



## **DOCUMENT CONTROL**

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## Flemings Hall Barn, Hall Road, Bedingfield, IP23 7LJ



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#### **EXECUTIVE SUMMARY**

Site Name & Address:	Flemings Hall Barn, Hall Road, Bedingfield, IP23 7LJ	
Client:	Brown & Co	
Local Planning Authority:	Mid Suffolk District Council	
Historical Site Use:	Agricultural use	
Present Site Use:	Agricultural use	
Proposed Site Use:	Residential Dwelling	
Date of most recent investigation:	Tuesday, 23 August 2022 - Site walkover survey	

### **Objectives:**

- To develop an understanding of the site's history and environmental context;
- To determine the potential existence of any significant pollutant linkages which might represent a potential risk to construction workers, future occupants of the site or controlled waters; and
- To undertake a Stage I Preliminary 'Contaminated Land' investigation in accordance with LCRM and guidance contained in the NHBC Publication 66: 2008.

#### Source:

- Our desk-based research and walkover survey identified the following potential sources of contamination:
  - On-site: Storage of oil and chemical containers and machinery; suspected asbestos containing materials; evidence of fuel leaks; Made Ground identified during the site walkover; unspecified historic tanks.
  - Off-site (within 250m): Unspecified tanks; waste exemptions, infilled ponds.

#### Pathway:

- Based on the BGS online mapping, the site is likely to be underlain by superficial deposits of the Lowestoft Formation and bedrock geology of the Crag Group.
- Surface soils have a low leaching potential, with underlying strata permeability ranging from low to moderate for the Lowestoft Formation and high for the Crag Group.
- Hydrological reviews indicate the site is located within Source Protection Zone 3 (total catchment). A moat system is present approximately 40m to the north of the site. The site is located within Flood Zone 1 (negligible risk).

#### Receptor:

- The Lowestoft Formation is classified as a Secondary (undifferentiated) Aquifer and the Crag Group is classified as a Principal Aquifer. The vulnerability of these aquifers is identified as medium risk for the Lowestoft Formation and low for the Crag Group.
- We consider the potential on-site sources of contamination to represent a moderate to high risk to human health and moderate risk to groundwater.
- The potential risk from ground gas migrating onto the site, and affecting the proposed development is moderate.

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#### **Recommendations:**

Based on the information obtained and reviewed as part of this preliminary assessment, JPC Environmental Services would advise the following:

- We would recommend that a Stage I / Tier II Ground Investigation is undertaken across the development site. The investigation should comprise boreholes drilled using a dynamic sampling rig to a maximum depth of 5.00mbgl to determine the extent of Made Ground, whilst allowing the retrieval of selected soil samples for off-site laboratory analysis. We would recommend the following geochemical analysis:
  - CLEA metals;
  - Polycyclic Aromatic Hydrocarbons (including TPH CWG);
  - Petroleum Hydrocarbons;
  - Pesticides and herbicides;
  - o pH; and
  - o asbestos ID.
- We would also recommend a minimum of three combined ground gas and groundwater monitoring wells are installed during the investigation. This would enable a ground gas assessment to be completed, which would determine whether there is a risk to future site users from the nearby infilled pond. Groundwater monitoring should also be undertaken.

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#### 1 INTRODUCTION

#### 1.1 Brief

- 1.1.1 JPC Environmental Services were appointed by Brown & Co, to undertake a Stage I/ Tier I Geo-Environmental Desk Study Report for 'Flemings Hall Barn, Hall Road, Bedingfield, IP23 7LJ' (hereafter referred to as 'the site').
- 1.1.2 The investigation was carried out broadly in accordance with the following guidance:
  - Environment Agency (April 2021): Land Contamination Risk Management (LCRM);
  - Department for Environment, Food and Rural Affairs (2012): Contaminated Land Statutory Guidance, Environmental Protection Act 1990: Part IIA;
  - Ministry of Housing, Communities and Local Government. (July 2021): National Planning and Policy Framework; and
  - BS10175:2011 +A2:2017 "Investigation of Potentially Contaminated Sites Code of Practice".
- 1.1.3 This report shall be for the private and confidential use of Brown & Co for whom it was undertaken. It should not be reproduced in whole or in part, or relied upon by a third party for any use without the express written authority of JPC Environmental Services.
- 1.1.4 In producing this report, we have exercised all the reasonable skill, care and diligence to be expected of an appropriately qualified and competent consultant, experienced in carrying out equivalent services for developments of a similar size, value, purpose, scope and complexity.

#### 1.2 Scope

1.2.1 The main elements of the investigation were as follows:

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- The review of historical and regulatory information relating to the site to gain an understanding of the site's history, local environment and potential ground conditions;
- Undertake a walkover survey of the site and surrounding area to identify the presence and types of commercial activities within the locality and seek evidence of potential sources of on or off-site contamination;
- The formulation of a "Conceptual Site Model" to explore and evaluate the existence and potential impact of any plausible pollutant linkages;
- To utilise the resulting information to undertake a 'Stage I' human and environmental risk assessment; and
- If appropriate, make recommendations on the extent of any intrusive investigations which may be required to fully establish the condition of the site.

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#### 1.3 Sources of Information

- 1.3.1 As part of the desk-based research, JPC Environmental Services consulted the following sources of information: -
  - GroundSure Report produced by GroundSure Ltd;
  - British Geological Survey (BGS) mapping and online referencing;
  - Environment Agency landfill mapping online;
  - BR 211 Radon: Guidance on Protective Measures for New Dwellings, 2007 Edition;
  - Magic Map Website magic.defra.gov.uk;
  - Mid Suffolk District Council Planning Portal; and
  - Google Earth (aerial photography).

#### 1.4 Development Proposal

1.4.1 We understand development proposals comprise the demolition of an existing agricultural barn and the conversion of another existing barn into residential accommodation. The works will include the construction of a new garage building as well as associated car parking and gardens. An extract of the development proposal is shown in **Figure 1** below.

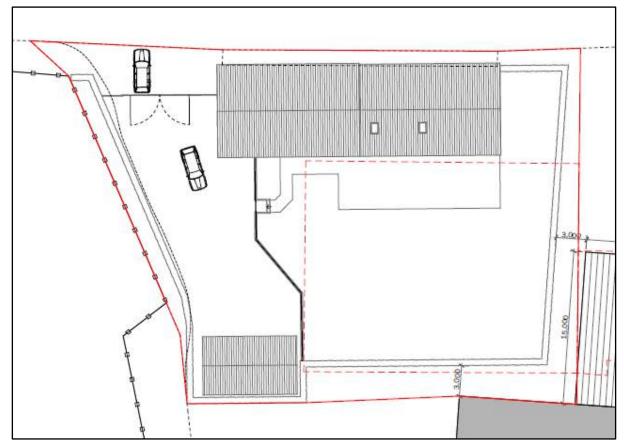


Figure 1: Proposed Site Plan (extract)

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## 2 DESK STUDY

#### 2.1 Location

Table 1: Site Location

Location	Flemings Hall Barn, Hall Road, Bedingfield, IP23 7LJ		
Grid Reference	619227, 267815		
Area	0.15ha		
Access	The site is accessed off Hall Road to the north-east of the site,		
	approximately 1.5km south-east of the village of Bedingfield.		
Topography	The site appears relatively flat, with an elevation of between 61.27mAOD		
	and 61.84mAOD.		

## 2.2 Site Description (Walkover Survey)

2.2.1 The site walkover was conducted on Tuesday, 23 August 2022 by Andrew Cartwright on behalf of JPC Environmental Services. An extract of the site location plan is shown in **Figure 2** below and the full version is included within **Appendix A**. This has been annotated to highlight the positions of the three principal areas.

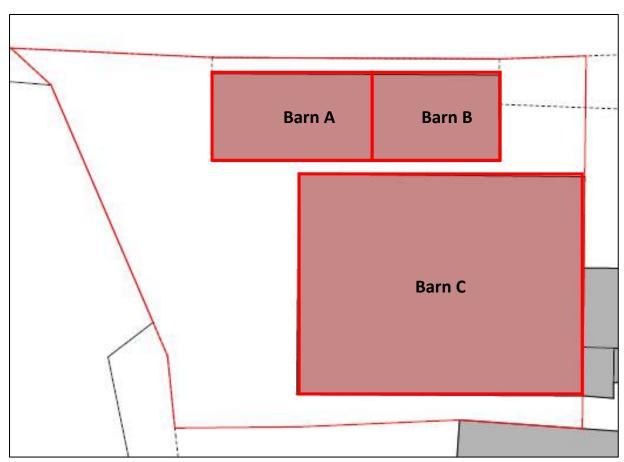


Figure 2: Site Location Plan (extract, annotated)

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- 2.2.2 Site photographs taken during the site walkover are included within **Appendix B**.
- 2.2.3 The site is accessed via a concrete driveway, to the south of Hall Road, and comprises three main areas, labelled as Barn A, Barn B, and Barn C.
- 2.2.4 Barn A is constructed from concrete blocks around a timber frame, a concrete floor, and an asbestos roof. It measures approximately 0.014ha and is arranged over two storeys, with the ground floor currently used to store various construction and agricultural items. These include various wooden boxes; corrugated metal sheeting; paint tins; general machinery; and tractor tyres. There is also a sheet of corrugated asbestos containing material and a petrol lawn mower. The lawn mower appears to have been leaking and there is a large stain on the floor with a noticeable petroleum hydrocarbon odour. To the south of Barn A is a small enclosure with several gas cylinders. The first floor of Barn A is timber clad with a timber floor. It is being used to store additional building materials, insulation, roof tiles, cables, and a car battery.
- 2.2.5 Barn B is constructed from concrete blocks with a concrete floor and a tiled roof, measures approximately 0.013ha, and is attached to Barn A at its north-west end. The barn is single storey and is being used for the storage of various items arranged on timber shelving. Stored items include building supplies, fuel cans, small motors and engines, a gas cylinder, a heater, and machinery.
- 2.2.6 Barn C is timber clad with a brick base, concrete floor, asbestos downpipes, and an asbestos roof, and measures approximately 0.061ha. The north-western part of the barn is used for the storage of grain, while the remainder is used primarily as ancillary space for the adjacent workshop. Within the workshop area, there are several old car batteries, motors, used oil filters and oil rags, a gas cylinder, and a large stack of pallets. On top of the pallets is an intermediate bulk container (IBC) labelled 'Adblue'. This is connected to a pump on the outside of the barn. Both the IBC and pump have leaked, with the Ablue forming white crystals on the pallets and floor/ ground.
- 2.2.7 The areas surrounding the barns are laid to concrete hardstanding, totalling an area of approximately 0.06ha. The concrete is generally in good condition, with some cracks in places. The north-east boundary comprises the adjacent road, the north-west boundary comprises mature hedging, and the southern aspects are unbounded.

#### 2.3 Site History

2.3.1 The site history is summarised below and determined from the GroundSure historical mapping and presented in **Table 2** below. The full GroundSure report is provided within **Appendix C**.

Table 2: Historic Mapping

Date: 31 August 2022

- 42.6 = 1.1.0to.1.6 11.4ppg		
Map Edition (Date, Scale)	The Site	Surrounding Area
1884, 1903 (1:2,500)	The site is occupied by two buildings along the northern boundary, adjacent to	The surrounding landscape is dominated by agricultural fields in all directions. Hall Road runs
1884- 1888,	the road. The rest of the site is vacant.	along the site's northern boundary, with an

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Table 2: Historic Mapping

Map Edition (Date, Scale)	The Site	Surrounding Area	
1903- 1905 (1:10,560)		associated drainage ditch to the south-east. Fleming's Hall grounds are located on the opposite side of the road, approximately 10m remote from the site, and includes an extensive moat system, two ponds, and a complex of outbuildings. Unrelated buildings are located approximately 240m to the south-east. Ponds are located at approximate distances of; 10m south-west, 70m south-west, 210m south-east, and 230m north-west.	
1947, 1952 (1:10,560)	The building has increased in size to cover more of the site.	The surrounding area appears unchanged.	
1978 (1:2,500) 1983- 1984 (1:10,000)	The building is shown as two separate buildings; the original building along the site boundary, and a larger building covering most of the site to the south. The buildings are part of a larger complex to the south and south-east. Two tanks are shown in the eastern corner of the site. The use and contents of these tanks are not specified.	Several new buildings are located adjacent to the site to the south-east and south-west. Ponds/ ditches located approximately 10m south-west, 170m north, 140m north-east, 210m south-east, and 230m north-west are no longer shown. The drainage ditch along Hall Road is also not shown.	
1995 (1:2,500) 2003 (1:1,250) 2001 (1:10,000)	The site appears to be unchanged.	The surrounding area appears unchanged.	
2010 (1:10,000)	The tanks are no longer shown.	The pond located 70m south-west is no longer shown.	

#### 2.4 Geology

- 2.4.1 To determine the nature of the underlying geology, we have consulted the 1:50,000 scale geological maps compiled by British Geological Survey (BGS). Based on these maps, the site is likely to be underlain by superficial deposits comprising the Lowestoft Formation (diamicton). These are then further underlain by bedrock geology comprising the Crag Group (sand).
- 2.4.2 A review of the BGS database has not identified any boreholes within 500m of the site boundary.
- 2.4.3 Potential geological hazards associated with natural ground subsidence may occur on site, the likelihood of these events is noted in **Table 3** below.

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Table 3: Natural Ground Subsidence Events

Geological Hazard	Hazard Rating
Shrink-swell clays	Low
Running sands	Very low
Compressible deposits	Negligible
Collapsible deposits	Very low
Landslides	Very low
Ground dissolution of soluble rocks	Negligible

### 2.5 Hydrogeology and Hydrology

2.5.1 The hydrogeological designations and classifications for superficial deposits and bedrock geology, both underlying the site and within 250m, were obtained with reference to the Environment Agency website and GroundSure Report and are outlined in **Table 4** below.

Table 4: Hydrogeology

Geological Strata	Distance (m)	Designation	Groundwater Vulnerability
Superficial Deposits	On site	Secondary Undifferentiated – mixed flow type with low to moderate permeability	Medium risk
Bedrock Geology	On site	Principal aquifer – intergranular flow type with high permeability	Low risk

- 2.5.2 In terms of groundwater vulnerability, the Environment Agency divides significant groundwater catchments into three Source Protection Zones (SPZ's) based on the potential risk associated with the migration of possible contaminants. In this case, the site is located within Source Protection Zone 3 (total catchment). Groundwater underlying the site is associated with the catchment of the Waveney and East Suffolk Chalk & Crag (Water body ID: GB40501G400600) which has an overall and chemical rating of poor.
- 2.5.3 The surface soil leaching class for the site is considered low with an infiltration value ranging between 40- 70%.
- 2.5.4 In respect of the local hydrology, there are no surface water features on site. The closest water feature to the site is a moat approximately 30m to the north-east. These features are associated with the catchment of the Chickering Beck (Water body ID: GB105034045690).
- 2.5.5 The site is situated within Flood Zone 1 and the highest risk of flooding is noted as negligible. Groundwater flooding risk is also noted as low. There have been no recorded historical flooding events within 250m of the site.

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- 2.5.6 Information on groundwater, surface water and potable abstractions within 250m of the site are outlined in
- 2.5.7
- 2.5.8
- 2.5.9 *Table 5* below.

Table 5: Abstractions

Abstraction	Distance (m)	Related to
Groundwater		
Surface Water	n/a	None recorded within 250m of the site.
Potable Water		

## 2.6 Industrial Land Use, Waste and Landfill

2.6.1 Records for industrial land uses, waste and landfills on site and within 250m of the site are presented below in **Table 6.** 

Table 6: Potentially Contaminative Sources

Source	Distance (m)	Related to	
Industrial Land Use			
Current Industrial Land Use	n/a	None recorded within 250m of the site.	
Historical Industrial Land Use	ii/a	Notice recorded within 250m of the site.	
Historical Tanks	On site	Unspecified tanks (2 records).	
Historical Energy Features			
Historical Petrol Stations	n/a	None recorded within 250m of the site.	
Historical Garages	пуа	None recorded within 250m of the site.	
Historical Military Land			
Waste and Landfill			
Active or Recent Landfill		None recorded within 250m of the site	
Historical Landfills	n/a None recorded within 250m of		
Historical Waste Sites		None recorded within 250m of the site.	
Licenced Waste Sites			
	6m north-east	Storing, disposing of, treating, and using waste	
		on a farm. Ref: WEX281991. No site listed.	
		Storing, disposing of, treating, and using	
Waste Exemptions	229m south-	agricultural waste.	
	east	Ref: EPR/EH0273VM/A001.	
		Site: The Hall, Hall Road, Eye, Suffolk, IP23 7LJ	
	234m south-	Storing, disposing of, treating, and using waste	
	east	on a farm.	

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Table 6: Potentially Contaminative Sources

Source	Distance (m)	Related to
		Ref: WEX108195
		Site: Bedingfield Hall, Bedingfield, Eye, IP23 7LJ

### 2.7 Licenced Activities, Permits and Incidents

2.7.1 Records for licenced activities, permits and incidents on site and within 250m of the site are presented below in **Table 7**.

Table 7: Licenced Activities, Permits and Incidents

Activity	Distance (m)	Related to
Historical Licenced Industrial		
Activities (IPC)		
Licenced Industrial Activities (Part		
A(1))		
Licenced Pollutant Release (Part		
A(2)/B)		
Radioactive Substance Authorisations	n/a	None recorded within 250m of the site.
Licenced Discharges to Controlled		
Waters		
Pollutant Release to Surface Waters		
(Red List)		
Pollutant Release to Public Sewer		
List 1/ List 2 Dangerous Substances		
Pollution Incidents		

#### 2.8 Radon

2.8.1 The site is located in a lower probability Radon affected area. Therefore, as fewer than 1% of homes are above the action level for Radon, no radon protection measures are necessary in the construction of new buildings or residential dwellings.

## 2.9 Mineral Workings and Potentially Infilled Land

2.9.1 Records for mineral workings and potentially infilled land on site and within 250m of the site are presented below in **Table 8.** 

Table 8: Mineral Working and Potentially Infilled Land

Feature	Distance (m)	Related to	
Natural Cavities	n/a	None recorded within 250m of the site.	
BritPits	II/a	None recorded within 250m of the site.	
Surface Ground Workings	25- 28m north-east	Fish pond (3 records).	

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Table 8: Mineral Working and Potentially Infilled Land

Feature	Distance (m)	Related to
	91m south-	Pond.
	east	
Underground Workings		
Historical Mineral Planning		
Areas		
Non-coal Mining	n/a	None recorded within 250m of the site.
Mining Cavities		
Johnson Poole and Bloomer		
Mining Areas		
Coal Mining		
Brine Areas		
Gypsum Areas		
Tin Mining		
Clay Mining		

## 2.10 Railway Infrastructure and Projects

2.10.1 Records for railway infrastructure and projects on site and within 250m of the site are presented below in **Table 9**.

Table 9: Railway Infrastructure and Projects

Feature	Distance (m)	Related to
Underground Railways		
(London)		
Underground Railways (Non-		
London)	,	
Railway Tunnels	n/a	None recorded within 250m of the site.
Historical Railway and Tunnel		
Features		
Active Railways		

## 2.11 Designations

2.11.1 Records for environmental, cultural and agricultural designations on site and within 250m of the site are presented below in **Table 10**.

Table 10: Environmental, Cultural and Agricultural Designations

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Designations	Distance (m)	Related to	
Environmental	On site	Sandlings and Chelmsford Nitrate Vulnerable Zone (NVZ) - Groundwater.	
	On Site	Deben NVZ - Surface water.	

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	On site	Site of Special Scientific Interest (SSSI) Impact
		Zone.
	21m north	Waveney NVZ - Surface water.
Visual and Cultural	74m north	Listed building - Fleming's Hall, grade II.
Agricultural	On site	Grade 3: Good to moderate quality agricultural
Agricultural		land.

### 2.12 Planning Portal

2.12.1 A search was made on Mid Suffolk District Council's planning portal. This was done to further explore the evolution of the site and any available information related to nearby sites. The search identified no applications within the vicinity of the site.

#### 3 CONCEPTUAL SITE MODEL

#### 3.1 Introduction

- 3.1.1 The "conceptual site model" is a simplified representation of the ground conditions that exist on site, which is subsequently used to assess the potential risk to human and environmental receptors. According to the Land Contamination Risk Management (LCRM) guidance, "A conceptual site model is a representation of the characteristics of the site. It shows the possible relationships between contaminants, pathways and receptors".
- 3.1.2 Although the model is formulated during the initial phase of the investigation it is subject to change, as new information comes to light, and our understanding of the site improves. It is central to the risk assessment process and therefore must consider all potential relationships and interactions.
- 3.1.3 There are four key aspects to the model, these are:

Table 11: Conceptual Site Model Key Aspects

Source(s)	These can include current or historic activities taking place either on or adjacent to the site, which may have had a negative impact on surface or sub-surface soils, or groundwater.
Pathway(s)	This is the route by which contaminants travel / migrate between their source and any available receptor.
Receptor(s)	These are varied and can include human or non-human organisms and eco-systems; controlled waters such as groundwater or surface water bodies; and structures or individual construction materials.
Pollutant linkage(s)	These exist where all three of the previous elements are present, indicating that the "link" between an identified source and a potential receptor via a pathway.

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#### 3.2 Potential Sources of Contamination

3.2.1 Records for potential sources of contamination on site and within 250m of the site are presented below in **Table 12**.

Table 12: Summary of Potential Sources of Contamination

On-Site	Description	
Current Land Use and	Storage of oil and chemical containers and machinery, possible ACMs,	
Activities	evidence of fuel leaks and Made Ground identified during the site walkover.	
Historical Land Use	Unspecified tanks (agricultural use).	
and Activities	onspecified tanks (agricultural use).	
Off-Site	Description	
Current Land Use and	Unspecified tanks and waste exemptions	
Activities	Onspecified tanks and waste exemptions	
Historical Land Use	Unspecified tanks, infilled ponds and waste exemptions	
and Activities	onspecified tanks, infinied ponds and waste exemptions	

#### 3.3 Potential Contaminant Pathways

Table 13: Identified Potential Pathways

Р	'a'	th	W	ıa	V
					и.

Inhalation - Potential inhalation of contaminants in dust/ fibrous form.

Ingestion - Future site users could ingest small quantities of soil derived dust originating from soft landscaped areas or disturbed ground.

Dermal absorption - Contaminants present within surface or sub-surface soils/ fill material can enter the human body through the skin or via open wounds.

Buried services - If elevated levels of petroleum hydrocarbons are present within surface/ subsurface soils, then 'plastic' drinking water pipe can become compromised.

Migration/ Leaching - Potential for migration of contaminants through soil/ groundwater.

#### 3.4 Potential Contaminant Receptors

Table 14: Identified Potential Receptors

#### Receptor

Future site users - Future site users could be affected by contaminants in the soil, entering the mains water system or ground gas entering the building.

Construction workers - Workers involved with future site clearance and preparatory work will be exposed to contaminants present within on-site soil, should they exist.

Buildings and Infrastructure - Modern construction techniques can cause accumulations of gas, if gas is able to accumulate within new, or converted, buildings there is potential for an explosion.

Buried services - Plastic drinking water pipes are vulnerable to petroleum hydrocarbons.

On-site soil - Particularly close to the surface, may have been impacted by historic activities.

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#### 3.5 Plausible Pollutant Linkages

- 3.5.1 Using the 'source pathway receptor' tables above, potential pollutant linkages are identified. An assessment of the likely significance of each linkage is then considered, which would include; the possible extent and mobility of the source; the sensitivity of the receptor and the type of migration/ exposure pathways.
- 3.5.2 An assessment of the probability and the magnitude of potential risk is presented below to give a valuation of each potential pollutant linkage identified and their significance.
- 3.5.3 This assessment is undertaken based on the current proposal for the site at the time of issuing this report, which is to demolish an existing agricultural barn and convert a second barn into a residential dwelling, with associated access and gardens.
- 3.5.4 This qualitative risk assessment has been undertaken in accordance with CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).
- 3.5.5 The level of potential risk ascribed to each linkage is based on the following criteria:

Table 15: Risk Classification

Risk	
Classification	Description
Voru high rick	There is a high probability that severe harm could arise to a designated receptor from
Very high risk	an identified hazard at the site without appropriate remedial action.
High rick	Harm is likely to arise to a designated receptor from an identified hazard at the site
High risk	without appropriate remedial action.
	It is possible that without appropriate remedial action harm could arise to a designated
Moderate risk	receptor but it is relatively unlikely that any such harm would be severe, and if any
	harm were to occur it is more likely that such harm would be relatively mild.
Low rick	It is possible that harm could arise to a designated receptor from an identified hazard
Low risk	but is likely that, at worst, this harm if realised would normally be mild.
Negligible rick	The presence of an identified hazard does not give rise to the potential to cause
Negligible risk	significant harm to a designated receptor.

3.5.6 The following potential pollutant linkages have been identified and are outlined within **Table 16** below:

Table 16: Risk Assessment

Assessment	Comments	Risk Characterisation
Source		
	The earliest available historic mapping (1884) shows	
Potential for on-site	the site to be occupied by two connected buildings.	Moderate to
pollutants	A complex of nearby buildings is located on the	high
	opposite side of Hall Road, to the north, and many	

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Our Reference: NE22/009/SITI

Stage 1/ Tier 1 Geo-Environmental Desk Study Report – Produced by J P Chick & Partners Ltd For: Brown & Co



Table 16: Risk Assessment

Assessment	Comments	Risk
Assessificit	Comments	Characterisation
	ponds are shown within 250m of the site boundary. Additional buildings are shown from 1978 onwards, both on site and adjacent to the site to the south-east and south-west. Many of the ponds are shown to be infilled at this time. Made Ground was also identified during the site walkover, as well as several items stored on site, including oil and chemical containers, machinery, possible ACMs, and evidence of fuel leaks. All of which may be a source of potential contaminants. Additionally, the infilled ponds located within 250m of the site boundary may be sources of ground gas.	
Pathway		
Potential for pollutants to migrate on-site	Superficial deposits of the Lowestoft Formation underlying the site have a low to moderate permeability. The underlying bedrock geology of the Crag Group is a principal aquifer and has a high permeability.	Low to moderate
Potential for pollutants to migrate off-site	Superficial deposits of the Lowestoft Formation underlying the site have a low to moderate permeability. The underlying bedrock geology of the Crag Group is a principal aquifer and has a high permeability.	Low to moderate
Receptor		
Environmental risk to human health	The proposed development will lead to an increase in the number of people occupying the site. The presence of suspected asbestos containing materials, evidence of fuel leaks, identified Made Ground, storage of oil and chemical containers and machinery, and nearby infilled ponds have all been identified as potential sources of contamination. A Stage I / Tier II Ground Investigation is recommended to determine the risk of ground gas from the nearby infilled ponds to future site users, and refine the risk from other contaminants related to the other potential sources.	Moderate to high
Environmental risk to controlled waters	The site is located within Source Protection Zone 3 (Total Catchment) and is underlain by superficial deposits with a low to moderate permeability.	Moderate

Our Reference: NE22/009/SITI

Table 16: Risk Assessment

Assessment	Comments	Risk
Assessment	Comments	Characterisation
Environmental risk to	Landscaping is expected on site, due to the removal	Low to
Biota	of Made Ground.	moderate
	There are several infilled ponds within 250m of the	
Hazards to buildings –	site boundary. The site walkover identified several	Low to
excluding ground gas	areas of Made Ground, which may provide additional	moderate
1000 - 100 - 1	potential sources of contamination.	
Litigation		
Environmental litigation (Part IIA)	Part IIA only applies to land with chemical	
	contamination, where the contaminants pose an	
	unacceptable risk to human health or the wider	1
	environment. While the desk-based study has	Low
	identified several potential sources of contamination	
	on site, these will likely be addressed by the planning regime	
	Potential liability issues have been identified but	
	likely to be addressed by the planning regime. A	Moderate to
Owner liability	Stage I / Tier II Ground Investigation is recommended	high
	to clarify this risk.	6
Development Implication	·	
	Soil remediation may be required due to the	
Potential for soil	identified potential sources and presence of Made	
remediation	Ground on site. A Stage I / Tier II Ground Investigation	Moderate
	is recommended to clarify this risk.	
Detential for	Groundwater remediation may be required due to	
Potential for groundwater remediation	the identified on site potential sources of	Low to
	contamination. A Stage I / Tier II Ground Investigation	moderate
	is recommended to clarify this risk.	
	Potential sources of contamination have been	
Potential for gas	identified from the nearby infilled ponds (between	Low to
protection measures	10m and 230m) and Made Ground. A Tier I / Stage II	moderate
	Ground Investigation is recommended.	
Special requirements for water supply pipes	Specialist pipework may be required due to the	Low to
	potential for contamination. A Stage I / Tier II Ground	moderate
	Investigation is recommended to clarify this risk.	
Potential limitations on foundation design	Concrete selection may be affected by potential for	
	chemical attack. Ground investigation required to	Low to
	clarify potential risks and to ascertain underlying soil	moderate
	strength for foundation design.	

Our Reference: NE22/009/SITI

## Flemings Hall Barn, Hall Road, Bedingfield, IP23 7LJ



Table 16: Risk Assessment

Assessment	Comments	Risk Characterisation
Risk of encountering	On site soils and localised Made Ground are unlikely	
materials classed as	to be classed as hazardous waste, although a ground	Low
hazardous waste	investigation will clarify this risk.	

Our Reference: NE22/009/SITI



#### 4 CONCLUSIONS AND RECOMMENDATIONS

- 4.1.1 Based on the information obtained and reviewed as part of this preliminary assessment, JPC Environmental Services would advise the following:
  - We would recommend that a Stage I / Tier II Ground Investigation is undertaken across the development site. The investigation should comprise boreholes drilled using a dynamic sampling rig to a maximum depth of 5.00mbgl to determine the extent of Made Ground, whilst allowing the retrieval of selected soil samples for off-site laboratory analysis. We would recommend the following geochemical analysis:
    - CLEA metals;
    - Polycyclic Aromatic Hydrocarbons (including TPH CWG);
    - Petroleum Hydrocarbons;
    - Pesticides and herbicides;
    - o pH; and
    - o asbestos ID.
  - We would also recommend a minimum of three combined ground gas and groundwater monitoring wells are installed during the investigation. This would enable a ground gas assessment to be completed, which would determine whether there is a risk to future site users from the nearby infilled pond. Groundwater monitoring should also be undertaken.

Stage 1/ Tier 1 Geo-Environmental Desk Study Report – Produced by J P Chick & Partners Ltd

For: Brown & Co

Date: 31 August 2022 Our Reference: NE22/009/SITI



#### 5 REFERENCES

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Statutory Instruments: 2012: Health and Safety. The Control of Asbestos Regulations 2012. No. 262 coming into force 6th April 2012.

Water Regulations Advisory Scheme. 2002. Information and Guidance Note No. 9-04-03.

Our Reference: NE22/009/SITI



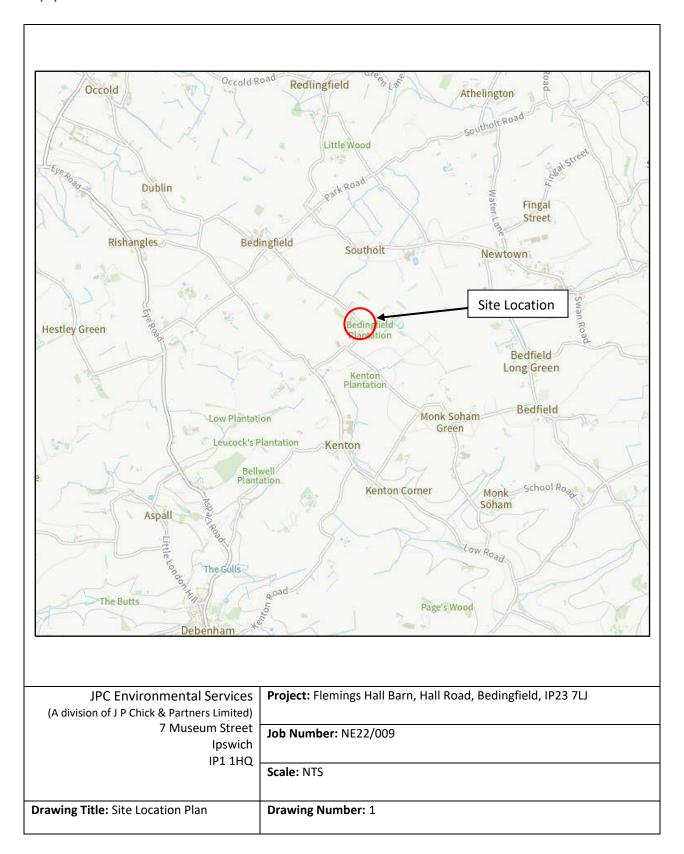
# **APPENDIX**

Our Reference: NE22/009 Date: 31/08/2022

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# Appendix A - Site Location Plan



Our Reference: NE22/009 Date: 31/08/2022



# Appendix B - Site Photographs

Our Reference: NE22/009 Date: 31/08/2022



































# Appendix C - Groundsure Report

Our Reference: NE22/009 Date: 31/08/2022





## FLEMINGS BARN, HALL ROAD, BEDINGFIELD, IP23 7LJ

## **Order Details**

**Date:** 19/08/2022

Your ref: NE22-009

Our Ref: GS-8997014

## **Site Details**

**Location:** 619227 267815

**Area:** 0.15 ha

**Authority:** Mid Suffolk District Council



**Summary of findings** 

p. 2 Aerial image

p. 8

OS MasterMap site plan

p.12 groundsure.com/insightuserguide



# **Summary of findings**

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	0	0	0	-
<u>14</u>	<u>1.2</u>	<u>Historical tanks</u>	1	0	0	0	-
14	1.3	Historical energy features	0	0	0	0	-
14	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	Historical garages	0	0	0	0	-
15	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
16	2.1	Historical industrial land uses		0	0	0	-
<u>17</u>	<u>2.2</u>	<u>Historical tanks</u>	2	0	0	0	-
17	2.3	Historical energy features	0	0	0	0	-
17	2.4	Historical petrol stations	0	0	0	0	-
17	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
18	3.1	Active or recent landfill	0	0	0	0	-
18	3.2	Historical landfill (BGS records)	0	0	0	0	_
			U	O	Ü	0	
19	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
19 19	3.3	Historical landfill (LA/mapping records) Historical landfill (EA/NRW records)					-
			0	0	0	0	-
19	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
19 19	3.4	Historical landfill (EA/NRW records) Historical waste sites	0 0	0 0	0 0	0 0	-
19 19 19	3.4 3.5 3.6	Historical landfill (EA/NRW records) Historical waste sites Licensed waste sites	0 0 0	0 0 0	0 0 0	0 0 0	- - - - 500-2000m
19 19 19 19	3.4 3.5 3.6 <b>3.7</b>	Historical landfill (EA/NRW records) Historical waste sites Licensed waste sites  Waste exemptions	0 0 0 0	0 0 0 0	0 0 0 0 9	0 0 0 0	- - - - 500-2000m
19 19 19 19 Page	3.4 3.5 3.6 3.7 Section	Historical landfill (EA/NRW records) Historical waste sites Licensed waste sites  Waste exemptions  Current industrial land use	0 0 0 0 0 On site	0 0 0 0 14	0 0 0 0 9	0 0 0 0	- - - - 500-2000m
19 19 19 19 Page 22	3.4 3.5 3.6 3.7 Section 4.1	Historical landfill (EA/NRW records) Historical waste sites Licensed waste sites  Waste exemptions  Current industrial land use  Recent industrial land uses	0 0 0 0 0 On site	0 0 0 0 14 0-50m	0 0 0 0 9 50-250m	0 0 0 0 0 250-500m	- - - - 500-2000m
19 19 19 19 19 22 22	3.4 3.5 3.6 3.7 Section 4.1 4.2	Historical landfill (EA/NRW records) Historical waste sites Licensed waste sites  Waste exemptions  Current industrial land use  Recent industrial land uses  Current or recent petrol stations	0 0 0 0 0 On site	0 0 0 0 14 0-50m	0 0 0 9 50-250m	0 0 0 0 250-500m	- - - - 500-2000m





23	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
23	4.7	Regulated explosive sites	0	0	0	0	-
24	4.8	Hazardous substance storage/usage	0	0	0	0	-
24	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
<u>24</u>	<u>4.10</u>	Licensed industrial activities (Part A(1))	0	0	0	1	-
24	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
25	4.12	Radioactive Substance Authorisations	0	0	0	0	-
25	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
25	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
25	4.15	Pollutant release to public sewer	0	0	0	0	-
25	4.16	List 1 Dangerous Substances	0	0	0	0	-
26	4.17	List 2 Dangerous Substances	0	0	0	0	-
26	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
26	4.19	Pollution inventory substances	0	0	0	0	-
26	4.20	Pollution inventory waste transfers	0	0	0	0	-
26	4.21	Pollution inventory radioactive waste	0	0	0	0	-
			On site 0-50m 50-2				
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
Page <u>27</u>	Section 5.1	Hydrogeology  Superficial aquifer		0-50m within 500m		250-500m	500-2000m
		, , ,	Identified (		)	250-500m	500-2000m
<u>27</u>	<u>5.1</u>	Superficial aquifer	Identified (	within 500m	)	250-500m	500-2000m
<u>27</u> <u>28</u>	<u>5.1</u> <u>5.2</u>	Superficial aquifer  Bedrock aquifer	Identified (	within 500m within 500m within 50m)	)	250-500m	500-2000m
27 28 29	5.1 5.2 5.3	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability	Identified ( Identified (	within 500m within 500m within 50m) in 0m)	)	250-500m	500-2000m
27 28 29 30	5.1 5.2 5.3 5.4	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk	Identified ( Identified ( Identified ( None (with	within 500m within 500m within 50m) in 0m)	)	<b>250-500m</b>	500-2000m
27 28 29 30	5.1 5.2 5.3 5.4 5.5	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk  Groundwater vulnerability- local information	Identified ( Identified ( Identified ( None (with	within 500m within 500m within 50m) in 0m) in 0m)	)		
27 28 29 30 30	5.1 5.2 5.3 5.4 5.5 5.6	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk  Groundwater vulnerability- local information  Groundwater abstractions	Identified ( Identified ( Identified ( None (with None (with	within 500m within 500m within 50m) in 0m) in 0m)	0	0	12
27 28 29 30 30 31	5.1 5.2 5.3 5.4 5.5 5.6	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk  Groundwater vulnerability- local information  Groundwater abstractions  Surface water abstractions	Identified ( Identified ( Identified ( None (with None (with 0	within 500m within 500m within 50m) in 0m) 0	0	0	<b>12</b> 0
27 28 29 30 30 31 34	5.1 5.2 5.3 5.4 5.5 5.6 5.7	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk  Groundwater vulnerability- local information  Groundwater abstractions  Surface water abstractions  Potable abstractions	Identified ( Identified ( Identified ( None (with None (with 0 0 0	within 500m within 500m within 50m) in 0m) 0 0	0 0	0 0	<b>12</b> 0
27 28 29 30 30 31 34 34 37	5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9	Superficial aquifer  Bedrock aquifer  Groundwater vulnerability  Groundwater vulnerability- soluble rock risk  Groundwater vulnerability- local information  Groundwater abstractions  Surface water abstractions  Potable abstractions  Source Protection Zones	Identified ( Identified ( Identified ( None (with None (with 0 0 0 1	within 500m within 500m within 50m) in 0m) 0 0 0	0 0 0	0 0 0	<b>12</b> 0





38	<u>6.2</u>	Surface water features	0	2	0	-	-
<u>39</u>	<u>6.3</u>	WFD Surface water body catchments	1	-	-	-	-
<u>39</u>	<u>6.4</u>	WFD Surface water bodies	0	0	0	-	-
<u>40</u>	<u>6.5</u>	WFD Groundwater bodies	1 -		-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
41	7.1	Risk of flooding from rivers and the sea	None (with	in 50m)			
41	7.2	Historical Flood Events	0	0	0	-	-
41	7.3	Flood Defences	0	0	0	-	-
42	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
42	7.5	Flood Storage Areas	0	0	0	-	-
43	7.6	Flood Zone 2	None (with	in 50m)			
43	7.7	Flood Zone 3	None (with	in 50m)			
Page	Section	Surface water flooding					
<u>44</u>	<u>8.1</u>	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)				
Dago	Section	Croundwater flooding					
Page	Section	Groundwater flooding					
46	9.1	Groundwater flooding	Low (within	n 50m)			
		-	Low (within	n 50m) 0-50m	50-250m	250-500m	500-2000m
<u>46</u>	9.1	Groundwater flooding			50-250m 0	250-500m	500-2000m
46 Page	9.1 Section	Groundwater flooding  Environmental designations	On site	0-50m			
<b>46</b> Page	9.1 Section	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)	On site	0-50m	0	0	0
46 Page 47	9.1 Section 10.1 10.2	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)	On site  0	0-50m 0	0	0	0
46 Page 47 47	9.1 Section 10.1 10.2 10.3	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)	On site  0 0 0	0-50m 0 0	0 0	0 0	0 0
46 Page 47 47 47	9.1 Section 10.1 10.2 10.3 10.4	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)	On site  0 0 0 0	0-50m 0 0	0 0 0	0 0 0	0 0 0
46 Page 47 47 47 48	9.1 Section 10.1 10.2 10.3 10.4 10.5	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)	On site  0 0 0 0 0	0-50m 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0
46 Page 47 47 47 48 48	9.1 Section 10.1 10.2 10.3 10.4 10.5 10.6	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)  Local Nature Reserves (LNR)	On site  0 0 0 0 0 0	0-50m 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
46 Page 47 47 47 48 48 48	9.1 Section 10.1 10.2 10.3 10.4 10.5 10.6 10.7	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)  Local Nature Reserves (LNR)  Designated Ancient Woodland	On site  0 0 0 0 0 0 0 0	0-50m 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
46 Page 47 47 47 48 48 48	9.1 Section 10.1 10.2 10.3 10.4 10.5 10.6 10.7	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)  Local Nature Reserves (LNR)  Designated Ancient Woodland  Biosphere Reserves	On site  0 0 0 0 0 0 0 0 0	0-50m 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
46 Page 47 47 47 48 48 48 48 49	9.1 Section 10.1 10.2 10.3 10.4 10.5 10.6 10.7 10.8 10.9	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)  Local Nature Reserves (LNR)  Designated Ancient Woodland  Biosphere Reserves  Forest Parks	On site  0 0 0 0 0 0 0 0 0 0	0-50m  0  0  0  0  0  0  0  0  0  0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
46 Page 47 47 47 48 48 48 48 49	9.1 Section 10.1 10.2 10.3 10.4 10.5 10.6 10.7 10.8 10.9	Groundwater flooding  Environmental designations  Sites of Special Scientific Interest (SSSI)  Conserved wetland sites (Ramsar sites)  Special Areas of Conservation (SAC)  Special Protection Areas (SPA)  National Nature Reserves (NNR)  Local Nature Reserves (LNR)  Designated Ancient Woodland  Biosphere Reserves  Forest Parks  Marine Conservation Zones	On site  O	0-50m  0  0  0  0  0  0  0  0  0  0  0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0





49	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
50	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
50	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<u>50</u>	<u>10.16</u>	Nitrate Vulnerable Zones	2	1	0	0	2
<u>51</u>	<u>10.17</u>	SSSI Impact Risk Zones	1	-	-	-	-
52	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
53	11.1	World Heritage Sites	0	0	0	-	-
54	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
54	11.3	National Parks	0	0	0	-	-
<u>54</u>	<u>11.4</u>	<u>Listed Buildings</u>	0	0	1	-	-
55	11.5	Conservation Areas	0	0	0	-	-
55	11.6	Scheduled Ancient Monuments	0	0	0	-	-
55	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
Page <b>56</b>	Section <u>12.1</u>	Agricultural designations  Agricultural Land Classification		0-50m ithin 250m)	50-250m	250-500m	500-2000m
					50-250m	250-500m	500-2000m
<u>56</u>	<u>12.1</u>	Agricultural Land Classification	Grade 3 (w	ithin 250m)		250-500m - -	500-2000m - -
<b>56</b> 57	<b>12.1</b> 12.2	Agricultural Land Classification  Open Access Land	Grade 3 (w	ithin <b>250m)</b> 0	0	250-500m - -	500-2000m - -
<b>56</b> 57	12.1 12.2 12.3	Agricultural Land Classification  Open Access Land  Tree Felling Licences	Grade 3 (w 0 0	ithin <b>250m)</b> 0 0	0	250-500m - - -	- - -
<ul><li>56</li><li>57</li><li>57</li><li>57</li></ul>	12.1 12.2 12.3 12.4	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes	Grade 3 (w 0 0	ithin 250m)  0  0  0	0 0	250-500m 250-500m	500-2000m  500-2000m
<ul><li>56</li><li>57</li><li>57</li><li>57</li><li>57</li></ul>	12.1 12.2 12.3 12.4 12.5	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes	Grade 3 (w 0 0 0 1	ithin 250m)  0  0  1	0 0 0	- - -	- - -
56 57 57 57 57 57 Page	12.1 12.2 12.3 12.4 12.5 Section	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations	Grade 3 (w  0  0  1  On site	ithin 250m)  0  0  1  0-50m	0 0 0 0 50-250m	- - -	- - -
56 57 57 57 57 Page	12.1 12.2 12.3 12.4 12.5 Section 13.1	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations  Priority Habitat Inventory	Grade 3 (w  0  0  1  On site	ithin 250m)  0  0  1  0-50m	0 0 0 0 50-250m	- - -	- - -
56 57 57 57 57 Page 58 59	12.1 12.2 12.3 12.4 12.5 Section 13.1 13.2	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations  Priority Habitat Inventory  Habitat Networks	Grade 3 (w  0  0  1  On site  0	ithin 250m)  0  0  1  0-50m  0	0 0 0 0 50-250m	- - -	- - -
56 57 57 57 57 Page 58 59	12.1 12.2 12.3 12.4 12.5 Section 13.1 13.2 13.3	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations  Priority Habitat Inventory  Habitat Networks  Open Mosaic Habitat	Grade 3 (w  0  0  1  On site  0  0	0 0 0 1 0-50m 0	0 0 0 50-250m 3 0	- - -	- - -
56 57 57 57 57 Page 58 59 59	12.1 12.2 12.3 12.4 12.5 Section 13.1 13.2 13.3 13.4	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations  Priority Habitat Inventory  Habitat Networks  Open Mosaic Habitat  Limestone Pavement Orders	Grade 3 (w  0  0  1  On site  0  0  On site	ithin 250m)  0  0  1  0-50m  0  0	0 0 0 50-250m 3 0 0	- - - 250-500m - - -	- - - 500-2000m - -
56 57 57 57 57 Page 58 59 59 59	12.1 12.2 12.3 12.4 12.5 Section 13.1 13.2 13.3 13.4 Section	Agricultural Land Classification  Open Access Land  Tree Felling Licences  Environmental Stewardship Schemes  Countryside Stewardship Schemes  Habitat designations  Priority Habitat Inventory  Habitat Networks  Open Mosaic Habitat  Limestone Pavement Orders  Geology 1:10,000 scale	Grade 3 (w  0  0  1  On site  0  0  On site	ithin 250m)  0  0  1  0-50m  0  0  0  0	0 0 0 50-250m 3 0 0	- - - 250-500m - - -	- - - 500-2000m - -





62	14.4	Landslip (10k)	0	0	0	0	-
63	14.5	Bedrock geology (10k)	0	0	0	0	-
63	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
<u>64</u>	<u>15.1</u>	50k Availability	Identified (within 500m)				
65	15.2	Artificial and made ground (50k)	0	0	0	0	-
65	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<u>66</u>	<u>15.4</u>	Superficial geology (50k)	1	0	0	0	-
<u>67</u>	<u>15.5</u>	Superficial permeability (50k)	Identified (	within 50m)			
67	15.6	Landslip (50k)	0	0	0	0	-
67	15.7	Landslip permeability (50k)	None (with	in 50m)			
<u>68</u>	<u>15.8</u>	Bedrock geology (50k)	1	0	0	0	-
<u>69</u>	<u>15.9</u>	Bedrock permeability (50k)	Identified (within 50m)				
69	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
70	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
<u>71</u>			Low (within 50m)				
	<u>17.1</u>	Shrink swell clays	Low (withir	n 50m)			
<u>72</u>	<u>17.1</u> <u>17.2</u>	Shrink swell clays Running sands	Low (within				
			Very low (w				
<u>72</u>	<u>17.2</u>	Running sands	Very low (w	vithin 50m) within 50m)			
<u>72</u> <u>73</u>	<u>17.2</u> <u>17.3</u>	Running sands  Compressible deposits	Very low (v	vithin 50m) within 50m) vithin 50m)			
72 73 74	17.2 17.3 17.4	Running sands  Compressible deposits  Collapsible deposits	Very low (w Negligible ( Very low (w Very low (w	vithin 50m) within 50m) vithin 50m)			
72 73 74 75	17.2 17.3 17.4 17.5	Running sands  Compressible deposits  Collapsible deposits  Landslides	Very low (w Negligible ( Very low (w Very low (w	vithin 50m) within 50m) vithin 50m) vithin 50m)	50-250m	250-500m	500-2000m
72 73 74 75 76	17.2 17.3 17.4 17.5	Running sands  Compressible deposits  Collapsible deposits  Landslides  Ground dissolution of soluble rocks	Very low (w Negligible ( Very low (w Very low (w Negligible (	vithin 50m) within 50m) vithin 50m) vithin 50m) within 50m)	50-250m	250-500m	500-2000m
72 73 74 75 76	17.2 17.3 17.4 17.5 17.6	Running sands  Compressible deposits  Collapsible deposits  Landslides  Ground dissolution of soluble rocks  Mining, ground workings and natural cavities	Very low (w Negligible ( Very low (w Very low (w Negligible (	vithin 50m) within 50m) vithin 50m) vithin 50m) within 50m) 0-50m			500-2000m
72 73 74 75 76 Page	17.2 17.3 17.4 17.5 17.6 Section	Running sands  Compressible deposits  Collapsible deposits  Landslides  Ground dissolution of soluble rocks  Mining, ground workings and natural cavities  Natural cavities	Very low (w Negligible ( Very low (w Very low (w Negligible ( On site	vithin 50m) within 50m) vithin 50m) vithin 50m) within 50m) 0-50m	0	0	500-2000m - -
72 73 74 75 76 Page 77	17.2 17.3 17.4 17.5 17.6 Section 18.1 18.2	Running sands  Compressible deposits  Collapsible deposits  Landslides  Ground dissolution of soluble rocks  Mining, ground workings and natural cavities  Natural cavities  BritPits	Very low (w Negligible ( Very low (w Very low (w Negligible ( On site	vithin 50m) within 50m) vithin 50m) vithin 50m) within 50m) 0-50m 0	0	0	500-2000m - - -





79	18.6	Non-coal mining	0	0	0	0	0
79	18.7	Mining cavities	0	0	0	0	0
79	18.8	JPB mining areas	None (with	in 0m)			
79	18.9	Coal mining	None (with	in 0m)			
79	18.10	Brine areas	None (with	in 0m)			
80	18.11	Gypsum areas	None (with	in 0m)			
80	18.12	Tin mining	None (with	in 0m)			
80	18.13	Clay mining	None (with	in 0m)			
Page	Section	Radon					
<u>81</u>	<u>19.1</u>	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
82	20.1	BGS Estimated Background Soil Chemistry	1	0	-	-	-
82	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
82	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
83	21.1	Underground railways (London)	0	0	0	-	-
83	21.2	Underground railways (Non-London)	0	0	0	-	-
84	21.3	Railway tunnels	0	0	0	-	-
84	21.4	Historical railway and tunnel features	0	0	0	-	-
84							
	21.5	Royal Mail tunnels	0	0	0	-	-
84	21.5 21.6	Royal Mail tunnels  Historical railways	0	0	0 2	-	-
<b>84</b> 85						-	-
	<u>21.6</u>	<u>Historical railways</u>	0	0	2	- - 0	-
85	<b>21.6</b> 21.7	<u>Historical railways</u> Railways	0	0	<b>2</b> 0	- - 0	-





# Recent aerial photograph



Capture Date: 01/06/2021

Site Area: 0.15ha



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# Recent site history - 2018 aerial photograph



Capture Date: 05/05/2018

Site Area: 0.15ha





# Recent site history - 2014 aerial photograph



Capture Date: 18/05/2014

Site Area: 0.15ha





# Recent site history - 1999 aerial photograph



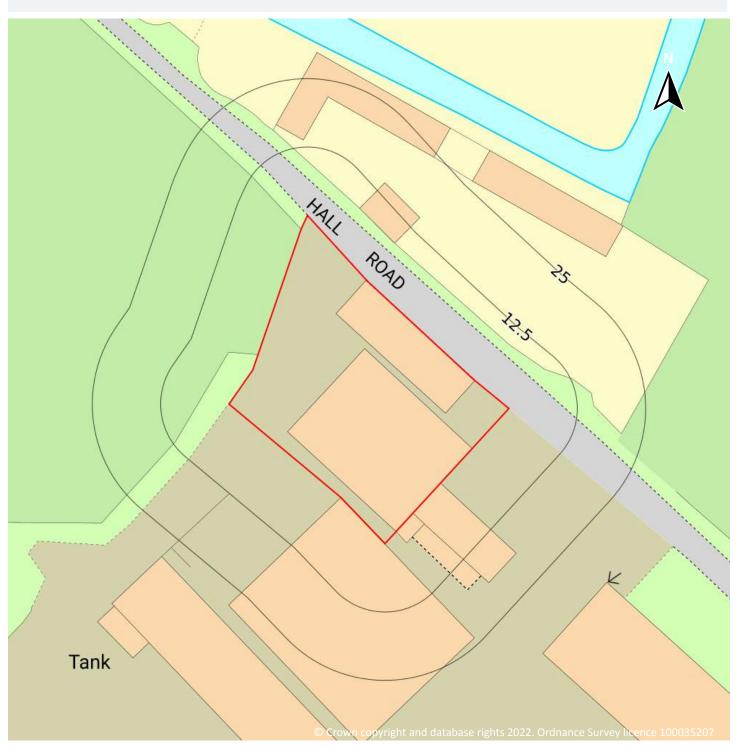
Capture Date: 25/06/1999

Site Area: 0.15ha





# OS MasterMap site plan

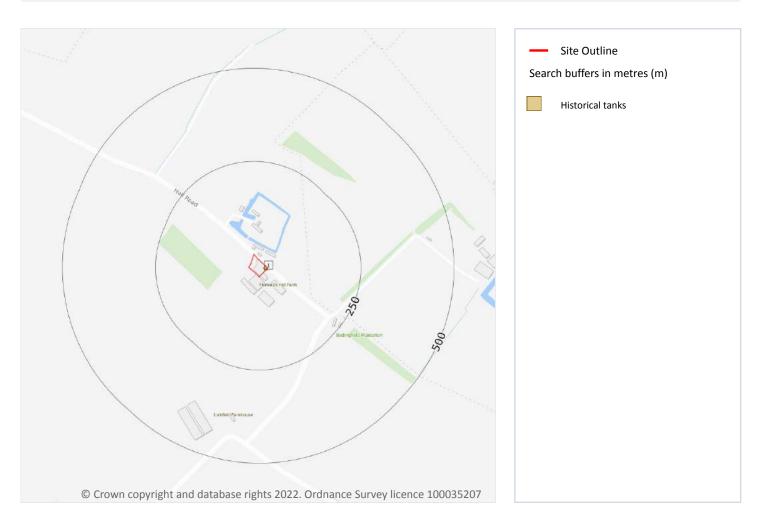


Site Area: 0.15ha





## 1 Past land use



#### 1.1 Historical industrial land uses

Records within 500m 0

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'.

This data is sourced from Ordnance Survey / Groundsure.





#### 1.2 Historical tanks

Records within 500m

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

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

ID	Location	Land use	Dates present	Group ID
1	On site	Tanks	1976 - 1995	419806

This data is sourced from Ordnance Survey / Groundsure.

## 1.3 Historical energy features

Records within 500m 0

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

This data is sourced from Ordnance Survey / Groundsure.

#### 1.4 Historical petrol stations

Records within 500m 0

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

This data is sourced from Ordnance Survey / Groundsure.





#### 1.5 Historical garages

Records within 500m 0

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

This data is sourced from Ordnance Survey / Groundsure.

## 1.6 Historical military land

Records within 500m 0

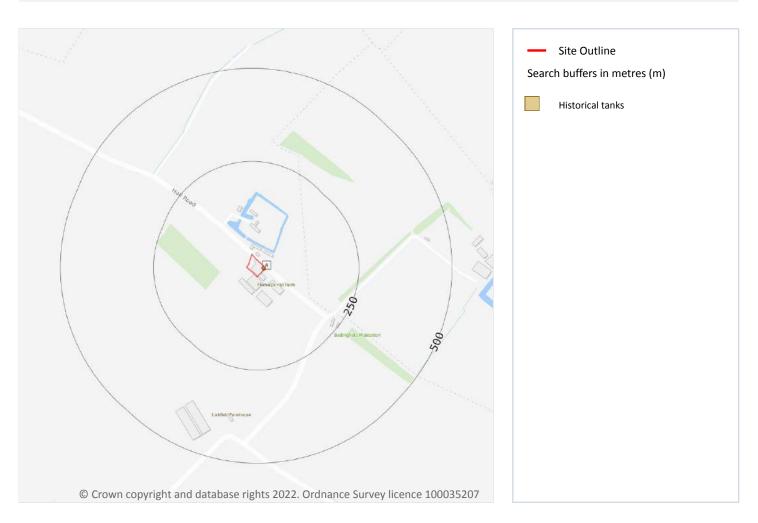
Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

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





## 2 Past land use - un-grouped



#### 2.1 Historical industrial land uses

**Records within 500m** 0

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

This data is sourced from Ordnance Survey / Groundsure.





#### 2.2 Historical tanks

Records within 500m 2

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 16

ID	Location	Land Use	Date	Group ID
Α	On site	Tanks	1976	419806

This data is sourced from Ordnance Survey / Groundsure.

## 2.3 Historical energy features

Records within 500m 0

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'.

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'.

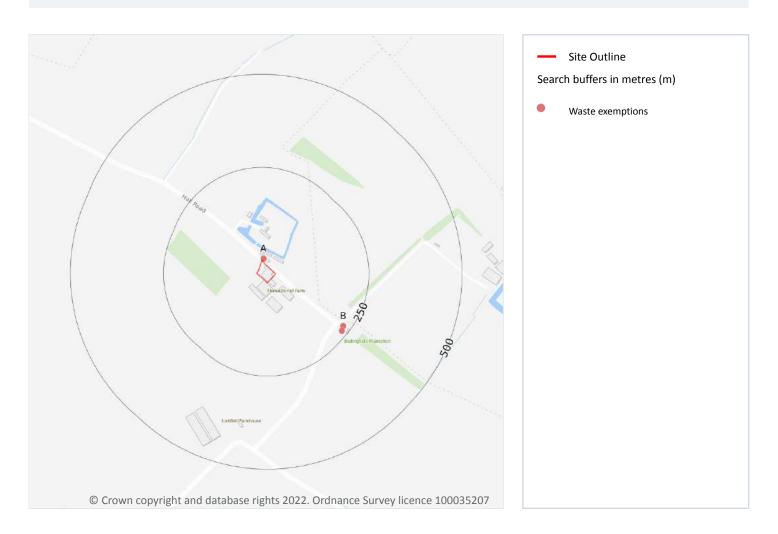
This data is sourced from Ordnance Survey / Groundsure.



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## 3 Waste and landfill



#### 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

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 23

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 18

ID	Location	Site	Reference	Category	Sub- Category	Description
А	6m NE	-	WEX281991	Storing waste exemption	On a Farm	Storage of waste in a secure place





ID	Location	Site	Reference	Category	Sub- Category	Description
А	6m NE	-	WEX281991	Disposing of waste exemption	On a Farm	Burning waste in the open
А	6m NE	-	WEX281991	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
Α	6m NE	-	WEX281991	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
Α	6m NE	-	WEX281991	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
Α	6m NE	-	WEX281991	Using waste exemption	On a Farm	Use of waste for a specified purpose
Α	6m NE	-	WEX281991	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
А	6m NE	-	WEX141253	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
А	6m NE	-	WEX141253	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
А	6m NE	-	WEX141253	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
Α	6m NE	-	WEX141253	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
Α	6m NE	-	WEX141253	Using waste exemption	On a farm	Use of waste for a specified purpose
А	6m NE	-	WEX141253	Disposing of waste exemption	On a farm	Burning waste in the open
А	6m NE	-	WEX141253	Storing waste exemption	On a farm	Storage of waste in a secure place
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/KF0404HE /A001	Treating waste exemption	Agricultur al Waste Only	Treatment of waste in a biobed or biofilter





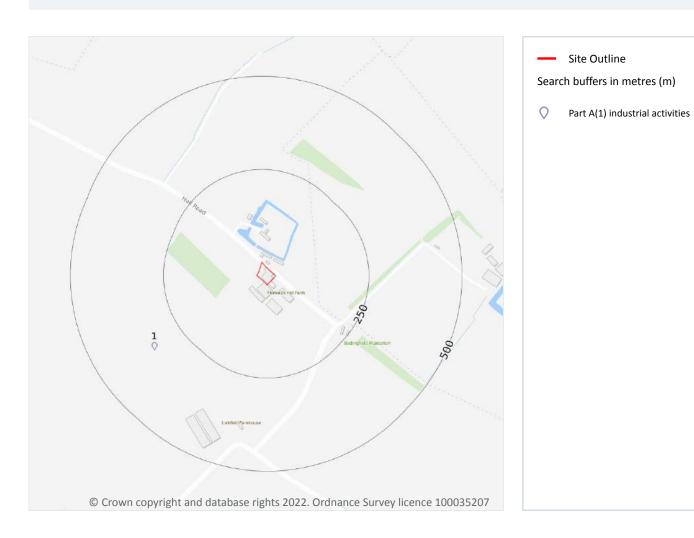
ID	Location	Site	Reference	Category	Sub- Category	Description
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Disposing of waste exemption	Agricultur al Waste Only	Deposit of waste from dredging of inland waters
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Disposing of waste exemption	Agricultur al Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Disposing of waste exemption	Agricultur al Waste Only	Burning waste in the open
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Storing waste exemption	Agricultur al Waste Only	Storage of waste in a secure place
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Treating waste exemption	Agricultur al Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Using waste exemption	Agricultur al Waste Only	Burning of waste as a fuel in a small appliance
В	229m SE	The Hall Hall Road EYE Suffolk IP23 7LJ	EPR/EH0273V M/A001	Using waste exemption	Agricultur al Waste Only	Use of waste for a specified purpose
В	234m SE	Bedingfield Hall, Bedingfield, Eye, IP23 7LJ	WEX108195	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter

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





## 4 Current industrial land use



#### 4.1 Recent industrial land uses

Records within 250m 0

Current potentially contaminative industrial sites.

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.





0

### 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

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 1

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 22

ID	Location	Details	
1	334m SW	Operator: COBB EUROPE LIMITED Installation Name: BEDINGFIELD POULTRY UNIT - EPR/FP3108SJ Process: INTENSIVE FARMING; > 40,000 POULTRY Permit Number: FP3108SJ Original Permit Number: FP3108SJ	EPR Reference: - Issue Date: 18/03/2021 Effective Date: 18/03/2021 Last date noted as effective: 13/06/2022 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.



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#### 4.12 Radioactive Substance Authorisations

Records within 500m 0

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

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

### 4.13 Licensed Discharges to controlled waters

Records within 500m 0

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

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

## 4.14 Pollutant release to surface waters (Red List)

Records within 500m 0

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

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

#### 4.15 Pollutant release to public sewer

Records within 500m 0

Discharges of Special Category Effluents to the public sewer.

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

#### **4.16 List 1 Dangerous Substances**

Records within 500m 0

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

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





#### **4.17 List 2 Dangerous Substances**

Records within 500m 0

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

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

### 4.18 Pollution Incidents (EA/NRW)

Records within 500m 0

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

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

### 4.19 Pollution inventory substances

Records within 500m 0

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

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

#### 4.20 Pollution inventory waste transfers

Records within 500m 0

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

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

## **4.21** Pollution inventory radioactive waste

Records within 500m

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.



Contact us with any questions at: Date: 19 August 2022

info@groundsure.com 08444 159 000



## 5 Hydrogeology - Superficial aquifer



## **5.1 Superficial aquifer**

Records within 500m 1

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on page 27

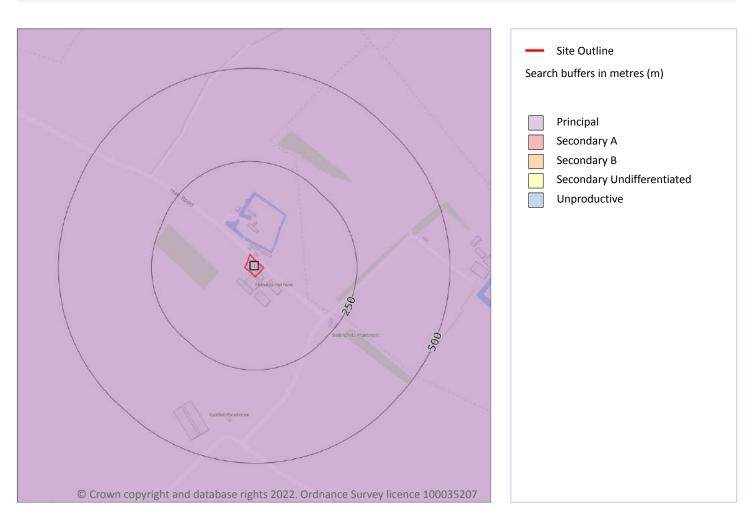
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics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

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





# **Bedrock aquifer**



## **5.2** Bedrock aquifer

Records within 500m 1

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on page 28

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

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





## **Groundwater vulnerability**



## 5.3 Groundwater vulnerability

Records within 50m 1

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 29





10	)	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1		On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular

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

### 5.4 Groundwater vulnerability- soluble rock risk

Records on site 0

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

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

### 5.5 Groundwater vulnerability- local information

Records on site 0

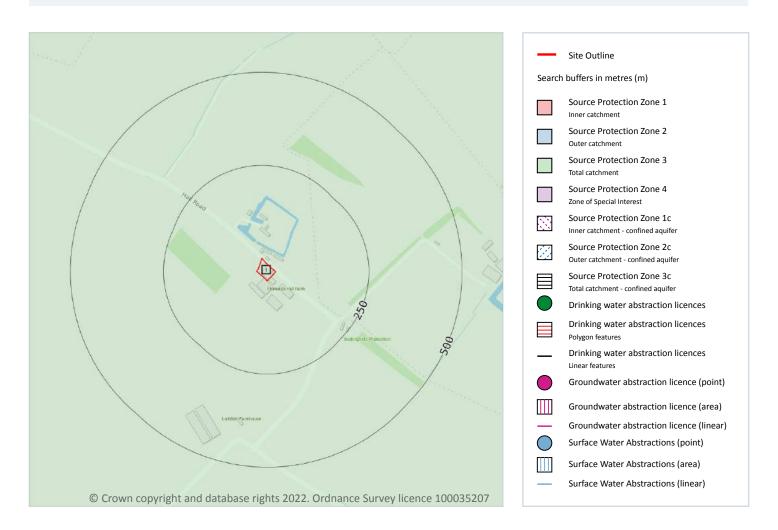
This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506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

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





## **Abstractions and Source Protection Zones**



#### 5.6 Groundwater abstractions

#### Records within 2000m 12

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

Features are displayed on the Abstractions and Source Protection Zones map on page 31





ID	Location	Details	
-	1508m N	Status: Historical Licence No: 7/34/17/*G/0018 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BORE AT SOUTHOLT FM,EYE Data Type: Point Name: JOHNSON Easting: 618670 Northing: 269250	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1966 Version End Date: -
-	1577m S	Status: Historical Licence No: 7/35/06/*G/0055 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BORE AT SYCAMORE FM,KENTON Data Type: Point Name: CHARLES LONG LTD Easting: 619150 Northing: 266210	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 01/08/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/08/1966 Version End Date: -
-	1931m W	Status: Historical Licence No: 7/34/17/*G/0073 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BORE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 29/04/1997 Expiry Date: 31/12/2006 Issue No: 102 Version Start Date: 19/02/2003 Version End Date: -
-	1931m W	Status: Historical Licence No: 7/34/17/*G/0078 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/10/2006 Expiry Date: 31/12/2011 Issue No: 2 Version Start Date: 30/11/2009 Version End Date: -
-	1931m W	Status: Historical Licence No: AN/034/0017/001 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/11/2011 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2012 Version End Date: -





ID	Location	Details	
-	1931m W	Status: Historical Licence No: AN/034/0017/001/L Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 01/04/2018 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1947m W	Status: Active Licence No: AN/034/0017/001/R01 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: Northumbrian Water Ltd Easting: 617338 Northing: 268366	Annual Volume (m³): 200,000 Max Daily Volume (m³): 1,600 Original Application No: NPS/WR/007220 Original Start Date: 29/08/2018 Expiry Date: 31/12/2022 Issue No: 1 Version Start Date: 29/08/2018 Version End Date: -
-	1957m W	Status: Active Licence No: AN/034/0017/001/R01 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: Northumbrian Water Ltd Easting: 617350 Northing: 268436	Annual Volume (m³): 200,000 Max Daily Volume (m³): 1,600 Original Application No: NPS/WR/007220 Original Start Date: 29/08/2018 Expiry Date: 31/12/2022 Issue No: 1 Version Start Date: 29/08/2018 Version End Date: -
-	1974m W	Status: Historical Licence No: 7/34/17/*G/0073 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 29/04/1997 Expiry Date: 31/12/2006 Issue No: 102 Version Start Date: 19/02/2003 Version End Date: -
-	1974m W	Status: Historical Licence No: 7/34/17/*G/0078 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/10/2006 Expiry Date: 31/12/2011 Issue No: 2 Version Start Date: 30/11/2009 Version End Date: -





ID	Location	Details	
-	1974m W	Status: Historical Licence No: AN/034/0017/001 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/11/2011 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2012 Version End Date: -
-	1974m W	Status: Historical Licence No: AN/034/0017/001/L Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 01/04/2018 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -

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

#### **5.7 Surface water abstractions**

Records within 2000m 0

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

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

#### 5.8 Potable abstractions

Records within 2000m 10

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

Features are displayed on the Abstractions and Source Protection Zones map on page 31

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ID	Location	Details	
-	1931m W	Status: Historical Licence No: 7/34/17/*G/0073 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BORE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 29/04/1997 Expiry Date: 31/12/2006 Issue No: 102 Version Start Date: 19/02/2003 Version End Date: -
-	1931m W	Status: Historical Licence No: 7/34/17/*G/0078 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/10/2006 Expiry Date: 31/12/2011 Issue No: 2 Version Start Date: 30/11/2009 Version End Date: -
-	1931m W	Status: Historical Licence No: AN/034/0017/001 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/11/2011 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2012 Version End Date: -
-	1931m W	Status: Historical Licence No: AN/034/0017/001/L Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617350 Northing: 268350	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 01/04/2018 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1947m W	Status: Active Licence No: AN/034/0017/001/R01 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: Northumbrian Water Ltd Easting: 617338 Northing: 268366	Annual Volume (m³): 200,000 Max Daily Volume (m³): 1,600 Original Application No: NPS/WR/007220 Original Start Date: 29/08/2018 Expiry Date: 31/12/2022 Issue No: 1 Version Start Date: 29/08/2018 Version End Date: -





ID	Location	Details	
-	1957m W	Status: Active Licence No: AN/034/0017/001/R01 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: Northumbrian Water Ltd Easting: 617350 Northing: 268436	Annual Volume (m³): 200,000 Max Daily Volume (m³): 1,600 Original Application No: NPS/WR/007220 Original Start Date: 29/08/2018 Expiry Date: 31/12/2022 Issue No: 1 Version Start Date: 29/08/2018 Version End Date: -
-	1974m W	Status: Historical Licence No: 7/34/17/*G/0073 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 29/04/1997 Expiry Date: 31/12/2006 Issue No: 102 Version Start Date: 19/02/2003 Version End Date: -
-	1974m W	Status: Historical Licence No: 7/34/17/*G/0078 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/10/2006 Expiry Date: 31/12/2011 Issue No: 2 Version Start Date: 30/11/2009 Version End Date: -
-	1974m W	Status: Historical Licence No: AN/034/0017/001 Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 25/11/2011 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2012 Version End Date: -
-	1974m W	Status: Historical Licence No: AN/034/0017/001/L Details: Potable Water Supply - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BEDINGFIELD Data Type: Point Name: NORTHUMBRIAN WATER LTD Easting: 617340 Northing: 268460	Annual Volume (m³): 200000 Max Daily Volume (m³): 1600 Original Application No: - Original Start Date: 01/04/2018 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -

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





#### **5.9 Source Protection Zones**

Records within 500m 1

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on page 31

ID	Location	Туре	Description
1	On site	3	Total catchment

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**



## **6.1 Water Network (OS MasterMap)**

Records within 250m 0

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

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 38

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 38

2	On site	River	catchment  Chickering Beck	GB105034045690	catchment	catchment  Broadland Rivers
ID	Location	Туре	Water body	Water body ID	Operational	Management

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

#### 6.4 WFD Surface water bodies

Records identified 1

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

Features are displayed on the Hydrology map on page 38

ID	Location	Туре	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
_	4630m NE	River	Chickering Beck	GB105034045690	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. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on page 38

ID	Location	Name	Water body ID	er body ID Overall rating Ch		Quantitative	Year
1	On site	Waveney and East Suffolk Chalk & Crag	GB40501G400600	Poor	Poor	Poor	2019

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) 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.



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# **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

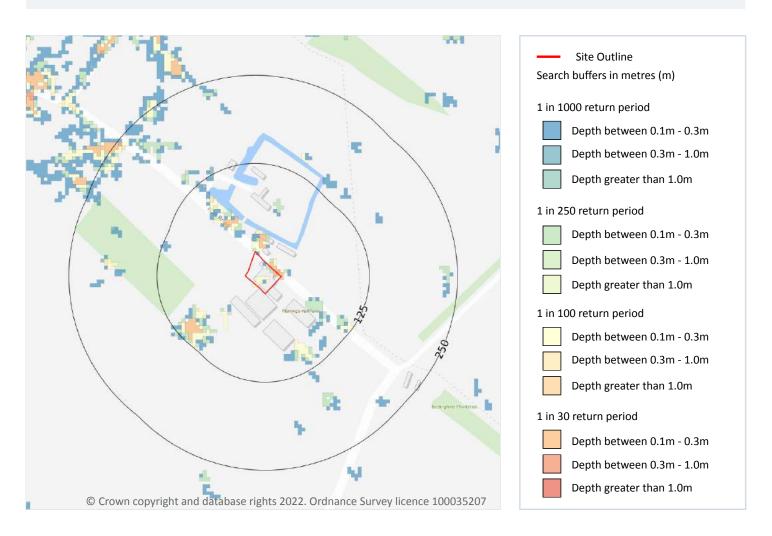
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

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





# 8 Surface water flooding



#### 8.1 Surface water flooding

Highest risk on site	1 in 30 year, 0.1m - 0.3m
Highest risk within 50m	1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on page 44

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 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.





# 9 Groundwater flooding



### 9.1 Groundwater flooding

Highest risk on site	Low
Highest risk within 50m	Low

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 46

This data is sourced from Ambiental Risk Analytics.





# 10 Environmental designations

### 10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m 0

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

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

#### 10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

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

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

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

## 10.4 Special Protection Areas (SPA)

Records within 2000m

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 0

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

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

#### **10.8 Biosphere Reserves**

Records within 2000m 0

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

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





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#### 10.9 Forest Parks

Records within 2000m

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 5

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

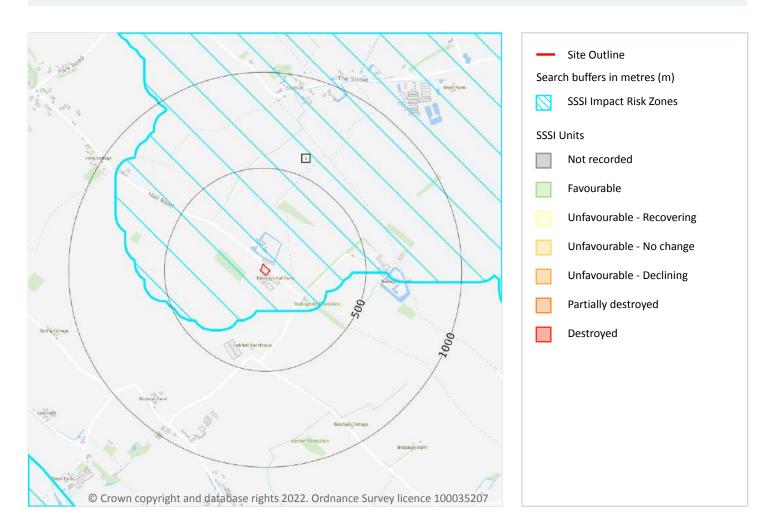
Location	Name	Туре	NVZ ID	Status
On site	Deben NVZ	Surface Water	419	Existing
On site	Sandlings and Chelmsford	Groundwater	78	Existing
21m N	River Waveney NVZ	Surface Water	396	Existing
1803m S	Deben NVZ	Surface Water	419	Existing
1803m S	Sandlings and Chelmsford	Groundwater	78	Existing

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 1

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

Features are displayed on the SSSI Impact Zones and Units map on page 51

ID	Location	Type of developments requiring consultation
1	On site	Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

This data is sourced from Natural England.





#### 10.18 SSSI Units

Records within 2000m 0

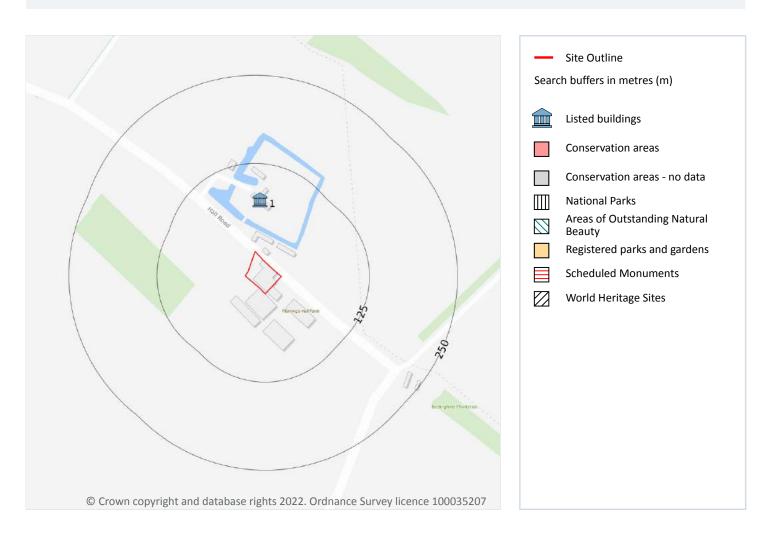
Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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 1

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 53

ID	Location	Name	Grade	Reference Number	Listed date
1	74m N	Fleming's Hall, Bedingfield, Mid Suffolk, Suffolk, IP23	*	1032413	29/07/1955

info@groundsure.com 08444 159 000

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



# 12.1 Agricultural Land Classification

### Records within 250m 1

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 56

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

This data is sourced from Natural England.





#### 12.2 Open Access Land

Records within 250m 0

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

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

#### **12.3 Tree Felling Licences**

Records within 250m 0

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

This data is sourced from the Forestry Commission.

### 12.4 Environmental Stewardship Schemes

Records within 250m 0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. 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 2

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.

l	Location	Reference	Scheme	Start Date	End Date	
(	On site	513256	Countryside Stewardship (Middle Tier)	01/01/2018	31/12/2022	
2	21m E	513256	Countryside Stewardship (Middle Tier)	01/01/2018	31/12/2022	

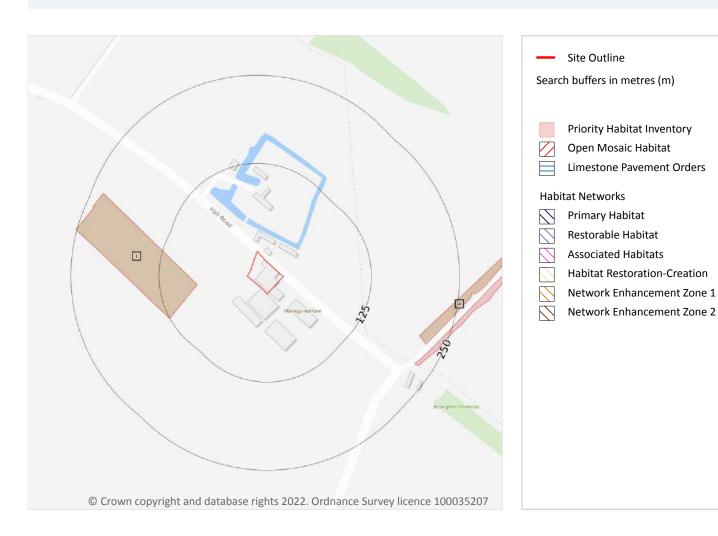
This data is sourced from Natural England.



08444 159 000



# 13 Habitat designations



## **13.1 Priority Habitat Inventory**

Records within 250m 3

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

Features are displayed on the Habitat designations map on page 58

ID	Location	Main Habitat	Other habitats
1	72m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
Α	211m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
Α	224m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.



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#### 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

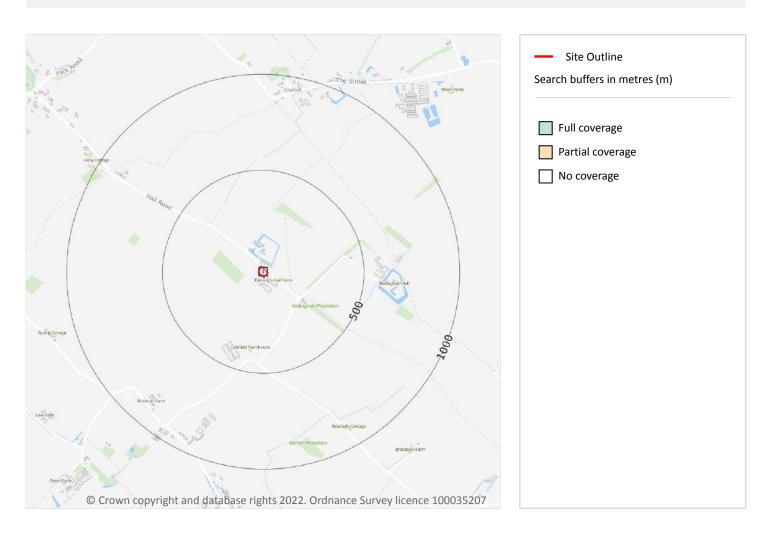
Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened 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



## 14.1 10k Availability

#### Records within 500m

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 60

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

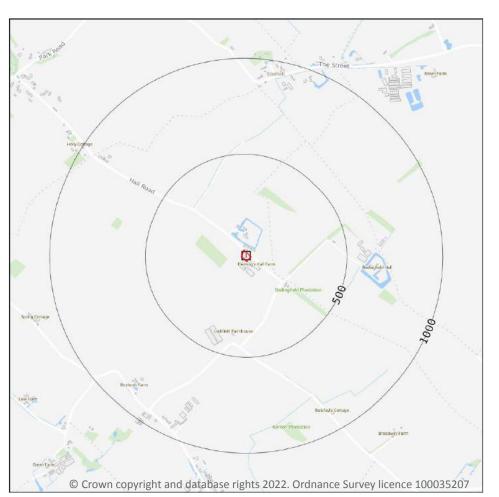
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

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 1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on page 64

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	EW190_eye_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)

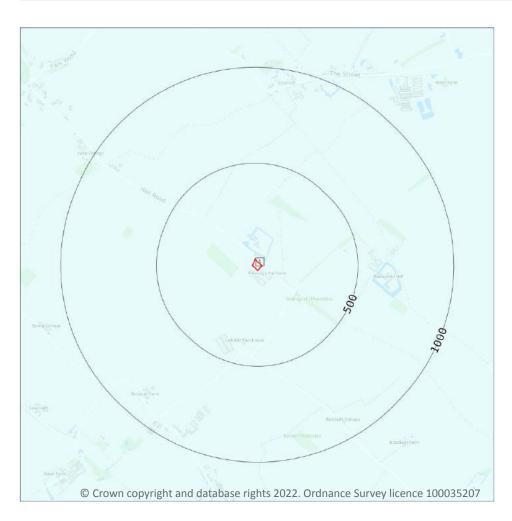
Records within 50m 0

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).





# 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

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 66

ID	Location	LEX Code	Description	Rock description
1	On site	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON





1

### 15.5 Superficial permeability (50k)

Records within 50m

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Moderate	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)

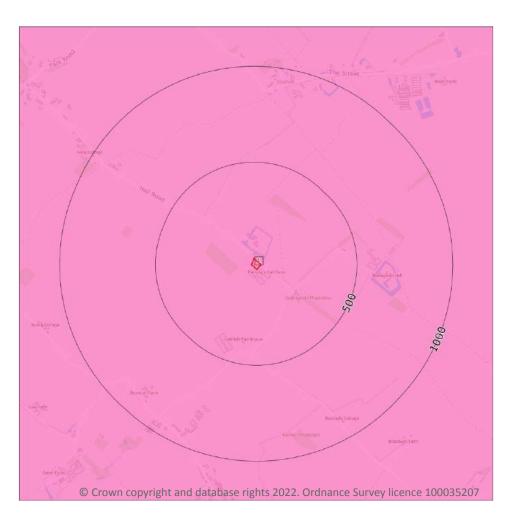
Records within 50m 0

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).





# Geology 1:50,000 scale - Bedrock



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

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 68

ID	Location	LEX Code	Description	Rock age
1	On site	CRAG-S	CRAG GROUP - SAND	-

This data is sourced from the British Geological Survey.





### 15.9 Bedrock permeability (50k)

Records within 50m

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	Intergranular	High	High

This data is sourced from the British Geological Survey.

## 15.10 Bedrock faults and other linear features (50k)

Records within 500m 0

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





# **16 Boreholes**

#### 16.1 BGS Boreholes

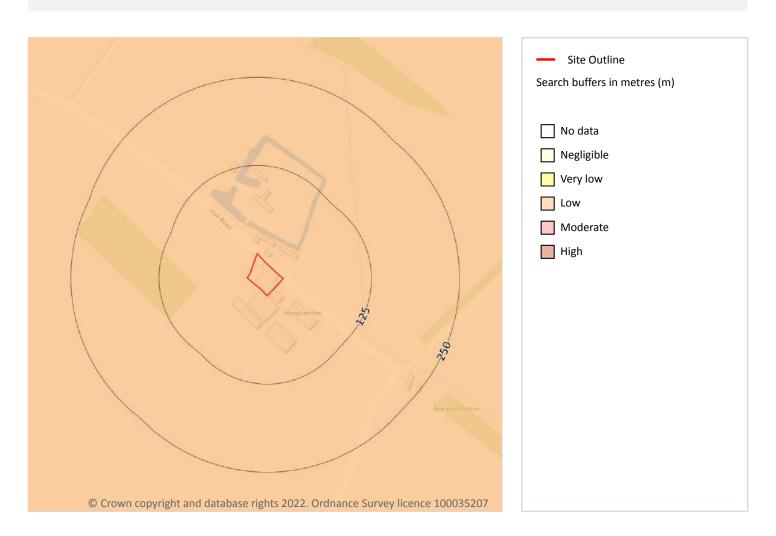
Records within 250m 0

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.





# 17 Natural ground subsidence - Shrink swell clays



## 17.1 Shrink swell clays

Records within 50m 1

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on page 71

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

This data is sourced from the British Geological Survey.





# Natural ground subsidence - Running sands



### 17.2 Running sands

Records within 50m 1

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

Features are displayed on the Natural ground subsidence - Running sands map on page 72

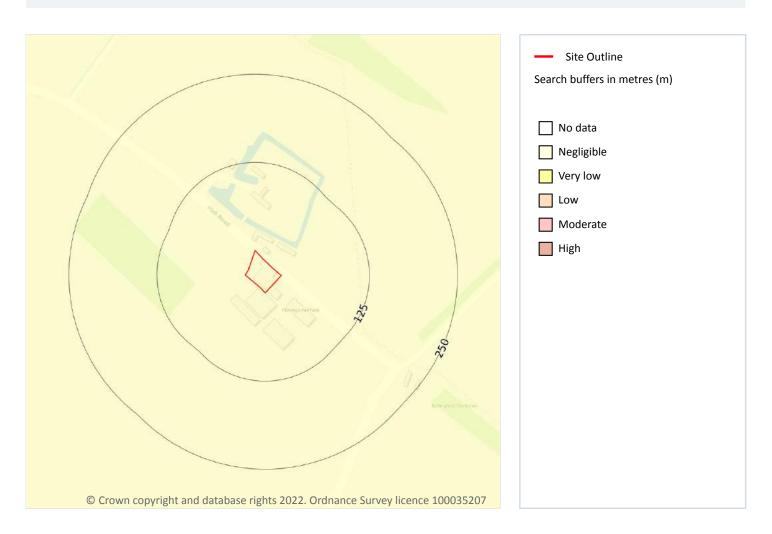
Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.





# Natural ground subsidence - Compressible deposits



## 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 73

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



# 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 74

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**



#### 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 75

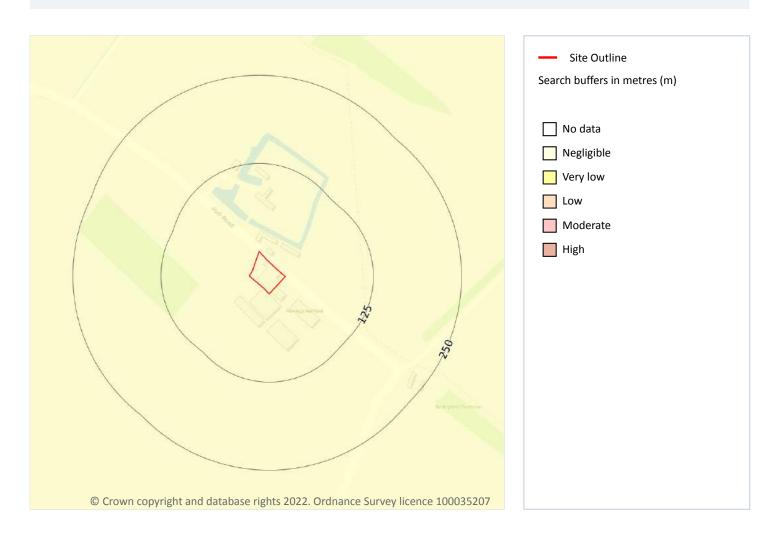
Locatio	n Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.





# Natural ground subsidence - Ground dissolution of soluble rocks



#### 17.6 Ground dissolution of soluble rocks

Records within 50m 1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on page 76

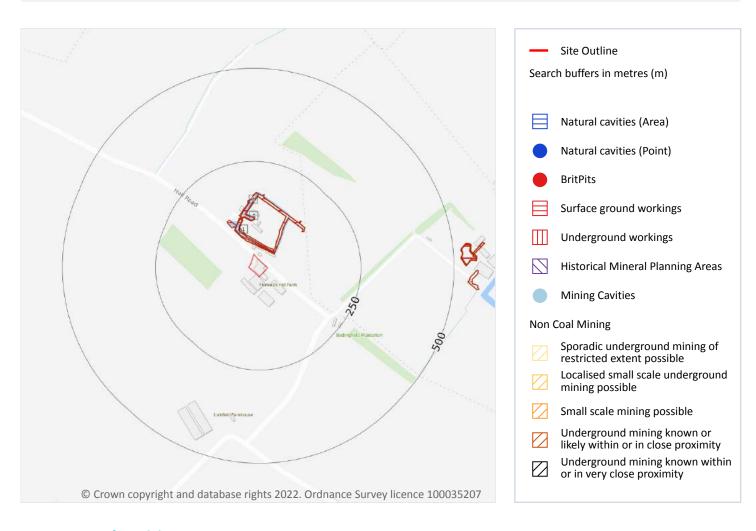
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

This data is sourced from the British Geological Survey.





# 18 Mining, ground workings and natural cavities



# 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 4

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 77

ID	Location	Land Use	Year of mapping	Mapping scale
Α	25m NE	Fish Pond	1947	1:10560
А	25m NE	Fish Pond	1884	1:10560
1	28m NE	Fish Pond	1952	1:10560
2	91m N	Fish Pond	1905	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

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

This data is sourced from the British Geological Survey.





## 18.6 Non-coal mining

Records within 1000m 0

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

This data is sourced from the British Geological Survey.

# **18.7 Mining cavities**

Records within 1000m 0

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

This data is sourced from Stantec UK Ltd.

# 18.8 JPB mining areas

Records on site 0

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

This data is sourced from Johnson Poole and Bloomer.

#### 18.9 Coal mining

Records on site 0

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

This data is sourced from the Coal Authority.

#### 18.10 Brine areas

Records on site 0

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

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





# 18.11 Gypsum areas

Records on site 0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

# **18.12 Tin mining**

Records on site 0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

# 18.13 Clay mining

Records on site 0

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

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





# 19 Radon



#### **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 81

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

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





# 20 Soil chemistry

# 20.1 BGS Estimated Background Soil Chemistry

Records within 50m 1

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

Arsenic Lead		
	40 - 60 mg/kg	

This data is sourced from the British Geological Survey.

## **20.2 BGS Estimated Urban Soil Chemistry**

Records within 50m 0

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

This data is sourced from the British Geological Survey.

#### 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

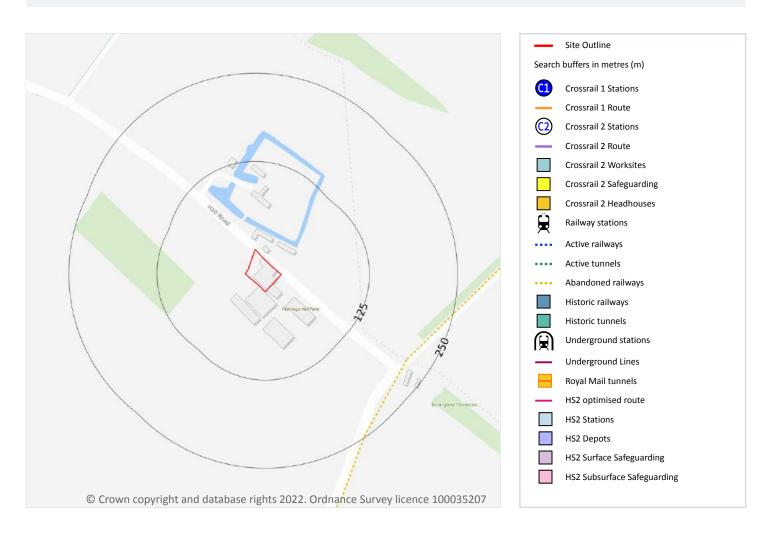
The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

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

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

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 2

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

Features are displayed on the Railway infrastructure and projects map on page 83

This data is sourced from OpenStreetMap.



Contact us with any questions at: Date: 19 August 2022

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## 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.





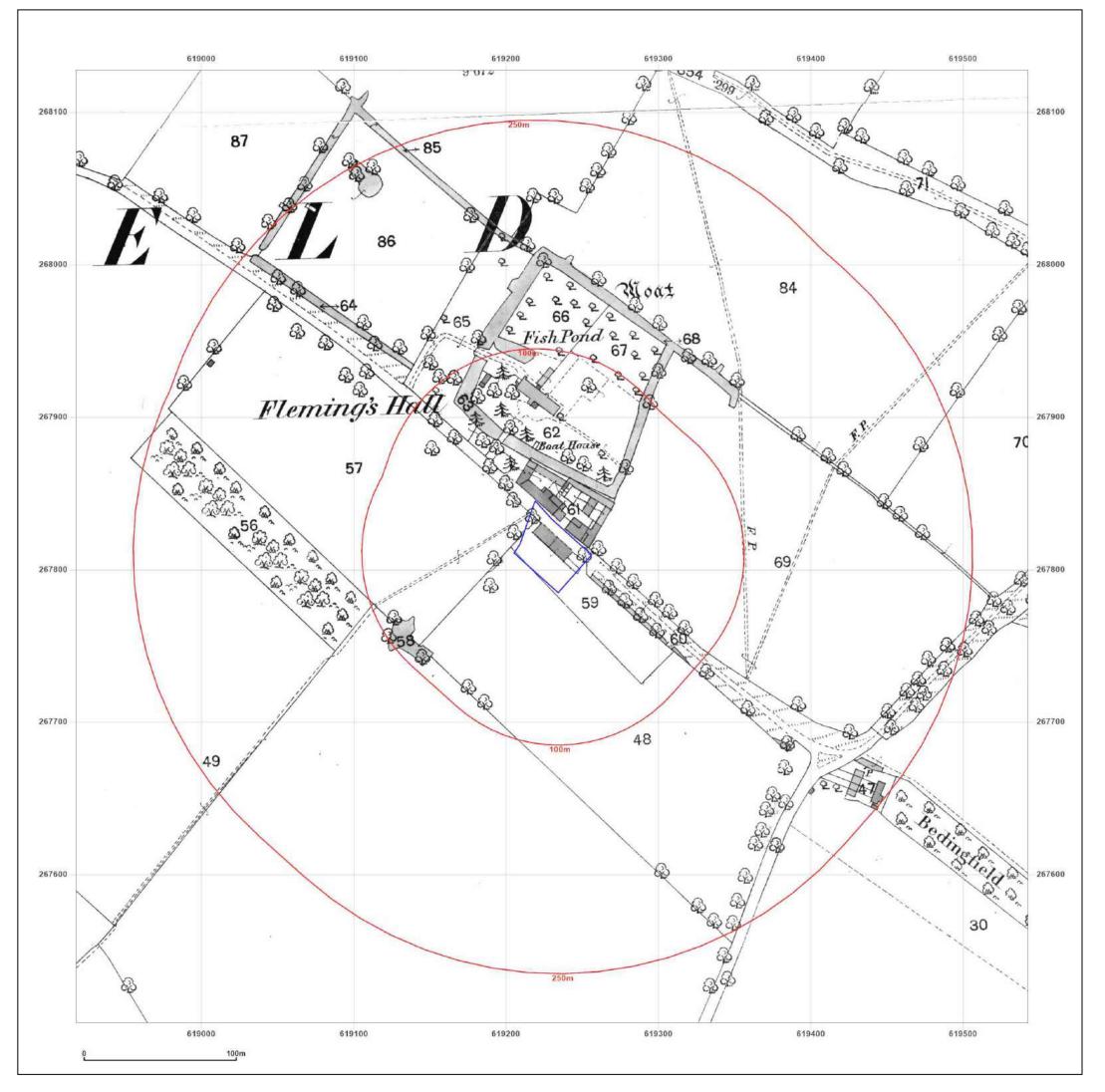
# **Data providers**

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 <a href="https://www.groundsure.com/sources-reference">https://www.groundsure.com/sources-reference</a>.

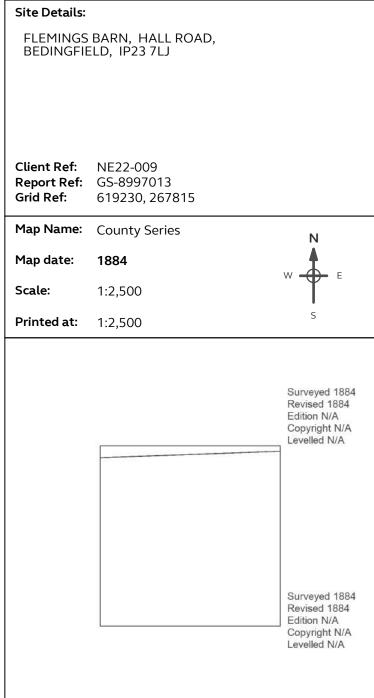
# **Terms and conditions**

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







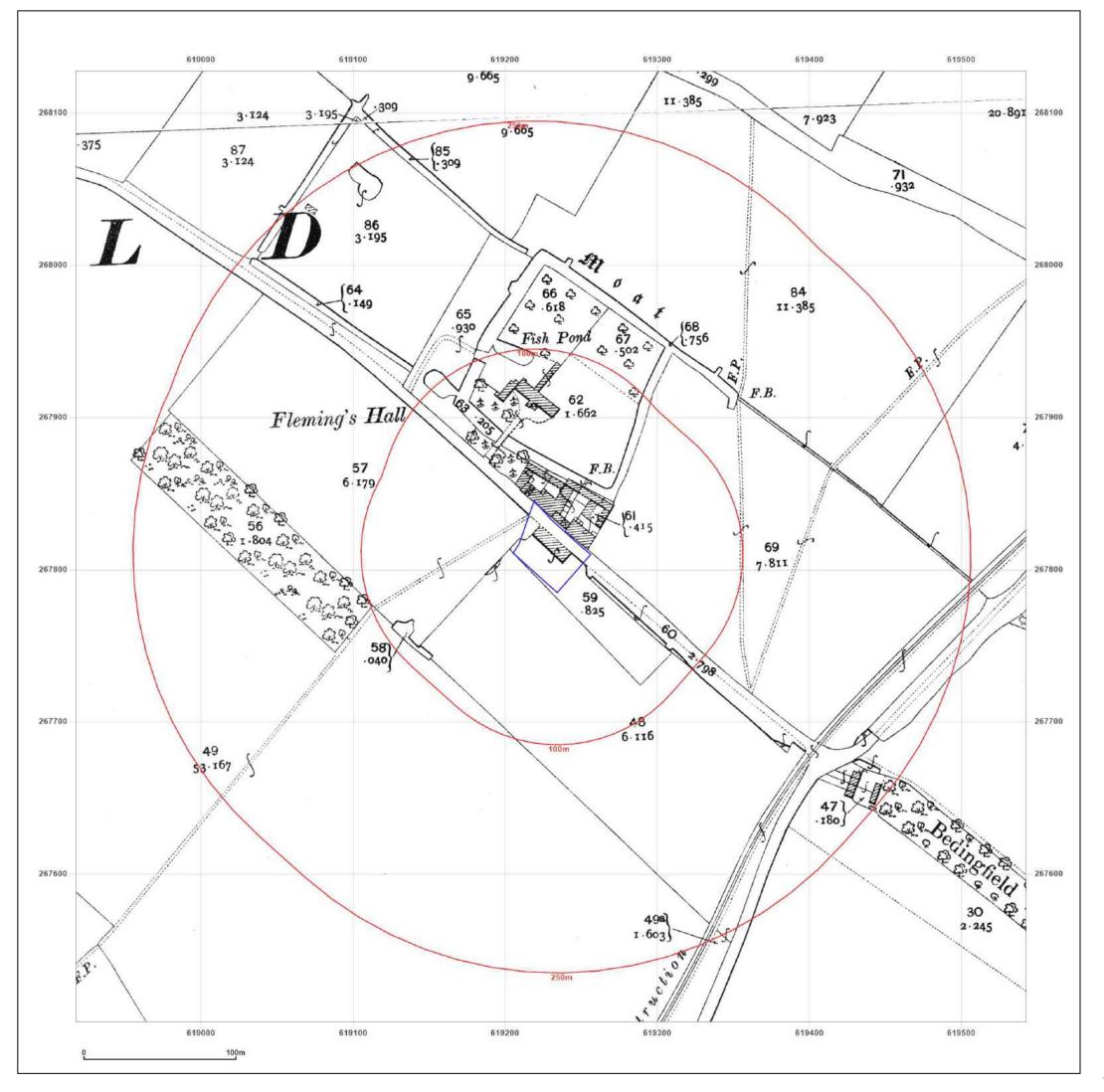




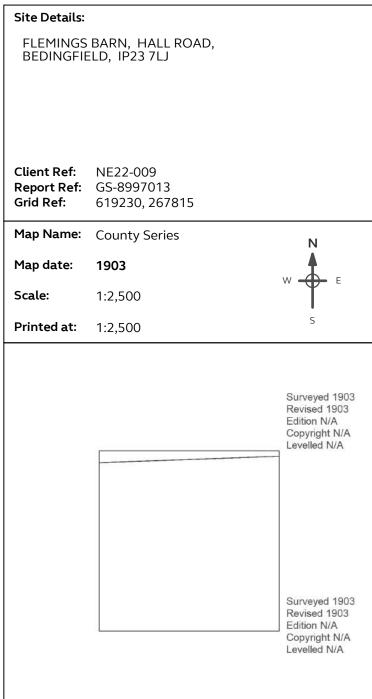
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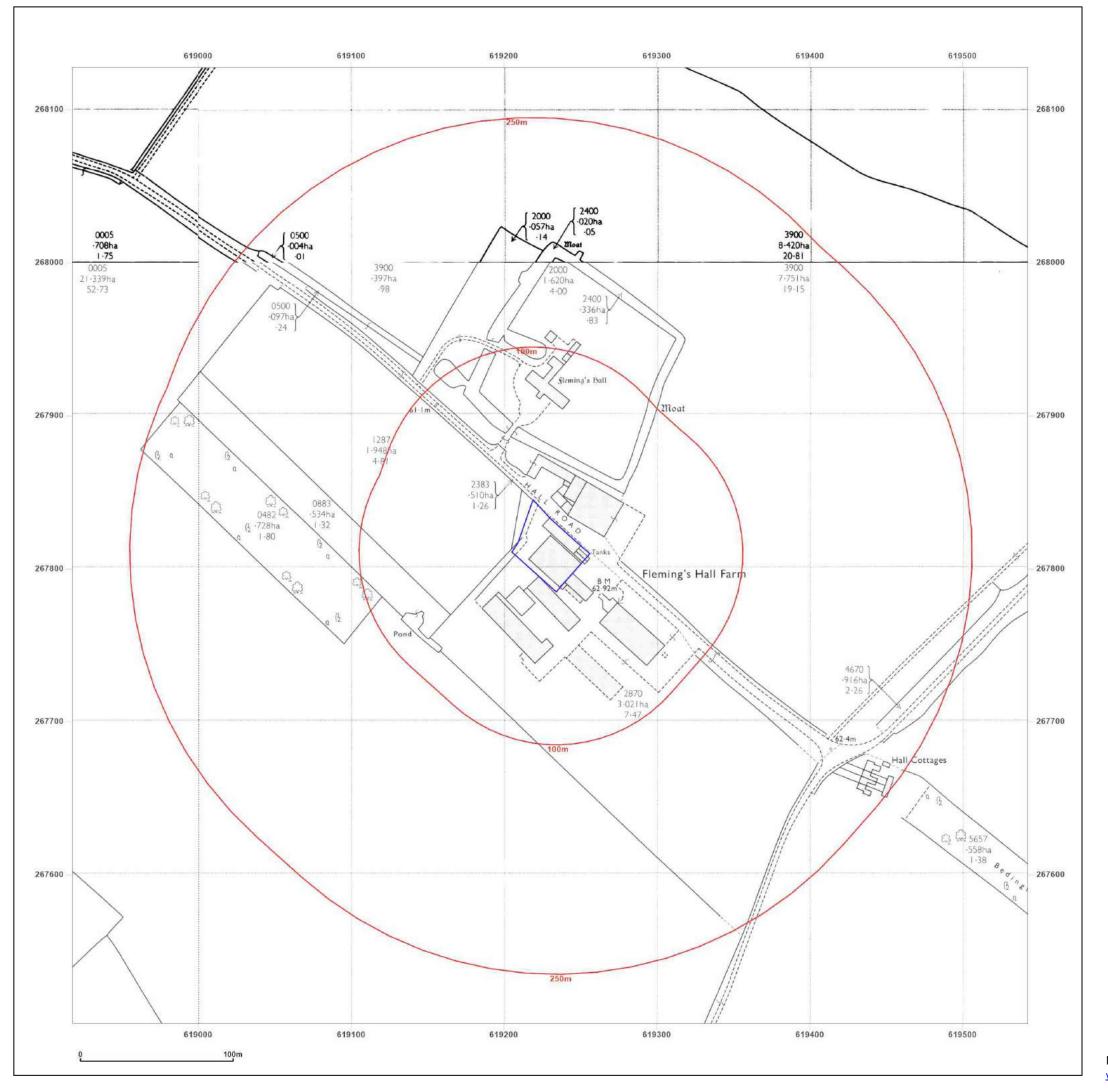




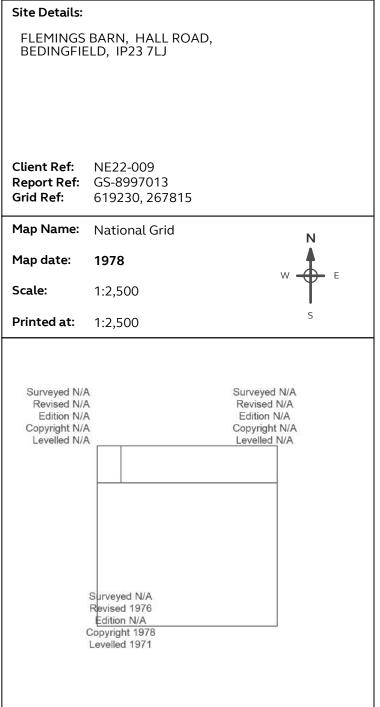
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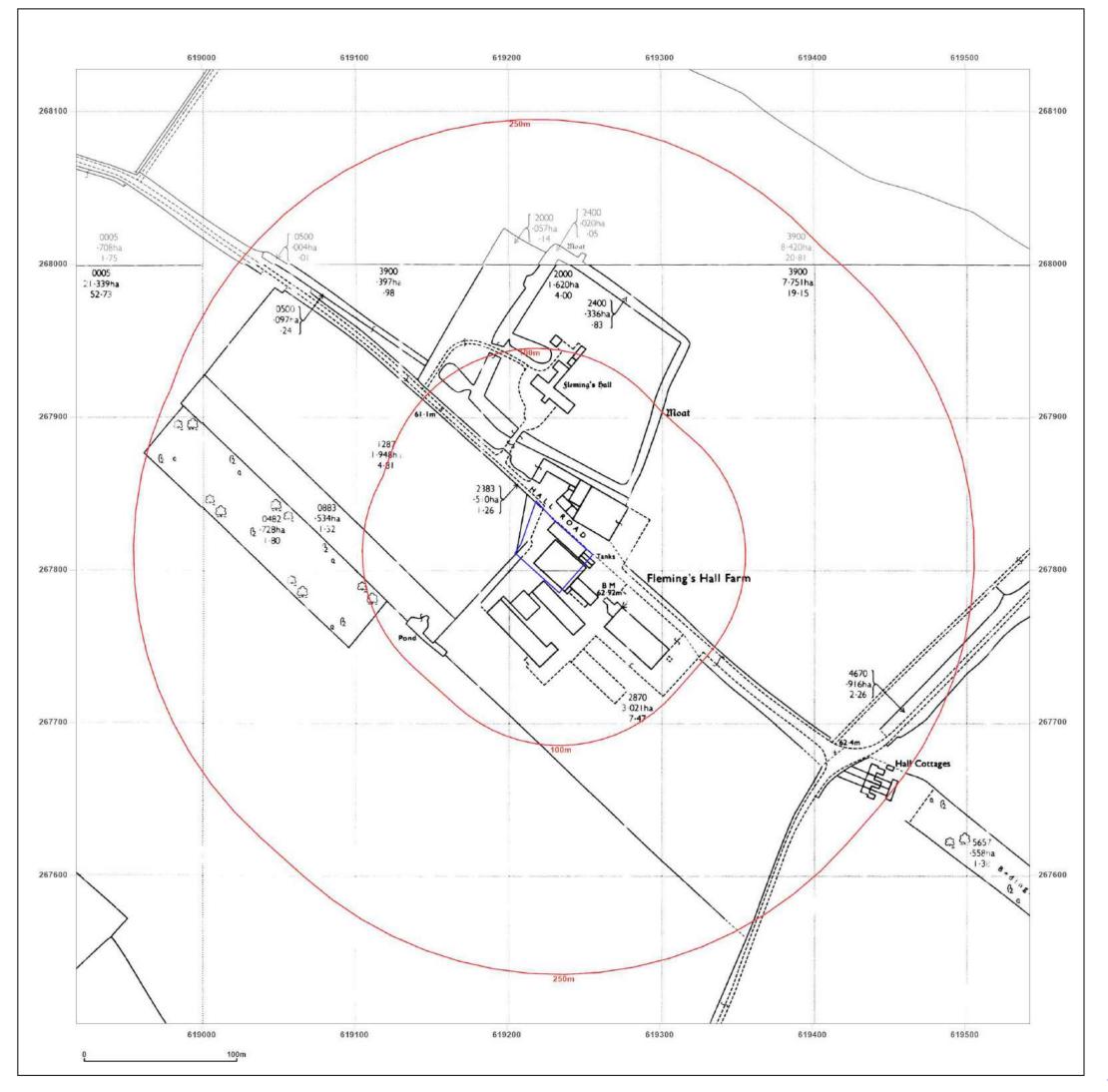




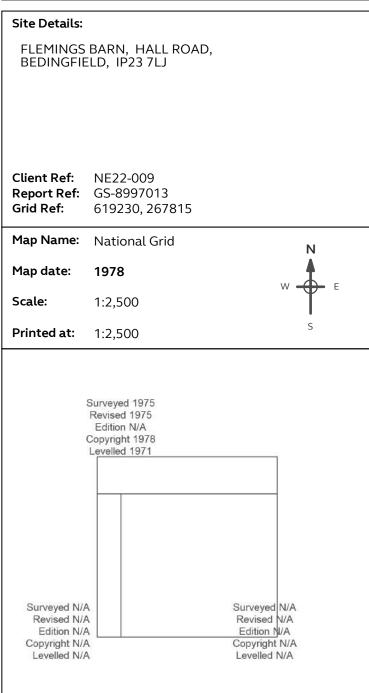
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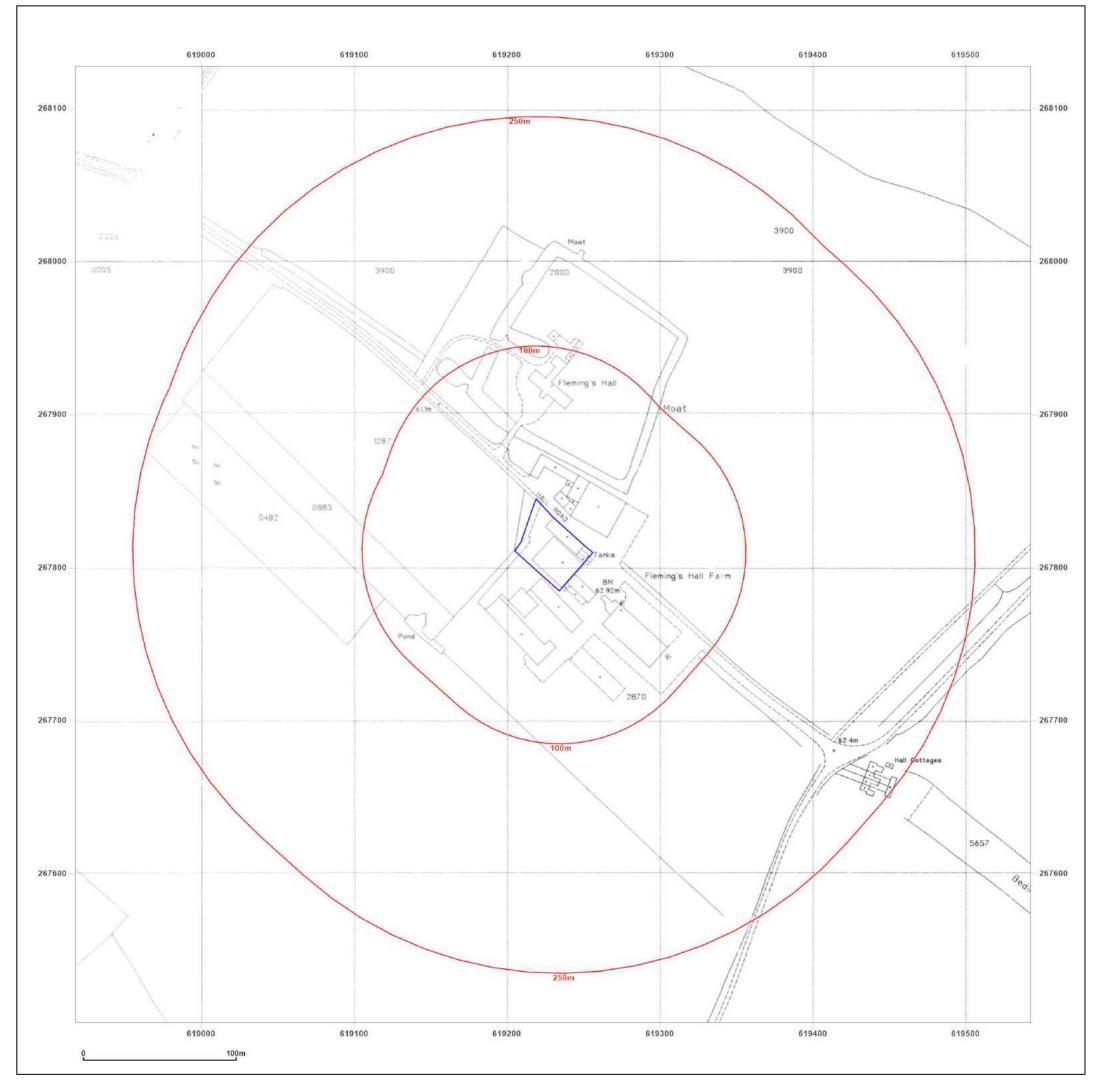




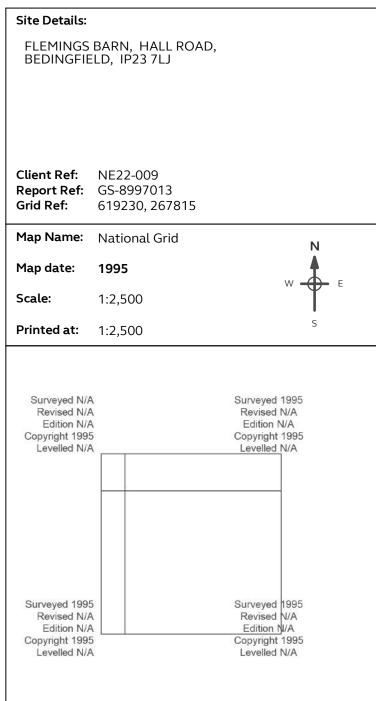
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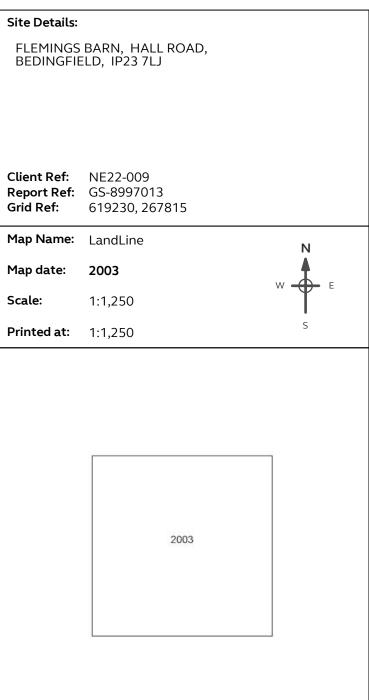
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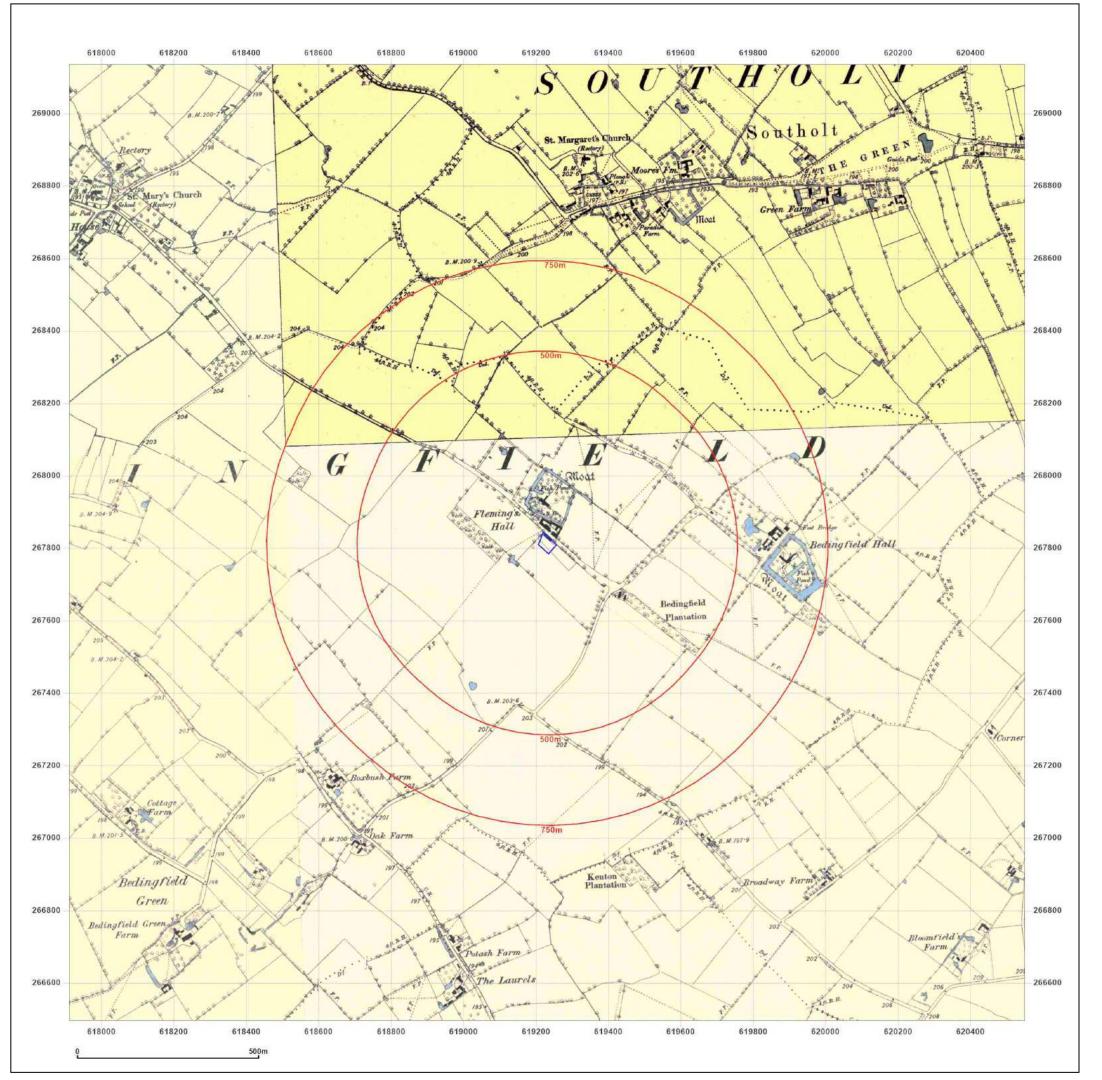




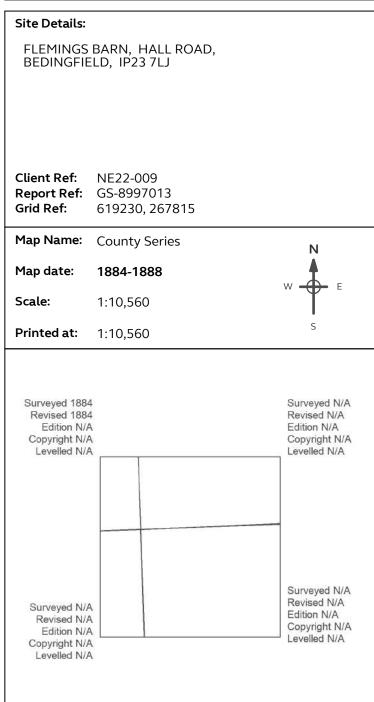
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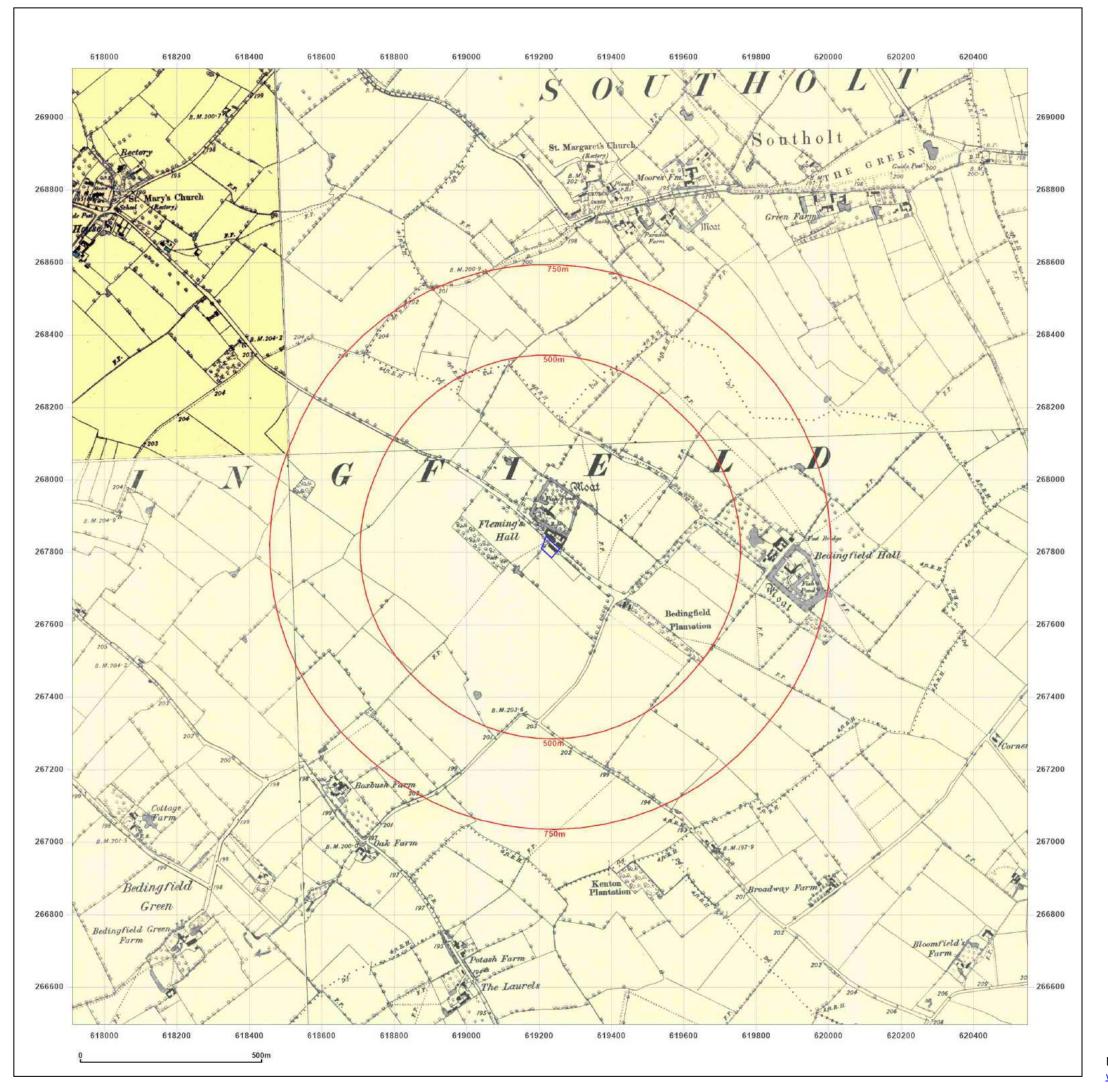




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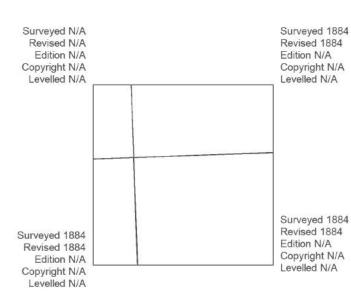
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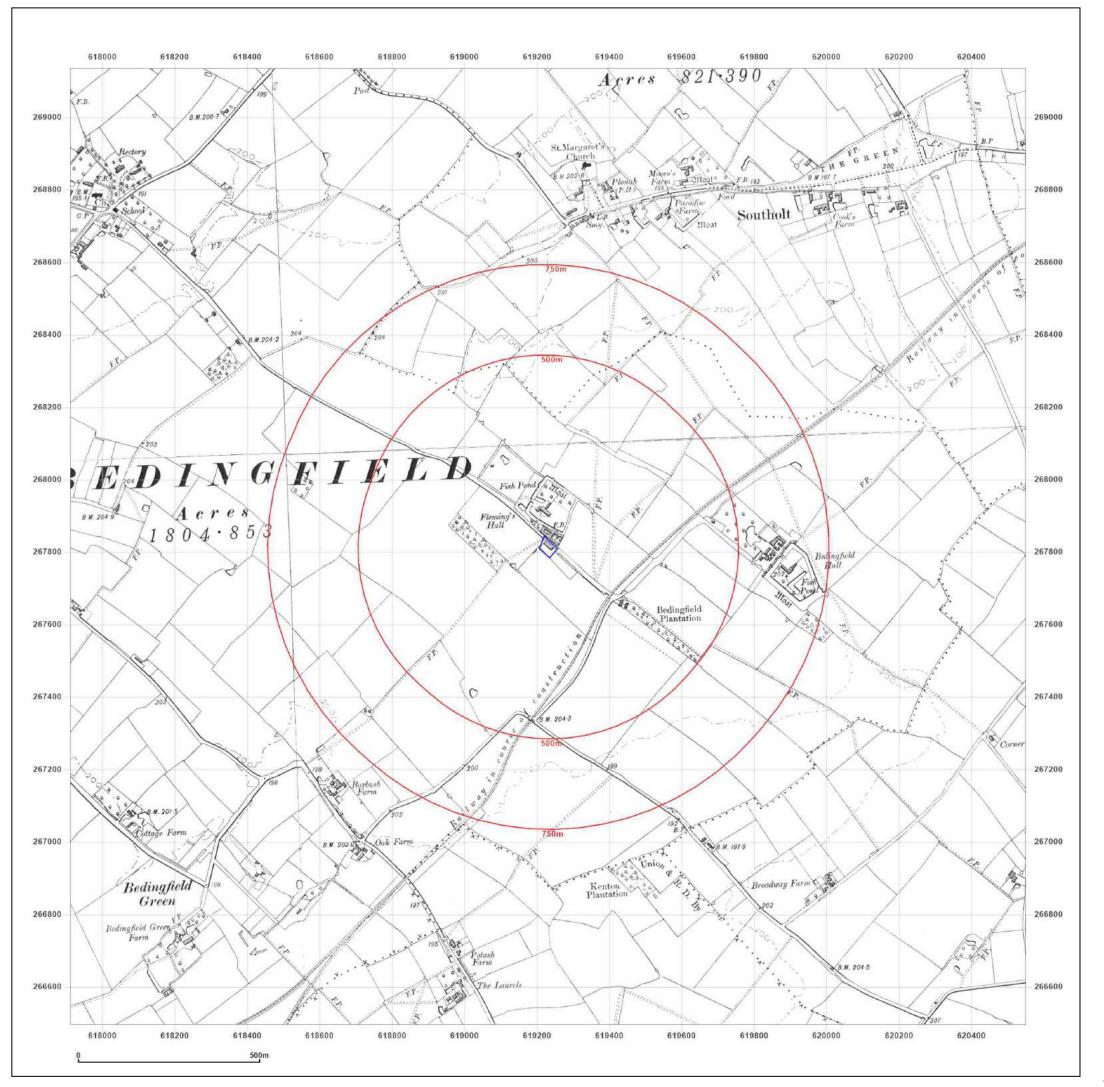


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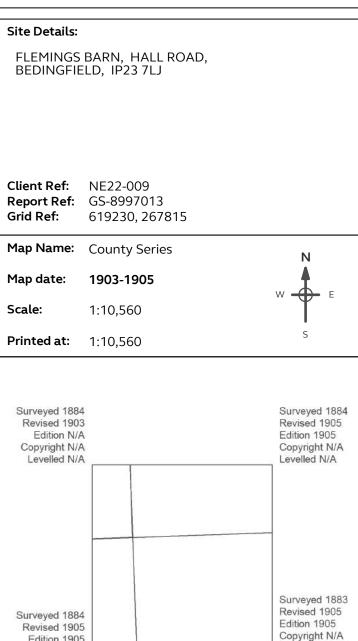
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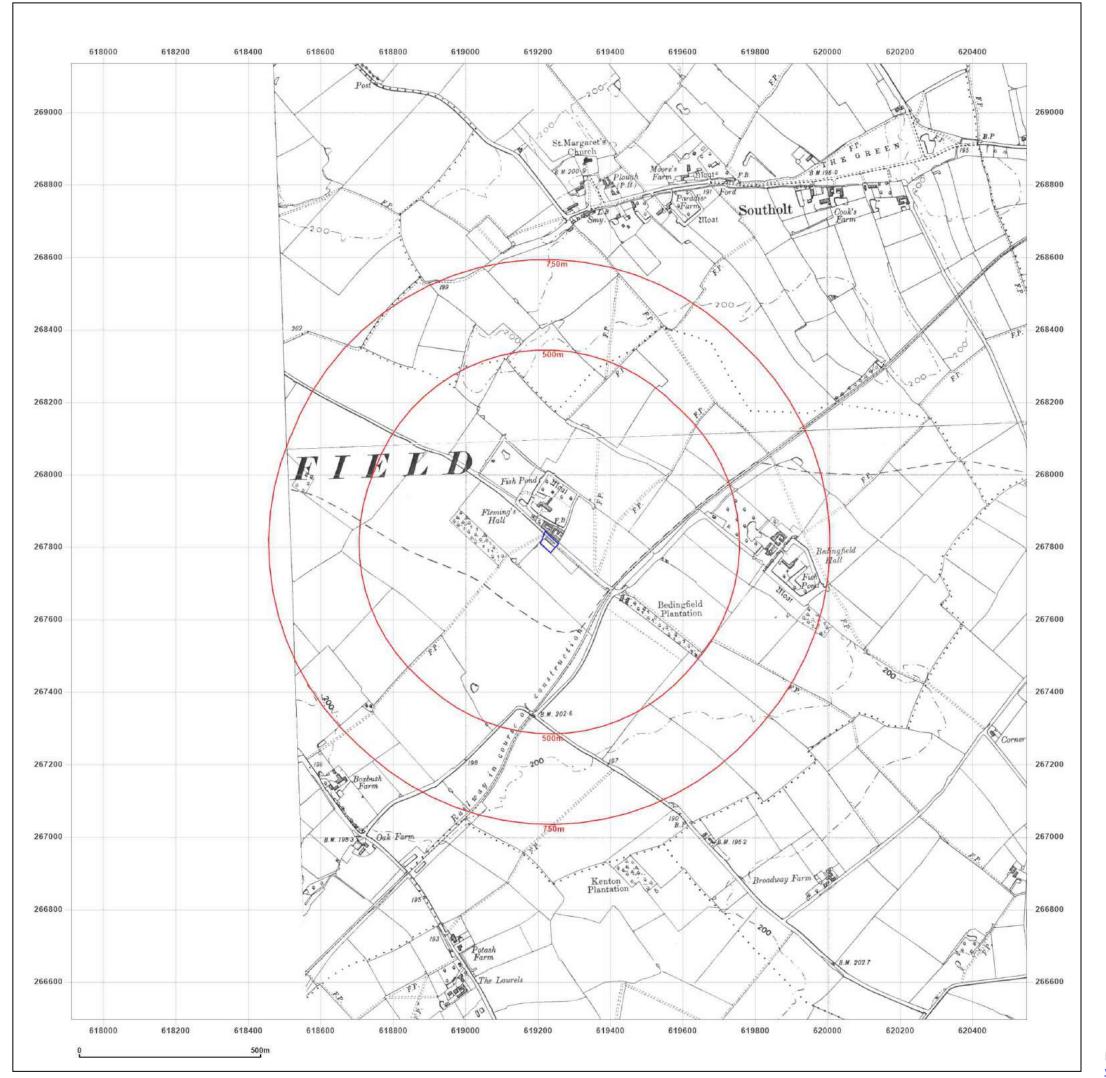
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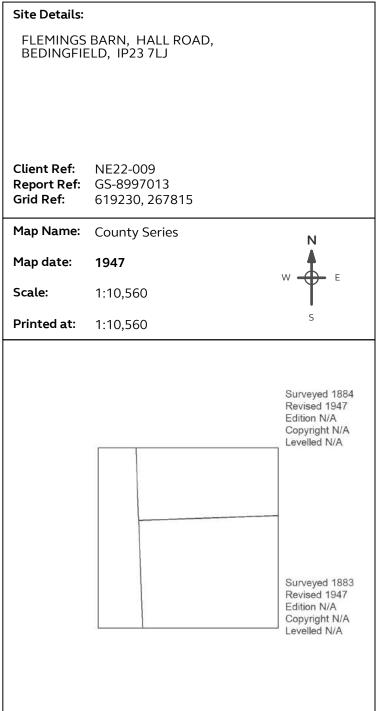
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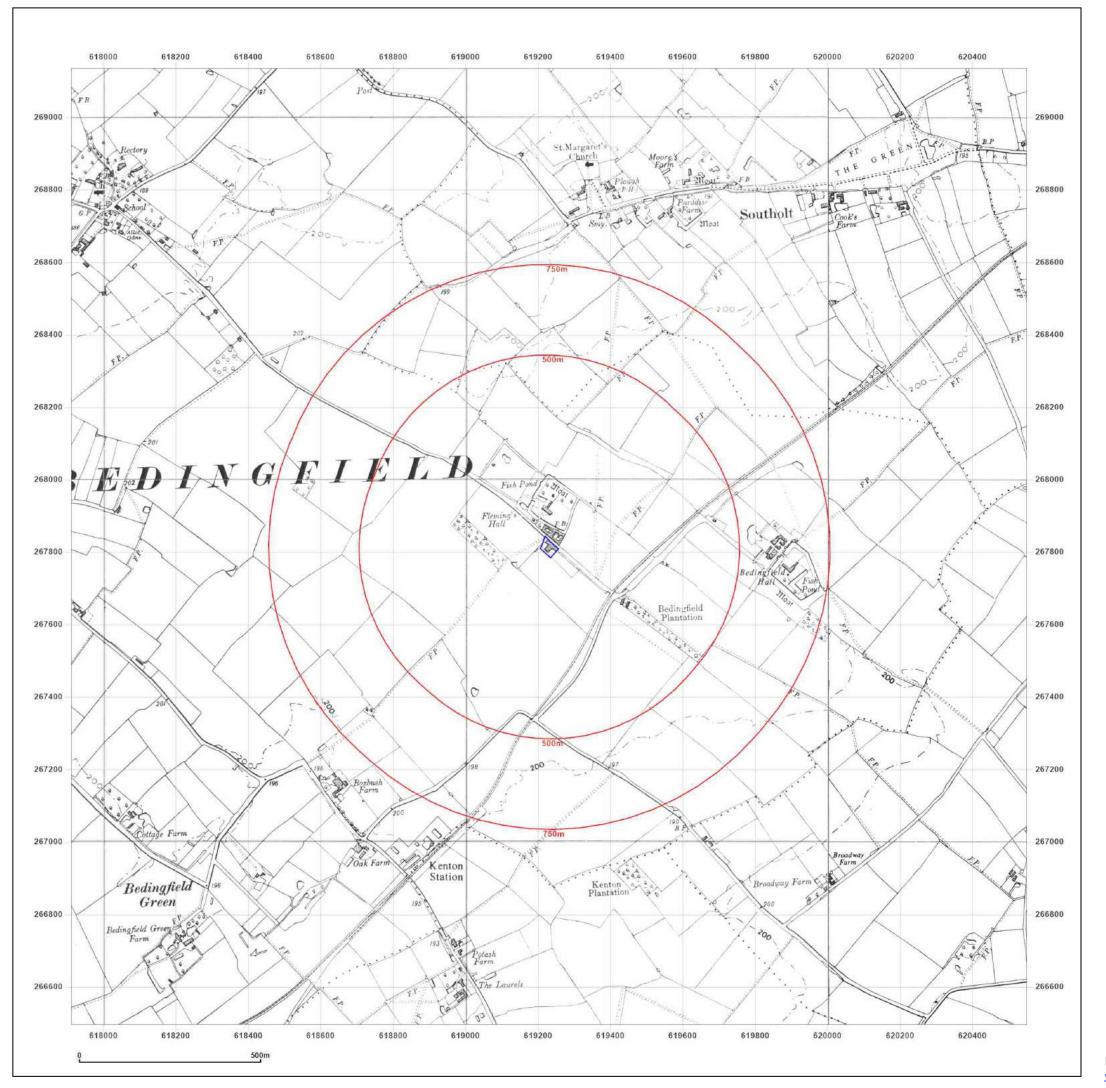




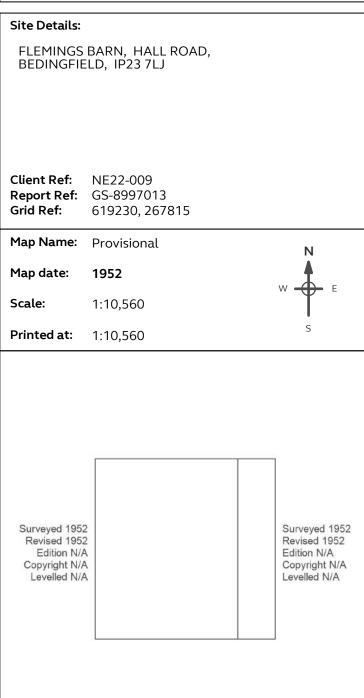
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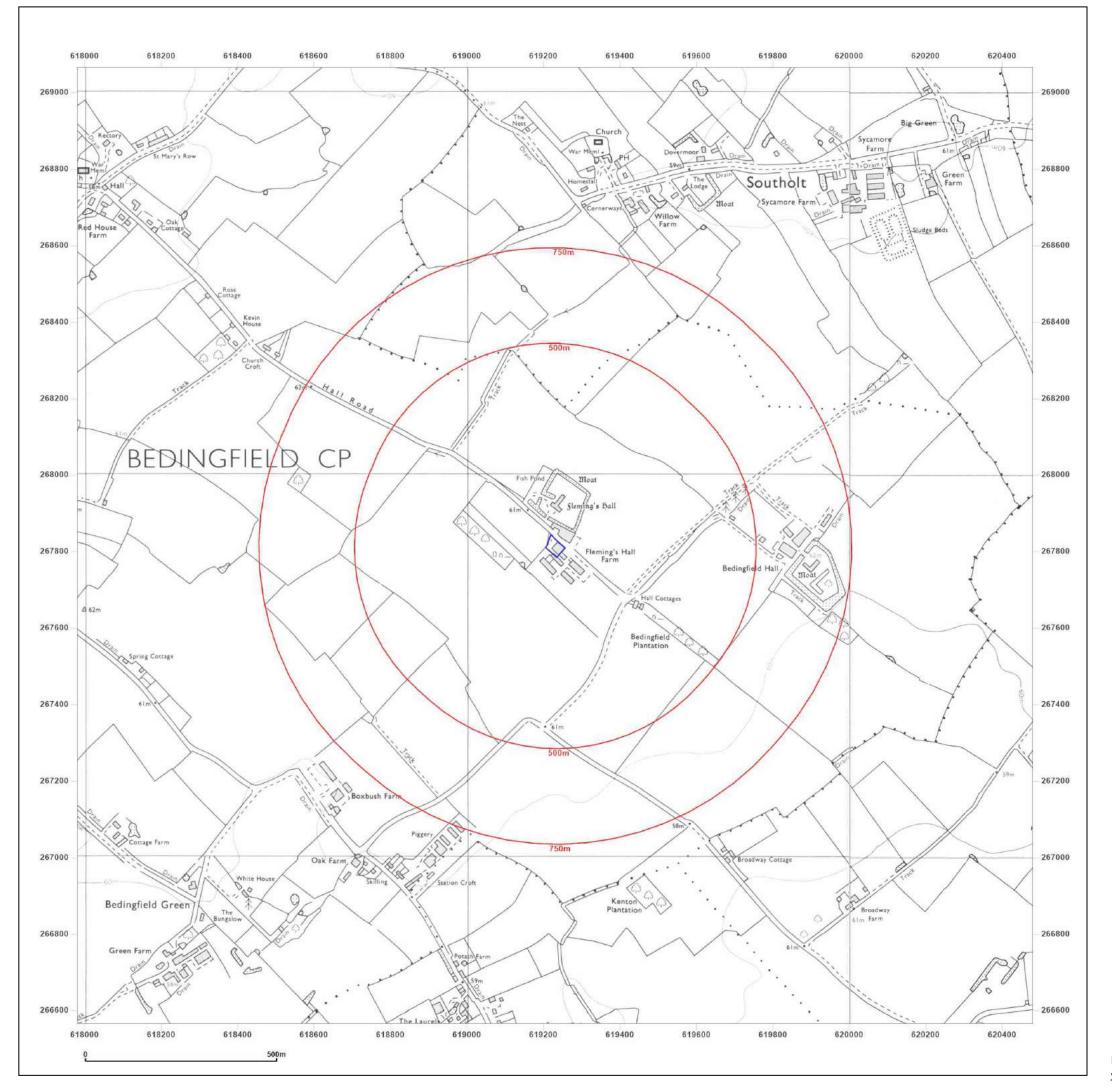




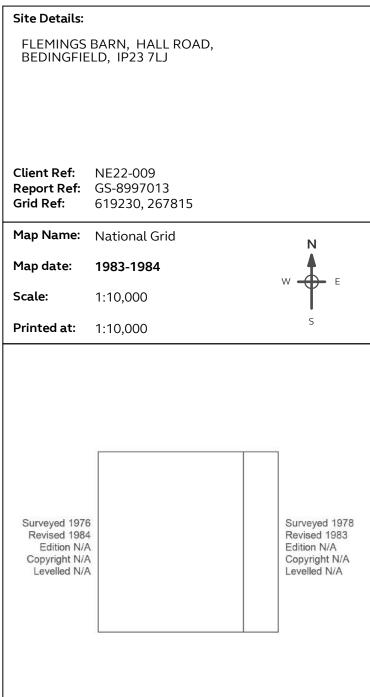
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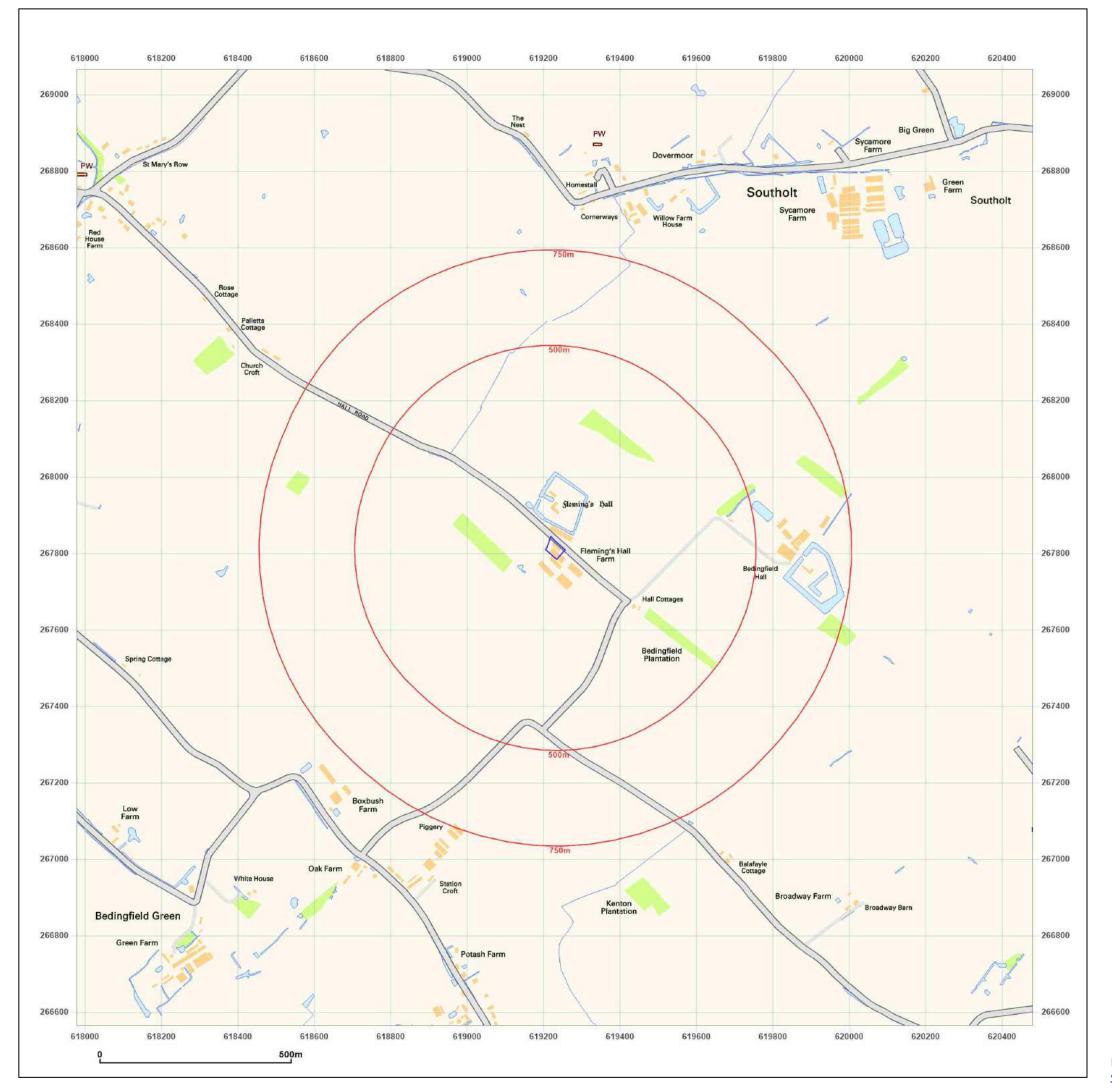




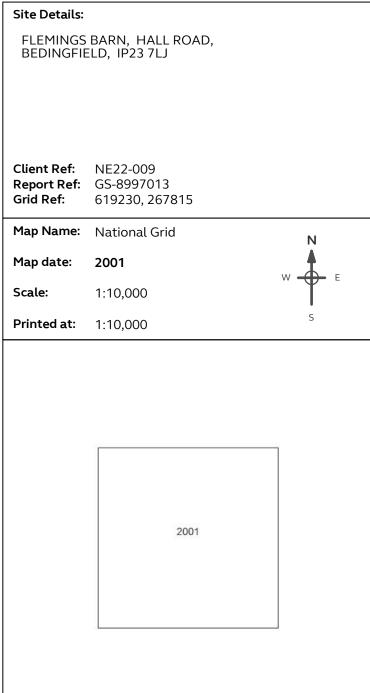
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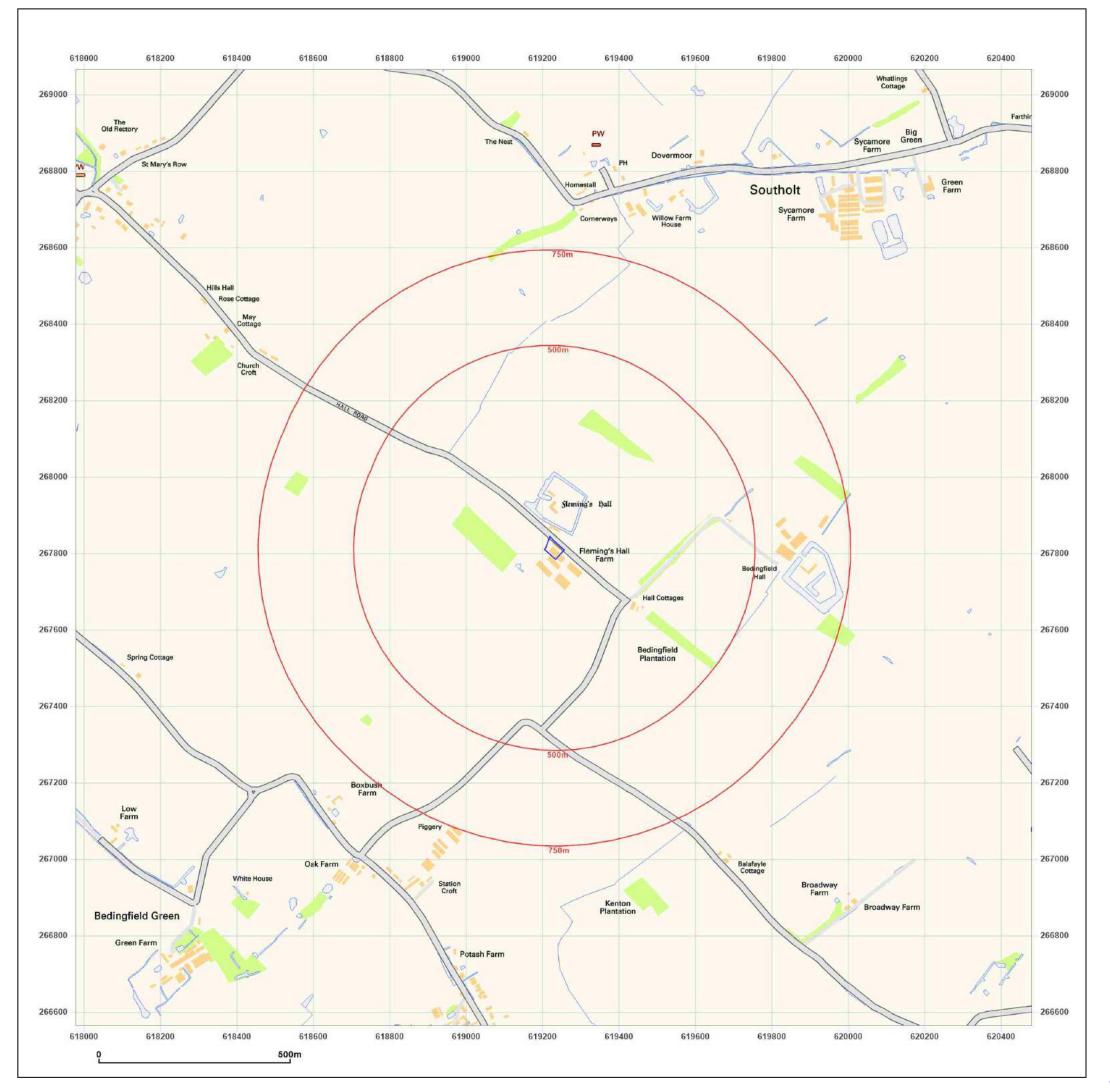




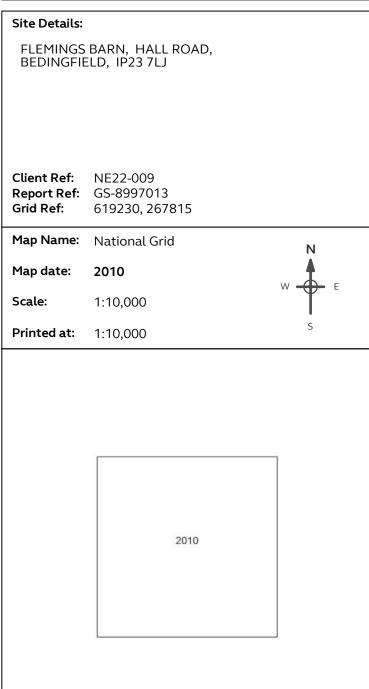
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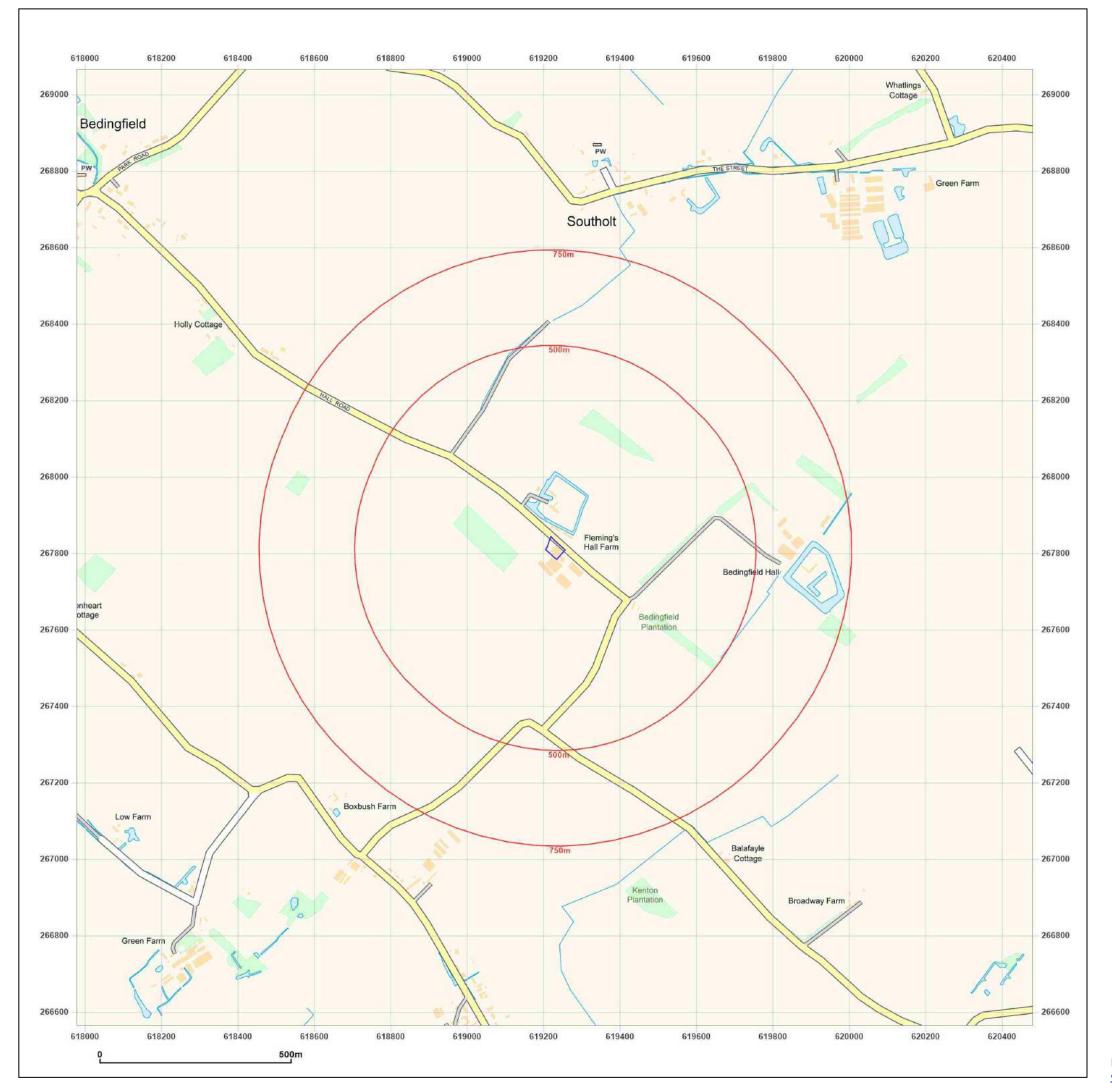




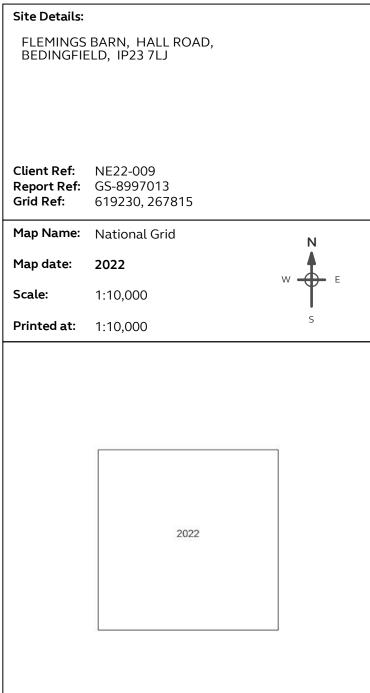
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