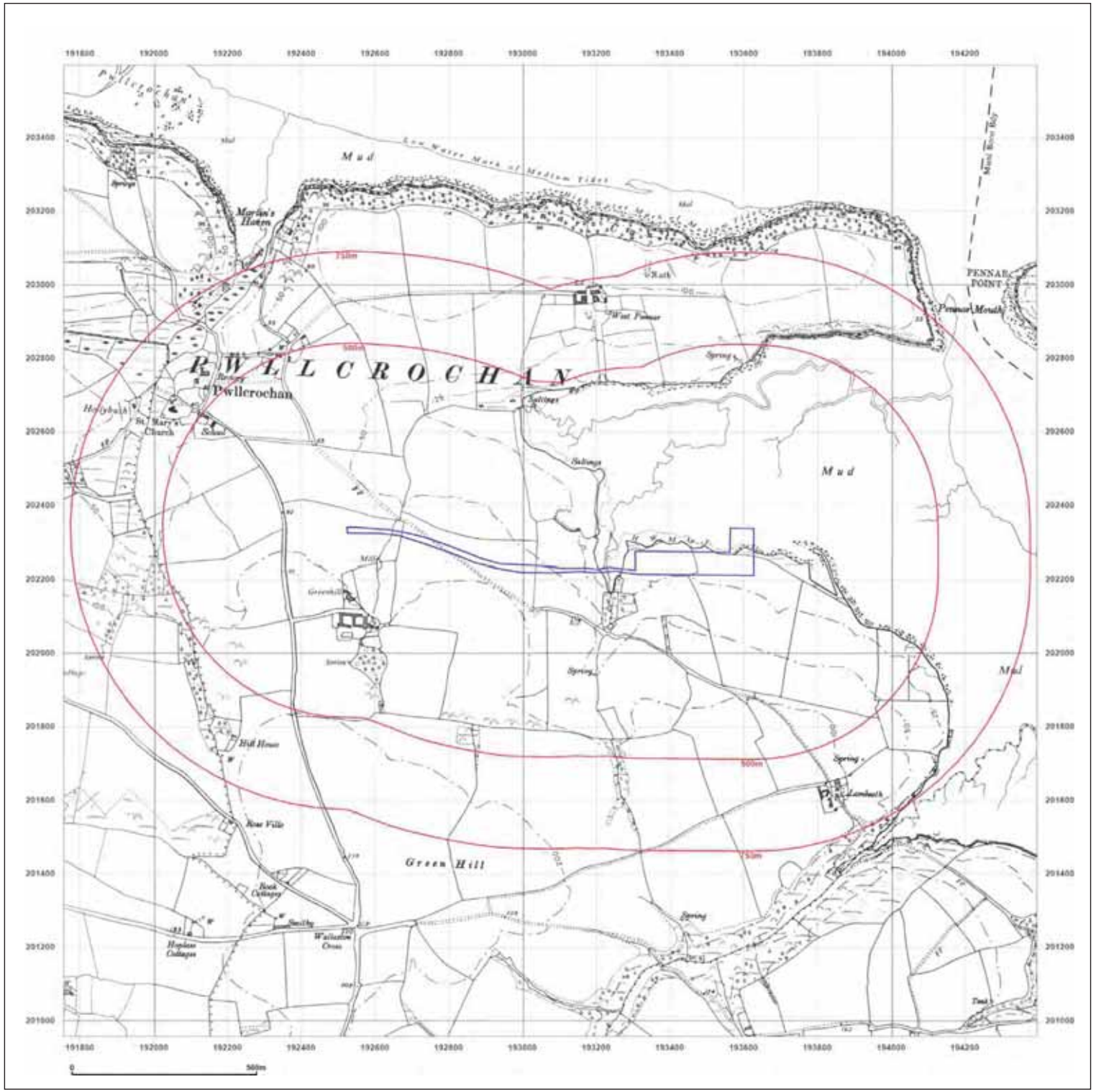
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: Provisional
Map date: 1964
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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

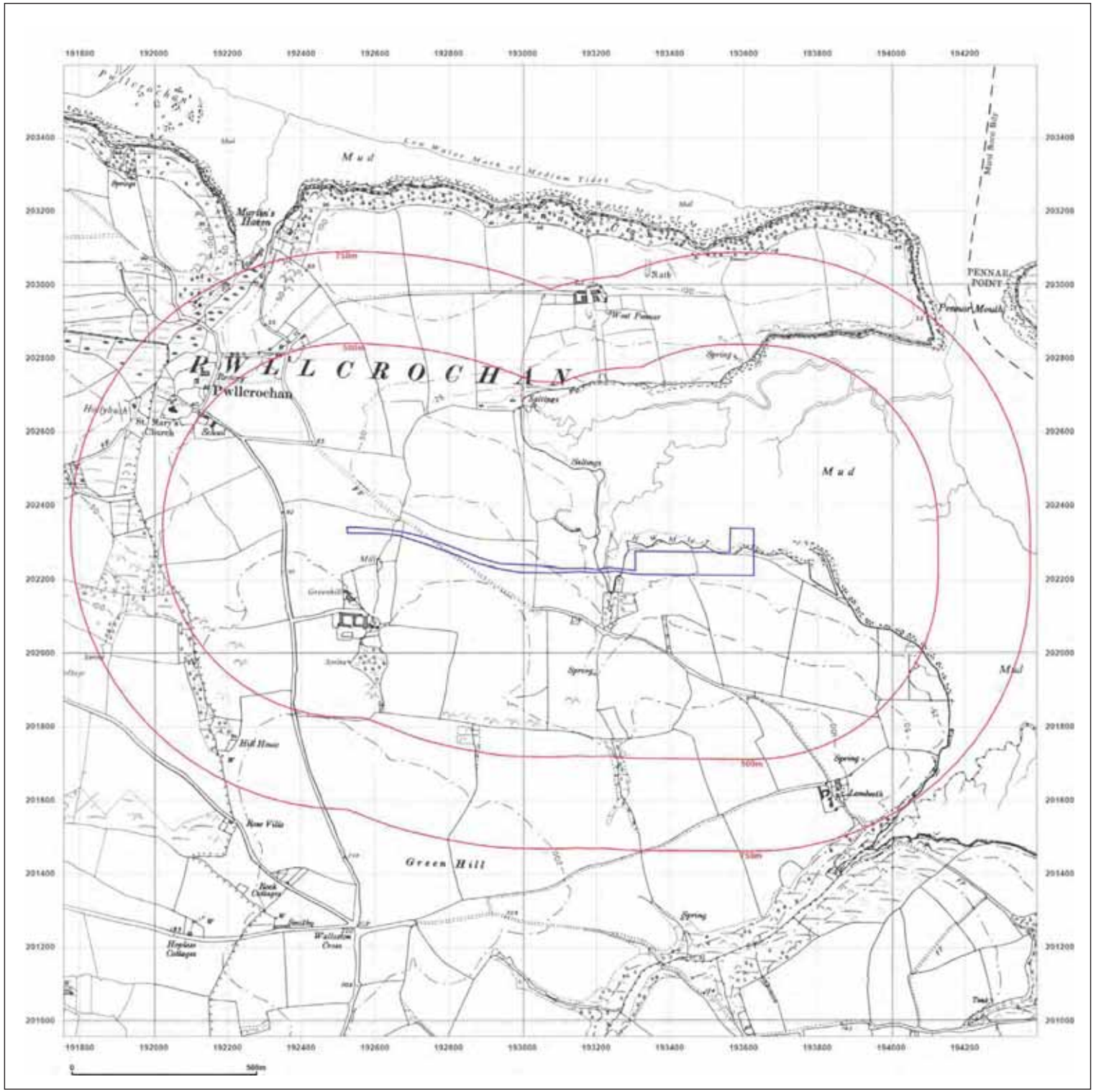
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: Provisional
Map date: 1968
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1968
Edition 1968
Copyright 1964
Levelled N/A

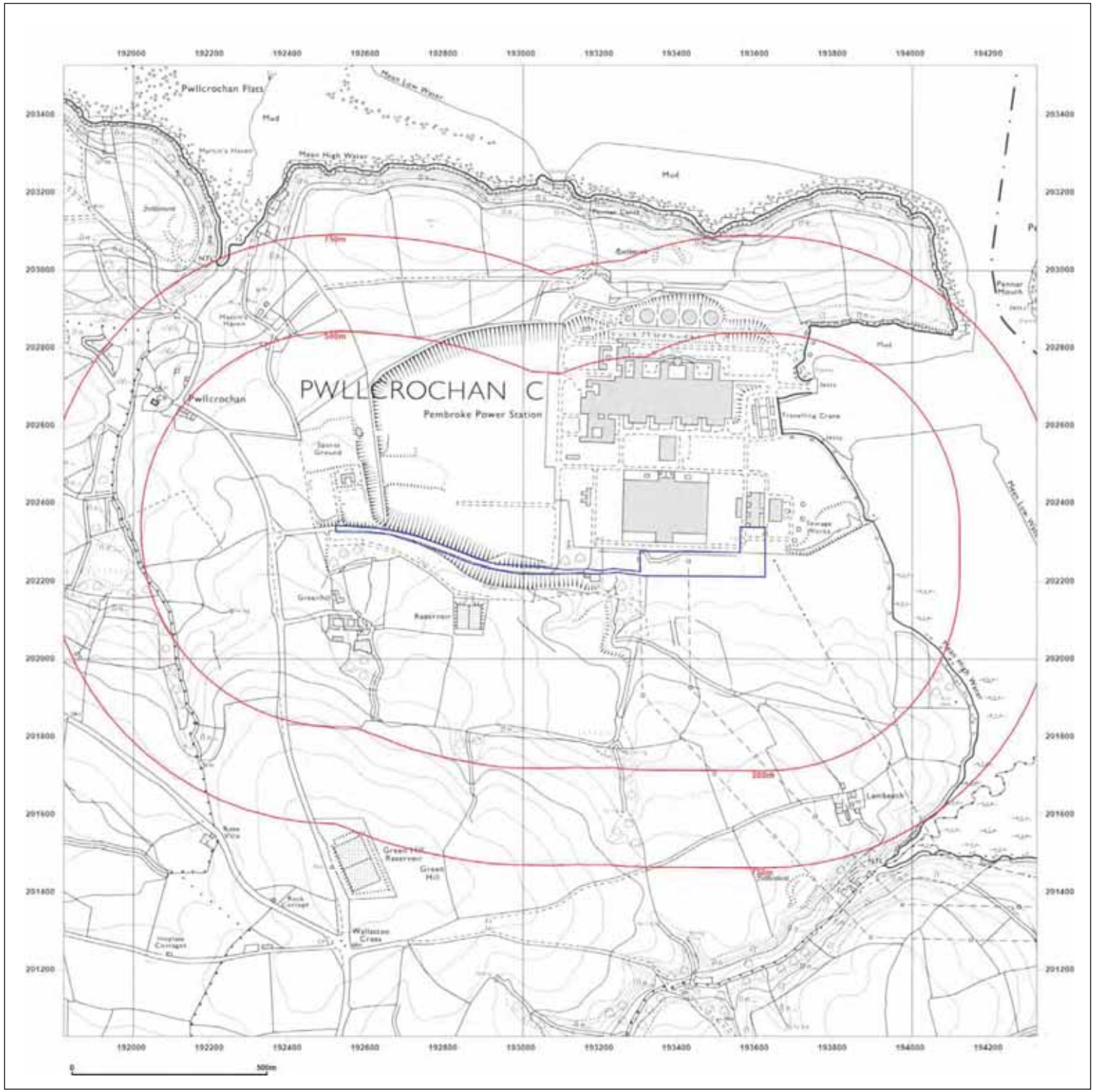
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: National Grid

Map date: **1976**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1976
Edition N/A
Copyright 1976
Levelled 1973

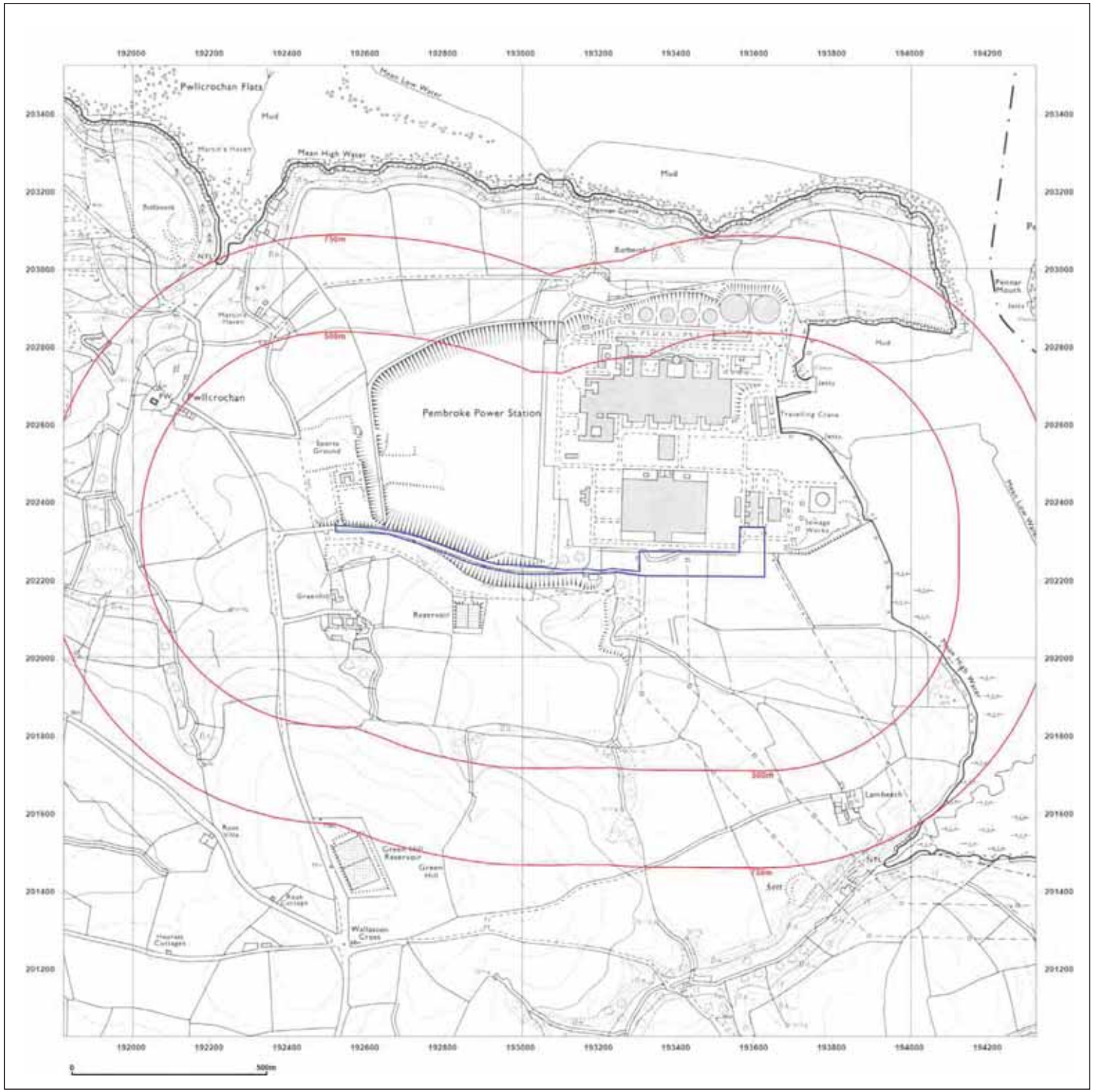
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: National Grid
Map date: 1994
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

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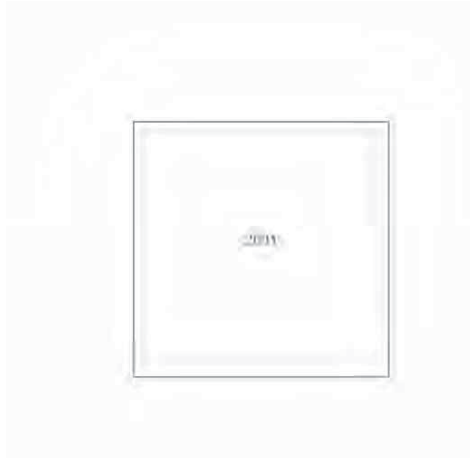
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Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



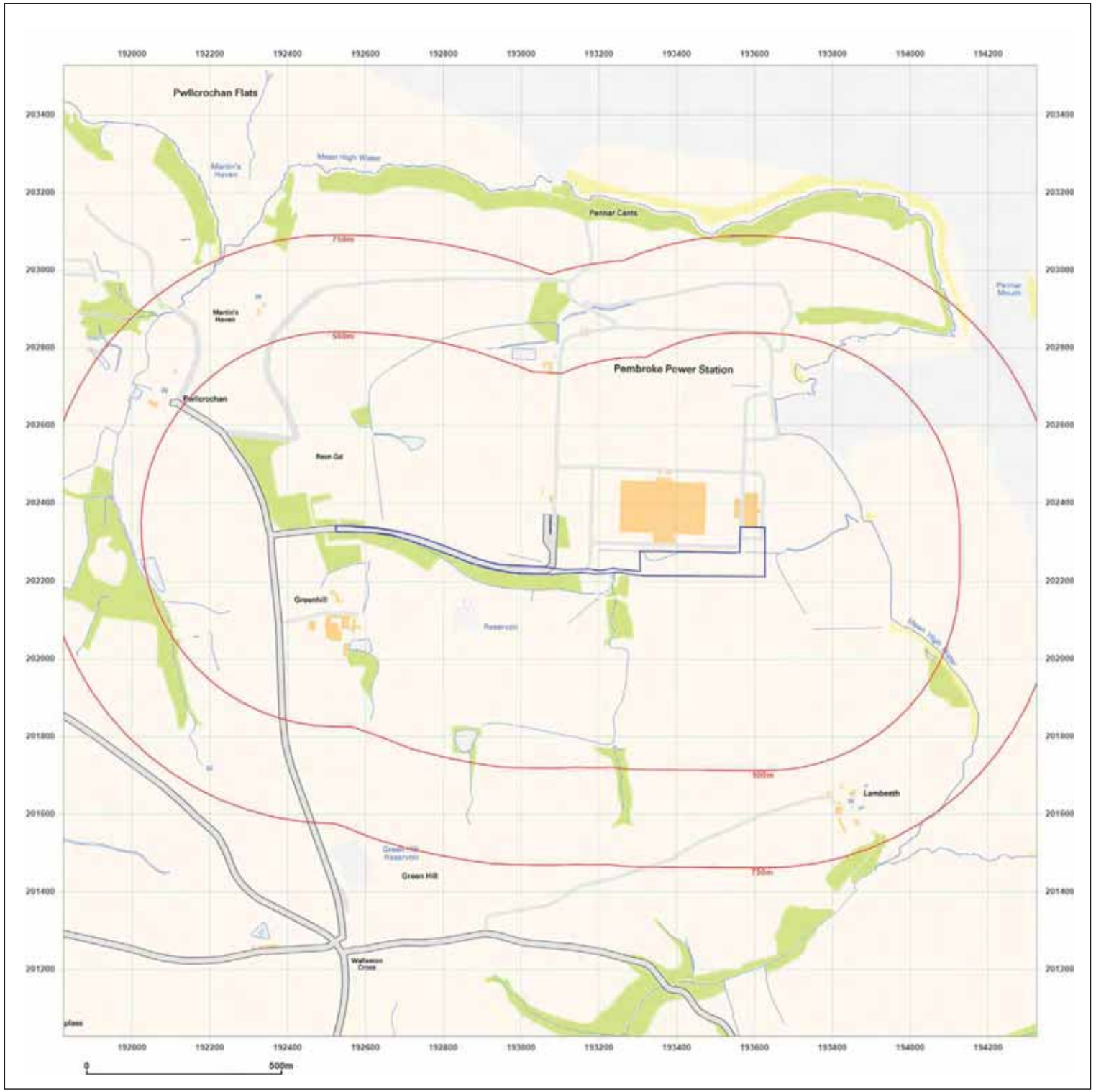
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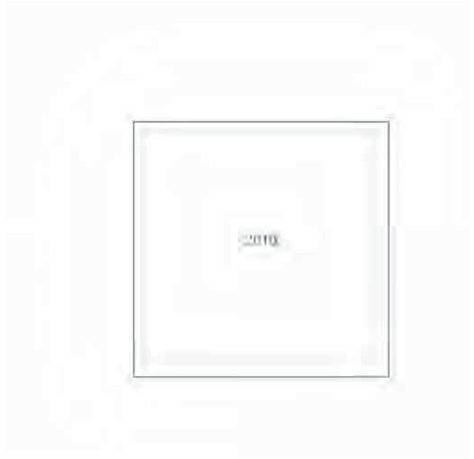
Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



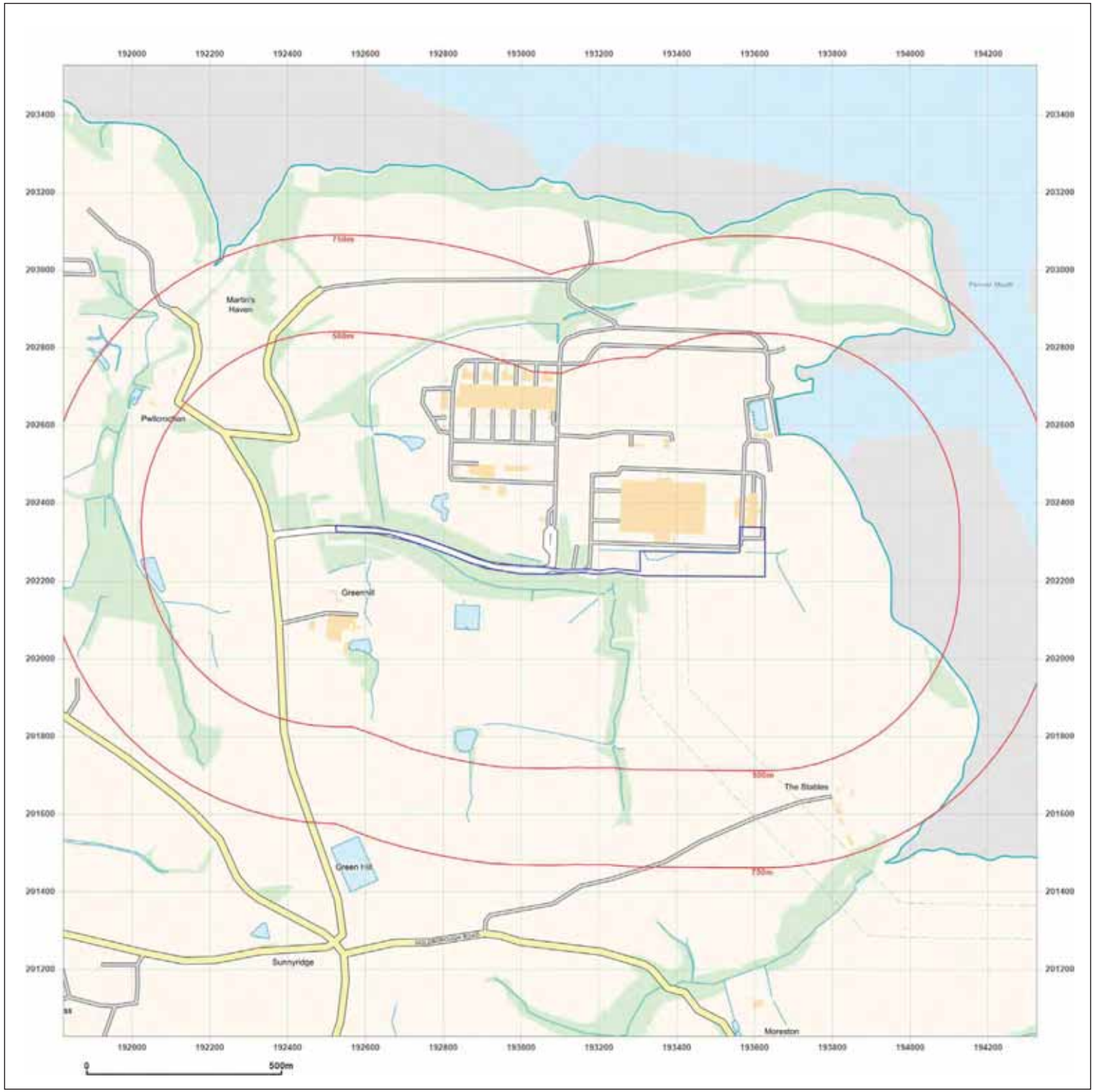
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Site Details:

193595 , 202286

Client Ref: JFR2786_Battery_and_SC_PO22-829
Report Ref: GS-8873317
Grid Ref: 193075, 202277

Map Name: National Grid
Map date: 2022
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



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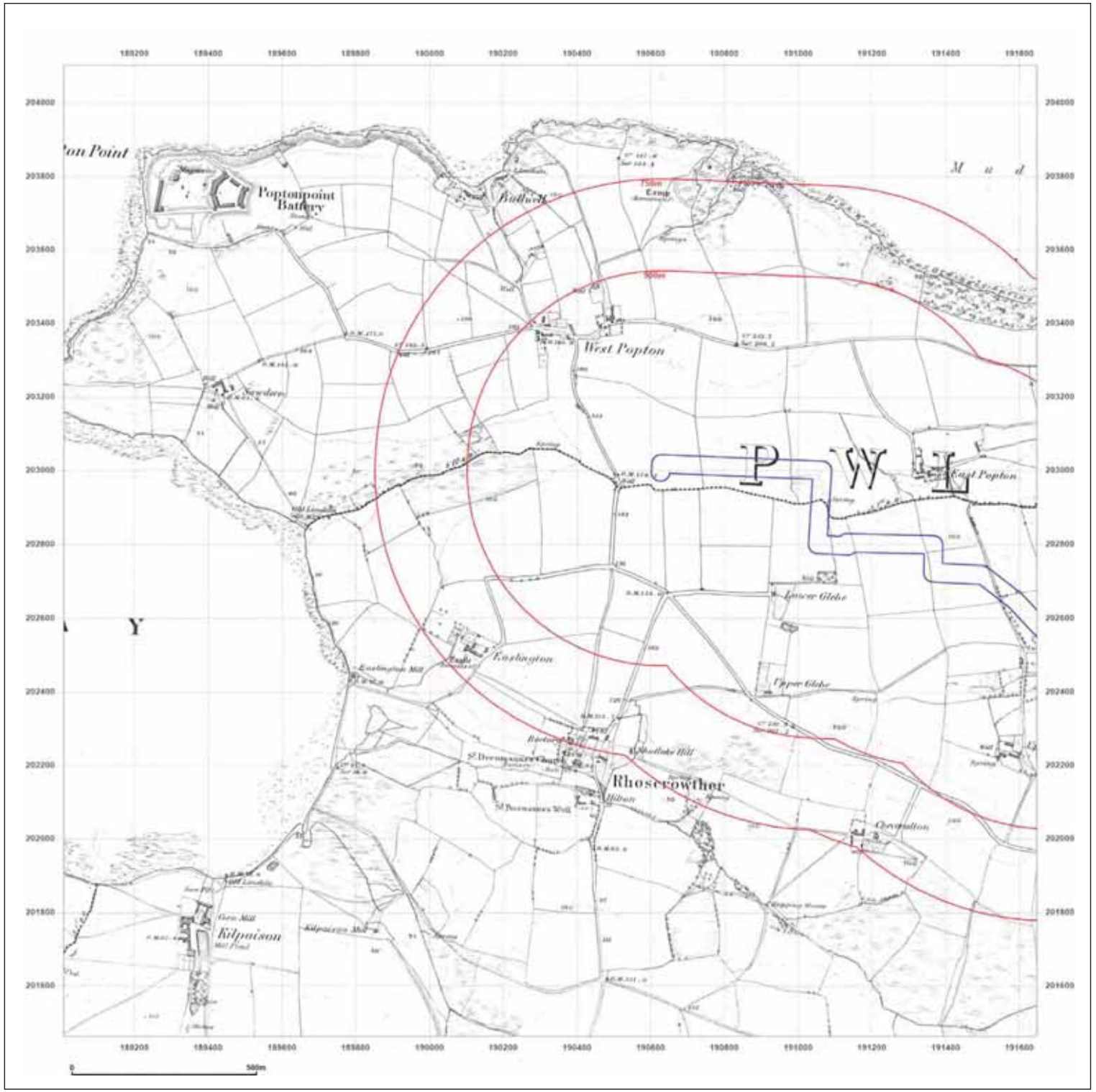
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HYDROGEN PIPELINE



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Site Details:

JFR2786 RWE Pembroke

Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: County Series
Map date: 1864
Scale: 1:10,560
Printed at: 1:10,560

N W E S

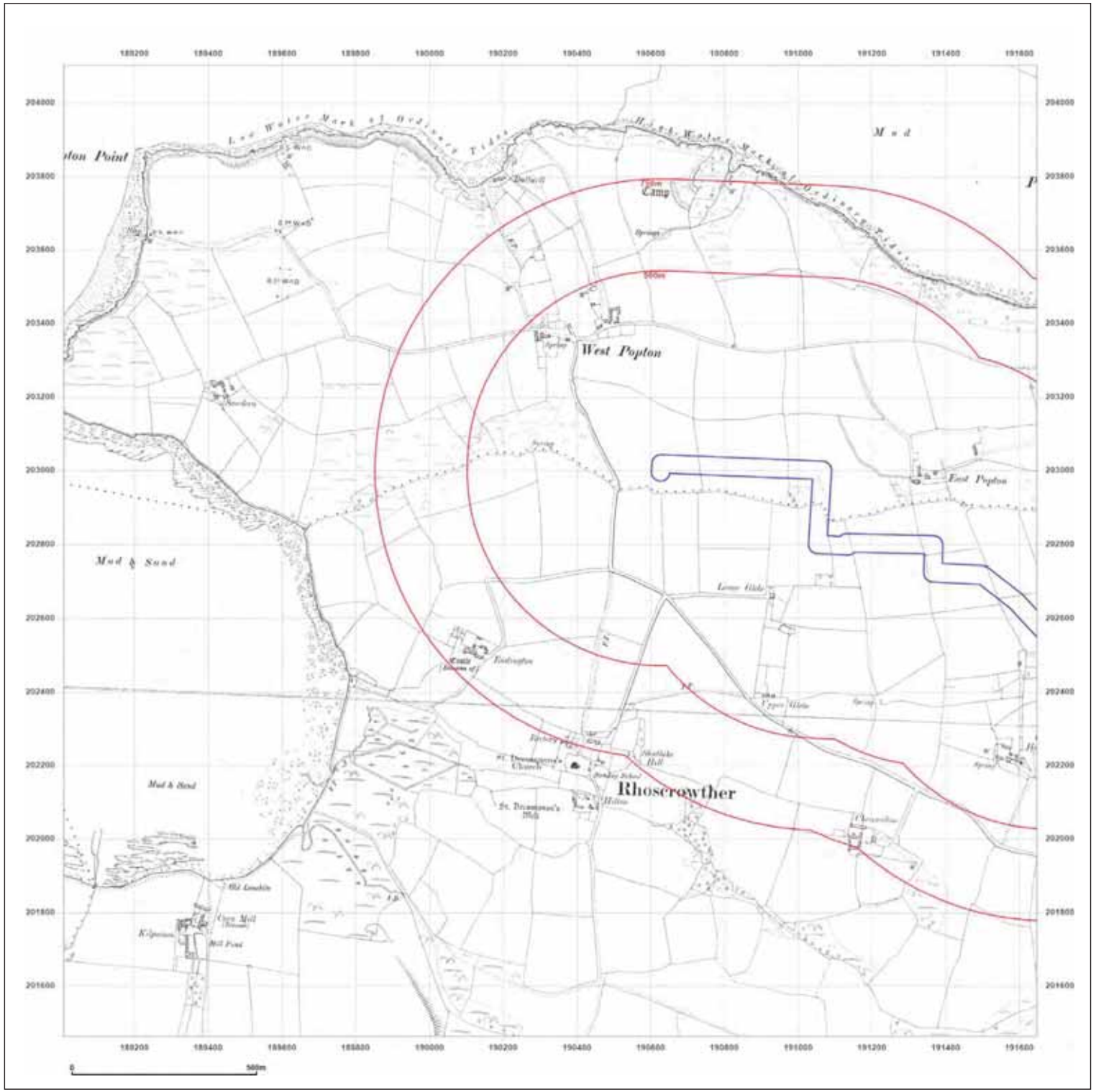
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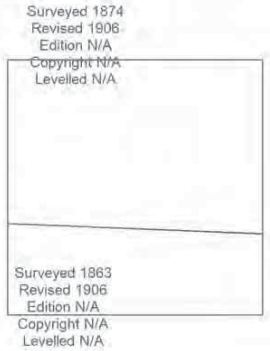
Site Details:

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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: County Series
Map date: 1906
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



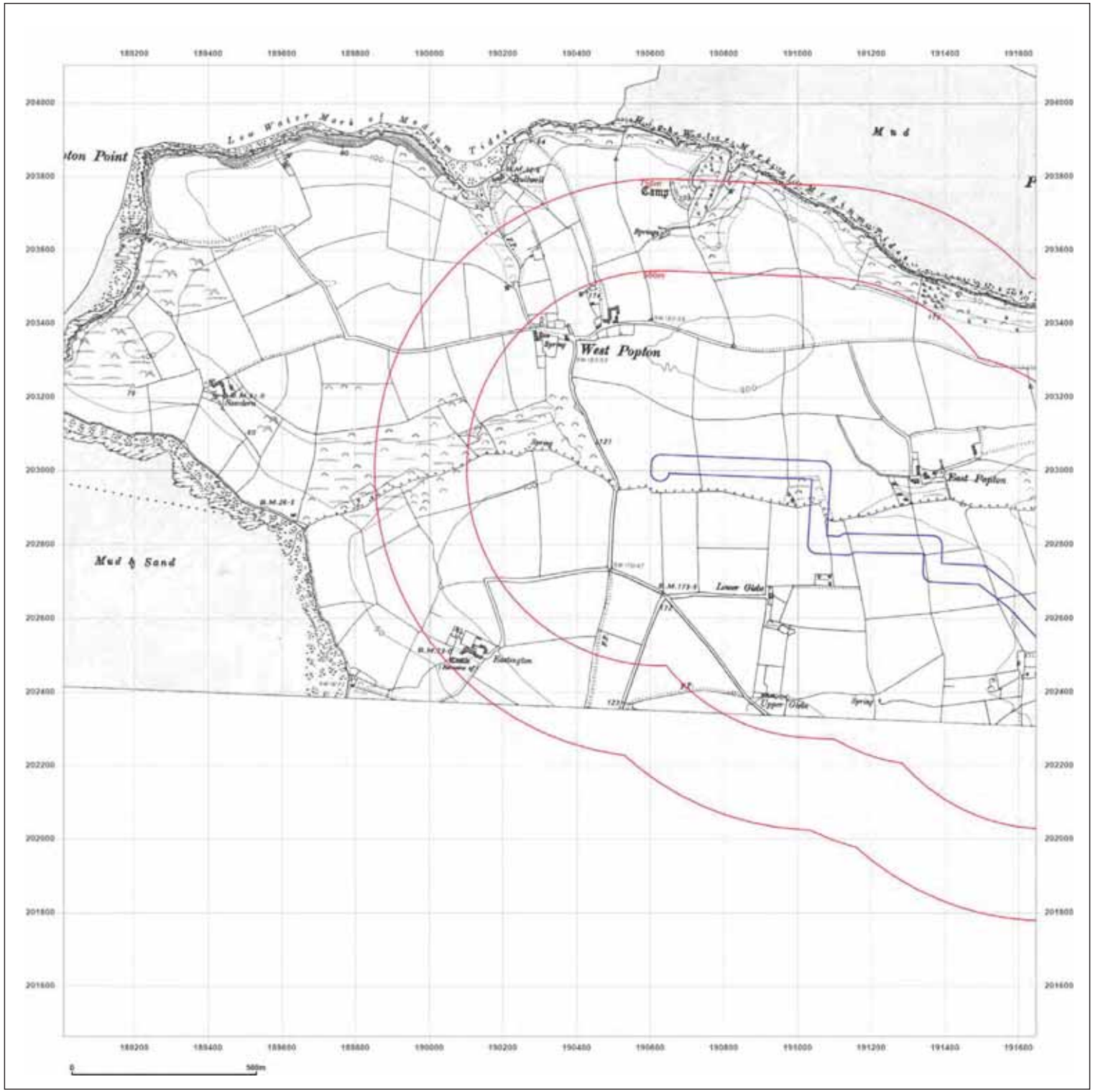
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Production date: 07 July 2022

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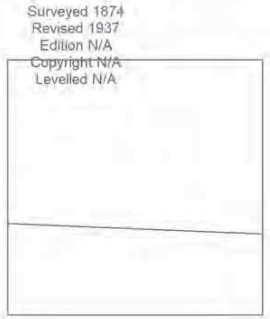
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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: County Series
Map date: **1937**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



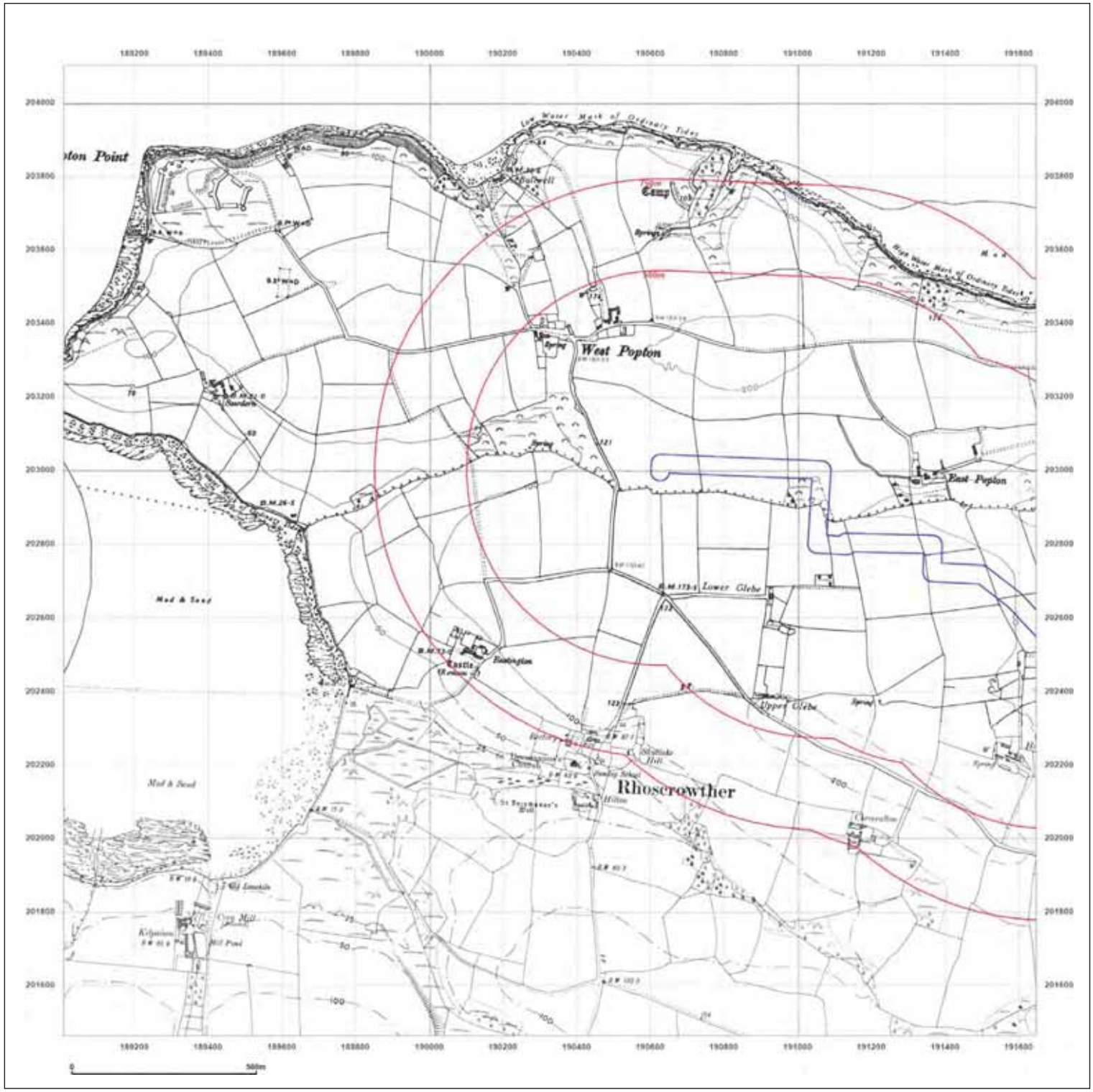
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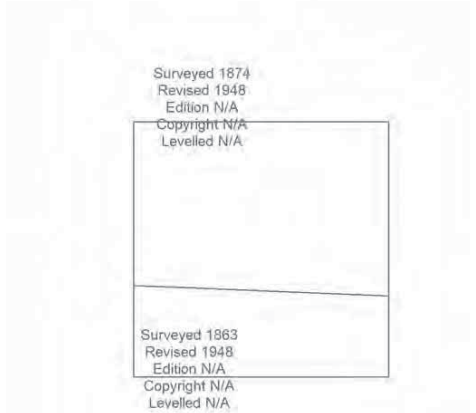
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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: County Series
Map date: 1948
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



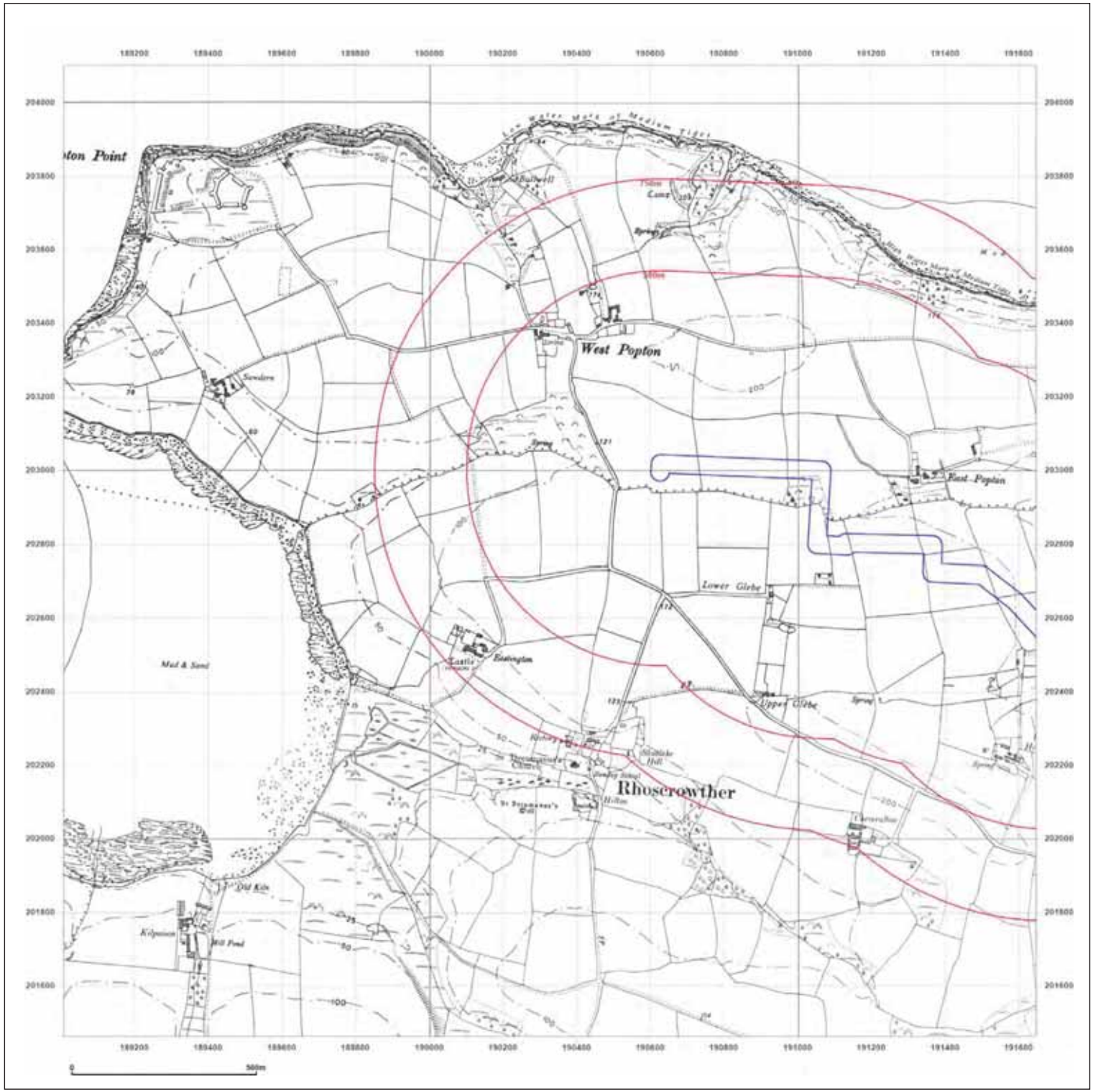
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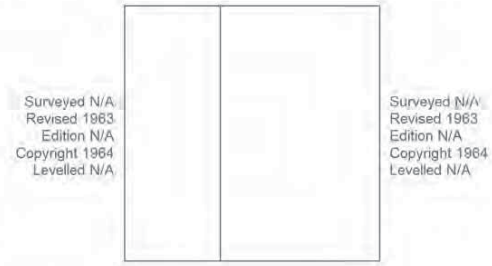
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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: Provisional
Map date: 1964
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



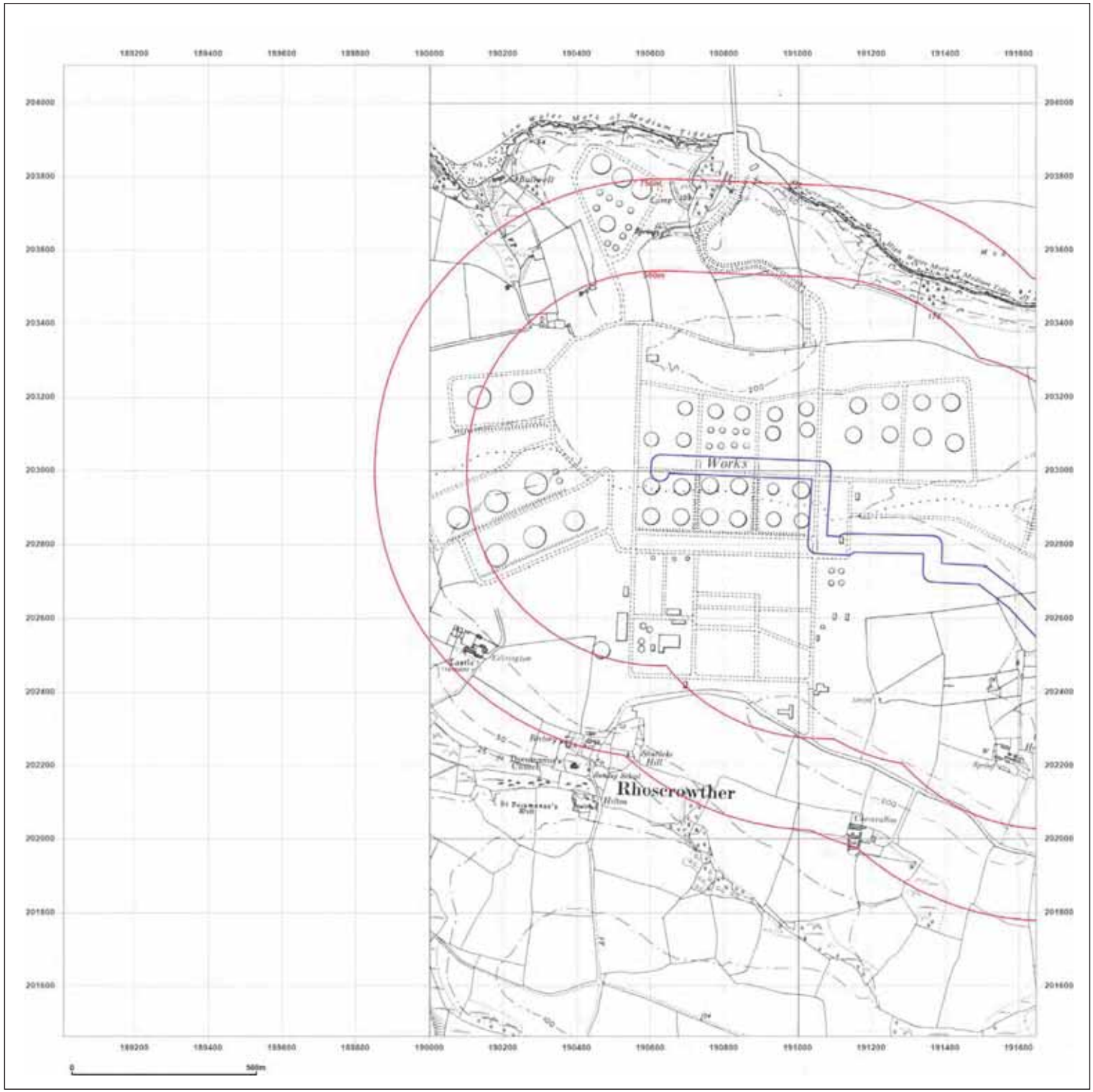
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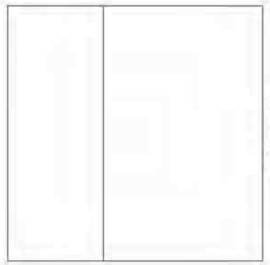
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JFR2786 RWE Pembroke

Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: Provisional
Map date: 1968
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



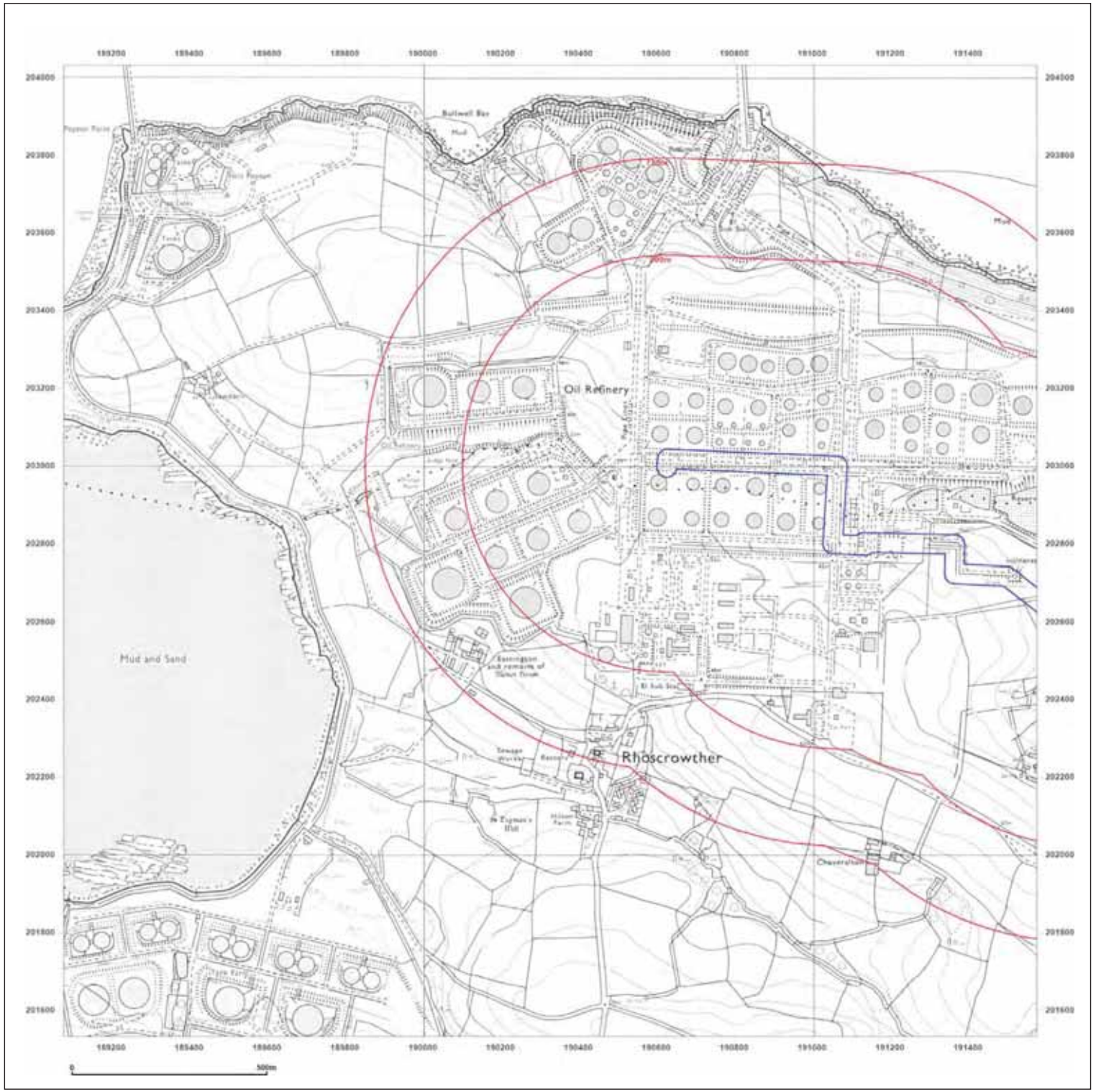
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Site Details:

JFR2786 RWE Pembroke

Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: National Grid
Map date: **1976-1977**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

Surveyed 1973
Revised 1977
Edition N/A
Copyright 1977
Levelled 1971

Surveyed 1974
Revised 1976
Edition N/A
Copyright 1976
Levelled 1973

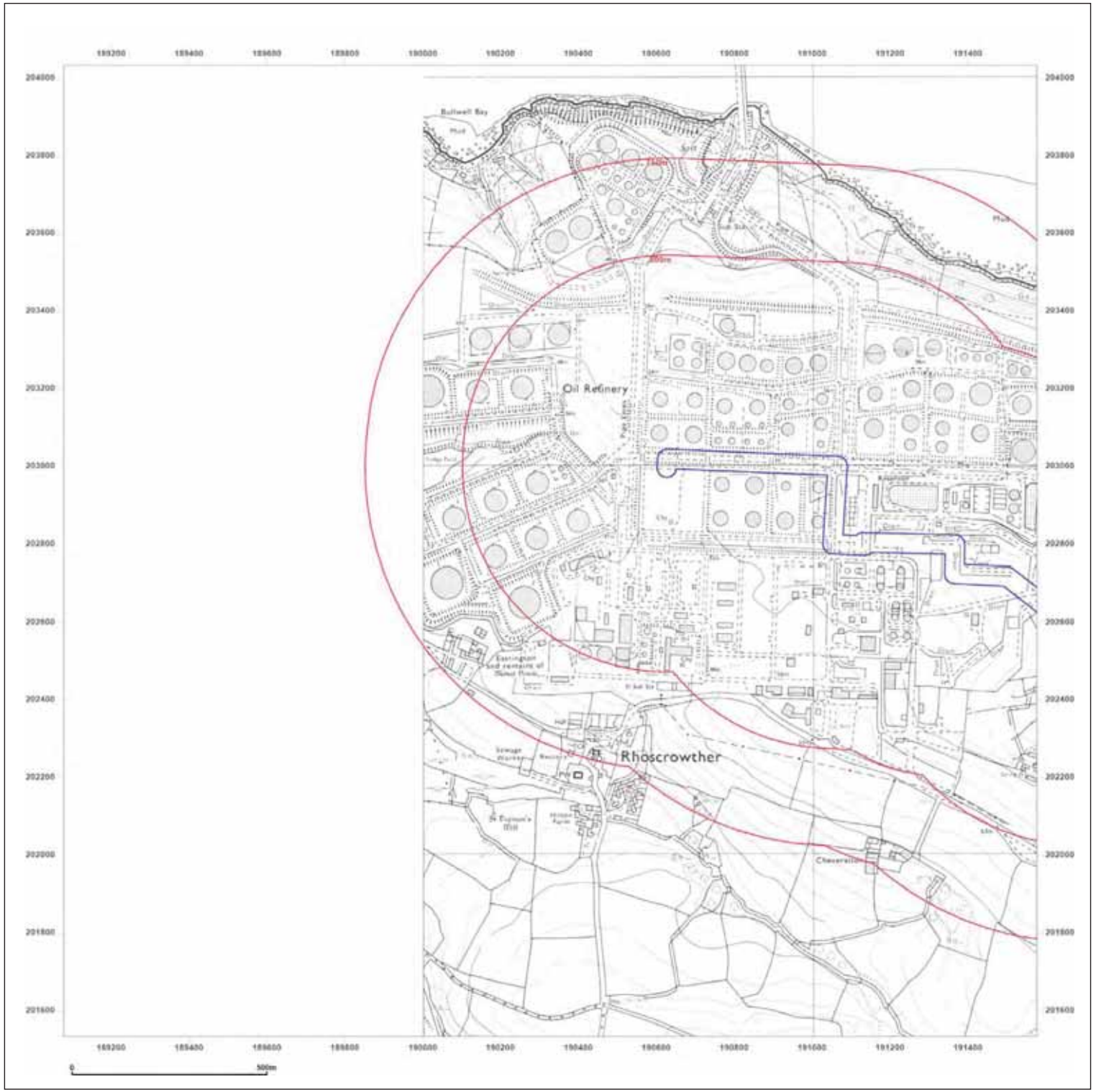
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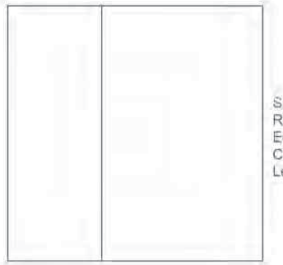
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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: National Grid
Map date: 1994
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



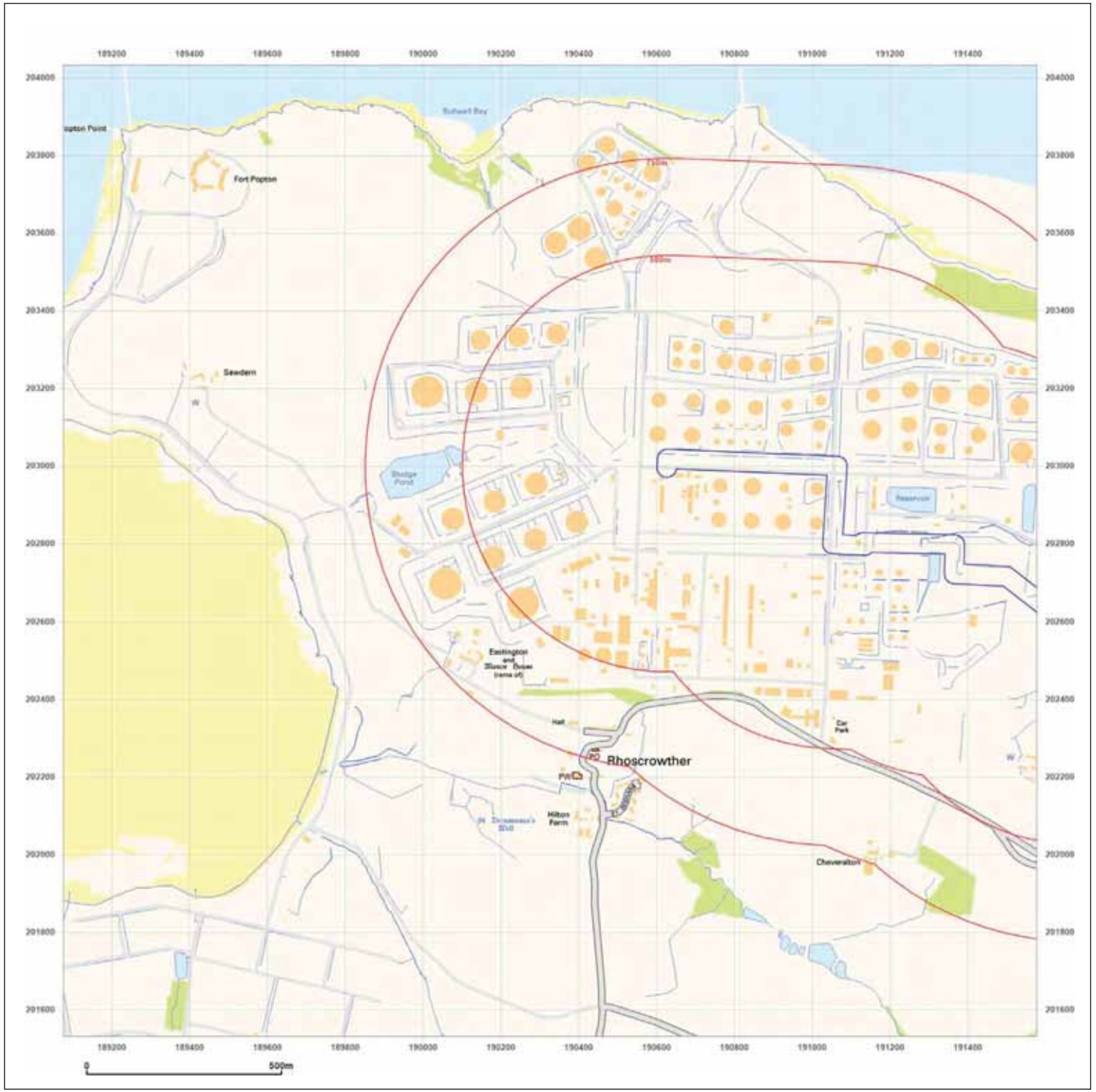
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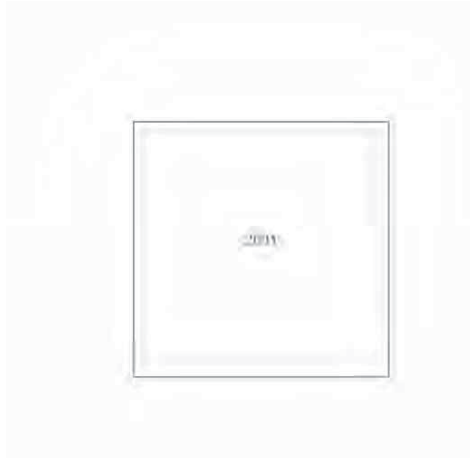
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Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

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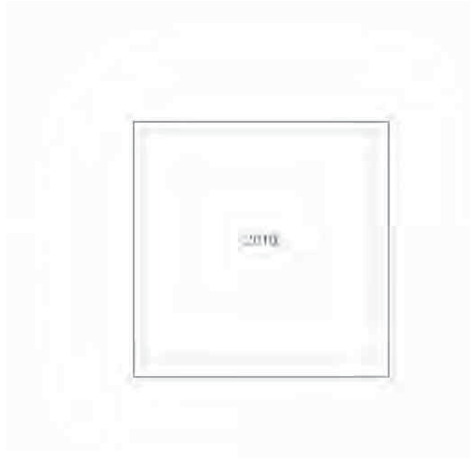
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Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000

N
W E
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Site Details:

JFR2786 RWE Pembroke

Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_1_1
Grid Ref: 190327, 202782

Map Name: National Grid
Map date: 2022
Scale: 1:10,000
Printed at: 1:10,000

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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_2_1
Grid Ref: 192827, 202782

Map Name: County Series
Map date: 1864
Scale: 1:10,560
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Surveyed 1864
Revised 1864
Edition N/A
Copyright N/A
Levelled N/A

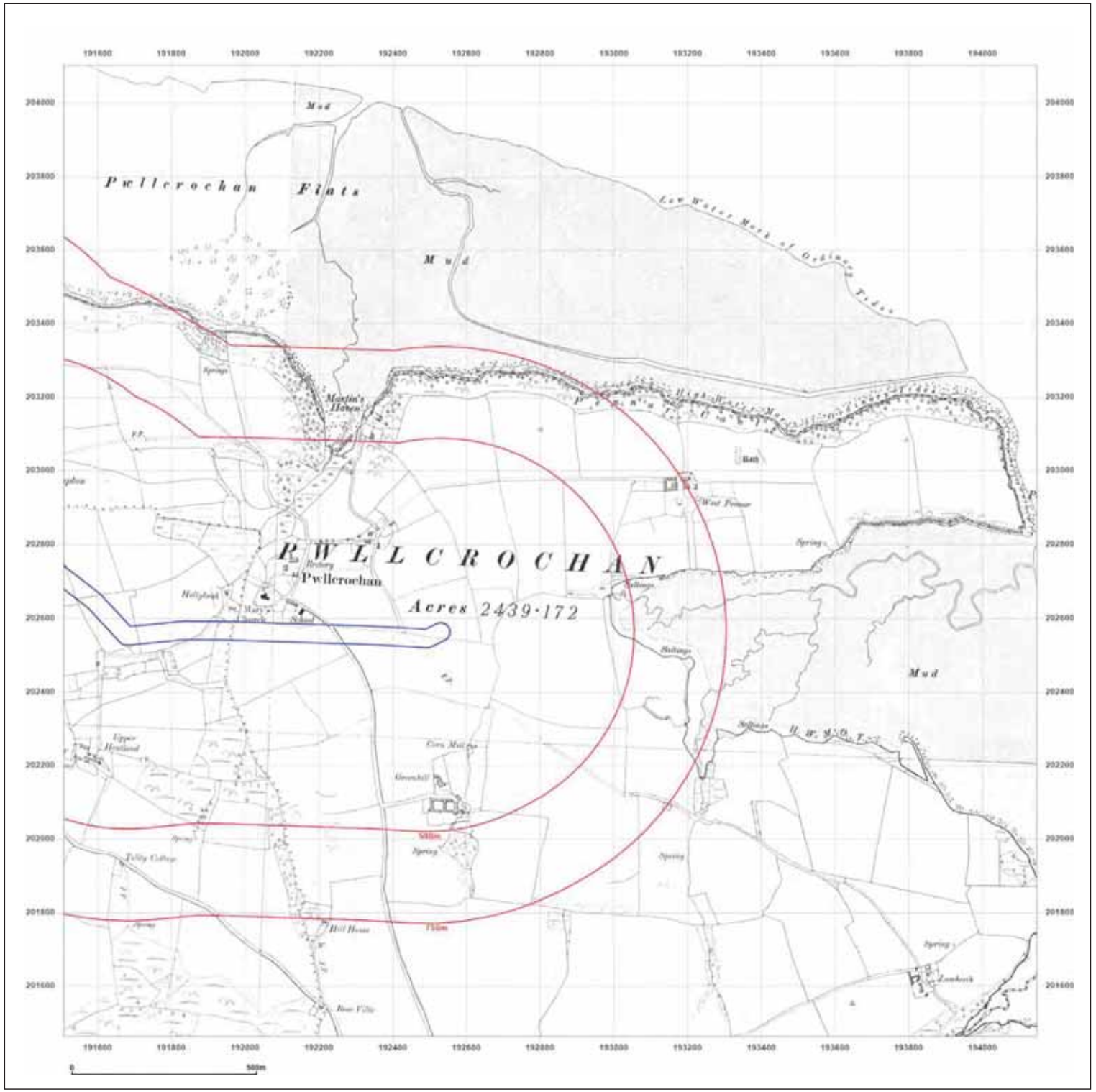
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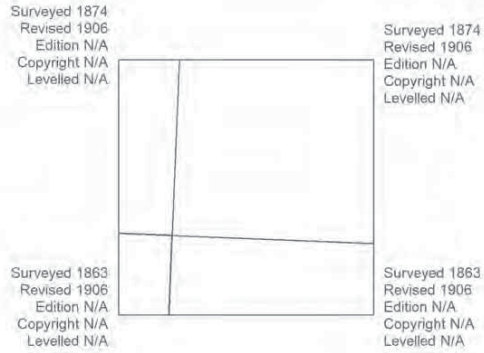
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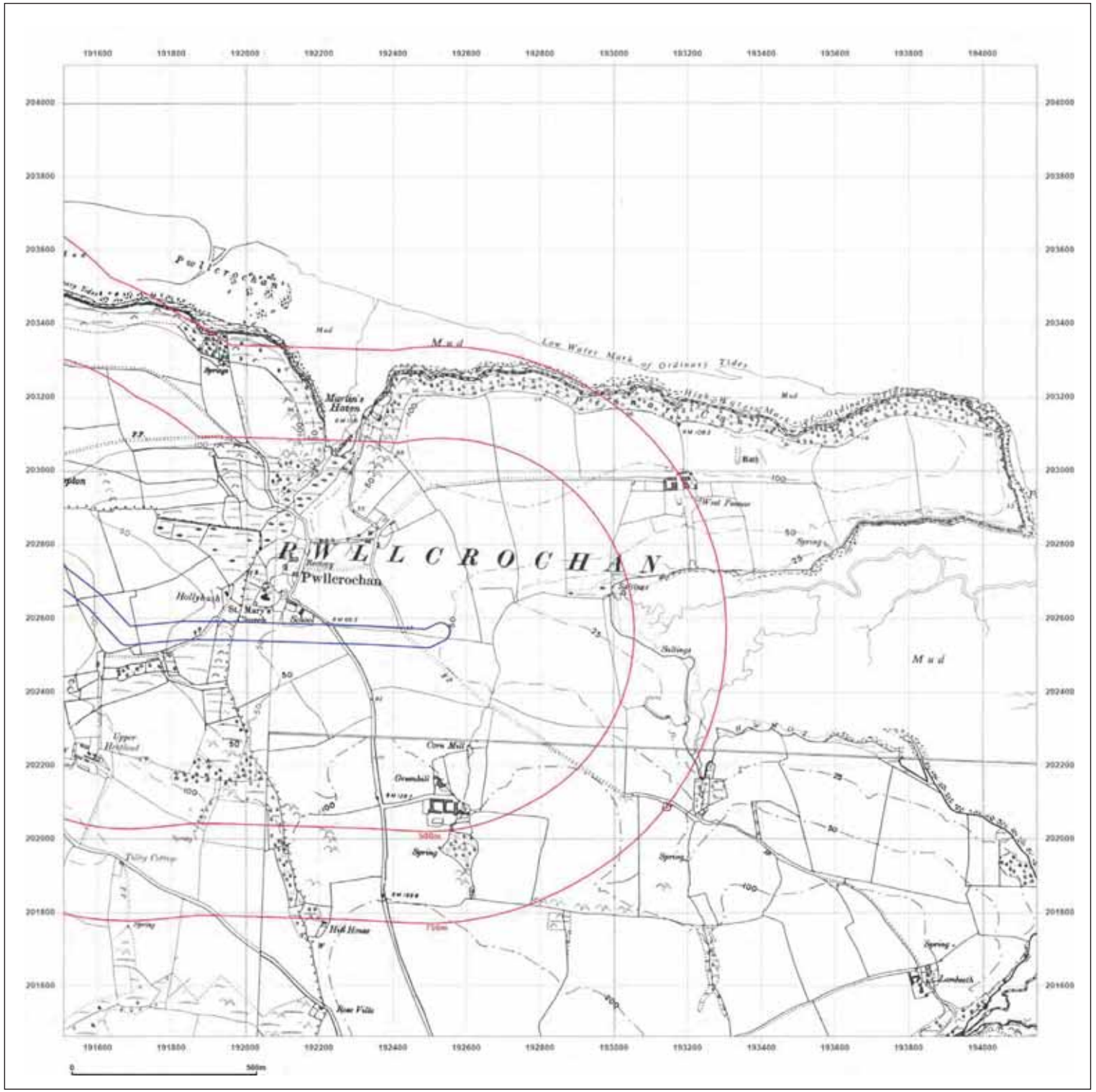
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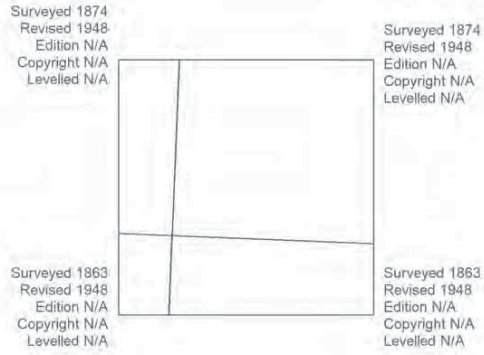
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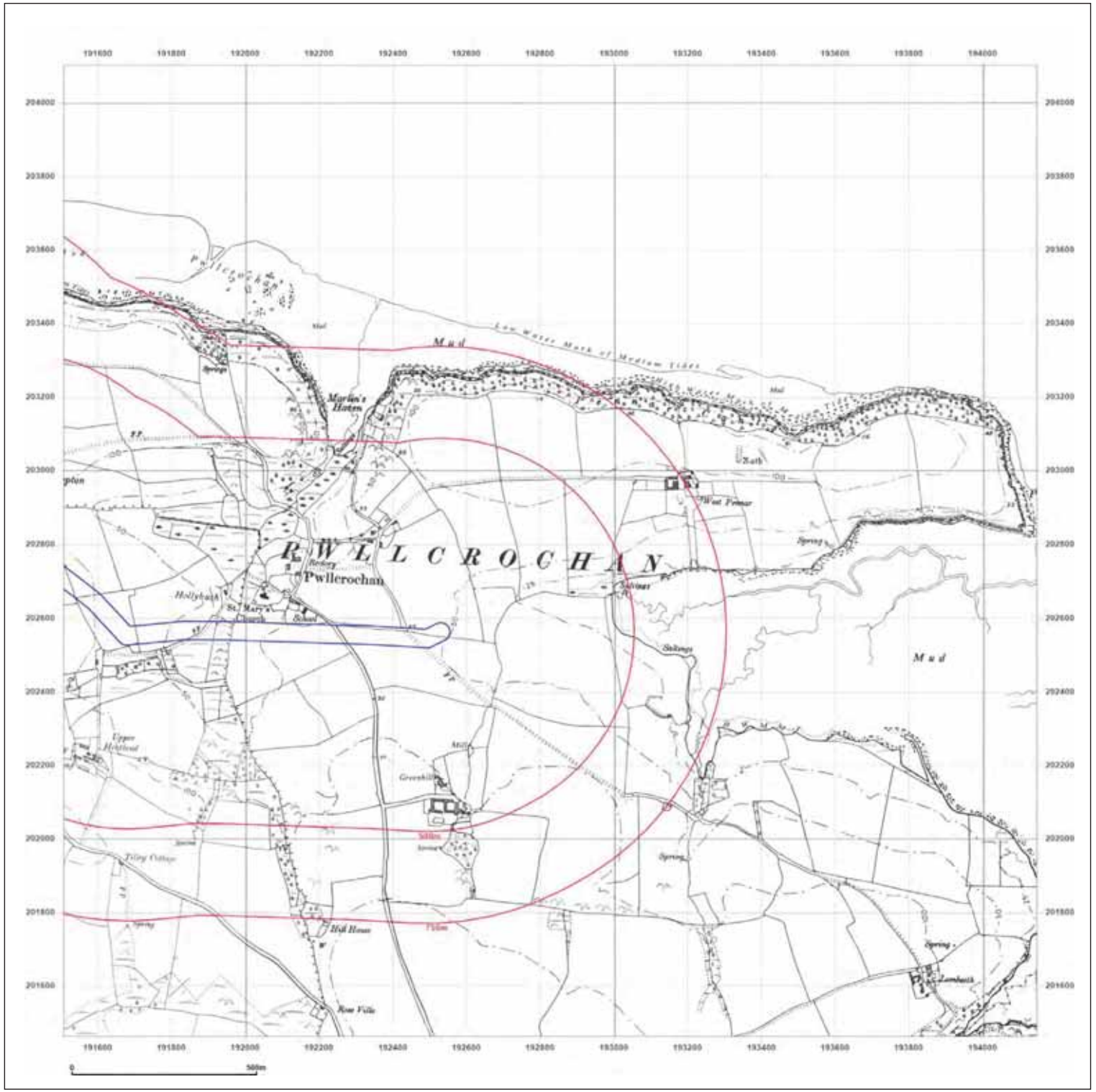
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Client Ref: JFR2786 RWE Pembroke
Report Ref: GSIP-2022-12844-10865_SS_2_1
Grid Ref: 192827, 202782

Map Name: Provisional
Map date: 1964
Scale: 1:10,560
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Surveyed N/A
Revised 1963
Edition N/A
Copyright 1964
Levelled N/A

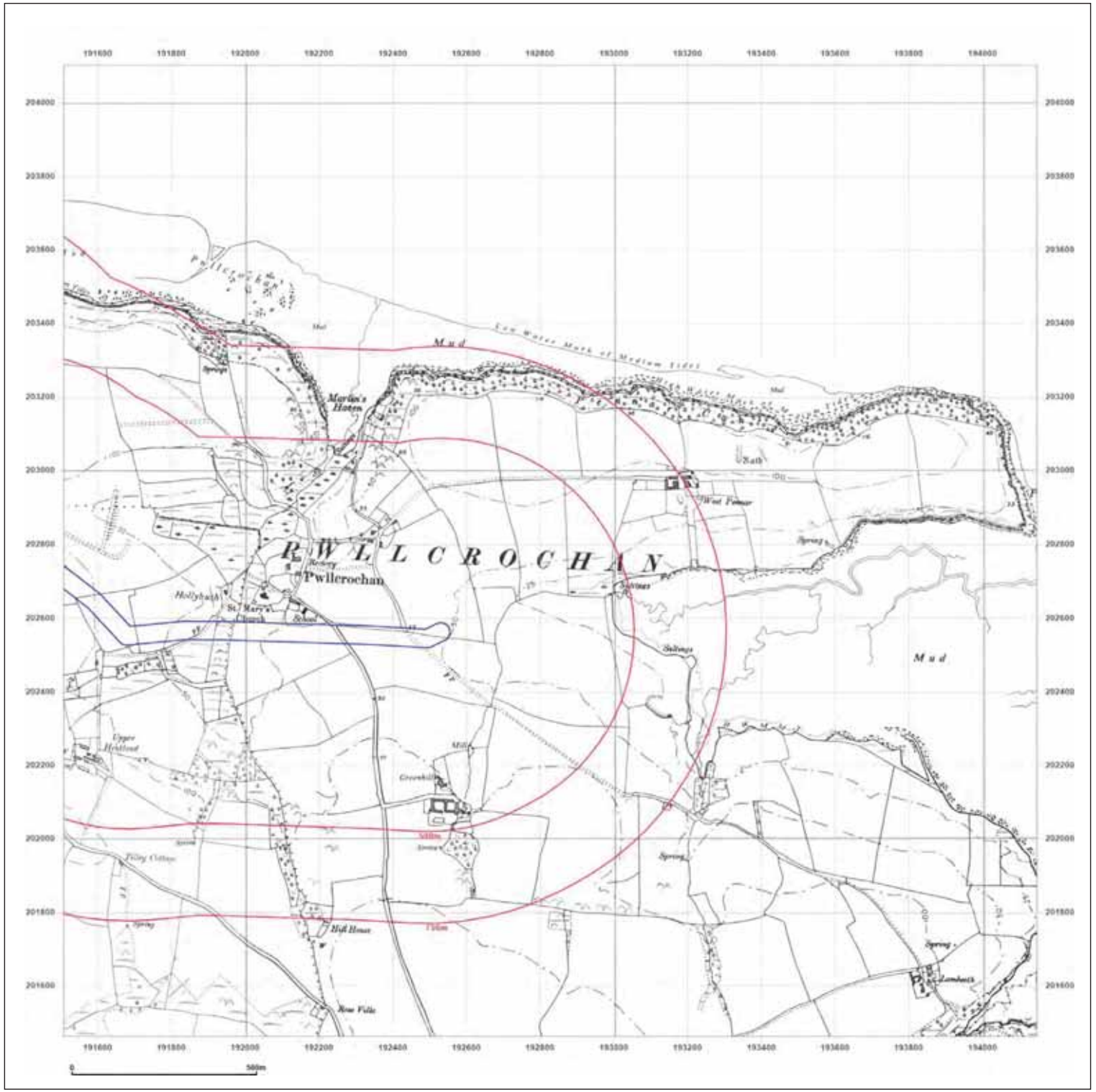
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Grid Ref: 192827, 202782

Map Name: Provisional
Map date: 1968
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Revised 1968
Edition 1968
Copyright 1964
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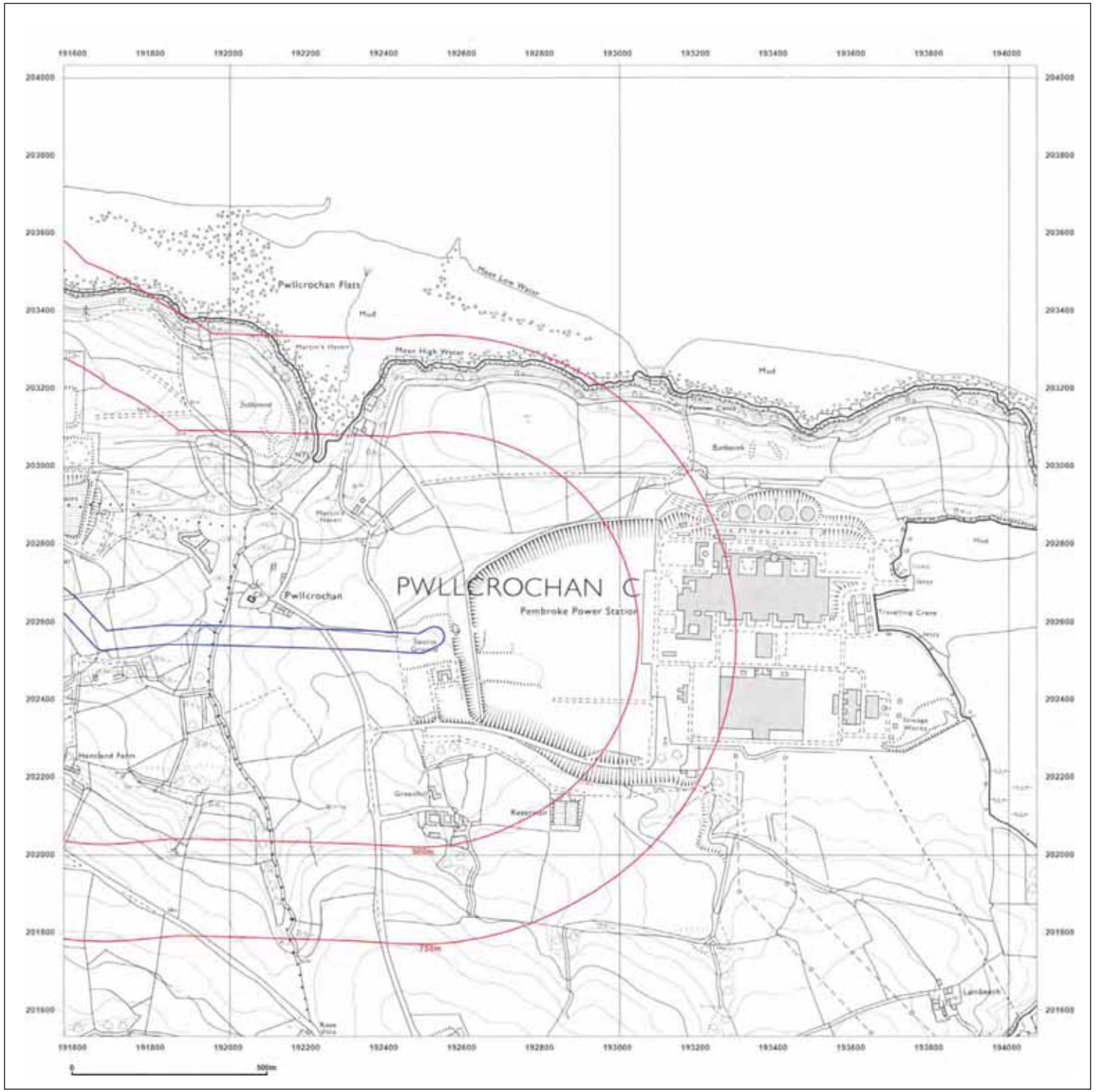
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Grid Ref: 192827, 202782

Map Name: National Grid
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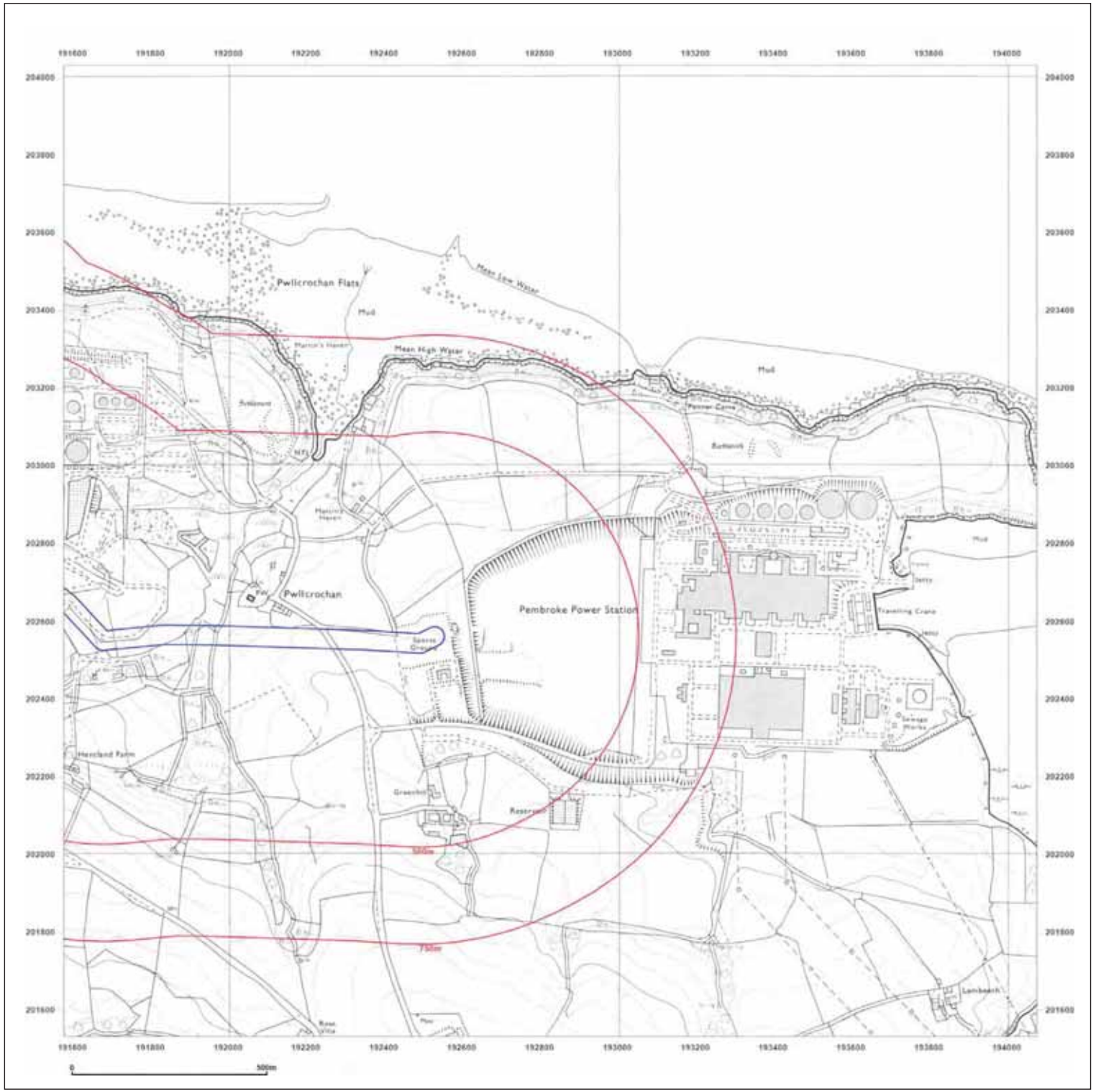
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Grid Ref: 192827, 202782

Map Name: National Grid
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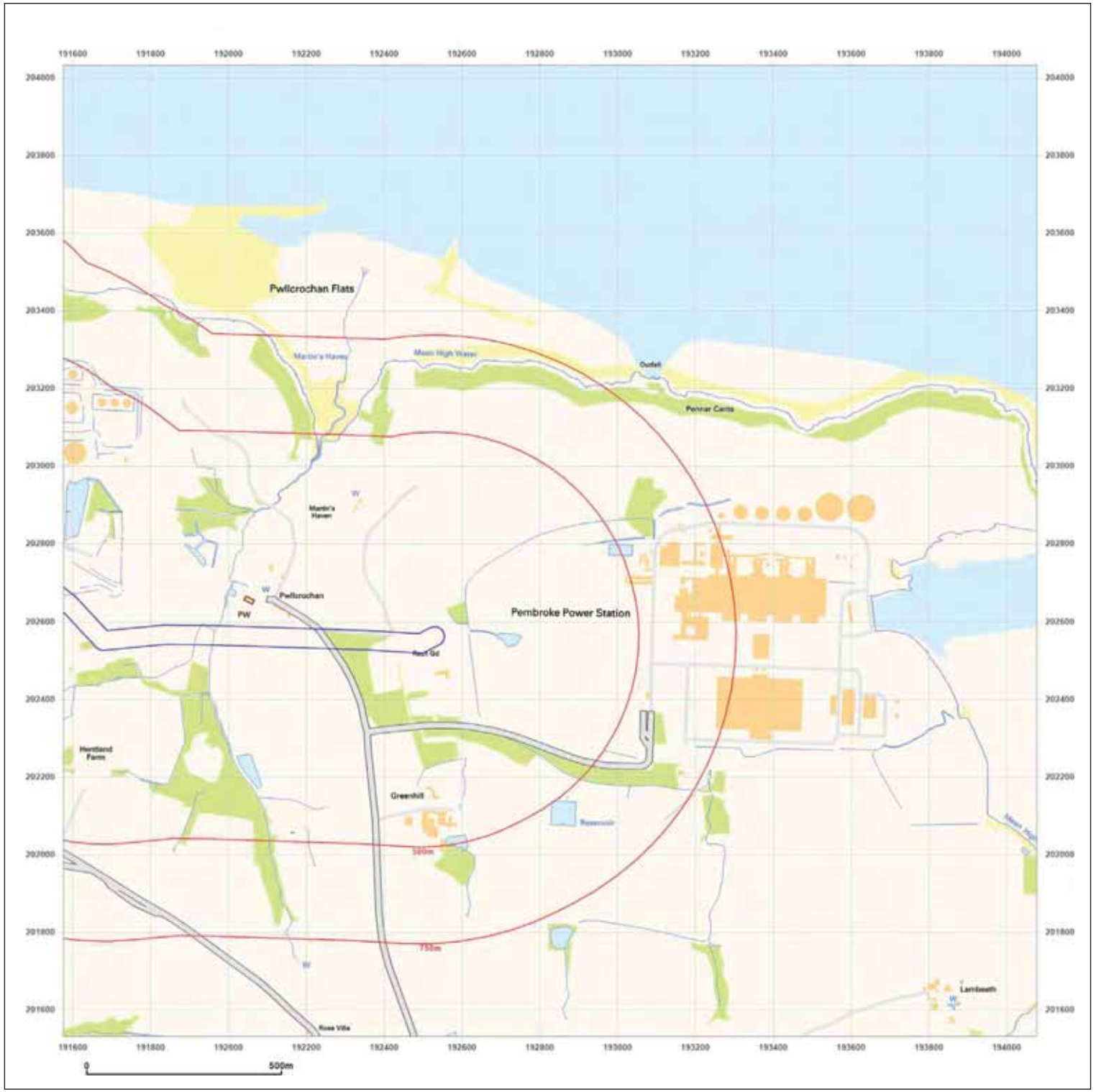
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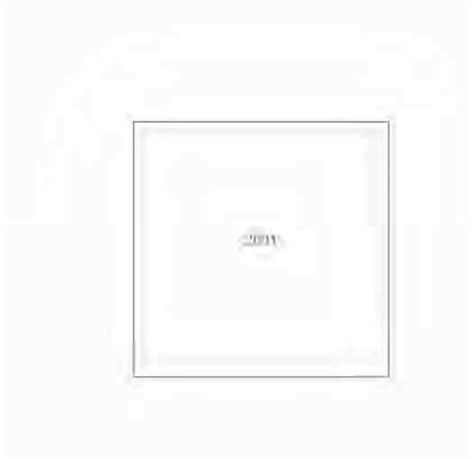
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Map Name: National Grid
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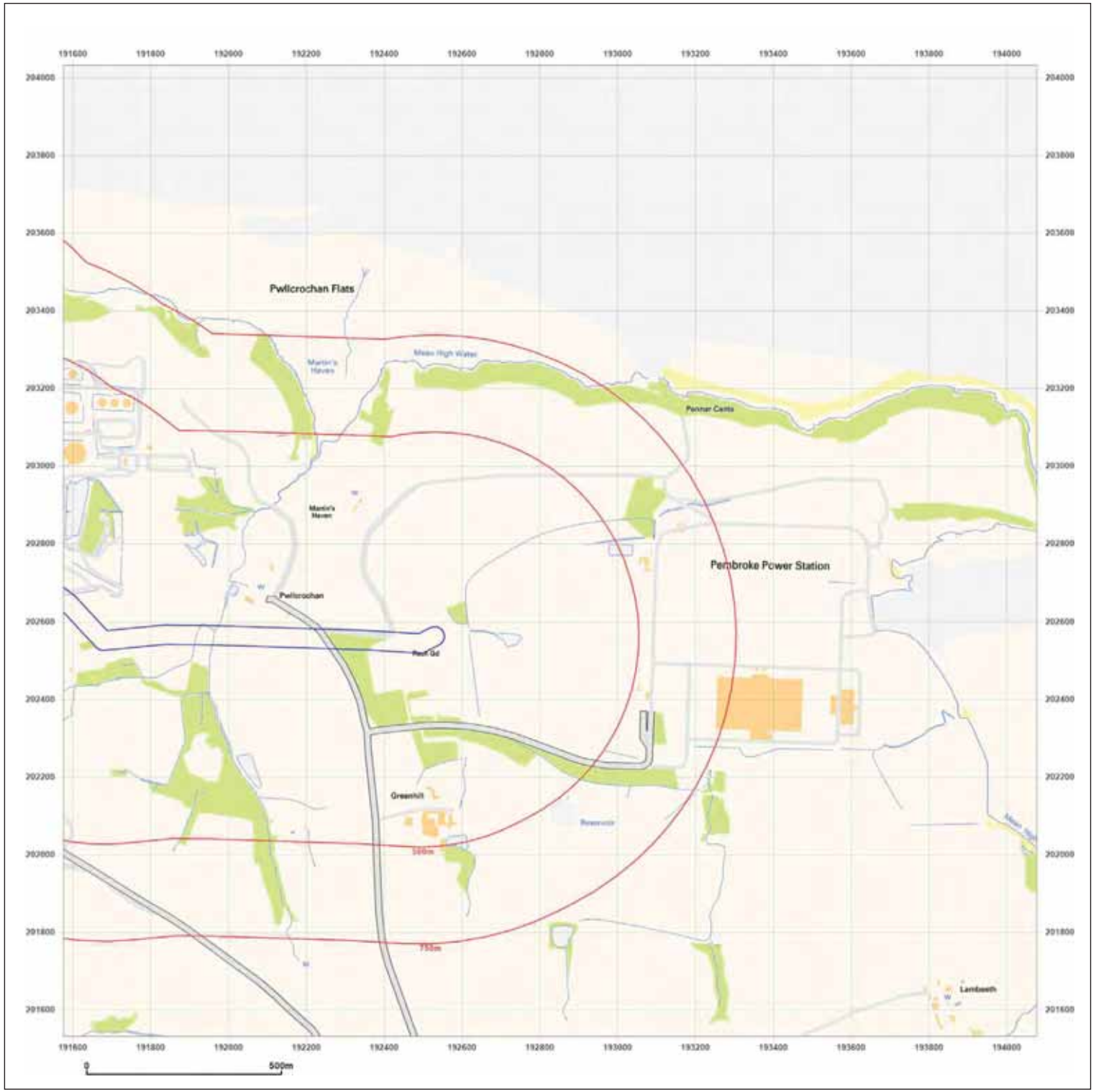
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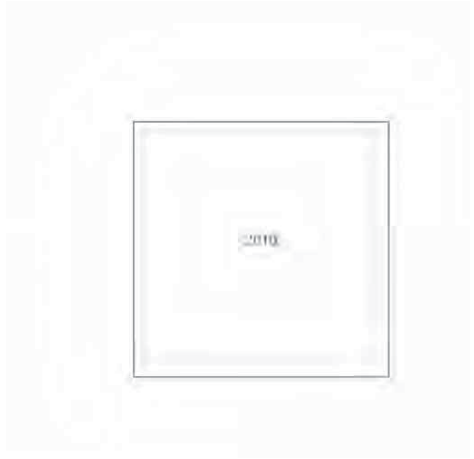
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Map Name: National Grid
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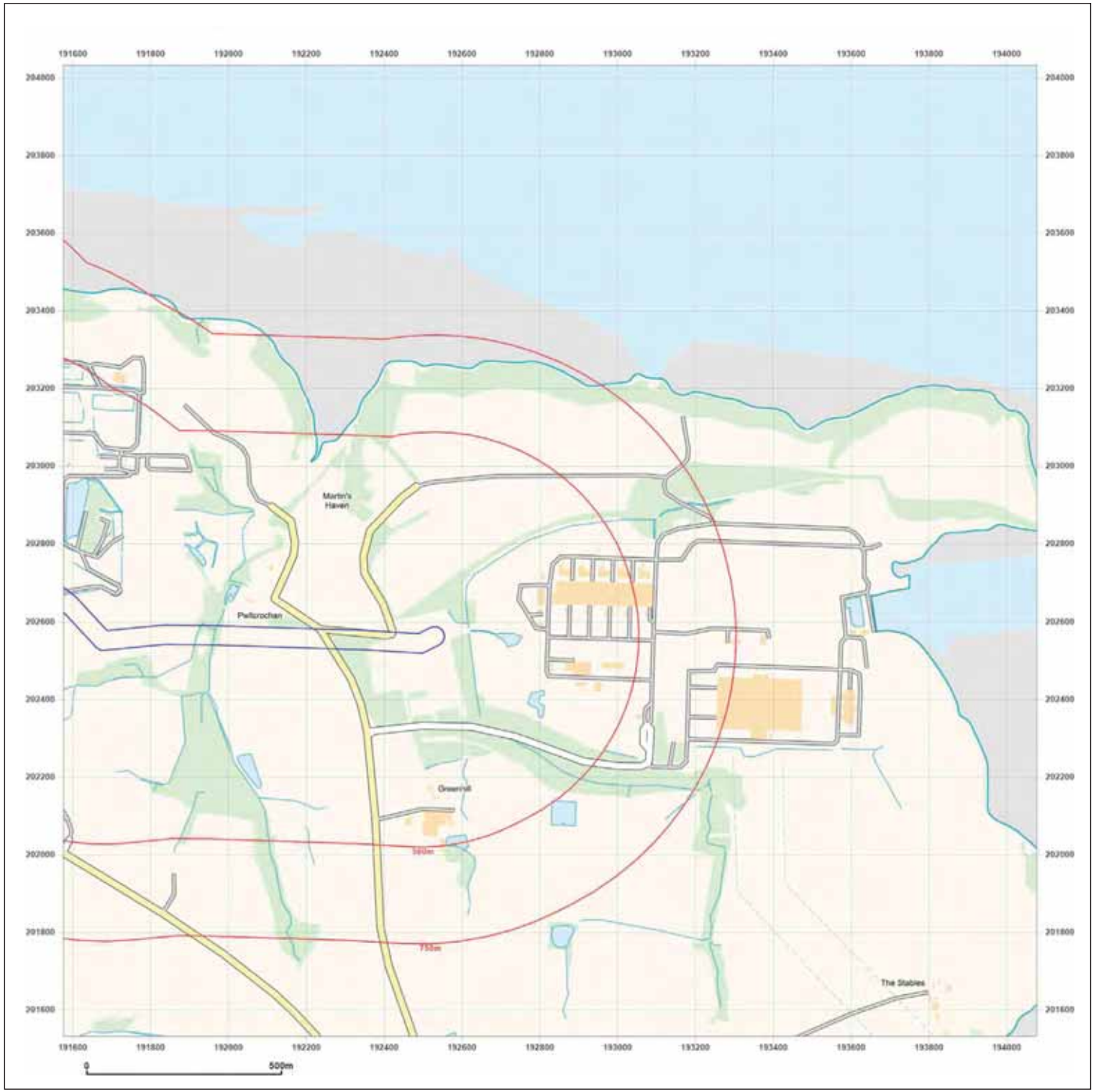
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Grid Ref: 192827, 202782

Map Name: National Grid
Map date: 2022
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Appendix E
PART 2A (THE CONTAMINATED LAND REGIME)

Contaminated Land Definition

Under Section 57 of the Environmental Act 1995, Part 2A was inserted into the Environmental Protection Act 1990 to include provisions for the management of contaminated land.

Subsequent regulations were first implemented in England in April 2000, Scotland in July 2000 and Wales in July 2001[1], providing a definition of 'contaminated land' and setting out the nature of liabilities that can be incurred by owners of contaminated land and groundwater.

According to the Act, contaminated land is defined as 'any land which appears to the local authority in whose area the land is situated to be in such a condition, by reason of substances in, on or under the land that:

- *significant harm* is being caused or there is a *significant possibility* of such harm being caused; or
- *significant pollution* of controlled waters[2] is being caused or there is a significant possibility of such pollution being caused[3]'

The guidance on determining whether a particular possibility is significant is based on the principles of risk assessment and in particular on considerations of the magnitude or consequences of the different types of significant harm caused. The term 'possibility of significant harm being caused' should be taken, as referring to a measure of the probability, or frequency, of the occurrence of circumstances that could lead to significant harm being caused.

The following situations are defined where harm is to be regarded as significant:

- Chronic or acute toxic effect, serious injury or death to humans
- Irreversible or other adverse harm to the ecological system
- Substantial damage to, or failure of, buildings
- Disease, other physical damage or death of livestock or crops
- The pollution of controlled waters[4].

With regard to radioactivity, contaminated land is defined as 'any land which appears to be in such a condition, by reason of substances in, on or under the land that harm is being caused, or there is a *significant possibility of such harm being caused*[5]'.

The Risk Assessment Methodology

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected with the hazard via one or several exposure pathways (e.g. the pathway of direct contact). Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three

[1] In England by The Contaminated Land (England) Regulations 2000, updated by The Contaminated Land (England) (Amendment) Regulations 2012; in Scotland by The Contaminated Land (Scotland) Regulations 2000, updated by the Contaminated Land (Scotland) Regulations 2005; and in Wales by The Contaminated Land (Wales) Regulations 2001, updated by the Contaminated Land (Wales) Regulations 2006.

[2] In Scotland the term "controlled water" has been updated to "water environment" under the Contaminated Land (Scotland) Regulations 2005 in line with the Water Environment and Water Services (Scotland) Act 2003.

[3] The definition was amended in 2012 by implementation of the Water Act 2003.

[4] Groundwater in this context does not include waters within underground strata but above the saturated zone.

[5] The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006 and Contaminated Land (Wales) Regulations 2006.

essential components of a source (hazard), pathway and receptor, there can be no risk. Thus, the mere presence of a hazard at a site does not mean that there will necessarily be attendant risks.

The Risk Assessment

By considering where a viable pathway exists which connects a source with a receptor, this assessment will identify where pollutant linkages may exist. A pollutant linkage is the term used by the DEFRA in their standard procedure on risk assessment. If there is no pollutant linkage, then there is no risk. Therefore, only where a viable pollutant linkage is established does this assessment go on to consider the level of risk. Risk should be based on a consideration of both:

4 The likelihood of an event (probability) - takes into account both the presence of the hazard and receptor and the integrity of the pathway.

5 The severity of the potential consequence - takes into account both the potential severity of the hazard and the sensitivity of the receptor.

For further information please see the Contaminated Land section on the DEFRA website (www.defra.gov.uk).

PHASE 1 PRELIMINARY RISK ASSESSMENT

RWE Pemebroke

2022-07-05

JFR2786

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