Land at Henfield Road, Albourne

Phase 1 Ground Conditions Assessment

On behalf of:

Croudace Homes Ltd.

Project Ref: 332511088 | Doc Ref:332511088/3501 | Rev: 00| Date: June 2022

Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire, HP11 1JU
Office Address: Caversham Bridge House, Waterman Place, Reading, Berkshire RG1 8DN
T: +44 (0)118 950 0761 E: Reading.UK@stantec.com

Document Control Sheet

Project Name: **Land at Henfield Road, Albourne**

Project Ref: **332511088**

Report Title: **Phase 1 Ground Conditions Assessment**

Doc Ref: **332511088/3501**

Date: **6th June 2022**

	Name	Position	Signature	Date
Prepared by:	Serena Grant	Graduate Engineer	***SG***	06/06/2022
Reviewed by:	Nicholas Hills	Senior Geoenvironmental Consultant	***NH***	06/06/2022
Approved by:	Arie Zamler	Senior Associate	***AZ***	06/06/2022
For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
Rev00	06/06/22	Final for issue	SG	NH	AZ

Contents

1 Introduction 1
1.1 Preamble 1
1.2 Regulatory Framework, Objectives and Scope 1
1.3 Methodology 2
1.4 Sources of Information 3
2 Land Use Information 4
2.1 Introduction 4
2.2 Site Location and Description 4
2.1 Current Land Use 4
2.2 Historical Land Use 5
2.3 Industrial Setting and Environmental Regulation 6
2.4 Regulatory Enquiries 8
2.1 Unexploded Ordnance (UXO) 8
2.2 Proposed Development 8
3 Environmental Setting 9
3.1 Introduction 9
3.2 Geology 9
3.3 Radon 9
3.4 Hydrogeology 9
3.5 Hydrology 11
3.6 Ecological Systems 11
4 Ground Stability Risk Assessment 12
4.1 Introduction 12
4.2 Natural and Mining Cavities 12
4.3 Naturally Occurring Geological Hazards 13
4.4 Cambering 13
4.5 Potential Adverse Foundation Conditions 14
4.6 Confidence and Uncertainty 14
5 Tier 1 Preliminary Risk Assessment 15
5.1 Introduction 15
5.2 Conceptual Site Model 15
Potential Sources of Contamination and Contaminants of Concern 15
5.3 Data Gaps and Uncertainty 17
6 Conclusions and Recommendations 18
6.1 Conclusions 18
6.2 Recommendations 18
Essential Guidance for Report Readers 20
References 21

Figures

Figure 1 Site Location Plan
Figure 2 Site Layout Plan

Appendices

Appendix 1 Methodology
Appendix 2 Site Walkover Photographs
Appendix 3 Historical OS Maps
Appendix 4 Groundsure Report
Appendix 5 BGS Archive Records
Appendix 6 Tables of Estimated Risks

1 Introduction

1.1 Preamble

1.1.1 Stantec UK Ltd (Stantec) has been commissioned by Croudace Homes Ltd. (the Client) to carry out a Phase 1 Ground Condition Assessment for the proposed development of Land at Henfield Road, Albourne, West Sussex (the Site) for residential use.

1.1.2 This report has been prepared in a planning context to support a planning application for the proposed residential development of the Site.

1.1.3 This report presents a Phase 1 Ground Condition Assessment comprising a desk study, Tier 1 (preliminary) qualitative contamination risk assessment, and a preliminary ground stability appraisal.

1.1.4 It should be noted that this report is a land condition assessment and does not purport to be an ecological, flood risk, agricultural soil assessment, minerals assessment or archaeological survey etc. and as such additional surveys may be required to support a planning application.

1.2 Regulatory Framework, Objectives and Scope

1.2.1 The National Planning Policy Framework (NPPF) (MHCLG, 2021) stipulates that planning policies and decisions should ensure that *"a site is suitable for its proposed use taking account* ***of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment*** *arising from that remediation)"*; and that *"after remediation, as a minimum, land should not be* ***capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990; and adequate site investigation information, prepared by a competent person, is available*** *to inform these assessments"*.

1.2.2 The objective of this assessment is to review published and readily available information to identify the likely ground conditions at the Site and the immediate surrounding land, and to assess whether there are significant land contamination, ground and slope stability risks associated with the ground conditions that may require management (remediation or mitigation).

1.2.3 The scope of work performed by Stantec for this study comprises:

i. A desk study review of readily available information including geological, hydrogeological and aquifer vulnerability maps, historical Ordnance Survey maps supplemented where possible by reference to early maps and other historical records; and publicly available ground investigation data, previous drawings and reports;

ii. A walkover survey to examine the current condition of the Site and surrounding area;

iii. A qualitative assessment of geological hazards, and ground and slope stability hazards to identify the potential risk, if any, arising from artificial cavities; natural cavities; and other potential adverse foundation conditions; and,

iv. A qualitative Tier 1 land contamination risk assessment utilising a Conceptual Model to identify 'source-pathway-receptor' linkages to assess the potential risk and hazards, if any, associated with existing contamination in the ground.

1.2.4 Attention is drawn to the Essential Guidance for Report Readers included after the text of this report.

1.3 Methodology

Assessment of Ground Contamination

1.3.1 UK legislation on the contamination of land from historical activities is principally contained in Part 2A of the Environmental Protection Act, 1990 (which was inserted into the Act by Section 57 of the Environment Act 1995).

1.3.2 The Regulations and Statutory Guidance that accompanied the Act, including the Contaminated Land (England) Regulations 2006, have been revised with the issue of the Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263) and the Contaminated Land Statutory Guidance for England 2012.

1.3.3 Under the NPPF (2021), the broad approach, concepts and principles behind land contamination management advocated by the Part 2A regime are applied to the determination of planning applications. The Land Contamination: Risk Management (LC:RM) (EA, 2021) guidance which is based on the now superseded Model Procedures for the Management of Contaminated Land (CLR11) (EA, 2004) provides references to established technical and procedural practice.

1.3.4 LC:RM presents a three-stage process to the management of contaminated land:

- Stage 1 = risk assessment
- Stage 2 = options appraisal and
- Stage 3 = remediation

1.3.5 The Stage 1 risk assessment is undertaken in a phased manner with the three tiers being:

- Tier 1 – “Preliminary Risk Assessment” – a qualitative assessment forming part of a Phase 1 report,
- Tier 2 – “Generic Risk Assessment” - a quantitative assessment using published criteria to screen site-specific ground condition data forming part of a Phase 2 report and
- Tier 3 – “Detailed Risk Assessment” – a quantitative assessment involving the generation of site-specific assessment criteria (SSAC).

1.3.6 The underlying principle is the evaluation of pollutant linkages in order to assess whether the presence of a source of contamination could potentially lead to harmful consequences. A pollutant linkage consists of the following three elements:

- A source of contamination or hazard that has the potential to cause harm or pollution.
- A pathway for the hazard to move along / generate exposure; and
- A receptor which is affected by the hazard.

1.3.7 Each tier of risk assessment comprises the following four stages:

- Hazard Identification – identifying potential contaminant sources on and off Site.
- Hazard Assessment – assessing the potential for unacceptable risks by identifying what pathways and receptors could be present, and what pollutant linkages could result (forming the Conceptual Site Model (CSM)).

- Risk Estimation – estimating the magnitude and probability of the possible consequences (what degree of harm might result to a defined receptor and how likely); and

- Risk Evaluation – evaluating whether the risk needs to be, and can be, managed.

1.3.8 The Stantec methodology for ground condition assessment (contamination) is presented in **Appendix 1**.

Assessment of Ground Conditions - Instability

1.3.9 Planning Authorities are required (NPPF, 2021, paragraphs 183 and 184) to consider if land instability poses a potentially unacceptable risk to development. In paragraph 183, the requirement to take account of potential hazards arising from natural hazards (such as natural cavities) or former activities such as mining is outlined.

1.3.10 The preliminary ground stability assessment methodology adopted by Stantec follows the guidance on preliminary land stability assessment given in the Planning Practice Guidance for Land Stability published by the Department for Communities and Local Government (DCLG, 2018). The guidance requires, at least, a desk-based study and a site inspection visit by an appropriately qualified person.

1.3.11 This desk-based study comprises a review of existing readily available published sources of geological, geomorphological, hydrogeological and/or mining information for the Site and its surroundings and a historical review including mapping and aerial imagery, if appropriate.

1.3.12 The preliminary stability assessment also includes a review of geological hazards for the Site such as natural and man-made (mining) cavities, collapsible and compressible soils, running sand, and subsidence and heave due to volumetric change in the ground.

1.4 Sources of Information

1.4.1 The following primary sources of information were used in the compilation of this report:

- A walkover survey by Stantec representatives on the 29th April 2022 to observe the existing conditions on the Site – photographs are presented in **Appendix 2**.

- Historical Ordnance Survey (OS) maps, and a Groundsure Enviro+Geo Insight Report provided by Groundsure Ltd (GS, 2022) are presented in **Appendices 3** and **4**, respectively.

- Review of the Natural Cavity and Artificial non-coal (underground) mining cavity databases managed and enhanced by Stantec.

- Review of borehole records held by the British Geological Society (BGS) accessed via their website, http://www.bgs.ac.uk/data/boreholescans/home.html.

- Review of map records held by the British Geological Society (BGS) accessed via their website http://mapapps.bgs.ac.uk/geologyofbritain/home.html.

- Review of the MAGIC (Multi-Agency Geographic Information for the Countryside) website, http://www.magic.gov.uk. The MAGIC website provides authoritative geographic information about the natural environment from across government.

- Review of risk map records of Regional Unexploded Bomb Risk held by Zetica UXO (Zetica, 2022).

2 Land Use Information

2.1 Introduction

2.1.1 This section presents a summary of the historical and current land use on and immediately adjacent to the Site.

2.2 Site Location and Description

2.2.1 The Site is situated on the western edge of the village of Albourne, West Sussex. The Site is centred at approximate National Grid Reference TQ 26189 16674. A Site Location Plan is presented as **Figure 1**.

2.2.2 The Site occupies an area of approximately 11.4 hectares (ha) and comprises two arable fields and a small orchard. It is situated on the top of an east-west oriented ridge with a high point of approximately 40 m Above Ordnance Datum (m AOD) located in the Site's south-western corner.

2.2.3 To the north of the ridgeline the land within the Site falls to the north-west, with elevations along the northern boundary falling from approximately 37 m AOD in the north-eastern corner to approximately 30 m AOD in the north-western corner. A stream flows towards the west along the western half of the northern boundary.

2.2.4 To the south of the ridgeline the land falls to the south, forming a shallow valley with its base at approximately 32 m AOD in the centre of the Site's southern boundary and approximately 36 m AOD in the south-eastern and south-western corners.

2.2.5 To the south and west of the Site the land falls towards the Cutlers Brook, a stream which flows towards the north-west. To the north of the Site the land falls very gently to the north, towards a shallow valley within which the stream on the Site's north-western boundary flows.

2.2.6 The Site is bounded by trees and hedging to the north beyond which is Henfield Road. Part of the eastern Site boundary is former by to the grounds of Albourne Church of England Primary School and is fenced, with the remainder of the eastern boundary comprising trees and hedging adjacent to residential properties. A hedge and bank form the southern boundary, beyond which is Church Lane, a row of residential properties (Wellcroft Cottages) and further open agricultural land. Trees form the western boundary beyond which is further arable land.

2.1 Current Land Use

On-Site

2.1.1 The current land use information is based on a walkover inspection undertaken by representatives from Stantec on 29th April 2022. Selected photographs taken during the Site walkover are presented in **Appendix 2**. The layout of the Site and location of photographs are shown on **Figure 2**.

2.1.2 The Site is accessed off the B2216 Henfield Road via a gate in the north-eastern corner of the Site. Pedestrian access is also available via a public footpath leading westwards off The Street, a road on a north-south alignment approximately 90 m east of the Site.

2.1.3 The Site is used predominantly for agriculture with the majority of the land planted with crops. The small triangular field in the north is used as an orchard.

2.1.4 A stream is present adjacent to the Site's north-western boundary. The channel is shallow (approximately 0.5 m below ground level [bgl]) at the eastern end of the northern boundary, becoming wider and deeper moving westwards. At the western end of the northwestern

boundary water level is approximately 1.5m lower than the field level. Flow within the stream was minimal, noting that on the day of the walkover visit there had been no significant rainfall for a period of approximately 4 weeks.

2.1.5 A pond recorded in the Ordnance Survey (OS) mapping at the western end of the orchard was observed to be a dry, marked as a shallow depression adjacent to the stream.

2.1.6 Overhead power lines are present at the south-eastern corner of the Site, running southwards.

Off-Site

2.1.7 The land in the vicinity of the Site is principally agricultural to the south, west and north, and residential (Albourne) to the east.

2.1.8 Albourne Primary School is present immediately east of the northern end of the Site's eastern boundary.

2.1.9 A row of residential properties (Wellcroft Cottages) is present immediately south of Church Lane, adjacent to the Site's southern boundary. A concrete slab is present in the field immediately east of the houses. The OS map records a spring adjacent to a property at the eastern end of Church Lane (Spring Cottage).

2.1.10 It is noted that the ground level on Church Lane is approximately 2.0 m lower than the land on the southern boundary, with a sloping bank separating the road from the Site. The ground level difference is considered to be a result of Church Lane being a 'sunken lane', i.e., the bank is less likely to be an engineered cutting.

2.1.11 A rusted metal storage tank, approximately 4 m high, 2.5 m diameter, with a concrete base was present to the immediately west of the Site's western boundary on the adjacent agricultural land.

2.1.12 An electricity substation is present approximately 10 m east of the Site's north-eastern corner within the adjacent 'Millennium Gardens'. A further substation is present immediately south of the adjacent primary school, adjacent to the public footpath.

2.1.13 Albourne Business Park is present approximately 70 m north-east of the Site's north-eastern corner and comprises small-scale commercial uses. A small pond (probable drainage swale) is located approximately 50 m north-east of the Site's north-eastern corner within the business park.

2.2 Historical Land Use

2.2.1 This section presents a summary of the historical land uses on Site and in the immediate surrounding area. The historical land use information is based on OS maps supplemented where possible by reference to earlier maps, historical aerial photography, and other historical records. Copies of the extracts from the historical and current OS maps, as provided within the Groundsure Report, are presented in **Appendix 3**.

On-Site

2.2.2 The earliest available historical OS map, dated 1874, shows the Site to be open agricultural land, with a possible orchard near the north-western corner.

2.2.3 Further historical maps do not record any significant changes until 1955 when a pond is recorded in the northern-most area of the Site (in the present day used as an orchard). All other areas of the Site are shown as open agricultural land.

2.2.4 Subsequent maps do not record significant changes. The possible orchard in the north-western corner reduces in size throughout the latter half of the 20th Century and is no longer recorded on the 1992 map.

2.2.5 Google Earth historical aerial imagery dated 2009 shows the triangular field in the north of the Site to be planted with trees.

Off-Site

2.2.6 The earliest available historical OS map, dated 1874, shows that the Site is situated to the west of two small settlements known as Albourne Green and Albourne Street. Both settlements comprise scattered residential properties with private gardens/grounds and local uses such as a smithy, a pound and a post-office. Albourne Green is located to the west of the Site's north-eastern corner. Albourne Street is located to the east of the Site's south-eastern corner. The land surrounding the Site is shown to be open agricultural land, with scattered farms and residential properties.

2.2.7 Inholme Farm is present approximately 60 m north-east of the Site and comprises a small cluster of farm buildings. By 1909 the farm is shown to have been extended with the existing residential property and outbuildings immediately north of the Site beyond Henfield Road.

2.2.8 The 1937-1938 OS map records the existing row of residential properties (Wellcroft Cottages) to have been constructed to south of Church Lane adjacent to the Site's southern boundary. Two larger rectangular structures are present to the south of the properties

2.2.9 The 1955 map records a building labelled as a nursery approximately 100 m south of the Site. The two rectangular structures to the rear of Wellcroft Cottages are shown to be greenhouses, and several further small rectangular buildings have been added to the nursery. A "pump house" is present approximately 30 m south of the nursery (130 m south of the Site).

2.2.10 The 1955 map also records the existing residential development to the east of the Site to have been constructed, joining Albourne Green and Albourne Street into a single settlement (Albourne). The former smithy approximately 60 m east of the Site's north-eastern corner is shown to have been demolished and a garage is labelled approximately 100 m east of the Site's north-eastern corner.

2.2.11 The primary school adjacent to the Site is first recorded on the 1963 map.

2.2.12 The 1975 map records the garage to the east of the Site to have been demolished and replaced by the existing residential properties. Additional residential development is shown to have been constructed in and around Albourne. The nursery to the south of the Site is no longer labelled and the greenhouses and rectangular structures to the south of Wellcroft Cottages have been demolished leaving only the large shed approximately 100 m to the south of the Site.

2.2.13 Further significant changes are not recorded until 2009 when Google Earth historical aerial imagery shows an agricultural structure to have been constructed in the field immediately east of Wellcroft Cottages.

2.2.14 Google Earth imagery dated 2018 shows the former nursery building to have been demolished and, by 2020, to have been replaced by a residential property.

2.3 Industrial Setting and Environmental Regulation

2.3.1 Information on the industrial setting, and pertinent Environmental Regulation Permits and authorisations for the Site and the immediate environs is presented in the Groundsure Report (GS, 2022) and reproduced in **Appendix 4**. The results of the database search are summarised in the following table and discussed in the following sections.

Table 2.1 Summary of Environmental Regulation and Industrial Setting

Data Type	Number on Site (1)	Number within 250 m of Site (1)
Waste and Landfill		
Landfill Sites	0 (0)	0 (0)
Licensed Waste Management Facilities	0 (0)	0 (0)
Statutory Permits/Authorisations		
Pollution Prevention and Control (2)	0 (0)	0 (0)
Radioactive Substances Authorisations	0 (0)	0 (0)
Hazardous Substance Storage/Usage	0 (0)	0 (0)
COMAH Sites (3) and NIHHS Sites (4)	0 (0)	0 (0)
Potential Contaminative Uses		
Current or Recent Petrol Stations	0	0
Recent and Historical Industrial and Energy Land Uses	0	5 (4)
Licensed Discharges to Controlled Waters	0 (0)	2 (2)
Fuel Stations and Garages	0 (0)	0 (1)
Pollution Records		
Sites Determined as Contaminated Land	0	0
Pollution Incidents (EA/NRW)	0	2

Note:

1) Number in brackets denotes number of authorisations, licences or permits that are lapsed, revoked, cancelled, obsolete, superseded, defunct, surrendered, not applicable, withdrawn or not yet started.

2) Includes Integrated Pollution Controls, Integrated Pollution Prevention and Control, Local Authority.

Integrated Pollution Prevention and Control and Local Authority Pollution Prevention and Control permits.

3) COMAH denotes Control of Major Accident Hazards.

4) NIHHS denotes Notification of Installations Handling Hazardous Substances.

2.3.2 **Recent and Historical Industrial and Energy Land Uses:** The Groundsure Report contains records of nine recent and historical industrial land uses within 250 m of the Site.

2.3.3 The closest record is that of an 'historical tank' located immediately west of the Site. This appears to refer to the disused tank observed during the walkover visit. On the basis of the location of this tank at the top of a hill, it is considered likely that this was a water tank for the nearby residential properties. The remaining land uses identified comprise three electricity substations, the former nursery and smithy, a wind turbine, the pumping station to the south of the former nursery and a further historical tank located at a property approximately 110 m east of the Site and last recorded on the 1955 historical map. Based on the type of activities recorded and the distance to the site it is considered that none of these features present a geoenvironmental hazard to the Site.

2.3.4 **Licensed Discharges to Controlled Waters**: The Groundsure report records two licensed discharges to controlled waters within 250 m of the Site, both of which were issued in the 1960s and revoked in the 1990s and permitted the discharge of surface water to "freshwater river". On

the basis of the nature of these discharges and the time since they were both revoked, neither are considered to present a geoenvironmental hazard.

2.4 Regulatory Enquiries

2.4.1 A request for information was sent to the Environment Agency and the Environmental Health department at Mid-Sussex District Council requesting information in relation to the historical land use of the Site and other available geo-environmental related information.

2.4.2 At the time of writing, responses have not been received.

2.1 Unexploded Ordnance (UXO)

2.1.1 The unexploded ordnance (UXO) hazard and risk mitigation map, prepared by Zetica Ltd (Zetica, 2022), indicates that the risk for UXO to be present on the Site and surrounding area is **Low**.

2.1.2 It should be noted that this report does not purport to be a UXO Risk Assessment.

2.2 Proposed Development

2.2.1 It is understood that the proposed development comprises up to 120 residential units including private gardens with parkland and a community orchard. The development will include associated access, landscaping and road infrastructure.

3 Environmental Setting

3.1 Introduction

3.1.1 Information on the environmental setting is used to inform the Ground Stability Risk Assessment presented in **Section 4** and to identify potential pathways and receptors as part of the Tier 1 (geoenvironmental) risk assessment presented in **Section 5**.

3.2 Geology

Published Maps

3.2.1 The British Geological Survey (BGS) 1:50,000 scale geological map of the area (Solid and drift sheet 318/333, Brighton and Worthing, BGS, 1996), indicates that the ground conditions at the Site comprise the following.

Superficial Deposits

3.2.2 Superficial deposits are not recorded to be present at the Site.

Solid Geology

3.2.3 The geological map indicates that in the wider area the strata dip towards the south at an angle of approximately 3 degrees. The southern half of the Site is shown to lie directly on the Lower Greensand Group (LGG) that overlies the Weald Clay Formation (WC) which outcrops in the northern half of the Site,

3.2.4 The LGG is described by the BGS as typically sands and sandstones locally with silts and clays. The WC is described by the BGS as mudstones, siltstones, sandstones and clay ironstones. The geological map states that the WC is between 120 m and 275 m thick.

3.2.5 The basal beds of the LGG, i.e., the part of this stratum that immediately overlies the underlying WC and the geology likely to be present in the south of the Site, are described by the BGS as the Hythe Beds, comprising interbedded sandstones, up to 40 m thick.

Historical BGS Borehole Records

3.2.6 The BGS archive does not contain any exploratory hole records within 250 m of the Site.

3.3 Radon

3.3.1 Radon is a naturally occurring radioactive gas and emanates from certain geological formations to varying degrees, depending on the type, porosity and permeability. The Groundsure Report (**Appendix 4**) indicates that the Site is situated within a lower probability radon area, where less than 1% of homes are estimated to be at or above the Action Level. Therefore, radon protection measures are not considered to be required for the construction of new dwellings or extensions.

3.4 Hydrogeology

Characteristics & Aquifer Designations

3.4.1 The southern half of the Site is shown to be underlain by the LGG, likely to comprise sand, and sandstone. The LGG is classified by the Environment Agency (EA) as a Principal Aquifer, described as geology of high permeability capable of providing a high level of water storage and which may support water supply/river base flow.

3.4.2 The northern half of the Site is underlain by predominantly clay deposits of the WC. This stratum is classified by the EA as an Unproductive Stratum, described as geology with low permeability that has negligible significance for water supply or river base flow.

3.4.3 The predominantly clayey WC is likely to act as an aquiclude, preventing the downwards flow of groundwater from the overlying LGG. In such situations springs are likely to be present where the geological boundary between the LGG and the WC outcrops.

3.4.4 The BGS archive contains a record (TQ21NE6) of a spring immediately south of the Site at Spring Cottage. This spring is also recorded on present-day OS mapping. The spring is indicated on the BGS record to rise in the Hythe Formation and the supply from the spring is indicated to have been sufficient to supply 20 houses, agricultural activities and five glasshouses. A copy of this record is presented in **Appendix 5**. A plan attached to the BGS record shows the "Albourne Sewerage Scheme" and indicates a sewer running on a north-south alignment through the east of the Site.

3.4.5 The EA's Catchment Data Explorer records that groundwater beneath the Site is part of the "Lower Greensand Adur & Ouse Water Body". This groundwater body received an overall Water Framework Directive (WFD) classification of "Good" in 2019. This classification can be further broken down into classifications of "Good" for both chemical quality and quantitative supply.

3.4.6 Groundwater flow within the LGG is expected to generally follow the regional geological dip direction and the local topography towards the south, towards Cutlers Brook.

Groundwater Vulnerability

3.4.7 The Groundsure Report indicates that groundwater within the LGG in the south of the Site is of Medium vulnerability. The EA (2017) describe Medium vulnerability as intermediate between High vulnerability; where pollution may be easily transmitted to groundwater due readily leaching soils and the absence of low permeability superficial deposits, and Low Vulnerability; where pollution is unlikely to be transmitted to groundwater due to low-leaching soils and the presence of low permeability superficial deposits.

3.4.8 A vulnerability classification is not provided for the northern half of the Site, underlain by the Weald Clay Formation, as this is an Unproductive Stratum.

Groundwater Abstractions & Source Protection Zones

3.4.9 The Groundsure Report presented in **Appendix 4** indicates that there are no licenced groundwater abstractions recorded within 500 m of the Site and that the Site is not located in a groundwater Source Protection Zone (SPZ). In addition, the DEFRA's MAGIC map (DEFRA, 2022) indicates that the Site is not located within a groundwater Drinking Water Safeguard Zone.

Groundwater Flooding

3.4.10 The Groundsure Report presented in **Appendix 4** indicates the majority of the Site is located in an area of "Negligible" potential for groundwater flooding. A limited area in the shallow valley in the south of the Site, typically below approximately 36 m AOD is shown to be at Low potential for groundwater flooding, with land below approximately 33 m AOD shown to be at Moderate potential for groundwater flooding.

3.4.11 It should be noted that this report is a land condition assessment and does not purport to be a flood risk assessment.

3.5 Hydrology

Surface Water Features & Operational Catchments

3.5.1 The OS mapping indicates that the nearest surface water feature is the stream which flows along the Site's north-western boundary. This stream flows to the north-west, joining with multiple other streams and flowing into the River Adur approximately 4.8 km to the north-west of the Site.

3.5.2 The pond shown on the OS map at the western end of the orchard in the north of the Site was observed to be a dry at the time of the visit.

3.5.3 A further stream is present approximately 150 m south of the Site. This stream appears to flow towards the west, to a confluence with Cutlers Brook approximately 200 m south-west of the Site. Cutlers Brook flows to the west to a confluence with the River Adur approximately 6.0 km to the west of the Site.

3.5.4 The EA's Catchment Data Explorer indicates that the southern half of the Site is located within the Chess Stream catchment and the northern half of the Site is located within the Adur East (Sakeham) catchment. The Chess Stream catchment received WFD classifications of "Moderate" for ecological quality and "Fail" for chemical quality in 2019. The Adur East (Sakeham) catchment received WFD classifications of "Poor" for ecological quality and "Fail" for chemical quality in 2019.

Abstractions & Surface Water Protection Zones

3.5.5 The Groundsure Report in **Appendix 4** indicates that there are no licenced surface water abstractions recorded within 500 m of the Site. In addition, the DEFRA's MAGIC map (DEFRA, 2022) indicates that the Site is not located within a surface Drinking Water Safeguard Zone or a surface water Drinking Water Protection Area.

3.5.6 The Site is located within the Chess Stream and Adur East (Sakeham) Nitrate Vulnerable Zones (NVZ). NVZ are areas designated as being at risk from agricultural or horticultural nitrate pollution, within which farmers must take precautions to prevent manure, fertiliser and soil getting into watercourses. These activities are not relevant to the proposed residential end-use.

Flood Risk

3.5.7 According to the UK Government Flood Map for Planning (EA, 2022) the Site is located wholly within Flood Zone 1, which is any land having a less than 1 in 1,000 (0.1%) annual probability of river or sea flooding.

3.5.8 The UK Government Surface Water Flood Map (EA, 2022) identifies that limited areas adjacent to the stream on the Site's northern boundary, and the boundary between the orchard and the field to the south are at Low (annual chance of flooding of between 0.1% and 1%) risk of surface water flooding.

3.5.9 It should be noted that the statement above does not purport to be a flood risk assessment.

3.6 Ecological Systems

3.6.1 The DEFRA's MAGIC viewer (DEFRA, 2022) and the Groundsure Report in **Appendix 4** indicate that the Site is not located within 1km of any area of environmentally/ecologically sensitive land use.

3.6.2 It should be noted the statement above regarding ecological systems does not purport to be an ecological risk assessment.

4 Ground Stability Risk Assessment

4.1 Introduction

4.1.1 In accordance with the requirements of the National Planning Policy Framework (DCLG, 2021), the potential for the proposed development to contribute to or to be adversely affected by land instability has been assessed. Accordingly, consideration is given below to the potential risk of subsidence arising from Artificial Cavities, Natural Cavities, Slope Instability and Potential Adverse Foundation Conditions arising from existing ground conditions across the Site, as identified by the desk study.

4.1.2 The potential for land instability at the Site has been considered, in relation to;

- Naturally occurring geological hazards
- Artificial Cavities
- Natural Cavities
- Slope Stability
- Potentially adverse foundation conditions

4.1.3 Consideration is given below to the risk of the potential stability constraints arising from existing ground conditions at the Site, as identified in this data review. The geological constraints to the development are those relating to the natural ground conditions and any geological hazards on the Site.

4.2 Natural and Mining Cavities

Cavities Databases

4.2.1 **Natural Cavity Records** A search of the Stantec Natural Cavities Database indicates that there are no natural cavities on or within 3.0 km of the Site. On the basis of the ground conditions and hydrogeological conditions at the Site, the likelihood for solution features to be present at the Site is considered to be **Very Low**.

4.2.2 **Non-Coal Mining Cavity Records** A search of the Stantec Non-coal Mining Database indicated that there are no recorded mining cavities on or within 3.0 km of the Site. Overall, considering the absence of records in the near vicinity of the Site and the likely shallow groundwater present, the risk in relation to mining cavities is considered to be **Very Low**.

Surface Quarrying

4.2.3 The Groundsure Report (GS, 2022) identifies one record of historical surface ground workings within 250 m of the Site. The Groundsure report states that these ‘workings’ relate to the excavation of a pond approximately 40 m south-east of the Site, shown on the 1875 historical map. A review of the mapping suggests that this pond is a natural feature fed by the immediately adjacent spring.

4.2.4 The historical mapping and BGS records reviewed do not indicate the presence of historical surface quarrying on or in close proximity to the Site. On this basis, the potential for former (now infilled) surface quarries to be present at the Site is considered to be **Very Low**. The shallow (less than 0.5 m deep) dry ‘pond’ in the north of the Site is immediately adjacent to the stream on the north-western boundary and is considered likely to be a natural feature.

4.3 Naturally Occurring Geological Hazards

4.3.1 An assessment of potential geological hazards that may give rise to adverse foundation or construction conditions as supplied by the British Geological Society (BGS) from their National Geoscience Information Service are presented in the Groundsure Report. The assessment is generated automatically based on digital geological maps and the scope and the accuracy is limited by the methods used to create the dataset and is therefore only indicative for the search area.

4.3.2 The information contained in the Groundsure report has been reviewed and where considered necessary, reassessed by Stantec considering the specific information available for the Site, with the potential hazards being rated as very low, low, moderate, hight or very high in general accordance with the criteria given by the BGS property hazard rating system. The Stantec assessment of the potential for geological hazards to be present on the Site is summarised in **Table 4.1** below.

Table 4.1 Summary of Potential Geological Hazards

Hazard	BGS-NGIS Assessed Hazard Potential On-Site	Stantec Assessment and Commentary
Potential for Collapsible Ground Stability Hazards	**Very Low**	Agree – Collapsible deposits are not expected to be present.
Potential for Compressible Ground Stability Hazards	**Negligible**	Agree – Compressible deposits are not expected to be present.
Potential for Ground Dissolution Stability Hazards	**Negligible**	Agree – Materials prone to dissolution are not expected to be present.
Potential for Landslide Ground Stability Hazards	**Very Low**	Agree - Whilst there are slight slopes across the Site, these are typically gentle and it is not envisaged that significant re-profiling will be required.
Potential for Running Sand Ground Stability Hazards	**Negligible** in northern half of Site (Weald Clay) **Very Low** in southern half of Site (Lower Greensand Group)	Disagree – Whilst the assessment of Negligible for the northern half of the Site is likely to be correct, the Lower Greensand Group, which at the Site is likely to comprise sandstone of the Hythe Formation may have a **Moderate** potential for running sands, if it has weathered to sand or contains sandy beds.
Potential for Shrinking or Swelling Clay Ground Stability Hazards	**Low** in northern half of Site (Weald Clay) **Negligible** in southern half of Site (Lower Greensand Group)	Disagree – the Weald Clay Formation underlies the northern half of the Site can have a moderate to high shrink and swell potential. Overall, the potential risk associated with the potential for shrinking and swelling of clay soils is considered to be **Moderate**.

4.4 Cambering

4.4.1 Land instability in the form of cambering may develop along the contact between the Hythe Formation and the Weald Clay Formation. This type of land instability developed in periglacial

conditions in the Hythe Formation resulting in the formation of gulls and fissures as the sandstone moved down slope towards the base of the valley where it is underlain by the Weald Clay at the near surface. The sandstone may develop a step-fault and hinge (tilt/rotate) along major joints in the rock. Where present, the movement tends to enhance the lateral sagging motion of the sandstone above the clay as the ground moved towards the valley floors overlooked by higher level valley crests forming scarps.

4.4.2 Where present, the gulls and fissures are often infilled with fine grained sediment which travelled by natural weathering processes down slope. These could form loose zones of infill and bridging over voids that can collapse if triggered, usually by the sudden inundation of water e.g., heavy rainfall, leaking water utilities, soakaways etc.

4.4.3 The potential presence of cambering within the Hythe Beds is considered to be **Low** bearing in mind the gentle topography at the site. Nevertheless, the potential presence of cambering will need to be considered during detailed design and appropriate ground investigation will need to be carried out targeting the potential presence of cambering instability at the site.

4.5 Potential Adverse Foundation Conditions

4.5.1 The information available indicates that the Site is underlain by the Lower Greensand Group (southern half of the Site) and the Weald Clay Formation (northern half of the Site).

4.5.2 The nature and full extent of the strata at the Site have not been determined at the time of writing. In due course this information will be required to inform the detailed design of foundations and infrastructure.

4.5.3 The ground stability assessment has identified that in general the potential for adverse foundation conditions is **Very Low / Negligible** for collapsible and compressible ground, ground dissolution, running sand and landslide ground stability hazards.

4.5.4 In order to minimise the risk associated with the potential for shrink swell of the Weald Clay Formation and the potential for running sands to be present within the Lower Greensand Group ground investigation and testing will be needed and, if necessary, foundations will need to be designed to accommodate potential movement or be taken to a depth where the likelihood of damaging movement is low. Allowance will be required for managing groundwater inflows into excavations in the Hythe Formation extending under the groundwater levels.

4.6 Confidence and Uncertainty

4.6.1 The ground condition data used in this section is limited in nature and is not Site-specific. As such there is a degree of uncertainty as to the actual ground stability conditions to be found on-Site.

4.6.2 The existing information available to date is considered suitable to support a planning application, however, it is recommended that a ground investigation is carried across the Site at a later stage to better understand the actual conditions as part of detailed design once a masterplan is finalised.

5 Tier 1 Preliminary Risk Assessment

5.1 Introduction

5.1.1 The methodology developed and adopted by Stantec for the assessment of ground conditions is presented in **Appendix 1**. In accordance with guidance presented in LC:RM (EA, 2021) we adopt a staged approach to risk assessment and this report presents a Tier 1 assessment or first stage.

5.1.2 The underlying principle to ground condition assessment is the identification of pollutant linkages to evaluate whether the presence of a source of contamination could potentially lead to harmful consequences.

5.2 Conceptual Site Model

5.2.1 The Tier 1 Preliminary Risk Assessment includes the development of a preliminary Conceptual Site Model (CSM). The CSM describes the types and locations of potential contamination sources, the identification of potential receptors and the identification of potential transport/migration pathways.

5.2.2 For a pollutant linkage to be identified, a connection between all three elements (source-pathway-receptor) is required.

5.3 Potential Sources of Contamination and Contaminants of Concern

5.3.1 Historically the Site and adjacent land uses have been primarily agricultural (farms, fields) and residential properties.

5.3.2 **On Site**: The potential for significant contamination to be present associated with the historical and current land use as agricultural fields is considered to be **Very Low** (Classification score of 1 out of 5 in Table 1, **Appendix 1**).

5.3.3 **Off Site:** The potential for off-site contamination to be present, based on the past and present uses of the neighbouring land is considered to be **Very Low** associated with agricultural and residential activities. (Classification score of 1 out of 5 in Table 1, **Appendix 1)**.

5.3.4 The primary contaminants of potential concern that may arise as a result of the current and historical activities that have taken place on and adjacent to the Site are agrichemicals (pesticides and herbicides) relating to agricultural use.

5.4 Potential Receptors

5.4.1 The receptors considered as part of this preliminary risk assessment are summarised in Table 5.1 and based on the information reviewed either eliminated from further consideration or allocated a sensitivity score in accordance with the Stantec Methodology. The sensitivity score informs the consequence element of the risk estimation process, definitions of which can be found in Table 2 of **Appendix 1**.

Table 5.1 Potential Receptors

Receptor Type	Comment	Sensitivity Score
Human Health – Current	Pedestrian access via public footpath. Transient use only.	4
Human Health – Future	Residents of the proposed dwellings	5
Human Health - Neighbours	Neighbouring residents	5
Human Health – Construction / Maintenance Workers	Construction workers and future maintenance workers	4
Groundwater	Lower Greensand Formation is classified as a Principal Aquifer	3
Surface Water	Stream and pond located adjacent to Site boundary. Site is within catchment with WFD classification of Moderate.	3
Property - Buildings	No buildings currently on Site. Future residential properties	1
Property - Animal or Crop Effect	Adjacent farmland	1
Ecological Systems	No local designations	1

Potential Exposure Pathways

5.4.2 Table 3 in the Stantec methodology in **Appendix 1** describes possible exposure pathways for each receptor type. Each of these possible pathways is then identified as viable or not when assessing the probability of the source of contamination causing a consequence to a defined receptor.

5.4.3 Potential environmental hazards need a pathway connecting the source (if present) to potential receptors in order to be able to impact upon the receptors. These pathways are capable of conveying the contaminants. Pathways may be anthropogenic or natural.

5.4.4 Anthropogenic pathways are artificial routes capable of conveying contaminants and include such routes as surface water drains, high permeability backfill materials, poorly consolidated Made Ground, foundations, and persons disturbing contamination sources in such a way as to liberate contaminants.

5.4.5 In the case of persons working with contaminated ground (e.g., to lay foundations or install services) direct contact with the source becomes possible, and pathways such as dermal contact, inhalation or ingestion require consideration.

5.4.6 The Lower Greensand Group can be a potential pathway for the lateral and vertical migration of contaminants (if present) via groundwater flow through the pore spaces (voids) within the deposits. Beneath the Lower Greensand Group, the unproductive Weald Clay Formation forms an aquiclude for the downward migration of water.

5.5 Risk Estimation

5.5.1 When there is a pollutant linkage (and therefore some measure of risk) it is necessary to determine whether the risk is significant and therefore whether further action is required.

5.5.2 Risk estimation involves predicting the likely consequence (what degree of harm might result) and the probability that the consequences will arise (how likely the outcome is). Based on the

information available, the estimated risks have been designated with further comments in the sections below.

5.5.3 The outcome of the risk assessments is presented as a table in **Appendix 6** which presents the estimated risks associated with the on-Site and off-Site activities.

5.5.4 A summary of the worst-case risk estimation, based on both on-Site and off-Site potential hazards is presented in **Table 5.2** below.

Table 5.2 Worst Case Risk Estimate

Receptor	Risk Estimation
Human Health – Current	Very Low
Human Health – Future	Very Low
Human Health - Neighbors	Very Low
Human Health – Construction / Maintenance Workers	Very Low
Shallow Groundwater	Very low
Deep Groundwater	Very low
Surface Water	Very Low
Property – Buildings	Very Low
Property - Animal or Crop Effect	Very Low
Ecological Systems	Very Low

5.5.5 Possible pollutant linkages are determined using professional judgement. If a linkage is considered possible, it is considered that this represents a potentially 'unacceptable risk' and therefore requires further consideration. This may be through remediation or mitigation or through further tiers of assessment.

5.5.1 Possible pollutant linkages have been identified and the risk to the identified receptors is considered to be **Very Low**. As such, there is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

5.5.2 Given the very low level of estimated risk it is anticipated that any requirement to carry out Phase 2 geoenvironmental intrusive investigations can be satisfactorily dealt with by incorporation of a suitable condition in any granted Planning Consent. Such an investigation could be undertaken as part of the required geotechnical ground investigation and would aim to confirm the anticipated benign nature of the site.

5.5.3 It is considered highly unlikely that the local planning authority will designate the Site as Contaminated Land under Part 2a of the Environmental Protection Act 1990.

5.6 Data Gaps and Uncertainty

5.6.1 It is considered that there is a reasonable level of confidence that the information presented in this report provides a good understanding of the likely ground conditions and enables identification of potential risks. However, further work is recommended to refine the Conceptual Site Model and reduce uncertainty.

6 Conclusions and Recommendations

6.1 Conclusions

Ground Stability Hazards

6.1.1 The ground conditions are generally considered to have limited potential for instability or adverse foundation or construction conditions, with most of the known potential hazards assessed as **Very Low** or **Negligible**. The potential for shrinking and swelling clays was identified to have a **Moderate** ground stability hazard.

6.1.2 Suitable measures are identified in the report to deal with the above referenced abnormal ground stability and adverse foundation conditions as part of the proposed development.

6.1.3 Ground investigation will be required to inform the detailed design of the proposed development and should also investigate the potential presence of cambering in the Hythe Beds.

Geoenvironmental Risk Assessment

6.1.4 The potential for contamination to be present on-Site and off-Site is assessed to be Very Low on the basis of the Site's long history of agricultural use, the absence of historical on-Site development and the historical and present-day off-Site residential land use.

6.1.5 Possible pollutant linkages have been identified and the risk to the identified receptors is considered to be **Very Low**. Therefore, it is considered that there is a low possibility that harm could arise to a receptor, and in the event of such harm being realised it is not likely to be severe.

6.1.6 On the basis of the assessments presented above it is considered that there are unlikely to be risks which require significant management.

6.1.7 Given the Very Low level of risk it is anticipated that any requirement to carry out Phase 2 geoenvironmental intrusive investigations, can be satisfactorily dealt with by incorporation of a suitable condition in any granted Planning Consent. Such an investigation could be undertaken as part of the required geotechnical ground investigation and would aim to confirm the anticipated benign nature of the site.

6.1.8 It is considered highly unlikely that the local planning authority would designate the Site as Contaminated Land under Part 2a of the Environmental Protection Act 1990.

6.2 Recommendations

6.2.1 A ground investigation will be required as part of the concept and detailed design stages to support the design of the proposed scheme and associated works. Furthermore, the ground investigation will be used to confirm the findings of this report in relation to the geoenvironmental conditions at the Site through laboratory analysis, monitoring and Tier 2 (Generic Quantitative) risk assessment.

6.2.2 Given the relatively low level of risk it is anticipated that any requirement to carry out Phase 2 geoenvironmental intrusive investigations can be satisfactorily dealt with by incorporation of a suitable condition in any granted Outline Planning Consent.

6.2.3 The exact scope of ground investigation will be confirmed at a later stage. However, it is expected that the scope of ground investigations will comprise the following:

- Windowless Sample boreholes to approximately 5.0 m depth to investigate the near-surface ground conditions, undertake in-situ standard penetration testing (SPT), recovery of soil samples, and construction of groundwater monitoring standpipes;

- Trial pits excavated to approximately 4.0 m depth to examine the near surface ground conditions, investigate the potential presence of cambering (trial pits within Hythe Formation only), allow for infiltration tests to be undertaken, and to recover soil samples;

- Chemical testing of soil and groundwater samples; and

- Geotechnical analyses of selected soil samples to determine appropriate geotechnical parameters for geotechnical design.

Essential Guidance for Report Readers

1) This report has been prepared within an agreed timeframe and to an agreed budget that will necessarily apply some constraints on its content and usage. The remarks below are presented to assist the reader in understanding the context of this report and any general limitations or constraints. If there are any specific limitations and constraints, they are described in the report text.

2) The opinions and recommendations expressed in this report are based on statute, guidance, and best practice current at the time of its publication. Stantec UK Ltd (Stantec) does not accept any liability whatsoever for the consequences of any future legislative changes or the release of subsequent guidance documentation, etc. Such changes may render some of the opinions and advice in this report inappropriate or incorrect and the report should be returned to us and reassessed if required for re-use after one year from date of publication. Following delivery of the report, Stantec has no obligation to advise the Client or any other party of such changes or their repercussions.

3) Some of the conclusions in this report may be based on third party data. No guarantee can be given for the accuracy or completeness of any of the third-party data used.

4) Historical maps and aerial photographs provide a “snapshot” in time about conditions or activities at the Site and cannot be relied upon as indicators of any events or activities that may have taken place at other times. It is possible for developments to have occurred between surveys that are not shown or for the map record to have been censored for military security.

5) The absence of cavity records in the Stantec natural and mining cavities (non-coal) databases is not considered as conclusive as to the absence of these features and we do not warranty that the data is complete or error free.

6) The conclusions and recommendations made in this report and the opinions expressed are based on the information reviewed and/or the ground conditions encountered in exploratory holes and the results of any field or laboratory testing undertaken. There may be ground conditions at the Site that have not been disclosed by the information reviewed or by the investigative work undertaken. Such undisclosed conditions cannot be considered in any analysis and reporting.

7) It should be noted that this report is a land condition assessment and does not purport to be an ecological, flood risk or archaeological survey and additional specific surveys may be required.

8) The identification of invasive and/or noxious plants such as Japanese Knotweed is outside the remit of our appointment.

9) This report has been written for the sole use of the Client stated at the front of the report in relation to a specific development or scheme. The conclusions and recommendations presented herein are only relevant to the scheme or the phase of project under consideration. This report shall not be relied upon or transferred to any other party without the expressed written authorisation of Stantec. Any such party relies upon the report at its own risk.

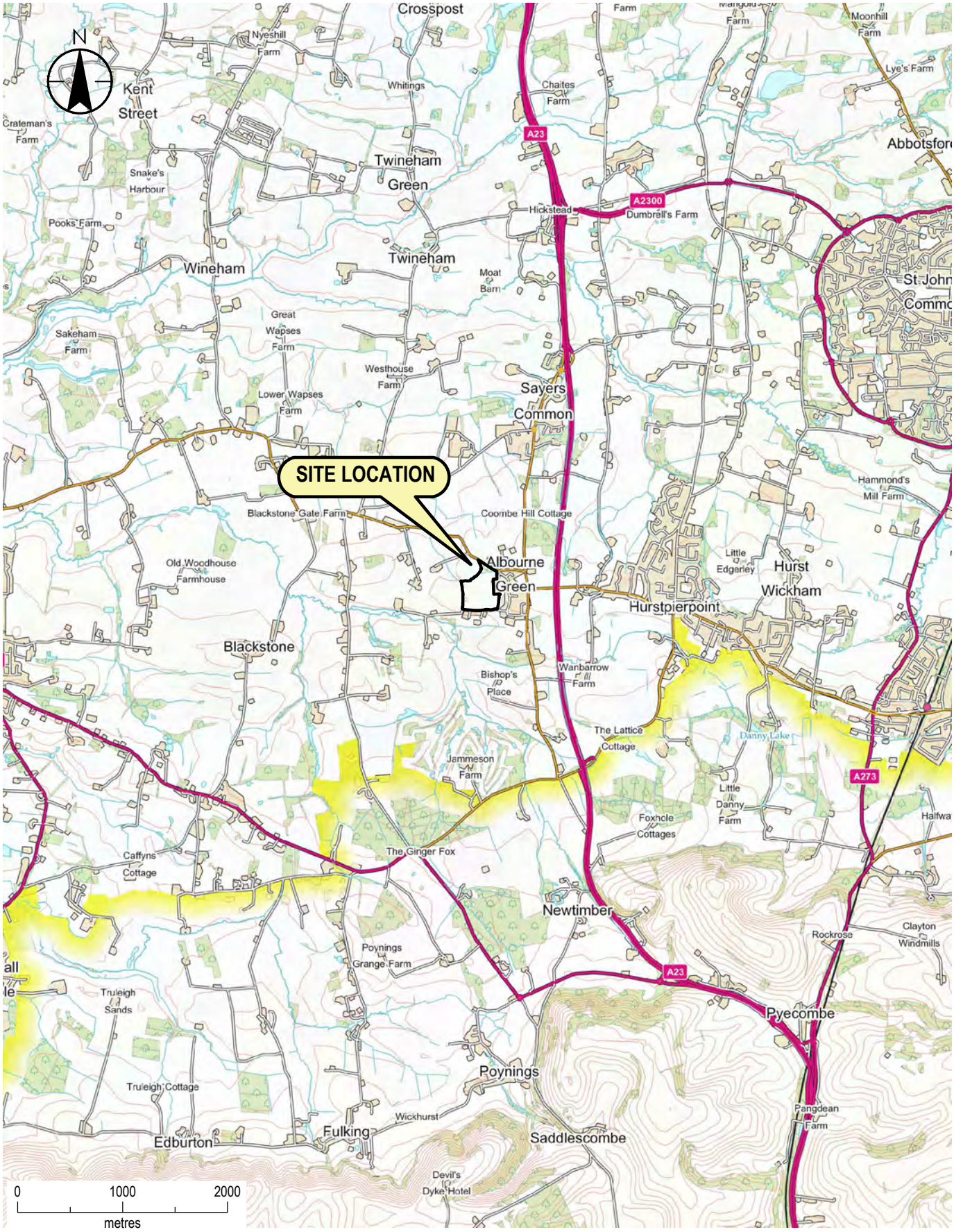
10) The interpretation carried out in this report is based on scientific and engineering appraisal carried out by suitably experienced and qualified technical consultants based on the scope of our engagement. We have not considered the perceptions of, for example, banks, insurers, other funders, lay people, etc., unless the report has been prepared specifically for that purpose. Advice from other specialists may be required such as the legal, planning and architecture professions, whether specifically recommended in our report or not.

11) Public or legal consultations or enquiries, or consultation with any Regulatory Bodies (such as the Environment Agency, Natural England or Local Authority) have taken place only as part of this work where specifically stated.

References

- BGS (1996) Geological Map Sheet 318/333 Brighton and Worthing, Bedrock and Superficial 1: 50,000 published by the British Geological Survey (BGS), Keyworth.
- MHCLG (2021) National Planning Policy Framework (NPPF). Department for Communities and Local Government, London.
- EA (2004) Model procedures for the Management of Land Contamination – Contaminated Land Report 11 (CLR11). Published by the Environment Agency (EA).
- EA (2017) New Groundwater Vulnerability Mapping Methodology in England and Wales, Report SC040016/R.
- EA (2021) Land Contamination Risk Management (LCRM). Published by the Environment Agency.
- Google Earth. Historical aerial photography [Accessed May 2022].
- GS (2022) Groundsure Enviro+Insight report reference GS-8710813, dated 29/04/2022. Groundsure Ltd.
- Historic England (2022) National Heritage List for England. https://historicengland.org.uk/listing/the-list [Accessed May 2022]
- Magic (2022) http://www.magic.gov.uk [Accessed May 2022]
- Mid-Sussex District Council (2019) Conservation Areas in Mid-Sussex. https://www.midsussex.gov.uk/media/3710/conservation-areas-in-mid-sussex.pdf [accessed May 2022]
- Public Health England Radon Atlas and Interactive Radon Map (2022) https://www.ukradon.org/ [Accessed May 2022].
- Zetica (2022) https://zeticauxo.com/downloads-and-resources/risk-maps [Accessed April 2022]

Figures



Site Grid Reference:TQ 261 166

Stantec

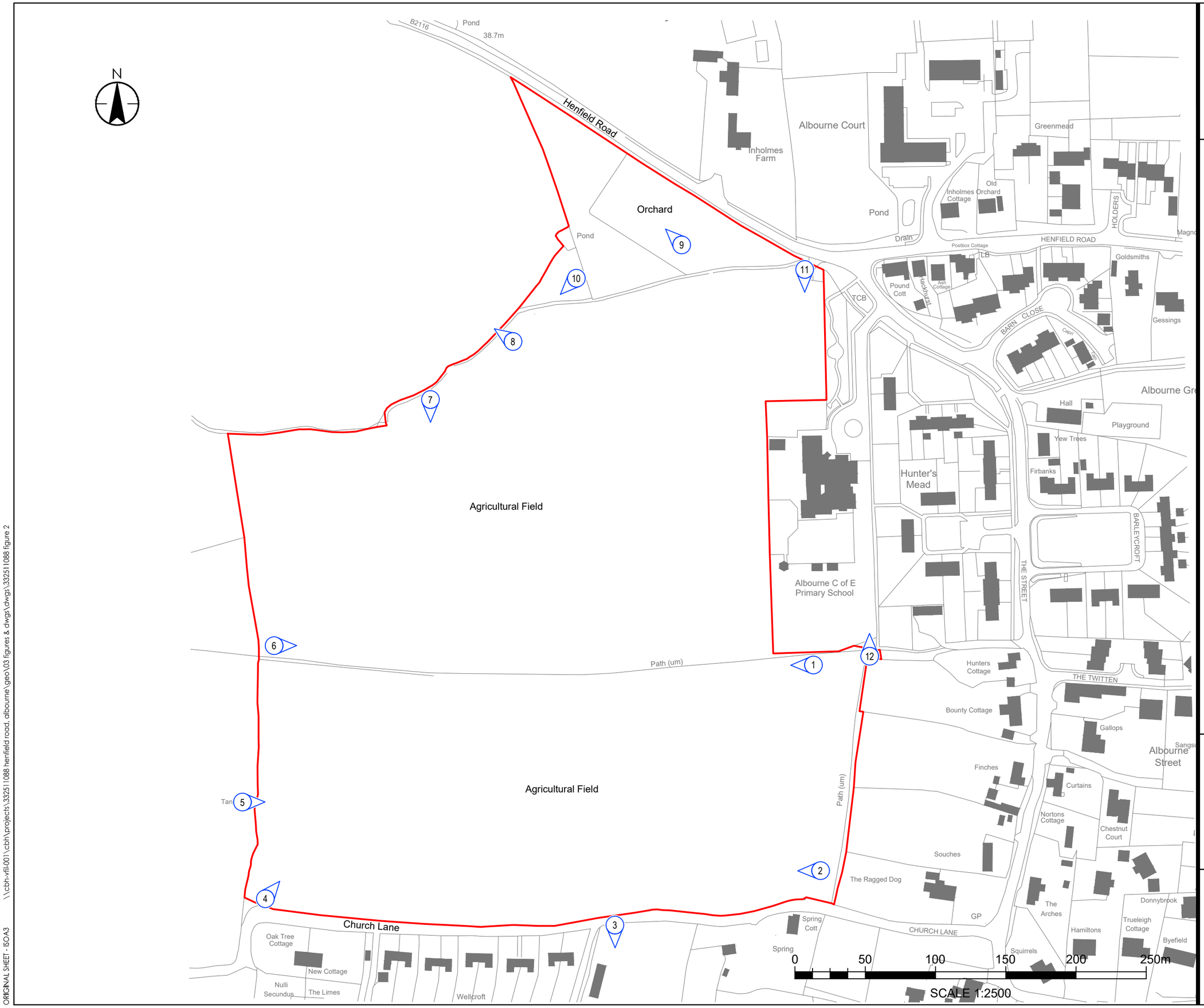
Stantec UK Limited
READING
Caversham Bridge House, Waterman Place, Reading,
Berkshire RG1 8DN
Tel: +44 1189 500 761
www.stantec.com/uk

Client/Project:
Croudace Homes Ltd.

Land at Henfield Road, Albourne

Title
Site Location Plan

Prepared:	Checked:	Date:	Revision:	Figure
davco	AZ	2022.05.26	0	1



Stantec

Stantec UK Limited
READING
Caversham Bridge House, Waterman Place, Reading,
Berkshire RG1 8DN
Tel: +44 1189 500 761
www.stantec.com/uk

Key

- Approximate Site Boundary
- Photograph Position

Client/Project:

Croudace Homes Ltd.

Land at Henfield Road, Albourne

Prepared:	Checked:	Date:
davco	AZ	2022.05.26

Title

Site Layout Plan

Revision:	Figure
0	2

Plotted: 08.06.2022 2022.06.08 9:31:07 AM By: Cotton, David
ORIGINAL SHEET - ISOA3 \\cbh-vfil001\cbh\projects\332511088 henfield road, albourne\geo\03 figures & dwgs\dwgs\332511088 figure 2

Appendix 1 Methodology

Stantec Guide: Methodology for Assessment of Land Contamination (England)

1 INTRODUCTION

This document defines the approach adopted by Stantec in relation to the assessment of land contamination in England. The aim is for the approach to (i) be systematic and objective, (ii) provide for the assessment of uncertainty and (iii) provide a rational, consistent, transparent framework.

When preparing our methodology, we have made reference to various technical guidance documents and legislation referenced in Section 7 of which the principal documents are (I) Contaminated Land Statutory Guidance (Defra 2012), (ii) online guidance Land Contamination: Risk Management (LC:RM) accessed from GOV.UK which is expected to replace Contaminated Land Research (CLR) Report 11: Model Procedures for the Management of Contamination (EA 2004). It should be noted that LCRM is currently due to be revised following consultation and CLR 11 is archived, (iii) Contaminated land risk assessment: A guide to good practice (C552) (CIRIA 2001) (iv) National Planning Policy Framework (NPPF, 2019) (v) BS 10175 Investigation of potentially contaminated sites - Code of Practice (BSI 2017) and (vi) The series of British Standards on Soil Quality BS 18400.

2 DEALING WITH LAND CONTAMINATION

Government policy on land contamination aims to prevent new contaminated land from being created and promotes a risk-based approach to addressing historical contamination. For historical contamination, regulatory intervention is held in reserve for land that meets the legal definition and cannot be dealt with through any other means, including through planning. Land is only considered to be "*contaminated land*" in the legal sense if it poses an unacceptable risk.

UK legislation on contaminated land is principally contained in Part 2A of the Environmental Protection Act, 1990 (which was inserted into the 1990 Act by section 57 of the Environment Act 1995). Part 2A was introduced in England on 1 April 2000 and provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment.

The Model Procedures for the Management of Land Contamination (CLR 11), were developed to provide the technical framework for applying a risk management process when dealing with land affected by contamination. The process involves identifying, making decisions on, and taking appropriate action to deal with land contamination in a way that is consistent with government policies and legislation within the UK. The approach, concepts and principles for land contamination management promoted by LC:RM (and its predecessor CLR 11) are applied to the determination of planning applications. The guidance given in LC:RM follows the same principles.

Other legislative regimes may also provide a means of dealing with land contamination issues, such as the regimes for waste, water, environmental permitting, and environmental damage. Further, the law of statutory nuisance may result in contaminants being unacceptable to third parties whilst not attracting action under Part 2A or other environmental legislation.

2.1 Part 2A

The Regulations and Statutory Guidance that accompanied the Act, including the Contaminated Land (England) Regulations 2006, has been revised with the issue of The Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263) and the Contaminated Land Statutory Guidance for England 2012.

Part 2A defines contaminated land as "*land which appears to the Local Authority in whose area it is situated to be in such a condition that, by reason of substances in, on or under the land that significant harm is being caused, or there is a significant possibility that such significant harm (SPOSH) could be caused, or significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution (SPOSP) being caused*".

Harm is defined as "*harm to the health of living organisms or other interference with the ecological systems of which they form part, and in the case of man, includes harm to his property*".

Part 2A provides a means of dealing with unacceptable risks posed by land contamination to human health and the environment, and under the guidance enforcing authorities should seek to find and deal with such land. It states that "*under Part 2A the starting point should be that land is not contaminated land unless there is reason to consider otherwise. Only land where unacceptable risks are clearly identified, after a risk assessment has been undertaken in accordance with the Guidance, should be considered as meeting the Part 2A definition of contaminated land"*. Further, the guidance makes it clear that *"regulatory decisions should be based on what is reasonably likely, not what is hypothetically possible".*

The overarching objectives of the Government's policy on contaminated land and the Part 2A regime are:

"(a) To identify and remove unacceptable risks to human health and the environment.

(a) To seek to ensure that contaminated land is made suitable for its current use.

(b) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of

sustainable development".

The enforcing authority may need to decide whether and how to act in situations where decisions are not straight forward, and where there is uncertainty. "*In so doing, the authority should use its judgement to strike a reasonable balance between: (a) dealing with risks raised by contaminants in land and the benefits of remediating land to remove or reduce those risks; and (b) the potential impacts of regulatory intervention including financial costs to whoever will pay for remediation, health and environmental impacts of taking action, property blight, and burdens on affected people".*

The authority is required to "*take a precautionary approach to the risks raised by contamination, whilst avoiding a disproportionate approach given the circumstances of each case".* The aim is "*that the regime produces net benefits, taking account of local circumstances*".

The guidance recognises that *"normal levels of contaminants in soils should not be considered to cause land to qualify as contaminated land, unless there is a particular reason to consider otherwise".* Normal levels are quoted as:

"a) *natural presence of contaminants'* such as from underlying geology *'that have not been shown to pose an unacceptable risk to health and the environment*

b) *…low level diffuse pollution, and common human activity…"*

Similarly the guidance states that significant pollution or significant possibility of significant pollution of controlled waters is required for land to be considered contaminated and the "*fact that substances are merely entering water"* or "*where discharge from land is not discernible at a location immediately downstream"* does not constitute contaminated land.

To help achieve a more targeted approach to identifying and managing contaminated land in relation to the risk (or possibility) of harm to human health, the revised Statutory Guidance presented a new four category system for considering land under Part 2A, ranging from Category 4, where there is no risk that land poses a significant possibility of significant harm (SPOSH), or the level of risk is low, to Category 1, where the risk that land poses a significant possibility of significant harm (SPOSH) is unacceptably high.

For land that cannot be readily placed into Categories 1 or 4 further assessment is required. If there is sufficient concern that the risks could cause significant harm or have the significant possibility of significant harm the land is to be placed into Category 2. If the concern is not met land is considered Category 3.

The technical guidance clearly states that the currently published Soil Guidance Values (SGV's) and Generic Assessment Criteria (GAC's) represent *"cautious estimates of level of contaminants in soils"* which should be considered *"no risk to health or, at most, a minimal risk"*. These values do not represent the boundary between categories 3 and 4 and "*should be considered to be comfortably within Category 4".*

At the end of 2013 technical guidance in support of Defra's revised Statutory Guidance (SG) was published and then revised in 2014 (CL: AIRE 2014) which provided:

- A methodology for deriving C4SLs for four generic land-uses comprising residential, commercial, allotments and public open space; and

- A demonstration of the methodology, via the derivation of C4SLs for six substances – arsenic, benzene, benzo(a)pyrene, cadmium, chromium (VI) and lead.

For controlled waters, the revised Statutory Guidance states that the following types of pollution should be considered to constitute significant pollution of controlled waters:

"(a) Pollution equivalent to "environmental damage" to surface water or groundwater as defined by The Environmental Damage (Prevention and Remediation) Regulations 2009, but which cannot be dealt with under those Regulations.

(b) Inputs resulting in deterioration of the quality of water abstracted, or intended to be used in the future, for human consumption such that additional treatment would be required to enable that use.

(c) A breach of a statutory surface water Environment Quality Standard, either directly or via a groundwater pathway.

(d) Input of a substance into groundwater resulting in a significant and sustained upward trend in concentration of contaminants (as defined in Article 2(3) of the Groundwater Daughter Directive (2006/118/EC)".

The guidance also states that, in some circumstances, significant concentrations at a compliance point (in groundwater or surface water) may constitute pollution of controlled waters.

As with SPOSH for human health, the revised Statutory Guidance presents a four-category system for Significant Pollution of controlled waters. Category 1 covers land where there is a strong and compelling case for SPOSP, for example where significant pollution would almost certainly occur if no action was taken to avoid it. Category 4 covers land where there is no risk or the risk is low, for

example, where the land contamination is having no discernible impact on groundwater or surface water quality. Category 2 is for land where the risks posed to controlled waters are not high enough to consider the land as Category 1 but nonetheless are of sufficient concern to constitute SPOSP, Category 3 is for land where the risks posed to controlled waters are higher than low but not of sufficient concern to constitute SPOSP.

2.2 Planning

The Local Planning Authority (LPA) is responsible for the control of development, and in doing so it has a duty to take account of all material considerations, including contamination.

The principal planning objective is to ensure that any unacceptable risks to human health, buildings and other property and the natural and historical environment from the contaminated condition of the land are identified so that appropriate action can be considered and taken to address those risks.

The National Planning Policy Framework (NPPF, 2021), includes the following.

Paragraph 120 states that planning policies and decisions should "*(c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land*."

Paragraph 184 states "*Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner*".

Paragraph 174 states "*planning policies and decisions should contribute to and enhance the natural and local environment by:*

(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; *and*

(f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

Paragraph 183 describes the policy considerations the Government expects LPA's to have in regard to land affected by contamination when preparing policies for development plans and in taking decisions on applications.

Paragraph 183 states "*planning policies and decisions should ensure that:*

(a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

(b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and

c) adequate site investigation information, prepared by a competent person, is available to inform these assessments."

Paragraph 187 states "*The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.*"

The Glossary in Annex 2 provides the following:

Brownfield land registers*: Registers of previously developed land that local planning authorities consider to be appropriate for residential development, having regard to criteria in the Town and Country Planning (Brownfield Land Registers) Regulations 2017. Local planning authorities will be able to trigger a grant of permission in principle for residential development on suitable sites in their registers where they follow the required procedures.*

Competent person (to prepare site investigation information)*: A person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation.*

Previously developed land*: Land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure. This excludes: land that is or was last occupied by agricultural or forestry buildings; land that has been developed for minerals extraction or waste disposal by landfill, where provision for restoration has been made through development management procedures; land in built-up areas such as residential gardens, parks, recreation grounds and allotments; and land that was previously developed but where the*

remains of the permanent structure or fixed surface structure have blended into the landscape.

***Site investigation information**: Includes a risk assessment of land potentially affected by contamination, or ground stability and slope stability reports, as appropriate. All investigations of land potentially affected by contamination should be carried out in accordance with established procedures (such as BS10175 Investigation of Potentially Contaminated Sites – Code of Practice).*

Stantec adopt the principle that a Preliminary Investigation (Desk Study and Site Reconnaissance) and Preliminary Risk Assessment (see below) is the minimum assessment requirement to support a planning application.

The level at which contamination is deemed to be unacceptable, or, gives rise to adverse effects under a planning context has not been identified but is envisaged to be more precautionary than the level required to determine land as contaminated under Part 2A.

2.3 Building Control

The building control department of the local authority or private sector approved inspectors are responsible for the operation and enforcement of the Building Regulations (DCLG 2010) to protect the health, safety and welfare of people in and around buildings. Approved Document C requires the protection of buildings and associated land from the effects of contamination, to be applied (non-exclusively) in all changes of use from commercial or industrial premises, to residential property.

3 APPROACH

As with CLR11 the guidance given in LC:RM presents three stages of land contamination management: -

(a) Stage 1 - Risk Assessment;

(b) Stage 2 - Options Appraisal; and

(c) Stage 3 - Remediation.

Each stage has three tiers. The three tiers of Stage 1 Risk Assessment are: -

- Tier 1 - Preliminary Risk Assessment (PRA) - first tier of RA that develops the outline conceptual model (CM) and establishes whether there are any potentially unacceptable risks.

- Tier 2 - Generic Quantitative Risk Assessment (GQRA) - carried out using generic assessment criteria and assumptions to estimate risk.

- Tier 3 - Detailed Quantitative Risk Assessment (DQRA) - carried out using detailed site-specific information to generate Site Specific Assessment Criteria (SSAC) as risk evaluation criteria.

For each tier of a Stage 1 - Risk Assessment you must:

1. Identify the hazard - establish contaminant sources.

2. Assess the hazard - use a source-pathway-receptor (S-P-R) pollutant linkage approach to find out if there is the potential for unacceptable risk.

3. Estimate the risk - predict what degree of harm or pollution might result and how likely it is to occur.

4. Evaluate the risk - decide whether a risk is unacceptable.

A Stantec Preliminary Investigation report normally comprises a desk study, walkover site reconnaissance and preliminary risk assessment (PRA). The project specific proposal defines the actual scope of work which might include review of ground investigation data in which case the report includes a GQRA.

Risk estimation involves identifying the magnitude of the potential consequence (taking into account both the potential severity of the hazard and the sensitivity of the receptor) and the magnitude of the likelihood i.e. the probability (taking into account the presence of the hazard and the receptor and the integrity of the pathway). This approach is promoted in current guidance such as R&D 66 (NHBC 2008).

For a PRA, Stantec's approach is that if a pollution linkage is identified then it represents a potentially unacceptable risk which either (1) remediation / direct risk management or (2) progression to further tiers of risk assessment (GQRA and GQRA) requiring additional data collection and enabling refinement of the CM using the site specific data.

4 IDENTIFICATION OF POLLUTANT LINKAGES AND DEVELOPMENT OF A CONCEPTUAL MODEL (CM)

For all Tiers of a Stage 1 Risk Assessment, the underlying principle to ground condition assessment is the identification of *pollutant linkages* in order to evaluate whether the presence of a source of contamination could potentially lead to harmful consequences. A pollutant linkage consists of the following three elements: -

- A source/hazard – a substance or situation which has the potential to cause harm or pollution;
- A pathway – a means by which the hazard moves along / generates exposure; and
- A receptor/target – an entity which is vulnerable to the potential adverse effects of the hazard.

The *Conceptual Model* identifies the types and locations of potential contaminant sources/hazards and potential receptors and potential migration/transportation pathway(s). The CM is refined through progression to further tiers of risk assessment (GQRA and GQRA) requiring additional data collection.

4.1 Hazard Identification

A hazard is a substance or situation that has the potential to cause harm. Hazards may be chemical, biological or physical.

In a PRA the potential for hazards to be present is determined from consideration of the previous or ongoing activities on or near to the site in accordance with the criteria presented in the **Table 1**.

Based on the land use information Contaminants of Potential Concern (COPC) are identified. The COPC direct the scope of the collection of site-specific data and the analytical testing selected for subsequent Tiers.

At Tier 2 the site-specific data is evaluated using appropriate published assessment criteria (refer to Stantec document entitled Rationale for the Selection of Evaluation Criteria for a Generic Quantitative Risk Assessment (GQRA)). In general, published criteria have been developed using highly conservative assumptions and therefore if the screening criterion is not exceeded (and if enough samples from appropriate locations have been analysed) then the COPC is eliminated as a potential Hazard. It should be noted that exceedance does not necessarily indicate that a site is contaminated and/or unsuitable for use only that the COPC is retained as a potential Hazard. Published criteria are generated using models based on numerous and complex assumptions. Whether or not these assumptions are appropriate or sufficiently protective requires confirmation on a project by project basis. Manipulation of the default assumptions would normally form part of a Tier 3 Detailed Quantitative Risk Assessment (DQRA).

When reviewing or assessing site specific data Stantec utilise published guidance on comparing contamination data with a critical concentration (CL:AIRE/CIEH 2008) which presents a structured process for employing statistical techniques for data assessment purposes.

4.2 Receptor and Pathway Identification

For all Tiers the potential receptors (for both on site and adjoining land) that will be considered are:

- Human Health – including current and future occupiers, construction and future maintenance workers, and neighbouring properties/third parties;
- Ecological Systems; [1]
- Controlled Waters [2] – Under section 78A(9) of Part 2A the term "pollution of controlled waters" means the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter. The term "controlled waters" in relation to England has the same meaning as in Part 3 of the Water Resources Act 1991, except that "ground waters" does not include waters contained in underground strata but above the saturation zone.
- Property - Animal or Crop (including timber; produce grown domestically, or on allotments, for consumption; livestock; other owned or domesticated animals; wild animals which are the subject of shooting or fishing rights); and
- Property - Buildings (any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building, or buried services such as sewers, water pipes or electricity cables including archaeological sites and ancient monuments).

If a receptor is taken forward for further assessment it will be classified in terms of its sensitivity, the criteria for which are presented in **Table 2**. Table 2 has been generated using descriptions of environmental receptor importance/value given in various guidance documents including R&D 66 (NHBC 2008), EA 2017 and Transport Analysis Guidance (based on DETR 2000). Human health and buildings classifications have been generated by Stantec using the attribute description for each class. Surface water sensitivity is classified using the Water Framework Directive (WFD) status for the River Basin obtained from: https://environment.data.gov.uk/catchment-planning/

[1] International or nationally designated sites (as defined in the statutory guidance (Defra Circular 04/12)) "*in the local area*" will be identified as potential ecological receptors. A search radius of 1, 2 or 5km will be utilised depending on the site-specific circumstances (see also pathway identification). The Environment Agency has published an ecological risk assessment framework (EA 2008) which promotes (as opposed to statutorily enforces) consideration of additional receptors to include locally protected sites and protected or notable species. These additional potential receptors will only be considered if a Phase 1 habitat survey, undertaken in accordance with guidance (JNCC 1993), is commissioned and the data provided to Stantec. It should be noted that without such a survey a Land Contamination risk assessment may conclude that the identification of potential ecological receptors is inconclusive (refer to Stantec Specification for a Preliminary Investigation (Desk Study and Site Reconnaissance).

[2] The definition of "pollution of controlled water" was amended by the introduction of Section 86 of the Water Act 2003. For the purposes of Part 2A groundwater does not include waters above the saturated zone and our assessment does not therefore address perched water other than where development causes a pathway to develop.

The exposure pathway and modes of transport that will be considered are presented in **Table 3**.

4.3 Note regarding Ecological Systems

The Environment Agency (EA) has developed an ecological risk assessment framework which aims to provide a structured approach for assessing the risks to ecology from chemical contaminants in soils (EA 2008). In circumstances where contaminants in water represent a potential risk to aquatic ecosystems then risk assessors will need to consider this separately.

The framework consists of a three-tiered process: -

- Tier 1 is a screening step where the site soils chemical data is compared to a soil screening value (SSV)
- Tier 2 uses various tools (including surveys and biological testing) to gather evidence for any harm to the ecological receptors
- Tier 3 seeks to attribute the harm to the chemical contamination

Tier 1 is preceded by a desk study to collate information about the site and the nature of the contamination to assess whether pollutant linkages are feasible. The framework presents ten steps for ecological desk studies and development of a conceptual model as follows.

1. Establish Regulatory Context
2. Collate and Assess Documentary Information
3. Summarise Documentary Information
4. Identify Contaminants of Potential Concern
5. Identify Likely Fate Transport of Contaminants
6. Identify Potential Receptors of Concern
7. Identify Potential Pathways of Concern
8. Create a Conceptual Model
9. Identify Assessment and Measurement Endpoints
10. Identify Gaps and Uncertainties

The information in a standard PRA report covers Steps 1 to 4 inclusive. Step 5 considers fate and transport of contaminants and it should be noted that our standard report adopts a simplified approach considering only transport mechanisms. A simplified approach has also been adopted in respect of Steps 6 and 7 receptors (a detailed review of the ecological attributes has not been undertaken) and pathways (a food chain assessment has not been undertaken). Step 9 is outside the scope of our standard PRA report.

It should be noted that the PRA report will present an assessment for ecological systems (where identified as a receptor for a land contamination assessment) considering the viability of the mode of transport given the site-specific circumstances and not specific pathways. The PRA may conclude that the risk to potential ecological receptors is inconclusive.

4.4 Note regarding controlled waters

Controlled waters are rivers, estuaries, coastal waters, lakes and groundwaters, but not perched waters.

The EU Water Framework Directive (WFD) 2000/60/EC provides for the protection of sub-surface, surface, coastal and territorial waters through a framework of river basin management. The EU Updated Water Framework Standards Directive 2014/101/EU amended the EU WFD to update the international standards therein; it entered into force on 20 November 2014 with the requirements for its provisions to be transposed in Member State law by 20 May 2016. Other EU Directives in the European water management framework include:

- the EU Priority Substances Directive 2013/39/EU;
- EU Groundwater Pollutants Threshold Values Directive 2014/80/EU amending the EU Groundwater Directive 2006/118/EC; and
- EU Biological Monitoring Directive 2014/101/EU.

The Ground Water Daughter Directive (GWDD) was enacted by the Groundwater Regulations (2009), which were subsumed by the Environmental Permitting Regulations (2010) which provide essential clarification including on the four objectives specifically for groundwater quality in the WFD: -

Achieve ‘Good’ groundwater chemical status by 2015, commonly referred to as ‘status objective’;
Achieve Drinking Water Protected Area Objectives;
Implement measures to reverse any significant and sustained upward trend in groundwater quality, referred to as ‘trend objective’; and

Prevent or limit the inputs of pollutants into groundwater, commonly referred to as ‘prevent or limit’ objectives

The Water Act 2003 (Commencement No.11) Order 2012 amends the test for 'contaminated land' which relates to water pollution so that pollution of controlled waters must now be "significant" to meet the definition of contaminated land.

The Water Framework Directive (WFD) requires the preparation, implementation and review of River Basin Management Plans (RBMP) on a six-year cycle. River basins are made up of lakes, rivers, groundwaters, estuaries and coastal waters, together with the land they drain. River Basin Districts (RBD) and the WFD Waterbodies that they comprise are important spatial management units, regularly used in catchment management studies. River Basin Management Plans (RBMP) have been developed for the 11 River Basin Districts in England and Wales.

These were released by Defra in 2009 (Defra 2009) and updated in 2015.

These RBMP's establish the current status of waters within the catchments of the respective Districts and the current status of adjoining waters identified. As part of a Tier 2 risk assessment water quality data is screened against the WFD assessment criteria. Comparison with the RBMP's current status of waters for the catchment under consideration would form part of a Tier 3 assessment.

5 RISK ESTIMATION

Risk estimation classifies what degree of harm might result to a receptor (defined as consequence) and how likely it is that such harm might arise (probability).
At Tier 1 the consequence classification is generated by multiplying the hazard classification score and the receptor sensitivity score. This approach follows that presented in the republished R&D 66 (NHBC 2008).

The criteria for classifying probability are set out in **Table 4** and have been taken directly from Table 6.4 CIRIA C552 (CIRIA 2001). Probability considers the integrity of the exposure pathway.

The consequence classifications detailed in **Table 5** have been adapted from Table 6.3 presented in C552 and R&D 66 (Annex 4 Table A4.3).

The Tier 1 risk classification is estimated for each pollutant linkage using the matrix given in **Table 6** which is taken directly from C552 (Table 6.5).

Subsequent Tiers refine the CM through retention or elimination of potential hazards and pollutant linkages.

6 RISK EVALUATION

Evaluation criteria are the parameters used to judge whether harm or pollution needs further assessment or is unacceptable. The evaluation criteria used will depend on:

- the reasons for doing the RA and the regulatory context such as Part 2A or planning;
- the CM and pollutant linkages present;
- any criteria set by regulators;
- any advisory requirements such as from Public Health England;
- the degree of confidence and precaution required;
- the level of confidence required to judge whether a risk is unacceptable;
- how you've used or developed more detailed assessment criteria in the later tiers of RA;
- the availability of robust scientific data;
- how much is known - for example, about the pathway mechanism and how the contaminants affect receptors; and
- any practical reasons such as being able to measure or predict against the criteria.

In order to put the Tier 1 risk classification into context the likely actions are described in **Table 7** which is taken directly from Table 6.6 of C552 (CIRIA 2001).

REFERENCES

BSI 2017 BS 10175:2011+A2:2017 Investigation of potentially contaminated sites - Code of Practice

BSI 2019 BS 8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings

CIRIA 2001: Contaminated land risk assessment – a guide to good practice C552.

CIRIA 2008: Assessing risks posed by hazardous ground gases to buildings C655

CL: AIRE/CIEH 2008 Guidance on Comparing Soil Contamination Data with a Critical Concentration. Published by Contaminated Land: Applications in Real Environments (CL: AIRE) and the Chartered Institute of Environmental Health (CIEH)

CL: AIRE 2013 SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report published by Contaminated Land: Applications in Real Environments (CL: AIRE) 20th December 2013

DCLG 2010 Building Regulations 2010 Approved Document C Site preparation and resistance to contaminants and moisture.

DETR 2000 Methodology for Multi Modal Studies. Volume 2 Section 4. The Environmental Objective.

DEFRA 2012 Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance. Department for Environment, Food and Rural Affairs

DEFRA, 2006 The Contaminated Land (England) Regulations 2006.

DEFRA, 2012 The Contaminated Land (England) (Amendment) Regulations 2012 (SI2012/263).

DEFRA, 2012 Environmental Protection Act 1990: Part 2A. Contaminated Land Statuary Guidance. April 2012.

DEFRA, 2013 Environmental Damage (Prevention and Remediation) Regulations 2009: Guidance for England and Wales

Defra '2009 Water for Life and Livelihoods. River Basin Management Plan. (11 Districts: Anglia, Dee, Humber, Northumbria, Northwest, Severn, Solway

and Tweed, Southeast, Thames, Western Wales) December 2009

EA 2004: Contaminated Land Research (CLR) Report 11: The Model Procedures for the Management of Land Contamination CRL 11 by the Environment Agency (EA).

EA 2008 Ecological Risk Assessment Science Report Series SC070009 published by the Environment Agency (EA).

EA 2017 New groundwater vulnerability mapping methodology in England and Wales Report – SC040016/R Environment Agency (EA) September 2017

JNCC 1993 Handbook for Phase 1 Habitat Survey – A Technical for Environmental Audit prepared by the Joint Nature Conservancy Council (JNCC)

NHBC/EA/CIEH 2008: R&D Publication 66 Guidance for the safe development of housing on land affected by contamination.

National Planning Policy Framework (February 2019 revised), published by the Ministry of Housing, Communities and Local Government (MHCLG) at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

Table 1: Criteria for Classifying Hazards / Potential for Generating Contamination

Classification/Score	Potential for generating contamination/gas based on land use
Very Low 1	Land Use: Residential, retail or office use, agriculture Contamination: Limited. Gas generation potential: Soils with low organic content
Low 2	Land Use: Recent small scale industrial and light industry Contamination: locally slightly elevated concentrations. Gas generation potential: Soils with high organic content (limited thickness)
Moderate 3	Land Use: Railway yards, collieries, scrap yards, engineering works. Contamination: Possible widespread slightly elevated concentrations and locally elevated concentrations. Gas generation potential: Dock silt and substantial thickness of organic alluvium/peat
High 4	Land Use: Heavy industry, non-hazardous landfills. Contamination: Possible widespread elevated concentrations. Gas generation potential: Shallow mine workings Pre 1960s landfill
Very High 5	Land Use: Hazardous waste landfills, gas works, chemical works, Contamination: Likely widespread elevated concentrations. Gas generation potential: Landfill post 1960

"Greenfield" is land which has not been developed and there has been no use of agrochemicals

Table 2: Criteria for Classifying Receptor Sensitivity/Value

Classification	Definition
Very Low 1	Receptor of limited importance • Groundwater: Unproductive strata (Strata with negligible significance for water supply or river baseflow) (previously Non-aquifer), Secondary B (water-bearing parts of non-aquifers), Secondary undifferentiated (previously minor or non-aquifer, but information insufficient to classify as secondary A or B) • Surface water: WFD Surface Water status Bad • Ecology: No local designation • Buildings: Replaceable • Human health: Unoccupied/limited access
Low 2	Receptor of local or county importance with potential for replacement • Groundwater: Secondary A aquifer • Surface water: WFD Surface Water status Poor • Ecology: local habitat resources • Buildings: Local value • Human health: Minimum score 4 where human health identified as potential receptor
Moderate 3	Receptor of local or county importance with potential for replacement • Groundwater: Principal aquifer • Surface water: WFD Surface Water status Moderate • Ecology: County wildlife sites, Areas of Outstanding Natural Beauty (AONB) • Buildings: Area of Historic Character • Human health: Minimum score 4 where human health identified as potential receptor
High 4	Receptor of county or regional importance with limited potential for replacement • Groundwater: Source Protection Zone 2 or 3 • Surface water: WFD Surface Water status Good • Ecology: SSSI, National or Marine Nature Reserve (NNR or MNR) • Buildings: Conservation Area • Human health: Minimum score 4 where human health identified as potential receptor
Very High 5	Receptor of national or international importance • Groundwater: Source Protection Zone (SPZ) 1 • Surface water: WFD Surface Water status High • Ecology: Special Areas of Conservation (SAC and candidates), Special Protection Areas (SPA and potentials) or wetlands of international importance (RAMSAR) • Buildings: World Heritage site • Human health: Residential, open spaces and uses where children are present

Table 3: Exposure Pathway and Modes of Transport

Receptor	Pathway	Mode of transport
Human health	Ingestion	Fruit or vegetable leaf or roots
		Contaminated water
		Soil/dust indoors
		Soil/dust outdoors
	Inhalation	Particles (dust / soil) – outdoor
		Particles (dust / soil) - indoor
		Vapours – outdoor - migration via natural or anthropogenic pathways
		Vapours - indoor - migration via natural or anthropogenic pathways
	Dermal absorption	Direct contact with soil
		Direct contact with waters (swimming / showering)
		Irradiation
Groundwater	Leaching	Gravity / permeation
	Migration	Natural – groundwater as pathway Anthropogenic (e.g. boreholes, culverts, pipelines etc.)
Surface Water	Direct	Runoff or discharges from pipes
	Indirect	Recharge from groundwater
	Indirect	Deposition of windblown dust
Buildings	Direct contact	Sulphate attack on concrete, hydrocarbon corrosion of plastics
	Gas ingress	Migration via natural or anthropogenic paths
Ecological systems	See Notes	Runoff/discharge to surface water body
	See Notes	Windblown dust
	See Notes	Groundwater migration
	See Notes	At point of contaminant source
Animal and crop	Direct	Windblown or flood deposited particles / dust / sediments
	Indirect	Plants via root up take or irrigation. Animals through watering
	Inhalation	By livestock / fish - gas / vapour / particulates / dust
	Ingestion	Consumption of vegetation / water / soil by animals

Table 4: Classification of Probability

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

Table 5: Classification of Consequence (score = magnitude of hazard and sensitivity of receptor)

Classification / Score	Examples
Severe **17-25** **(3 out of 25 outcomes)**	Human health effect - exposure likely to result in "significant harm" as defined in the Defra (2012) Part 2A Statutory Guidance [1]. Controlled water effect - short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Equivalent to EA Category 1 incident (persistent and/or extensive effects on water quality leading to closure of potable abstraction point or loss of amenity, agriculture or commercial value. Major fish kill. Ecological effect - short-term exposure likely to result in a substantial adverse effect. Catastrophic damage to crops, buildings or property
Medium **10-16** **(7 out of 25 outcomes)**	Human health effect - exposure could result in "significant harm" [1]. Controlled water effect - equivalent to EA Category 2 incident requiring notification of abstractor Ecological effect - short-term exposure may result in a substantial adverse effect. Damage to crops, buildings or property
Mild **5-9** **(7 out of 25 outcomes)**	Human health effect - exposure may result in "significant harm" [1]. Controlled water effect - equivalent to EA Category 3 incident (short lived and/or minimal effects on water quality). Ecological effect - unlikely to result in a substantial adverse effect. Minor damage to crops, buildings or property. Damage to building rendering it unsafe to occupy (for example foundation damage resulting in instability).
Minor **1-4** **(8 out of 25 outcomes)**	No measurable effect on humans. Protective equipment is not required during site works. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects to crops, buildings or property. The loss of plants in a landscaping scheme. Discolouration of concrete.

[1] Significant harm includes death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function. The local authority may also consider other health effects to constitute significant harm such as physical injury; gastrointestinal disturbances; respiratory tract effects; cardio-vascular effects; central nervous system effects; skin ailments; effects on organs such as the liver or kidneys; or a wide range of other health impacts. Whether or not these would constitute significant harm would depend on the seriousness of harm including impact on health, quality of life and scale of impact.

Table 6: Classification of Risk (Combination of Consequence Table 5 and Probability Table 4)

	Consequence			
Probability	***Severe***	***Medium***	***Mild***	***Minor***
High likelihood	Very high	High	Moderate	Low
Likely	High	Moderate	Moderate/	Low
Low likelihood	Moderate	Moderate	Low	Very low
Unlikely	Low	Low	Very low	Very low

Table 7: Description of Risks and Likely Action Required

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

Appendix 2 Site Walkover Photographs

Photograph 1 – Typical view across centre of the Site from eastern boundary, facing west

Photograph 2 – View from south-eastern corner of the Site, facing west

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022
			Scale: -
			Drawn: NH
			Checked: AZ
			Appendix: **B**

Caversham Bridge House, Waterman Pl, Reading, RG1 8DN
Tel 0118 950 0761

Photograph 3 – Concrete slab of former structure in field adjacent to Wellcroft Cottages

Photograph 4 – View from south-western corner of the Site, facing north-east

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022
			Scale: -
			Drawn: NH
			Checked: AZ
			Appendix: **B**

Caversham Bridge House, Waterman Pl, Reading, RG1 8DN
Tel 0118 950 0761

Photograph 5 – Disused tank in adjacent field

Photograph 6 – View across Site from western boundary, facing east

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022 Scale: - Drawn: NH Checked: AZ Appendix: **B**

Caversham Bridge House, Waterman Pl, Reading, RG1 8DN
Tel 0118 950 0761

Photograph 7 – View from north-western boundary, facing south

Photograph 8 – Stream on north-western boundary

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022 Scale: - Drawn: NH Checked: AZ Appendix: **B**
Caversham Bridge House, Waterman Pl, Reading, RG1 8DN Tel 0118 950 0761			

Photograph 9 – Orchard in north of the Site

Photograph 10 – ‘Pond’ adjacent to orchard.

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022
			Scale: -
			Drawn: NH
			Checked: AZ
			Appendix: **B**

Caversham Bridge House, Waterman Pl, Reading, RG1 8DN
Tel 0118 950 0761

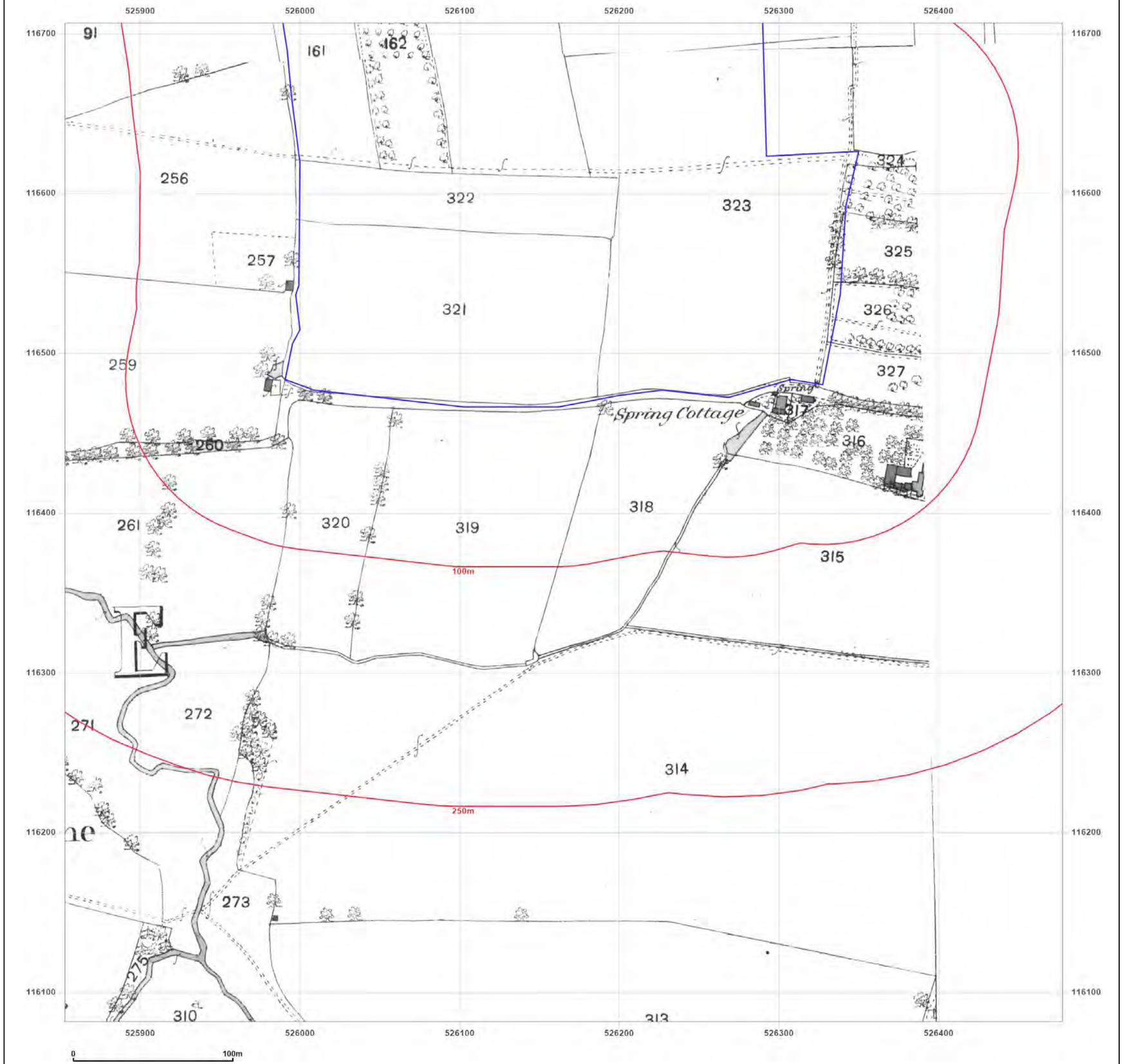
Photograph 11 – View from entrance gate in north-eastern corner, facing south

Photograph 12 – Electricity substation adjacent to school and public footpath

Stantec	Client: **Croudace Homes**	**Land at Henfield Road, Albourne**	Date: 25/05/2022
			Scale: -
			Drawn: NH
			Checked: AZ
			Appendix: **B**

Caversham Bridge House, Waterman Pl, Reading, RG1 8DN
Tel 0118 950 0761

Appendix 3 Historical OS Maps



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: County Series

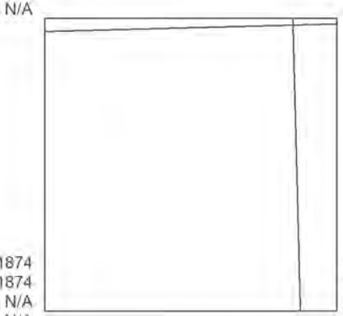
Map date: **1873-1874**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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



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

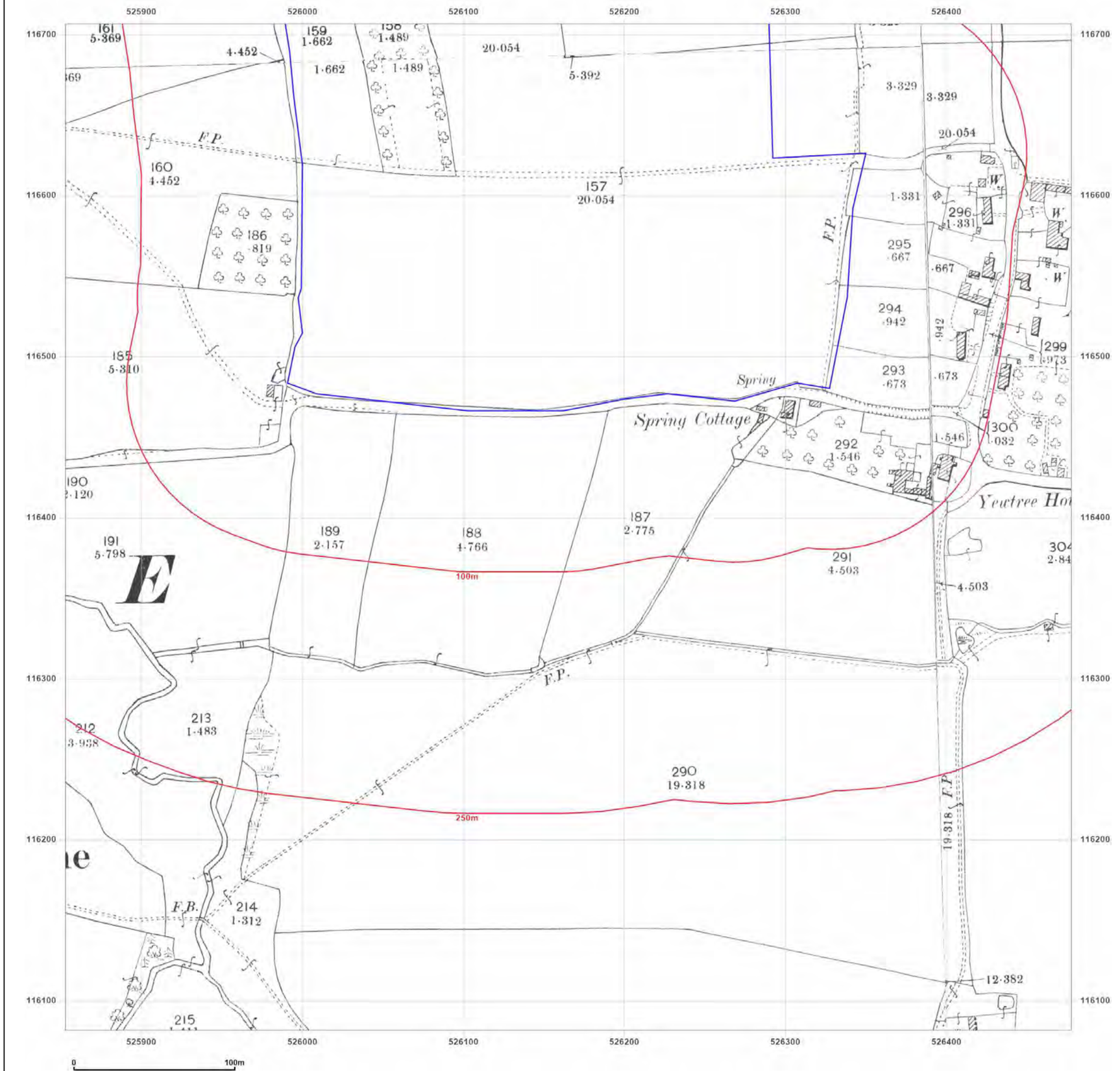
Surveyed 1873
Revised 1873
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

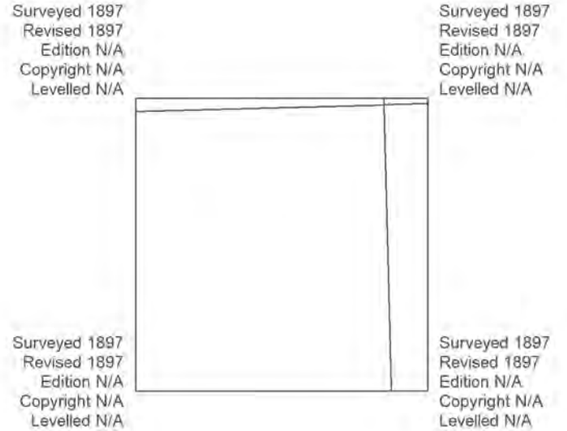
Map Name: County Series

Map date: **1897**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

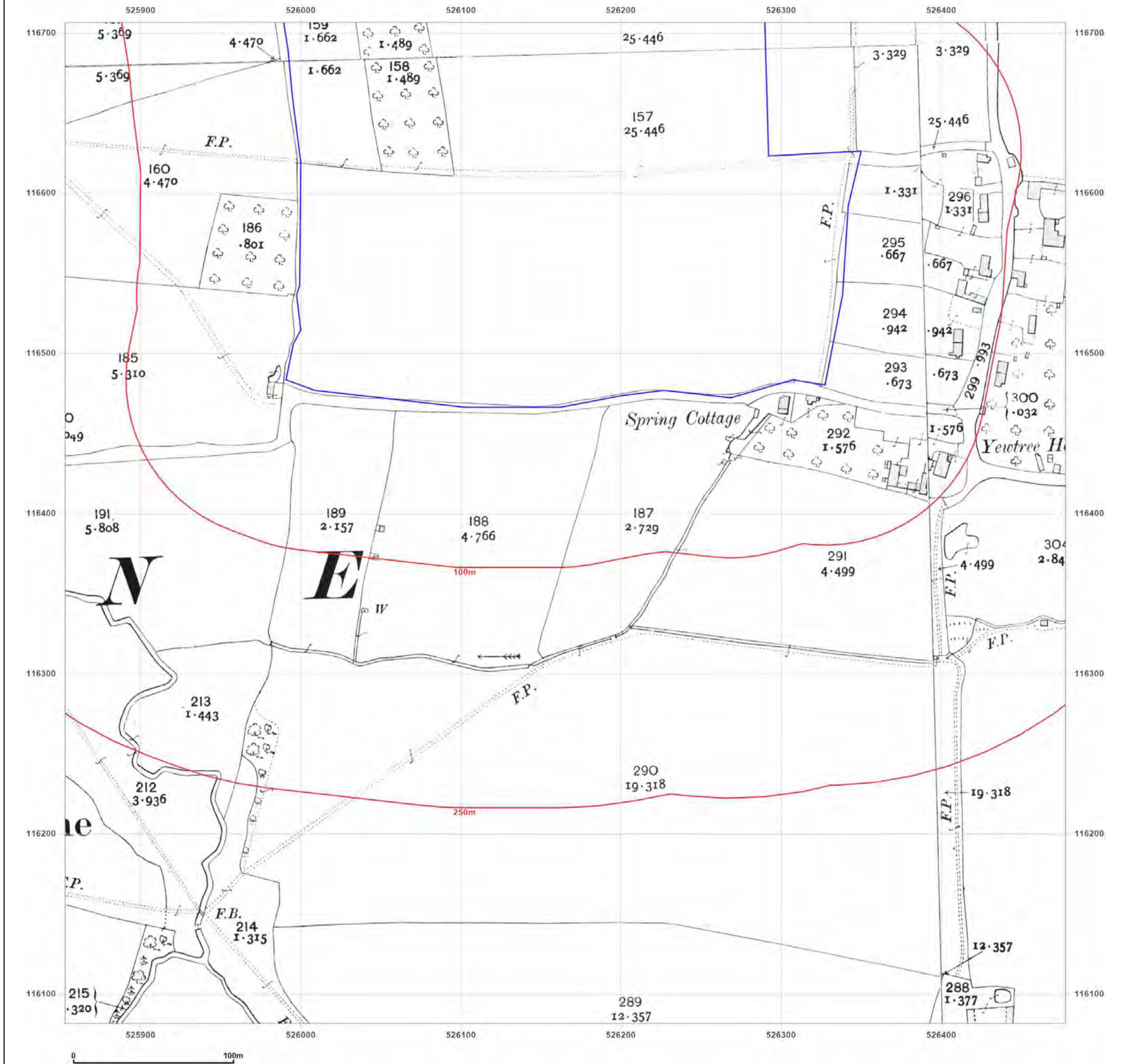


Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

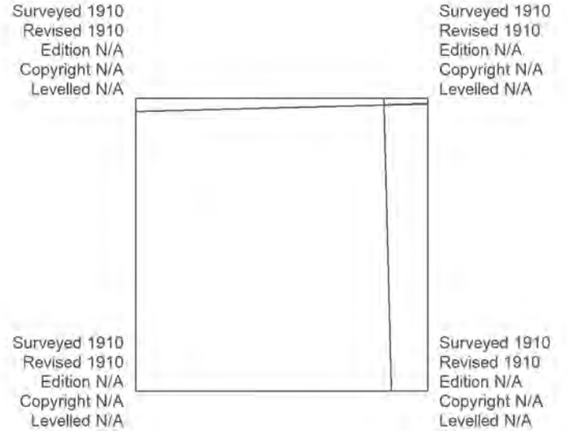
Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: County Series
Map date: **1910**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

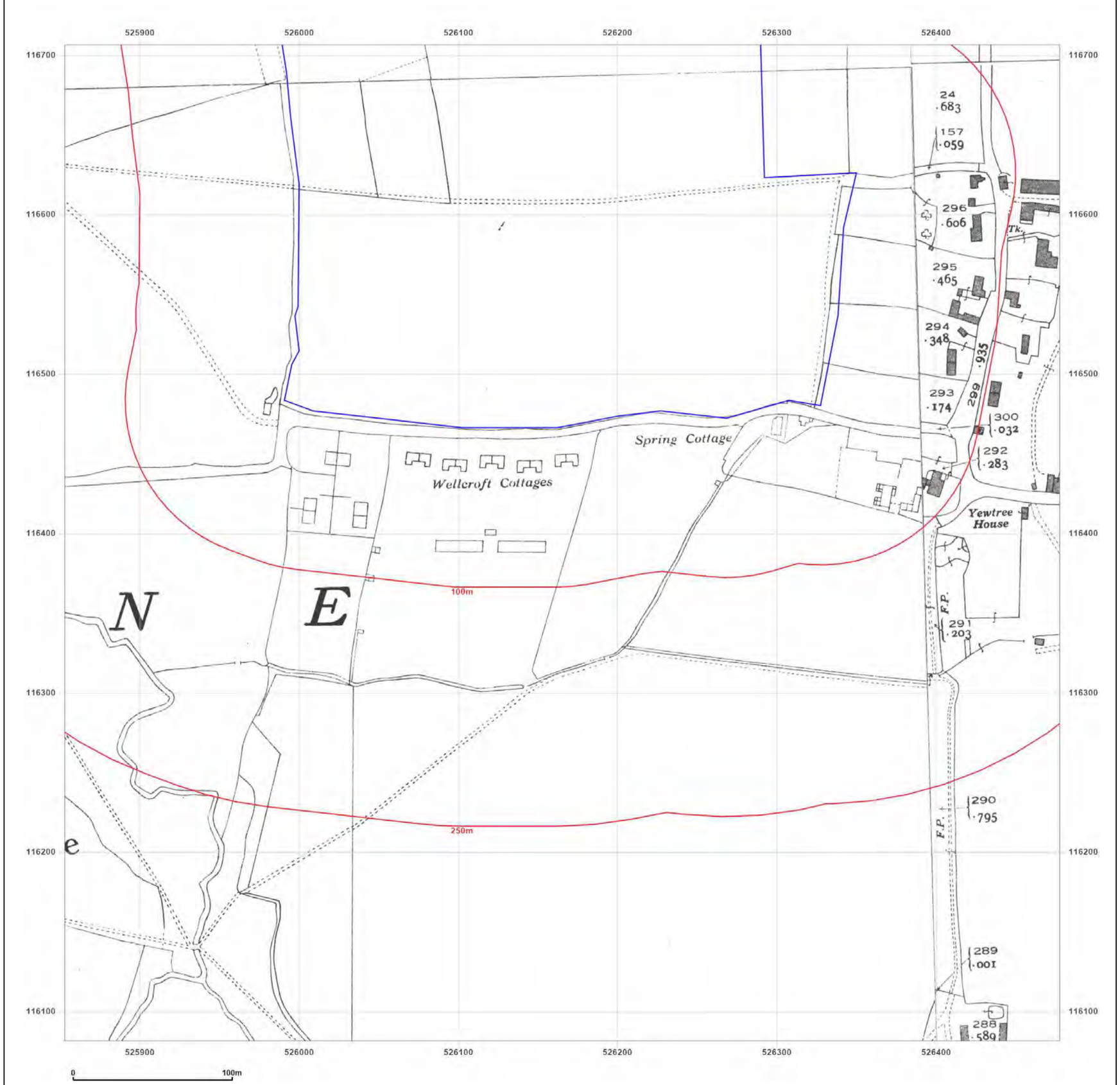


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: County Series

Map date: **1937-1938**

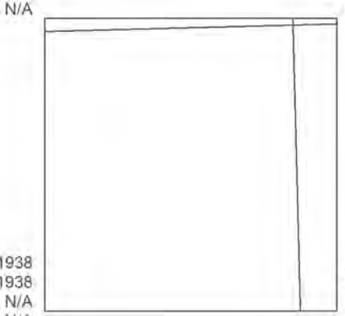
Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

Surveyed 1937
Revised 1937
Edition N/A
Copyright N/A
Levelled N/A



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

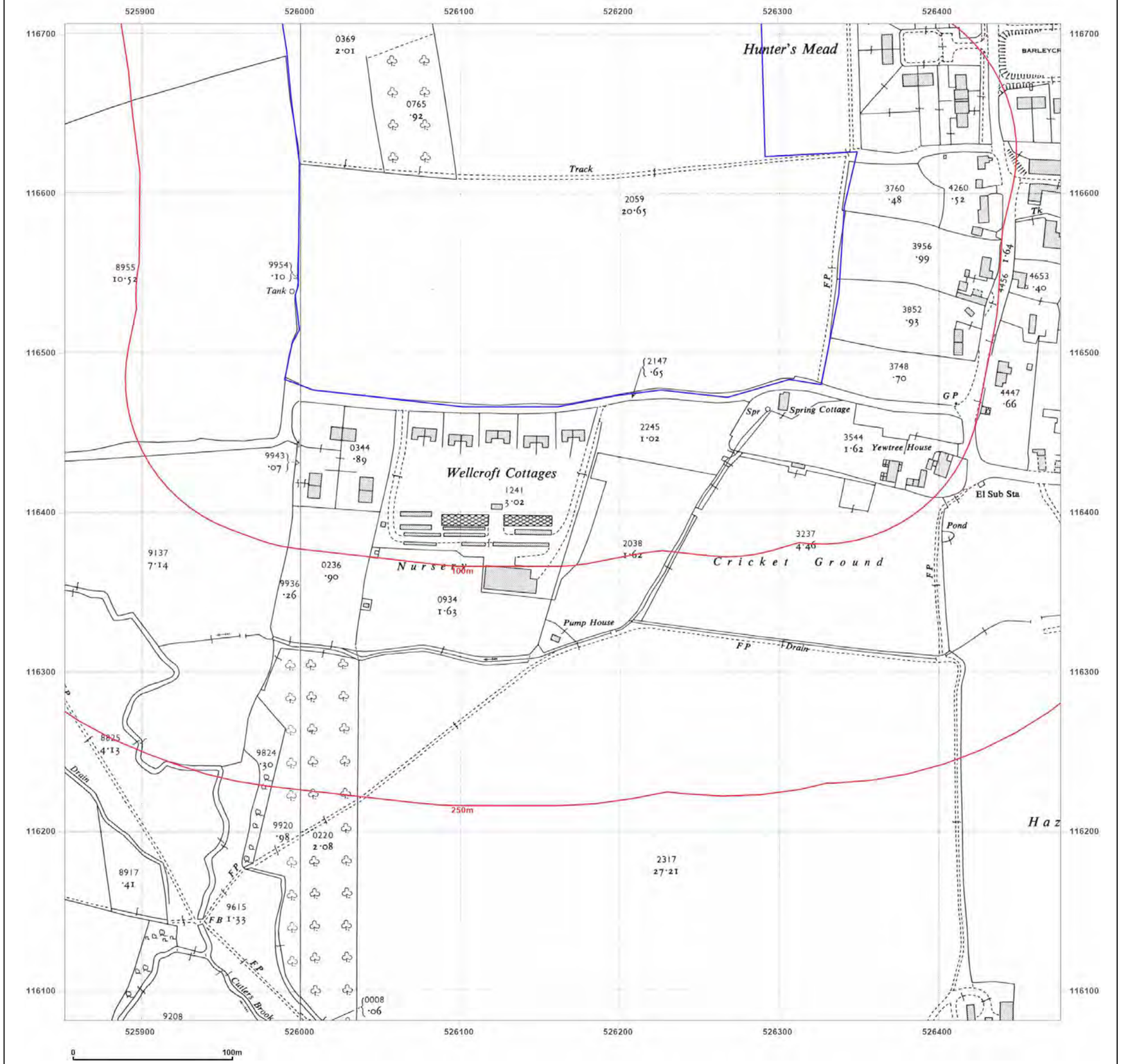
Surveyed 1937
Revised 1937
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

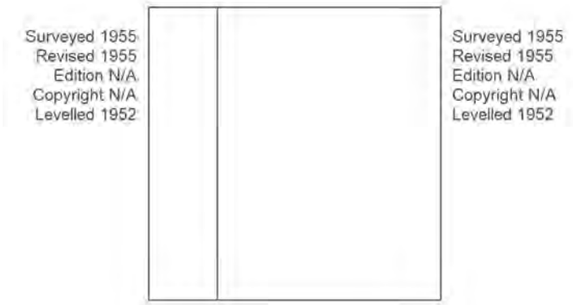
Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: National Grid
Map date: **1955**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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

Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

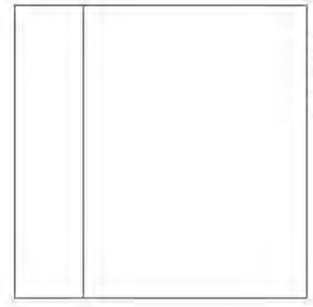
Map Name: National Grid

Map date: **1963**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



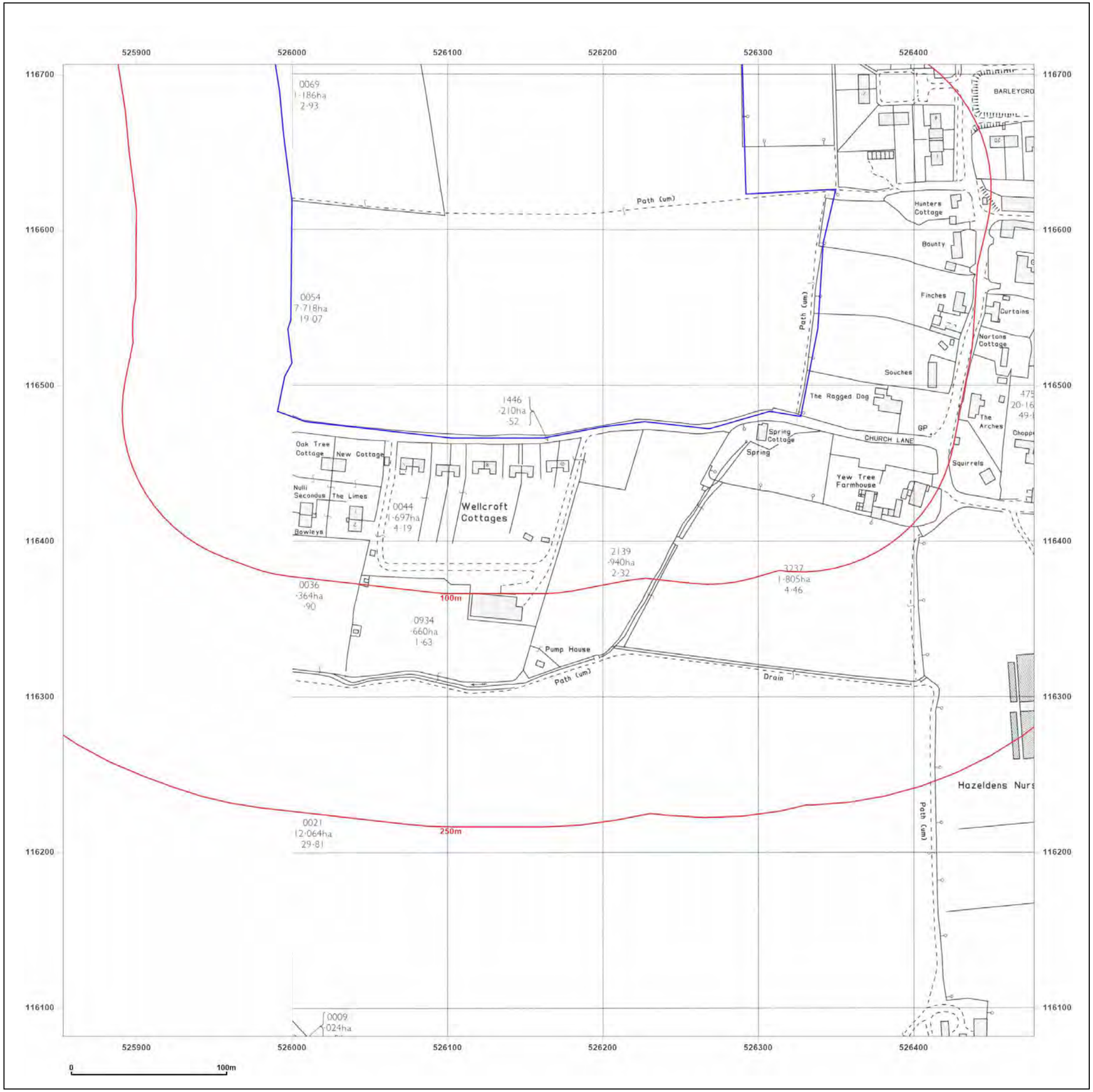
Surveyed 1962
Revised 1962
Edition N/A
Copyright 1963
Levelled 1959

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

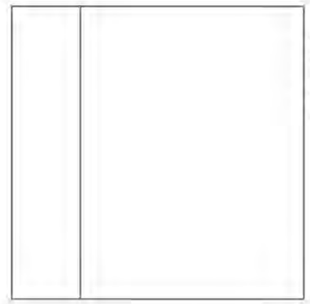
Map Name: National Grid

Map date: **1975**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Surveyed 1975
Revised 1975
Edition N/A
Copyright N/A
Levelled 1967

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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

Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: National Grid

Map date: **1977**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

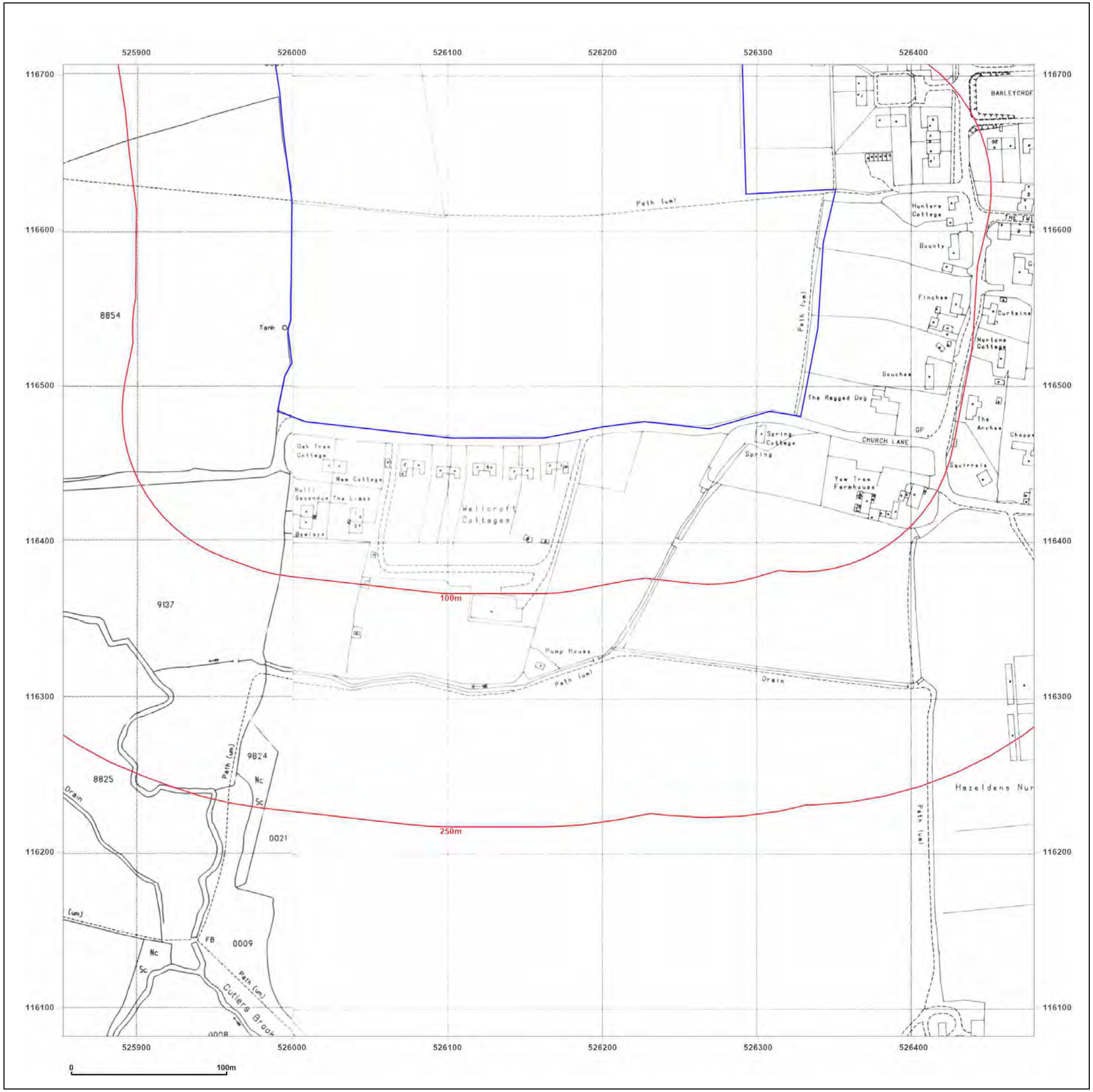
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: National Grid

Map date: **1992-1994**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

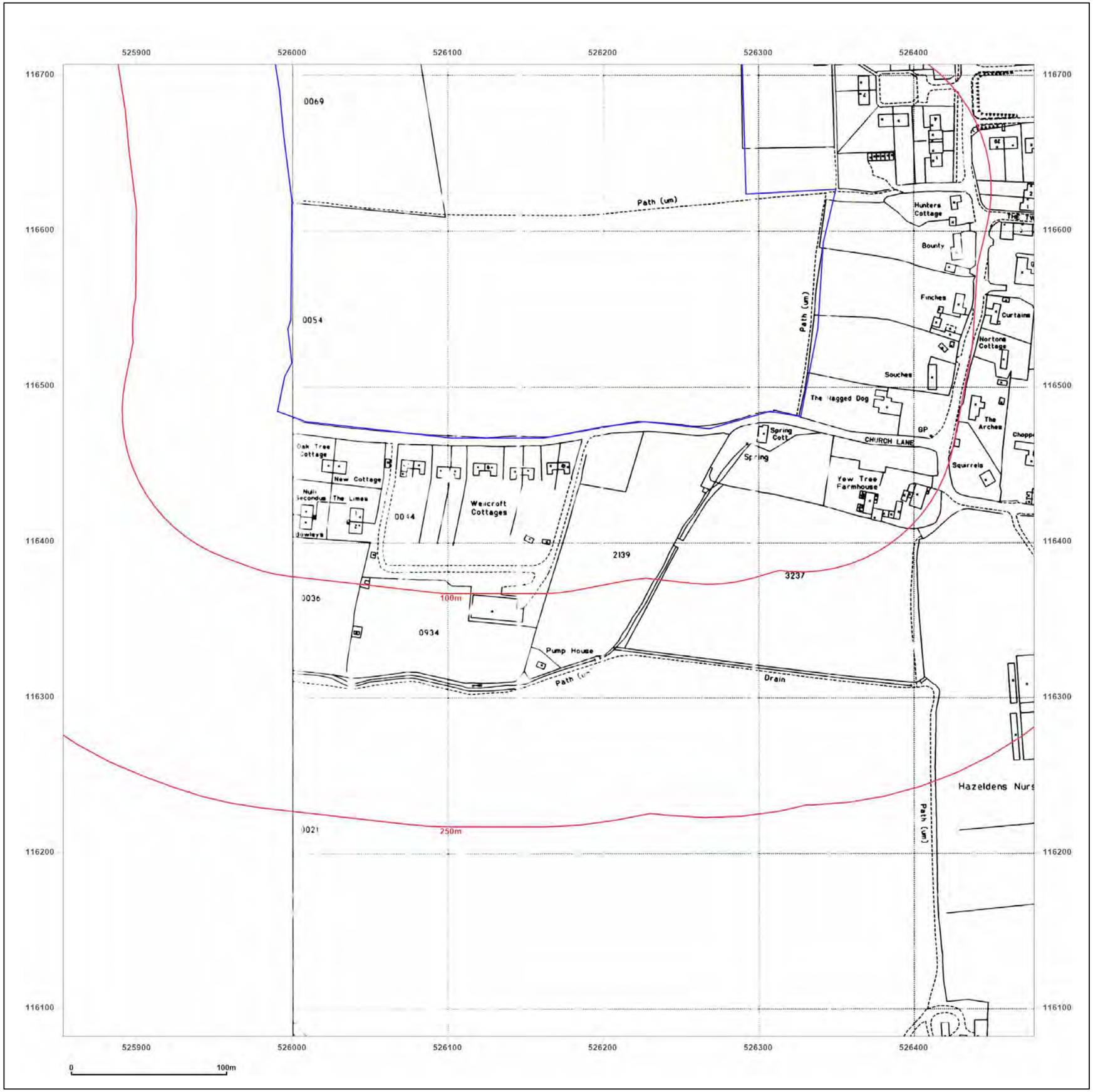
Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_1
Grid Ref: 526165, 116394

Map Name: National Grid

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

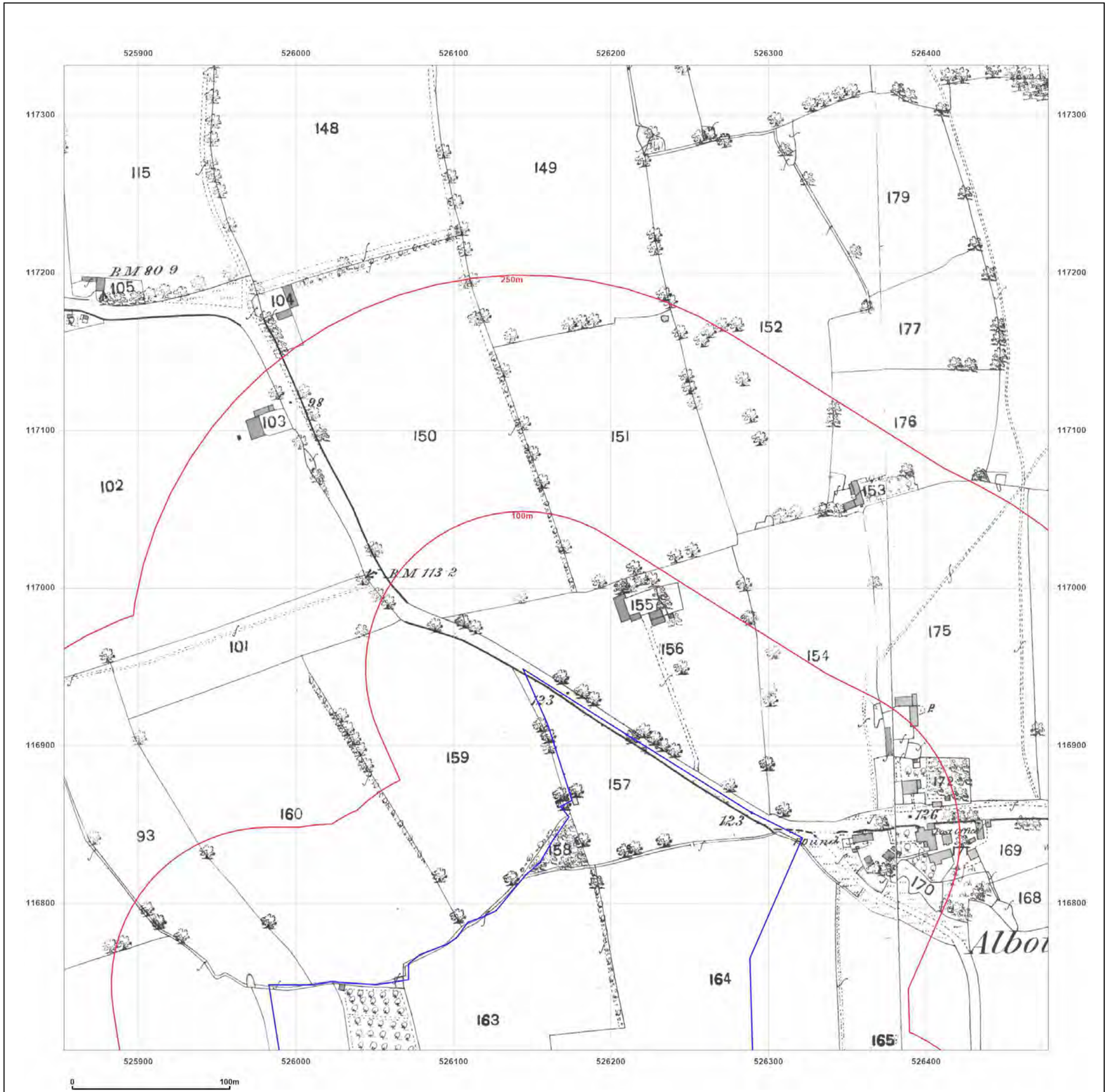
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

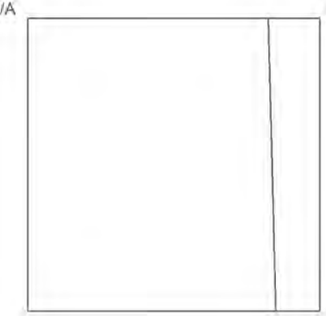
Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: County Series
Map date: **1874**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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

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

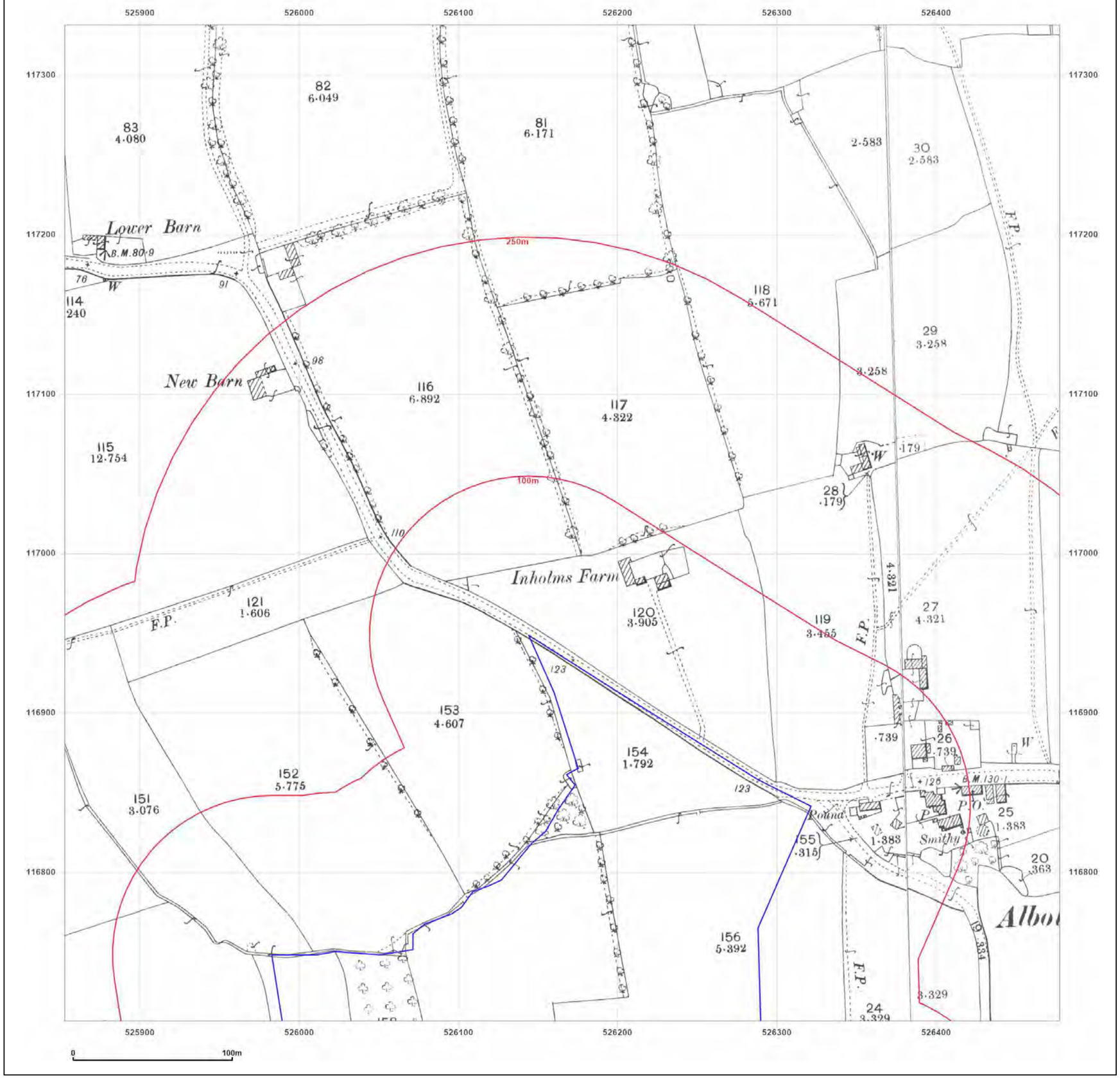


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: County Series

Map date: **1897**

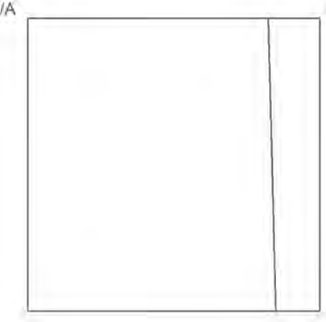
Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

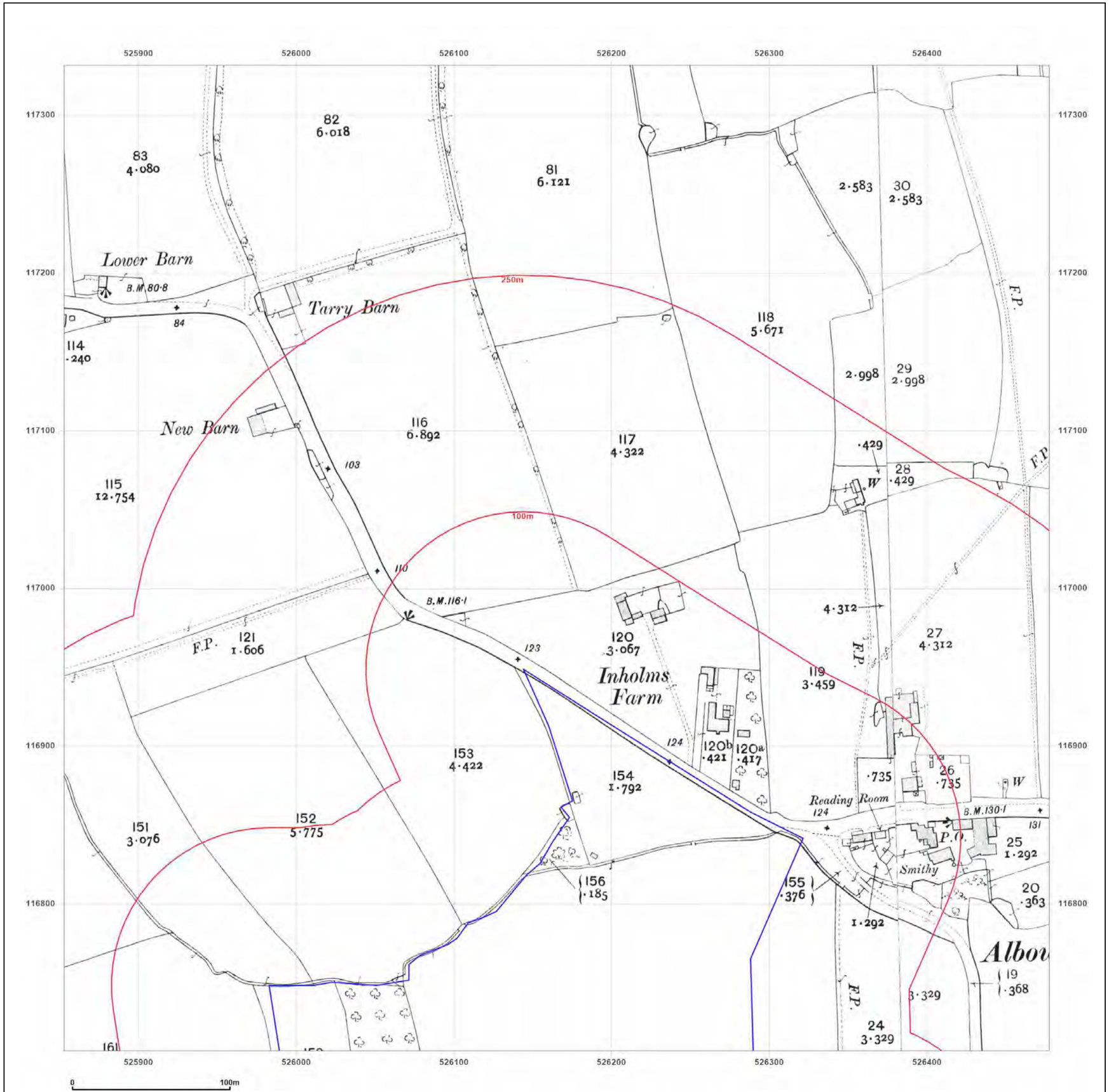


Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

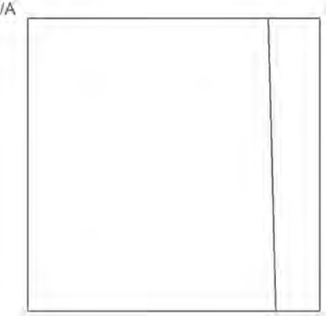
Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: County Series
Map date: **1910**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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

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

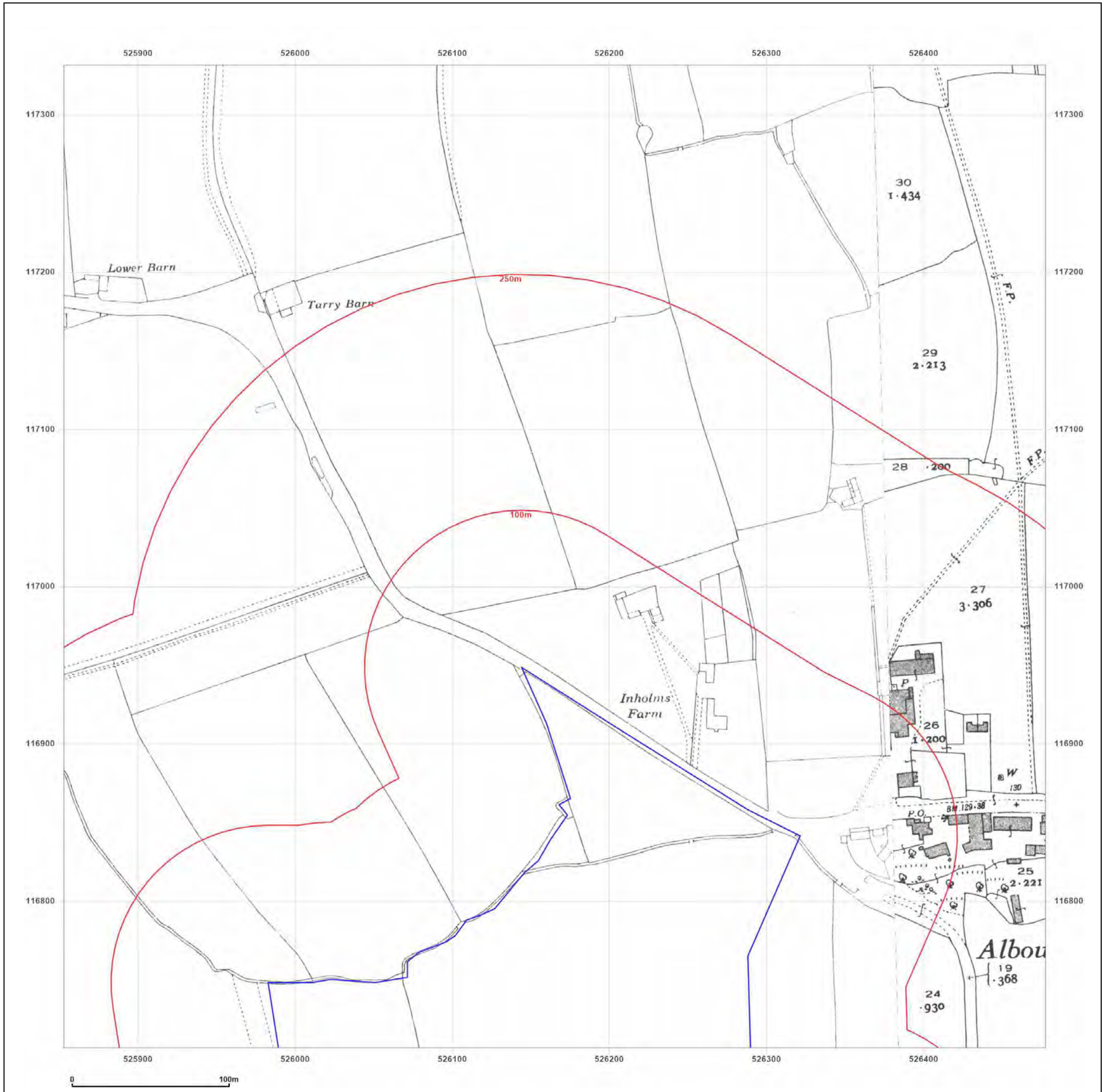


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

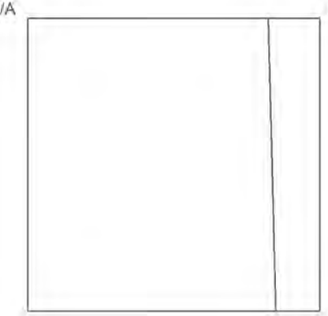
Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: County Series
Map date: **1937-1938**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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

Surveyed 1937
Revised 1937
Edition N/A
Copyright N/A
Levelled N/A

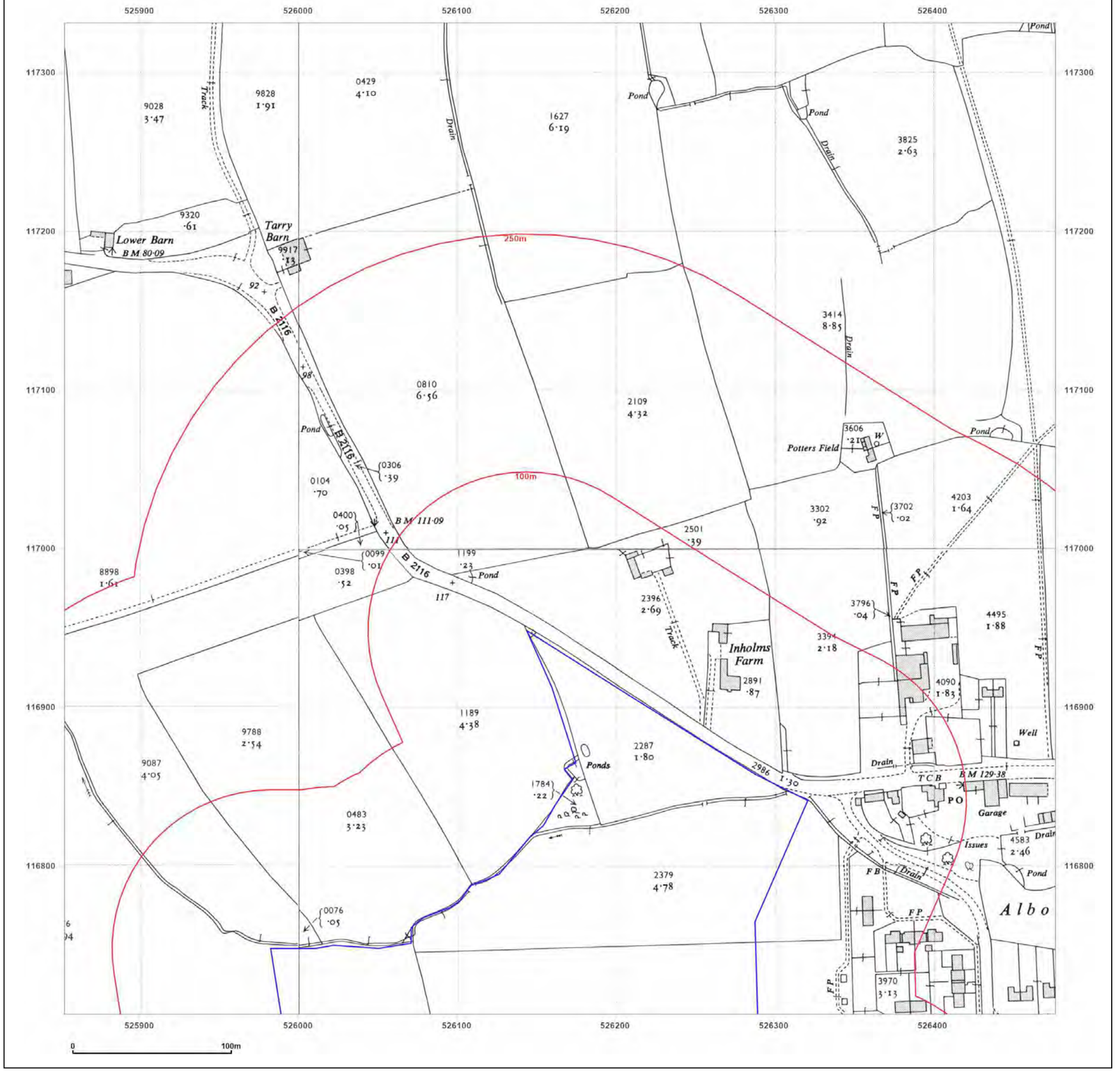


Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: National Grid

Map date: **1955**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1952

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1952

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1952

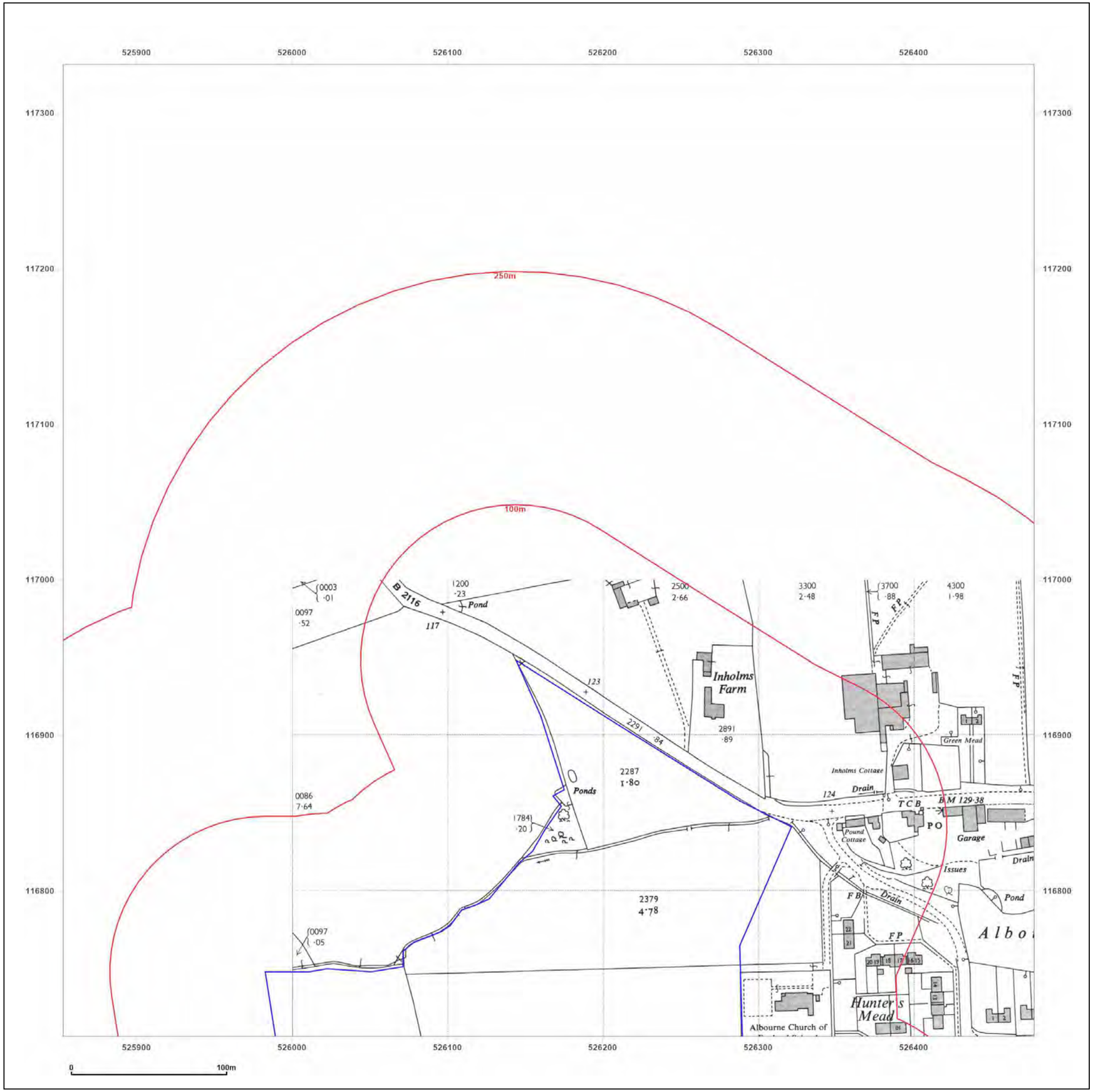
Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1952

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

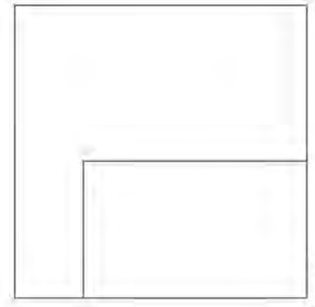
Map Name: National Grid

Map date: **1963**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



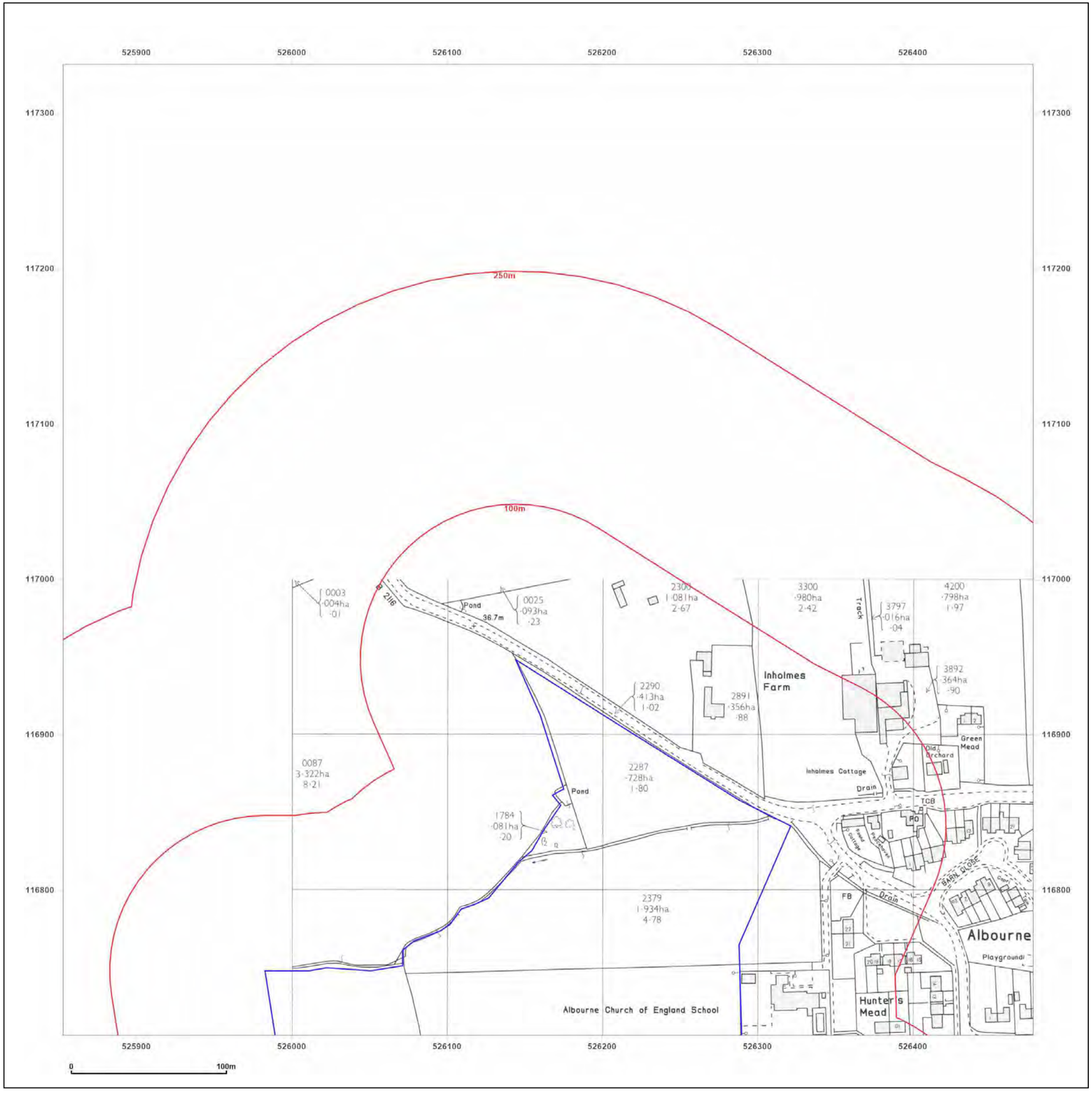
Surveyed 1962
Revised 1962
Edition N/A
Copyright 1963
Levelled 1959

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

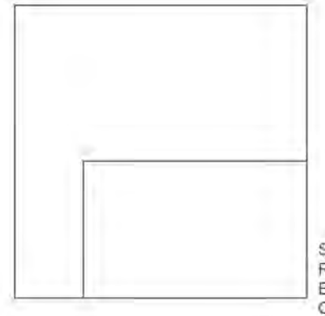
Map Name: National Grid

Map date: **1975**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



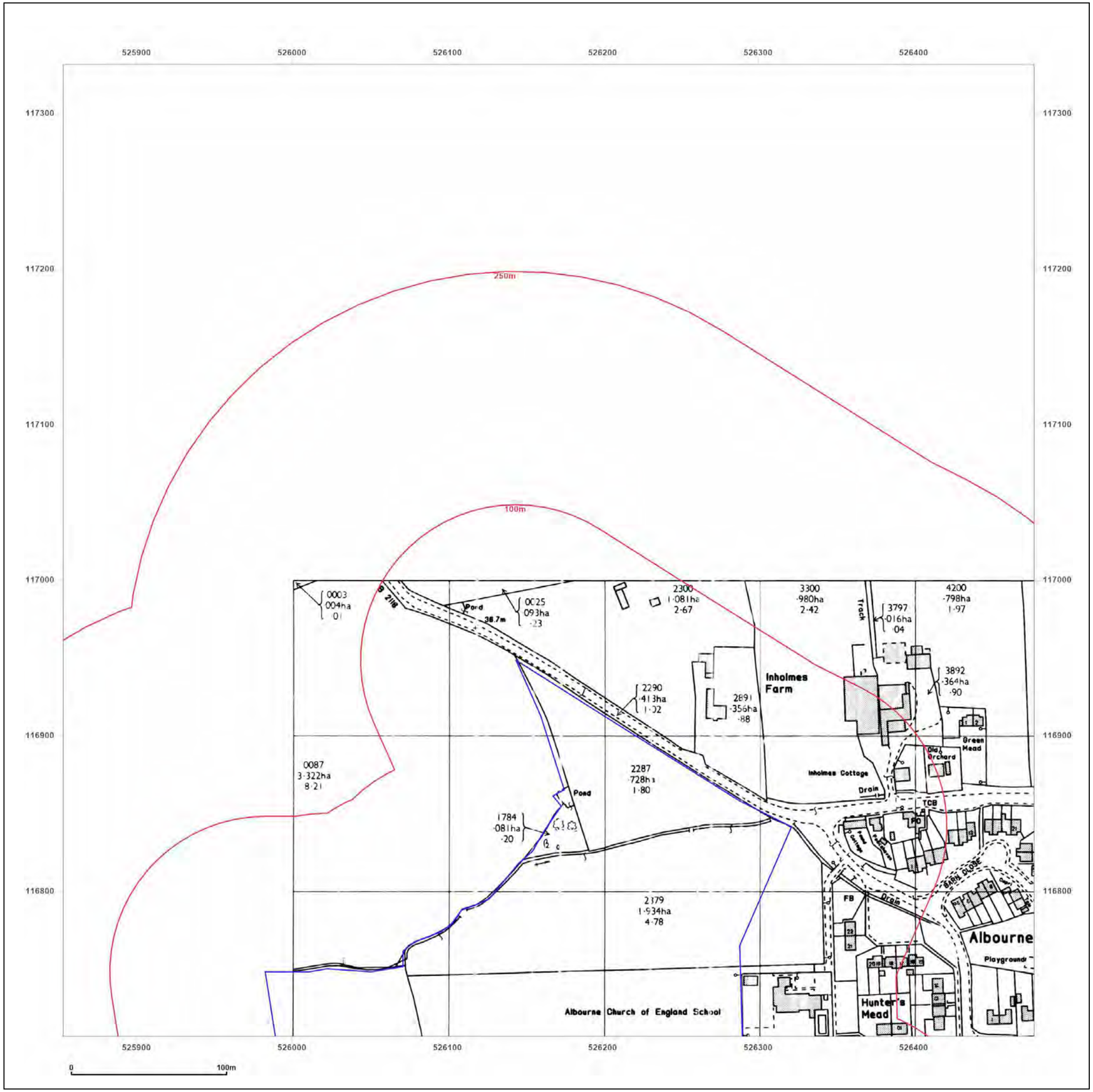
Surveyed 1975
Revised 1975
Edition N/A
Copyright N/A
Levelled 1967

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

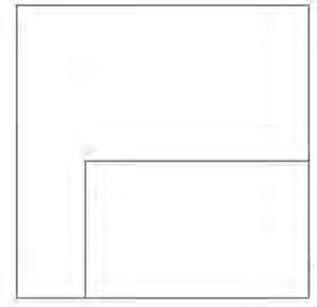
Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: National Grid
Map date: **1977**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



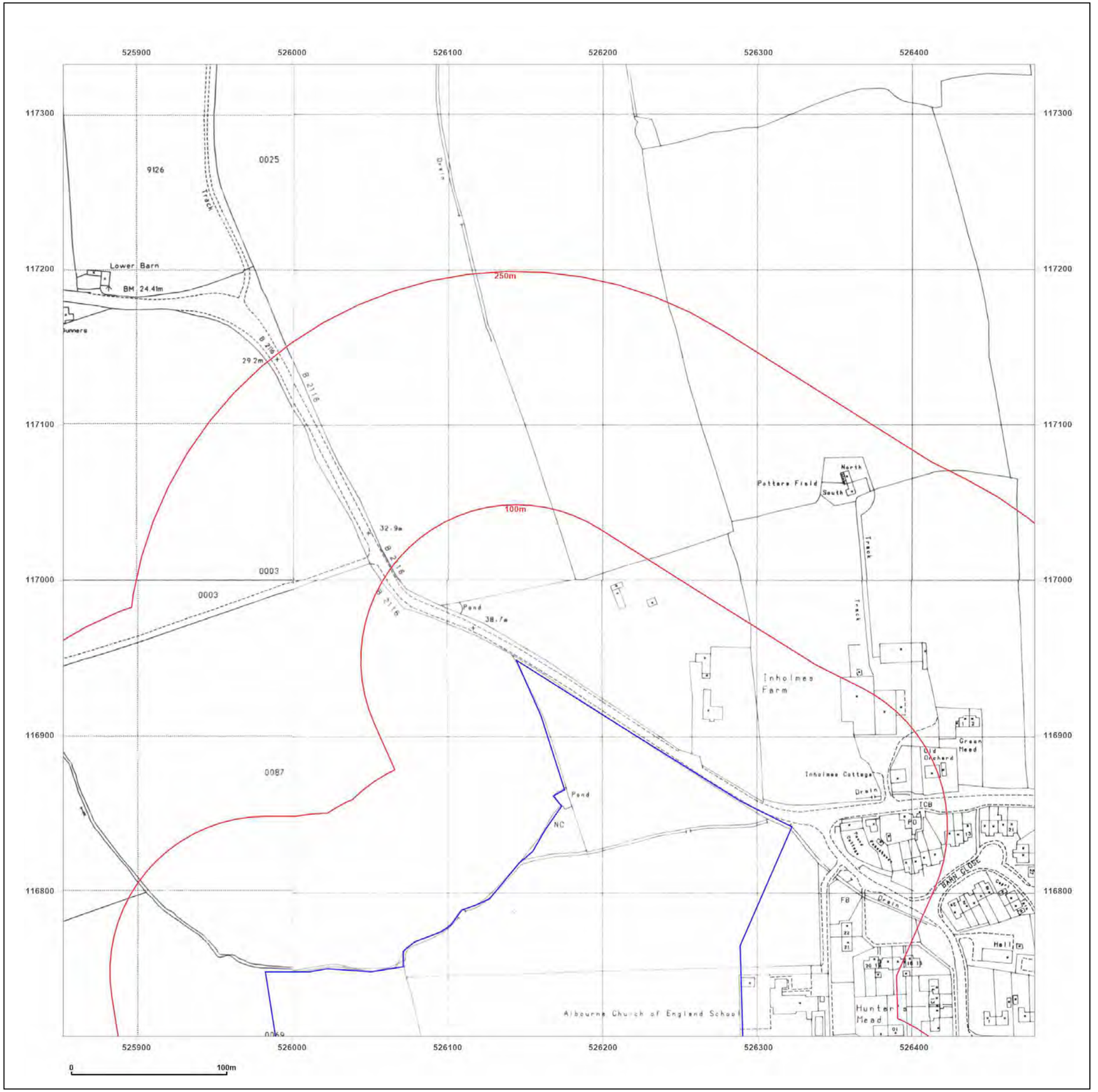
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

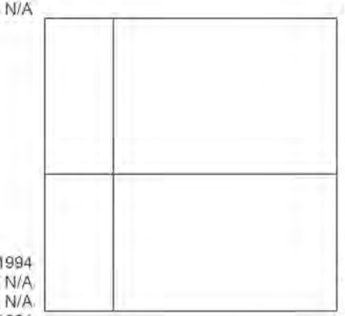
Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: National Grid
Map date: **1992-1994**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

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



Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

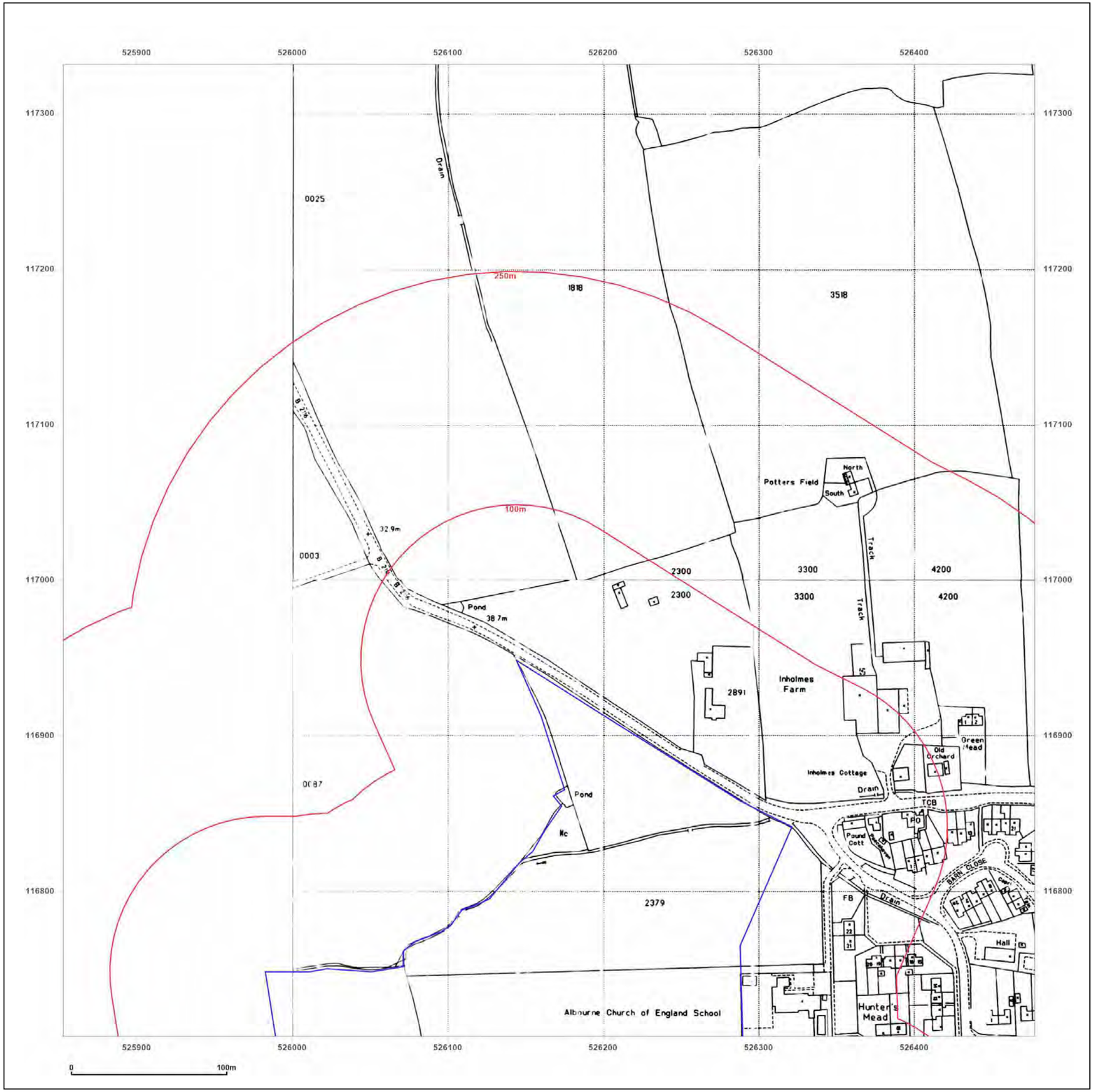
Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

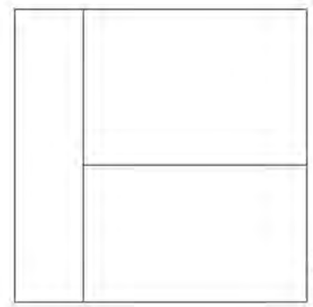
Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812_LS_1_2
Grid Ref: 526165, 117019

Map Name: National Grid
Map date: **1994**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

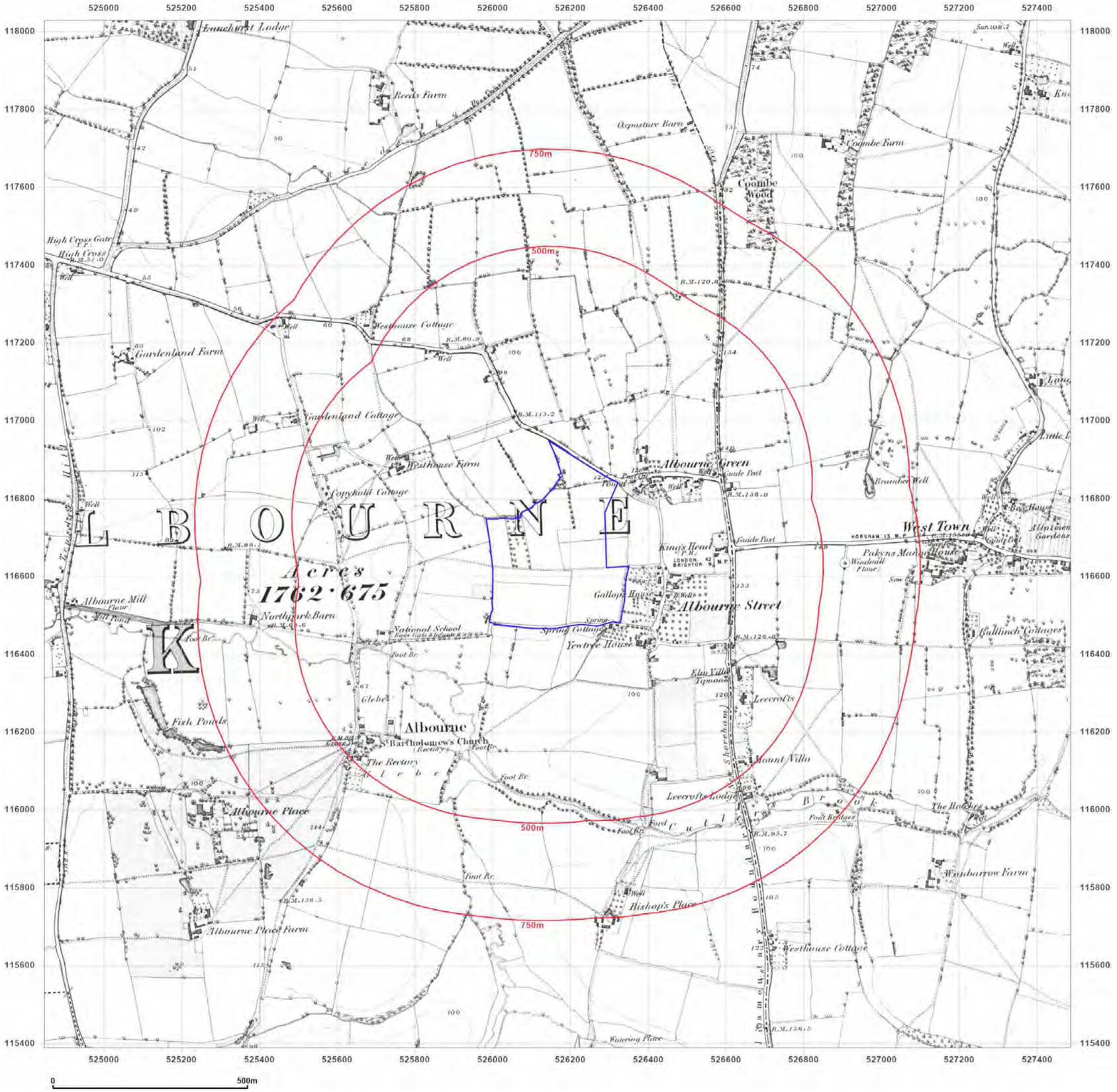
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: County Series

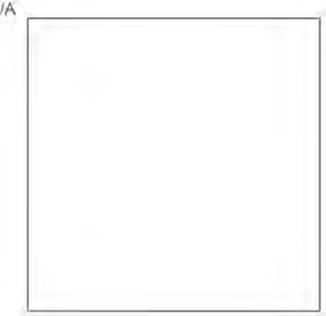
Map date: **1875**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

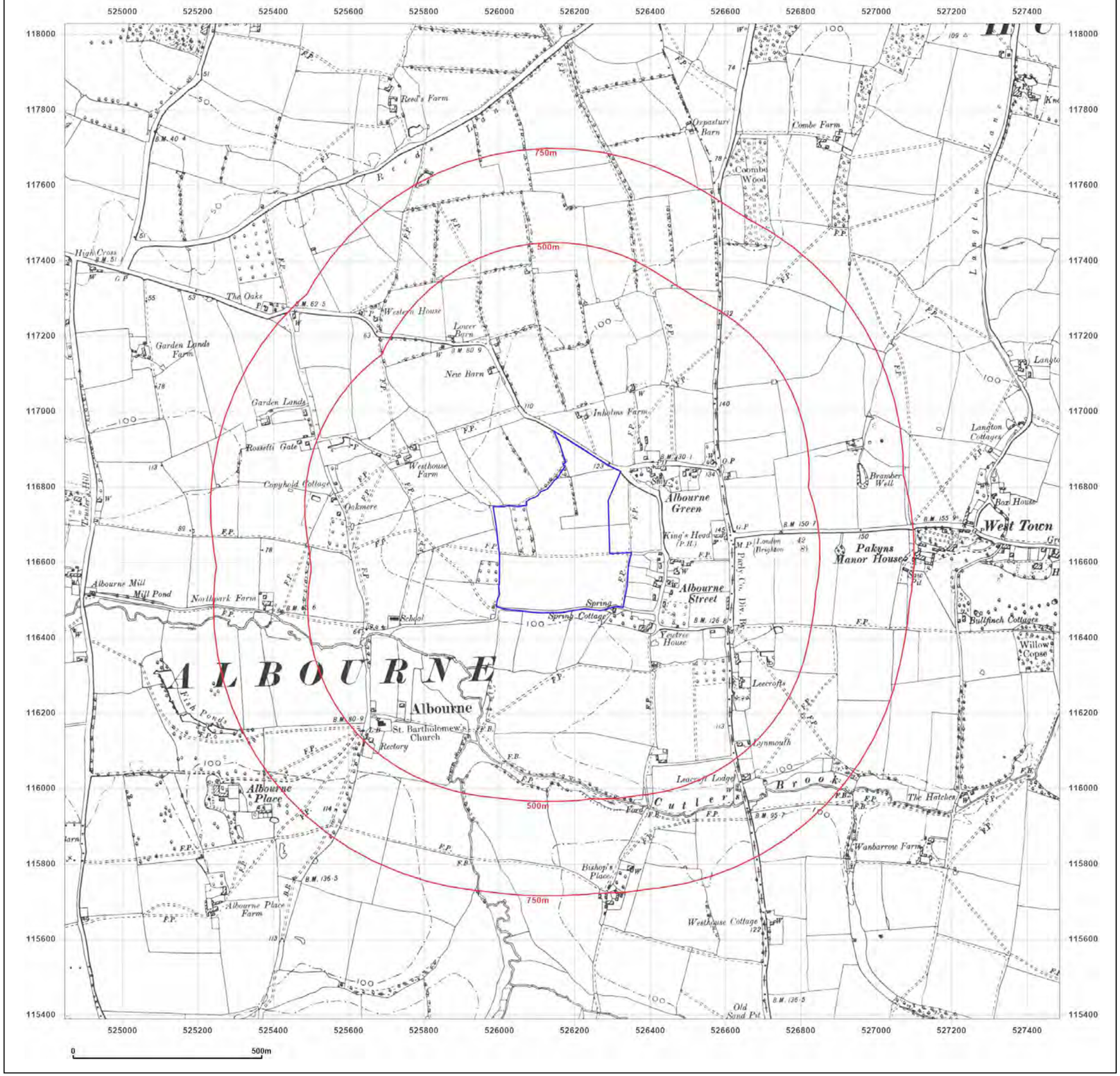


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: County Series

Map date: **1896**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

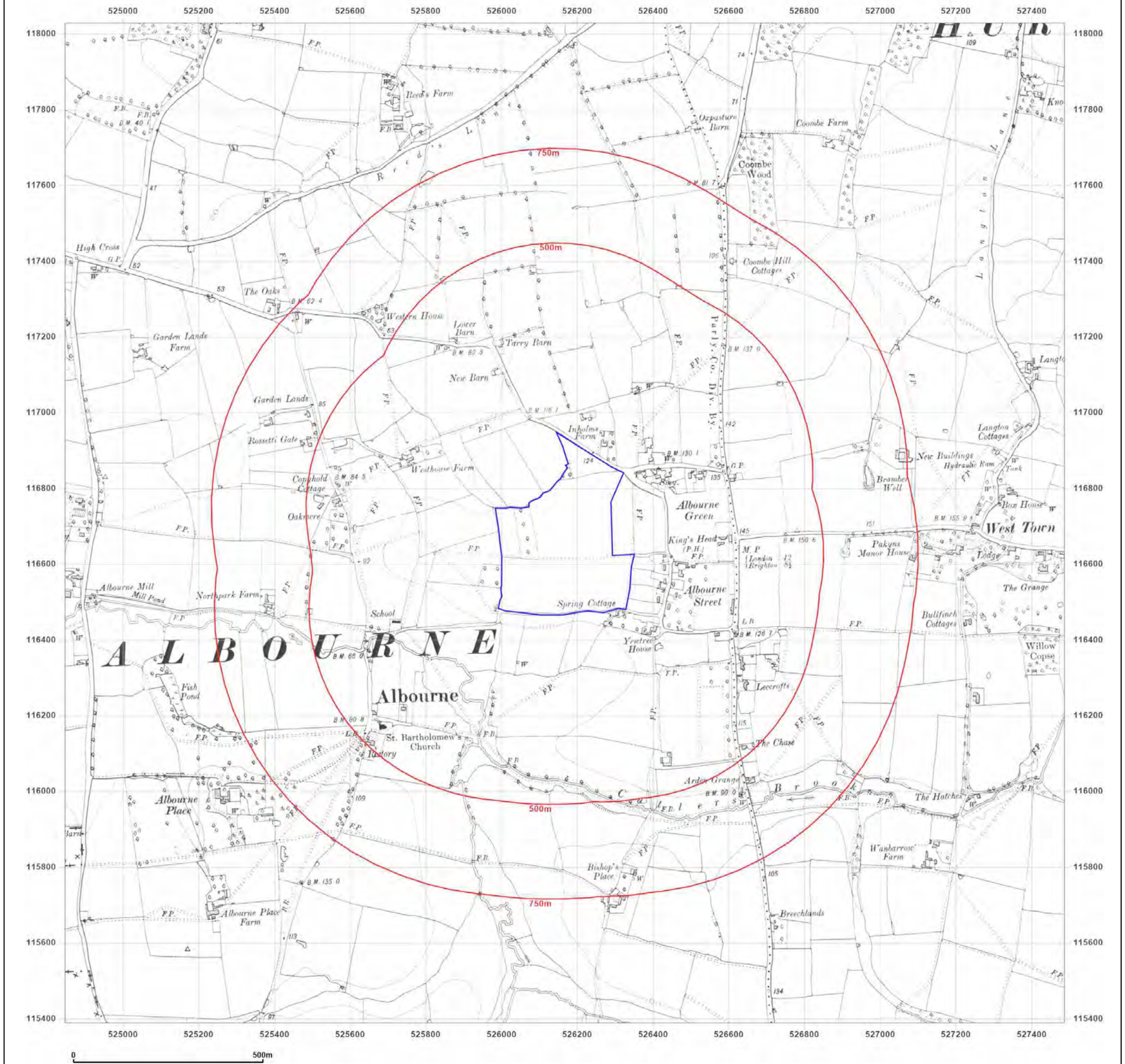
Surveyed 1874
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: County Series

Map date: **1909**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

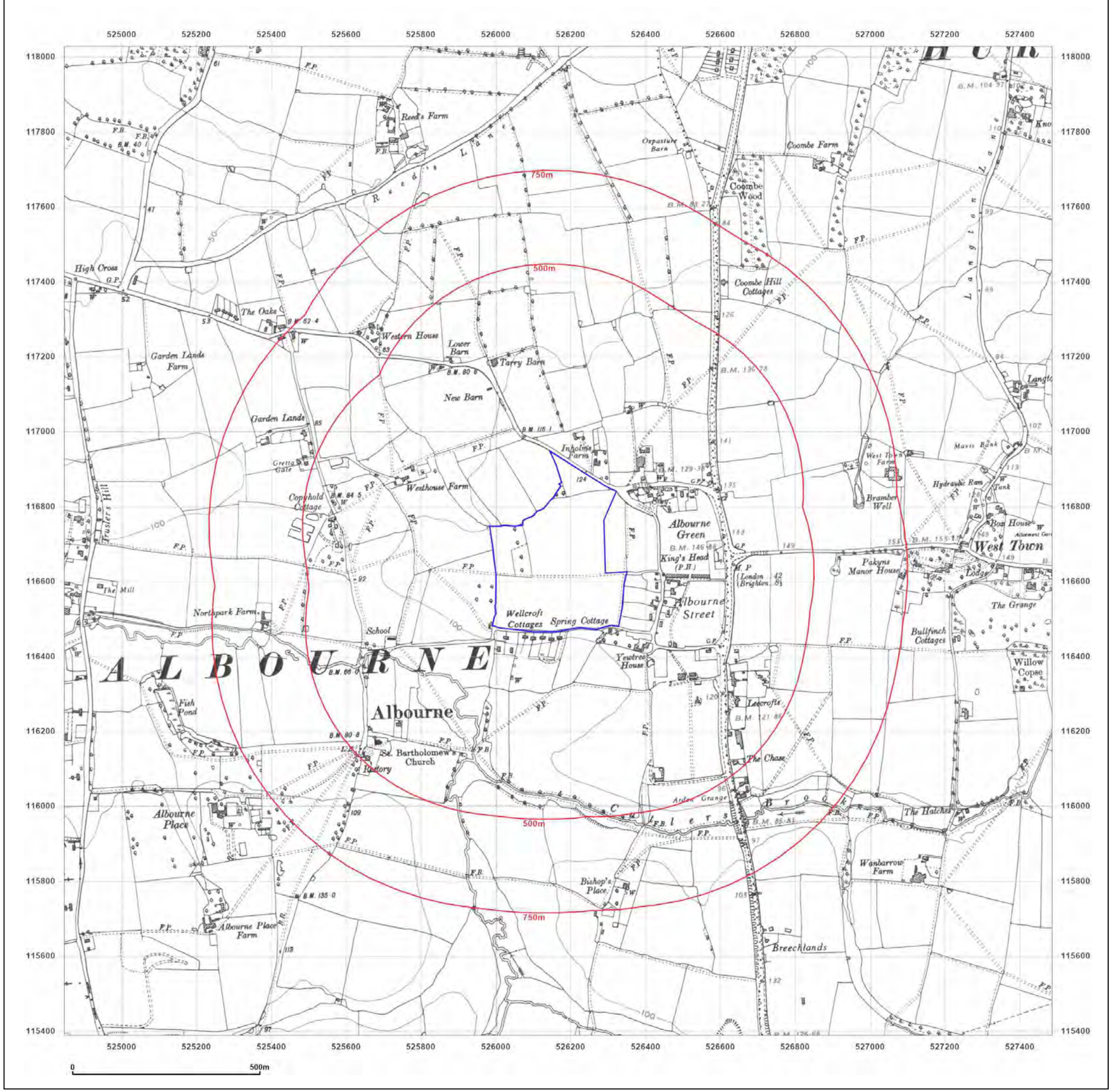
Surveyed 1874
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: County Series

Map date: **1947**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

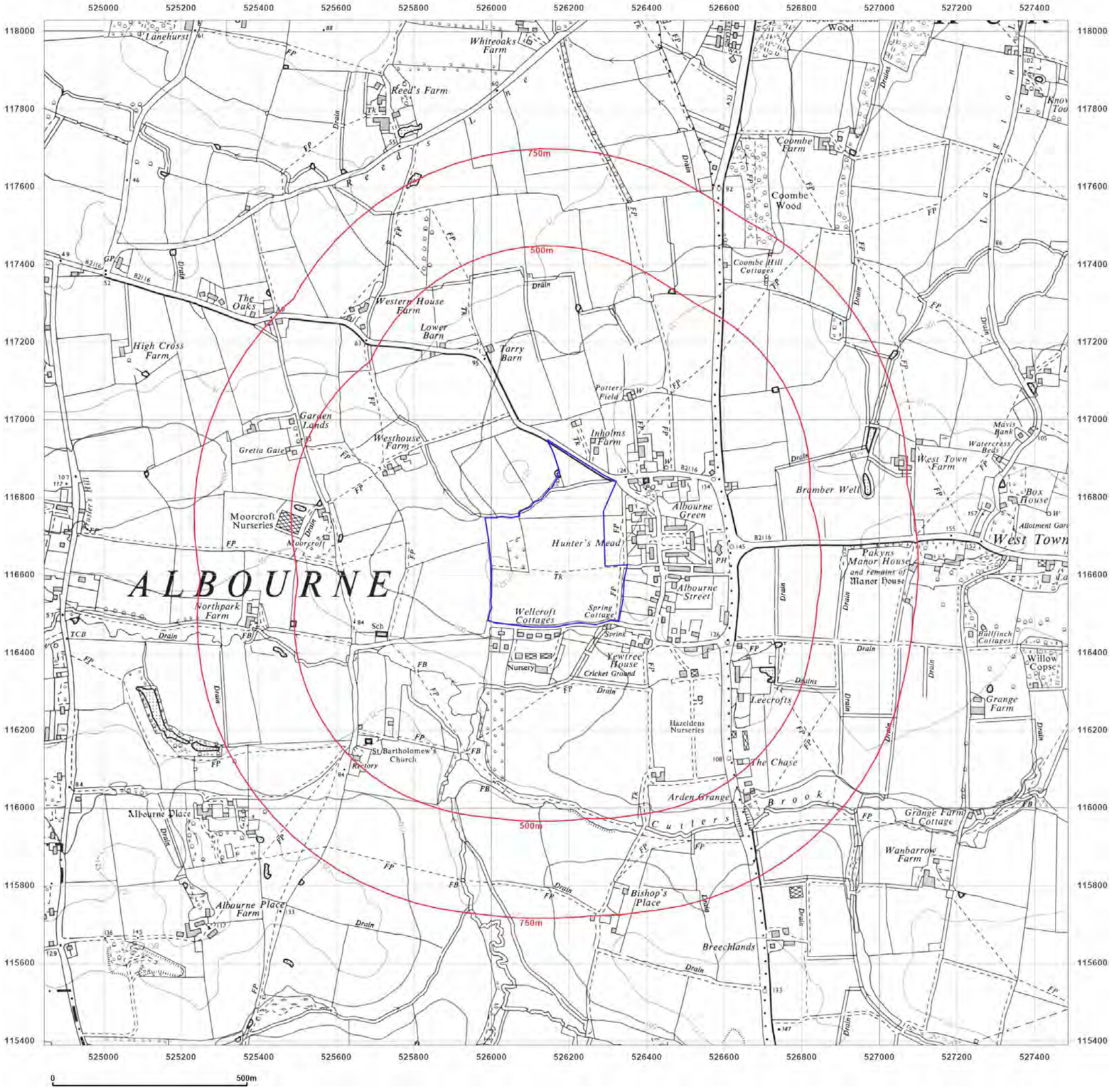
Surveyed 1874
Revised 1947
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: Provisional

Map date: **1963**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1963
Revised 1963
Edition N/A
Copyright N/A
Levelled N/A

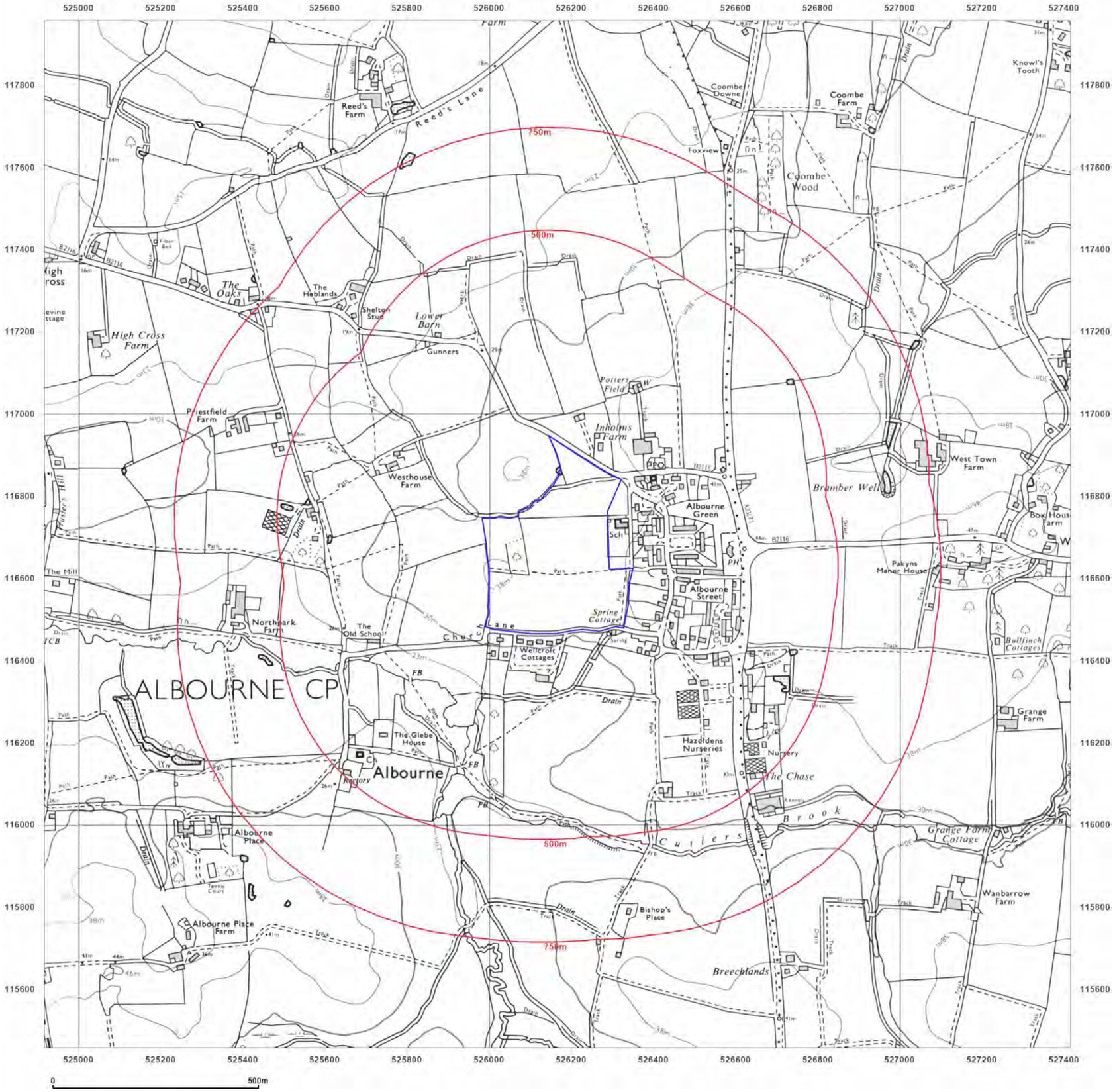
Surveyed 1963
Revised 1963
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: National Grid

Map date: **1974**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1973
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

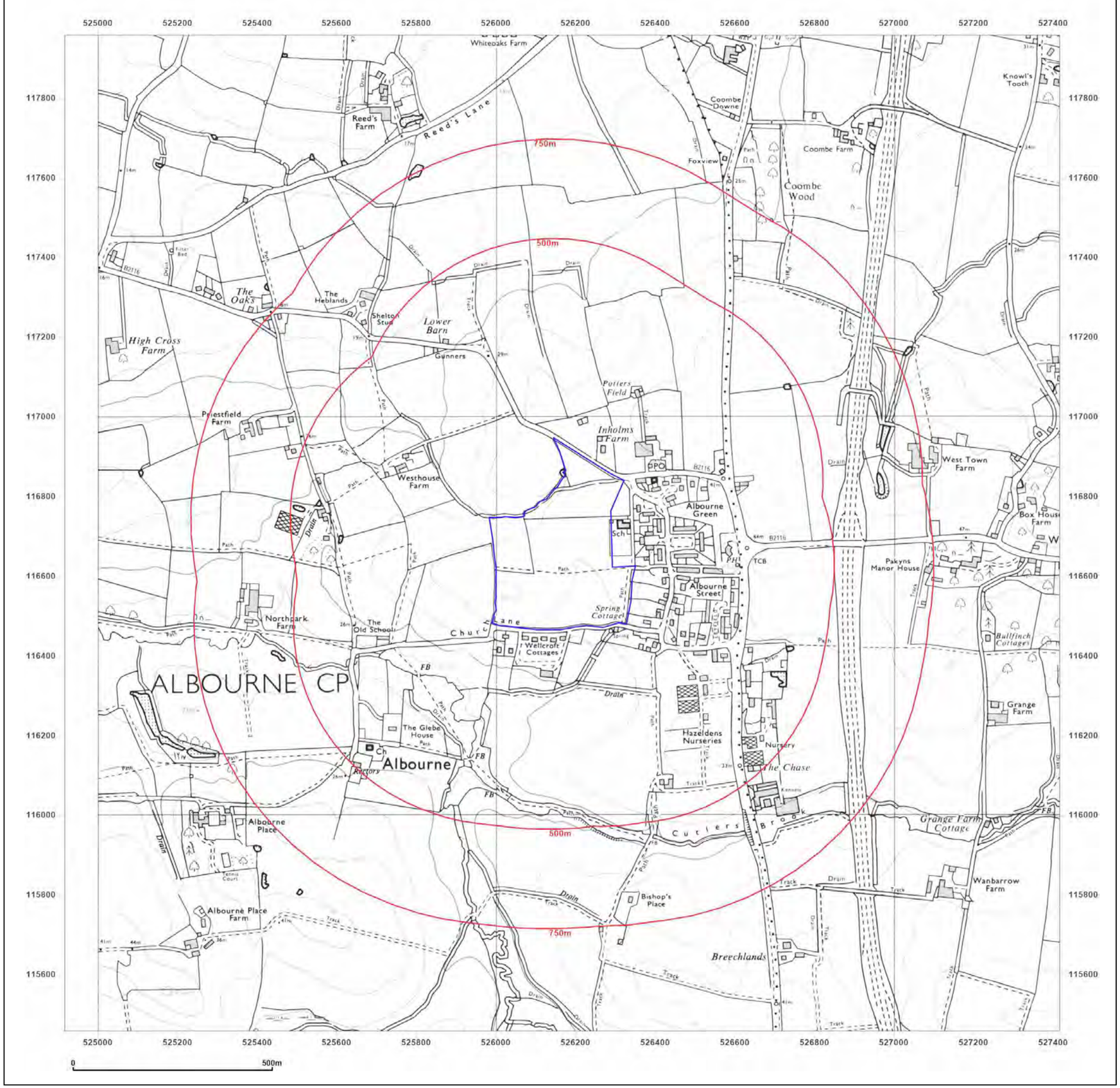
Surveyed 1974
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: National Grid

Map date: **1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

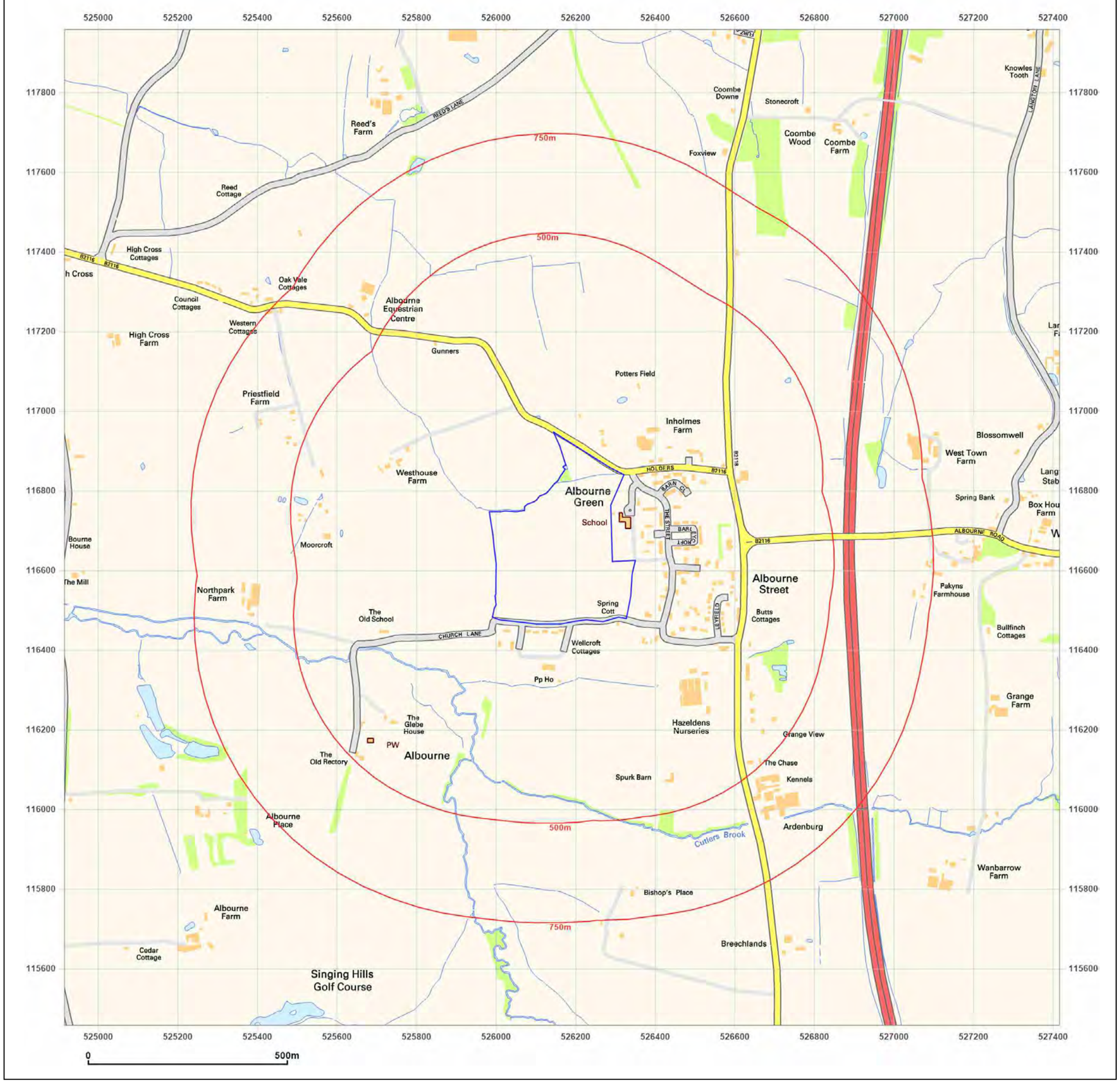
Surveyed 1874
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

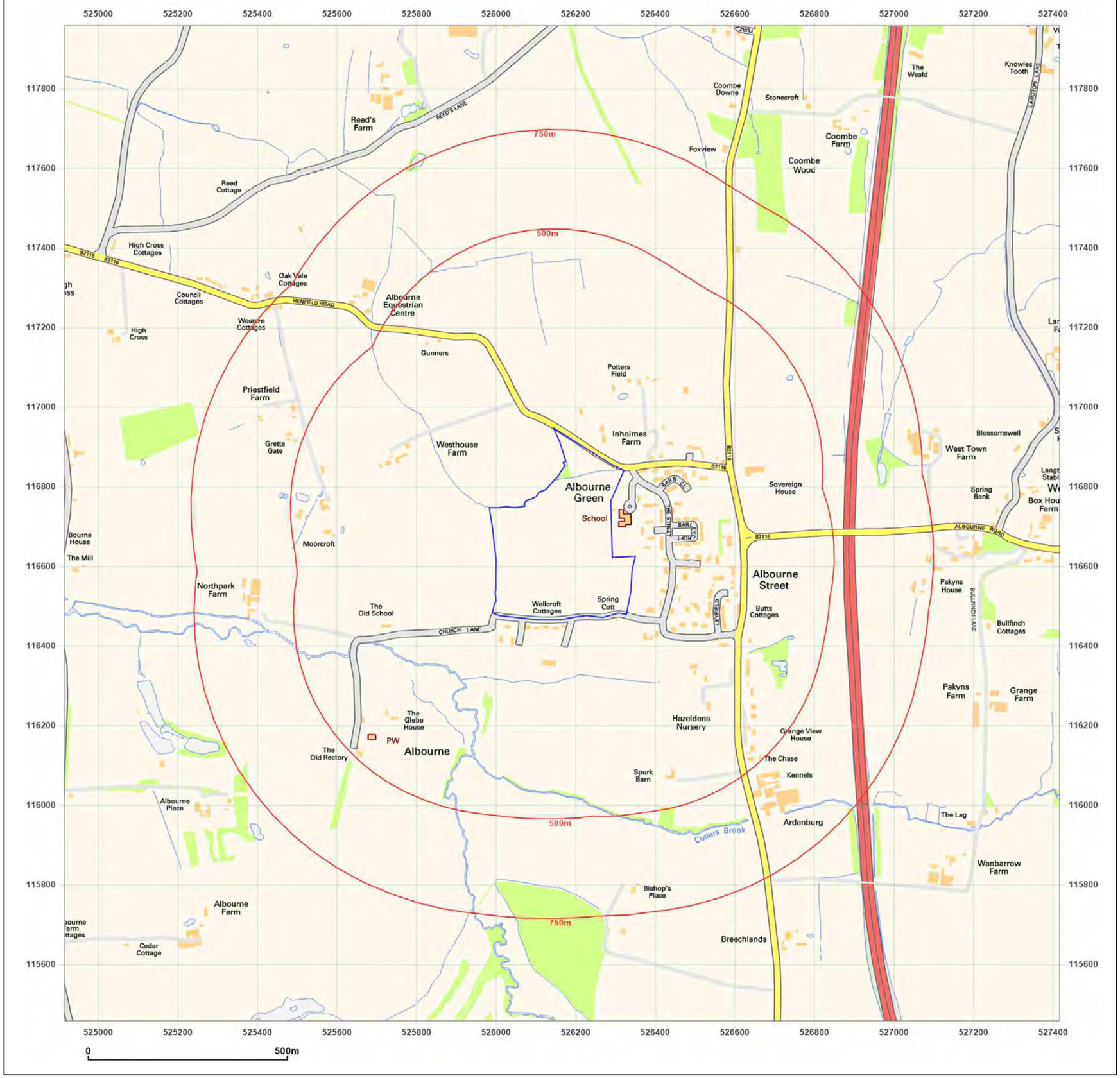
N
W E
S

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

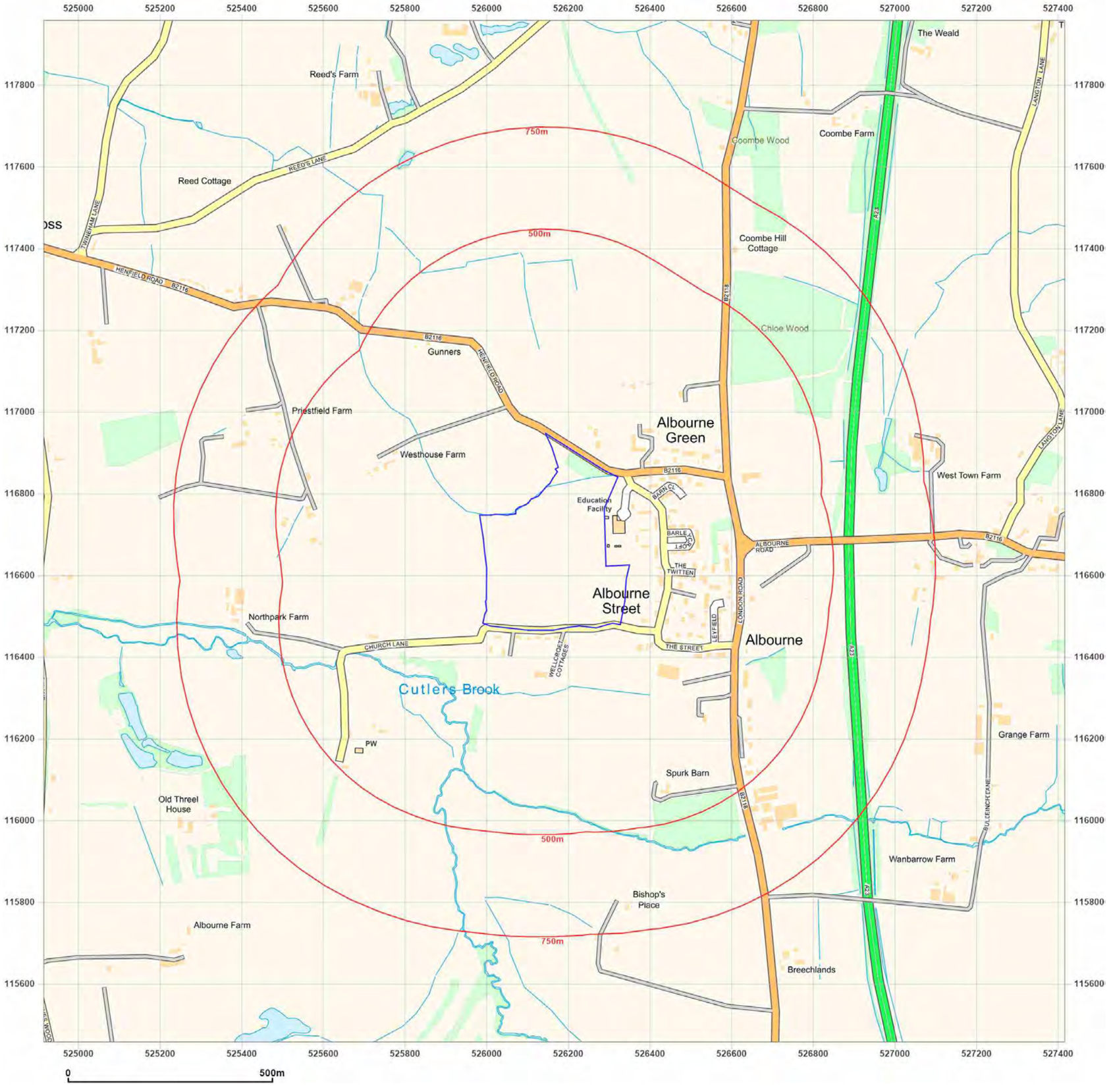
N
W E
S

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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



Groundsure INSIGHTS

Site Details:

LAND AT HENFIELD ROAD,
ALBOURNE, BN6 9DE

Client Ref: 332511088
Report Ref: GS-8710812
Grid Ref: 526166, 116708

Map Name: National Grid

Map date: **2022**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2022

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 29 April 2022

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

Appendix 4 Groundsure Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

LAND AT HENFIELD ROAD, ALBOURNE, BN6 9DE

Order Details

Date: 29/04/2022

Your ref: 332511088

Our Ref: GS-8710813

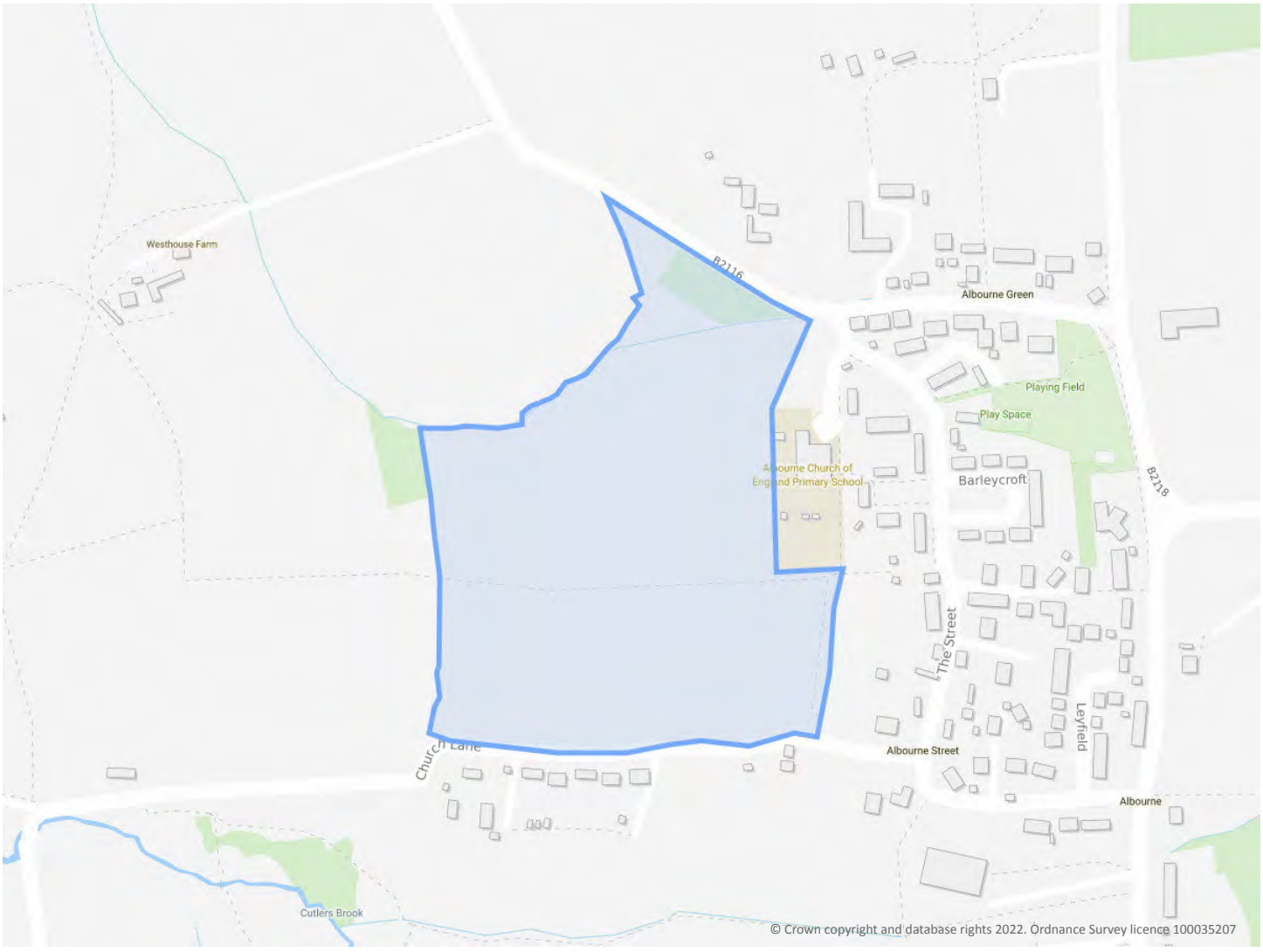
Client: Nicholas HIlls

Site Details

Location: 526297 116587

Area: 11.29 ha

Authority: Mid Sussex District Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

groundsure.com/insightuserguide

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

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	1	4	3	-
14	1.2	Historical tanks	0	2	1	4	-
15	1.3	Historical energy features	0	0	3	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	Historical garages	0	0	1	0	-
16	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
17	2.1	Historical industrial land uses	0	1	8	4	-
18	2.2	Historical tanks	0	3	1	5	-
19	2.3	Historical energy features	0	0	4	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
19	2.5	Historical garages	0	0	2	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
21	3.7	Waste exemptions	0	15	15	27	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
28	4.1	Recent industrial land uses	0	1	5	-	-
29	4.2	Current or recent petrol stations	0	0	0	0	-
29	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-

30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31	**4.13**	**Licensed Discharges to controlled waters**	0	0	2	3	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
33	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	2	1	-
33	4.19	Pollution inventory substances	0	0	0	0	-
34	4.20	Pollution inventory waste transfers	0	0	0	0	-
34	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
35	**5.1**	**Superficial aquifer**	Identified (within 500m)				
37	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
38	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
40	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
40	5.5	Groundwater vulnerability- local information	None (within 0m)				
41	5.6	Groundwater abstractions	0	0	0	0	0
42	**5.7**	**Surface water abstractions**	0	0	0	0	1
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
44	**6.1**	**Water Network (OS MasterMap)**	6	1	15	-	-

46	**6.2**	**Surface water features**	1	1	6	-	-
47	**6.3**	**WFD Surface water body catchments**	2	-	-	-	-
47	**6.4**	**WFD Surface water bodies**	0	0	1	-	-
48	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
49	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
49	7.2	Historical Flood Events	0	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
50	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
50	7.5	Flood Storage Areas	0	0	0	-	-
51	7.6	Flood Zone 2	None (within 50m)				
51	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
52	**8.1**	**Surface water flooding**	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding	
54	**9.1**	**Groundwater flooding**	Moderate (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57	**10.7**	**Designated Ancient Woodland**	0	0	0	0	34
58	**10.8**	**Biosphere Reserves**	0	0	0	0	1
59	10.9	Forest Parks	0	0	0	0	0
59	10.10	Marine Conservation Zones	0	0	0	0	0
59	10.11	Green Belt	0	0	0	0	0
59	10.12	Proposed Ramsar sites	0	0	0	0	0

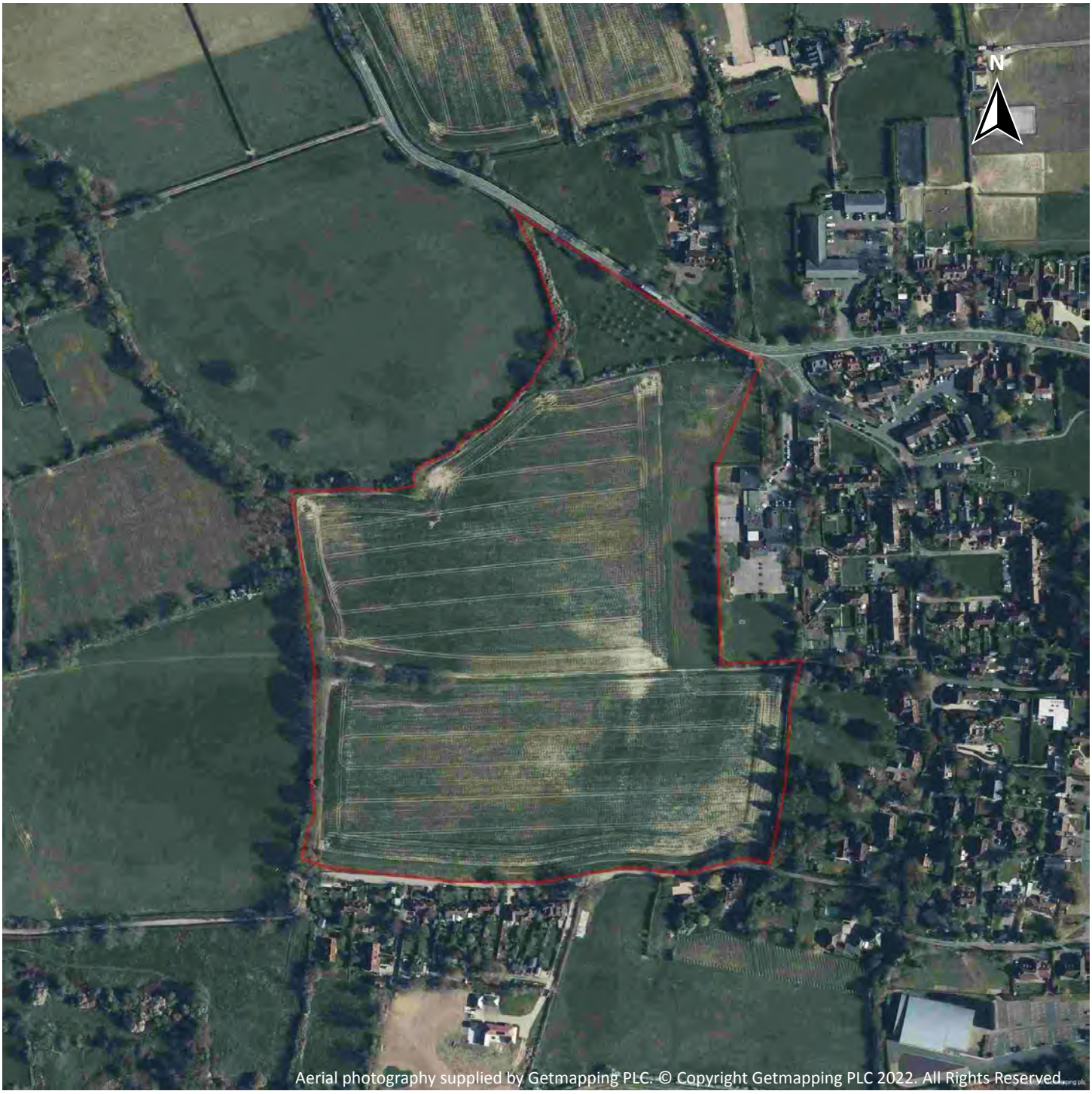
59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
60	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
60	10.15	Nitrate Sensitive Areas	0	0	0	0	0
60	**10.16**	**Nitrate Vulnerable Zones**	2	0	0	1	3
61	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
62	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
63	11.1	World Heritage Sites	0	0	0	-	-
64	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
64	11.3	National Parks	0	0	0	-	-
64	**11.4**	**Listed Buildings**	0	1	12	-	-
65	**11.5**	**Conservation Areas**	1	0	0	-	-
65	11.6	Scheduled Ancient Monuments	0	0	0	-	-
66	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
67	**12.1**	**Agricultural Land Classification**	Grade 3 (within 250m)				
68	12.2	Open Access Land	0	0	0	-	-
68	12.3	Tree Felling Licences	0	0	0	-	-
68	12.4	Environmental Stewardship Schemes	0	0	0	-	-
69	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
70	**13.1**	**Priority Habitat Inventory**	9	0	3	-	-
71	13.2	Habitat Networks	0	0	0	-	-
71	13.3	Open Mosaic Habitat	0	0	0	-	-
71	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
73	**14.1**	**10k Availability**	Identified (within 500m)				
74	14.2	Artificial and made ground (10k)	0	0	0	0	-
75	**14.3**	**Superficial geology (10k)**	0	0	2	4	-

76	14.4	Landslip (10k)	0	0	0	0	-
77	**14.5**	**Bedrock geology (10k)**	2	0	0	0	-
78	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
79	**15.1**	**50k Availability**	Identified (within 500m)				
80	15.2	Artificial and made ground (50k)	0	0	0	0	-
80	15.3	Artificial ground permeability (50k)	0	0	-	-	-
81	**15.4**	**Superficial geology (50k)**	0	0	2	4	-
82	15.5	Superficial permeability (50k)	None (within 50m)				
82	15.6	Landslip (50k)	0	0	0	0	-
82	15.7	Landslip permeability (50k)	None (within 50m)				
83	**15.8**	**Bedrock geology (50k)**	2	0	0	0	-
84	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
84	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
85	**16.1**	**BGS Boreholes**	0	1	0	-	-
Page	Section	Natural ground subsidence					
86	**17.1**	**Shrink swell clays**	Low (within 50m)				
87	**17.2**	**Running sands**	Very low (within 50m)				
89	**17.3**	**Compressible deposits**	Negligible (within 50m)				
90	**17.4**	**Collapsible deposits**	Very low (within 50m)				
91	**17.5**	**Landslides**	Very low (within 50m)				
92	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
93	18.1	Natural cavities	0	0	0	0	-
94	18.2	BritPits	0	0	0	0	-
94	**18.3**	**Surface ground workings**	0	1	0	-	-
94	18.4	Underground workings	0	0	0	0	0
94	18.5	Historical Mineral Planning Areas	0	0	0	0	-

95	**18.6**	**Non-coal mining**	2	0	0	0	3
95	18.7	Mining cavities	0	0	0	0	0
96	18.8	JPB mining areas	None (within 0m)				
96	18.9	Coal mining	None (within 0m)				
96	18.10	Brine areas	None (within 0m)				
96	18.11	Gypsum areas	None (within 0m)				
96	18.12	Tin mining	None (within 0m)				
97	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
98	**19.1**	**Radon**	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
99	**20.1**	**BGS Estimated Background Soil Chemistry**	13	3	-	-	-
100	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
100	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
101	21.1	Underground railways (London)	0	0	0	-	-
101	21.2	Underground railways (Non-London)	0	0	0	-	-
101	21.3	Railway tunnels	0	0	0	-	-
101	21.4	Historical railway and tunnel features	0	0	0	-	-
101	21.5	Royal Mail tunnels	0	0	0	-	-
102	21.6	Historical railways	0	0	0	-	-
102	21.7	Railways	0	0	0	-	-
102	21.8	Crossrail 1	0	0	0	0	-
102	21.9	Crossrail 2	0	0	0	0	-
102	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 22/04/2021

Site Area: 11.29ha

Recent site history - 2018 aerial photograph

Capture Date: 26/06/2018

Site Area: 11.29ha

Recent site history - 2012 aerial photograph

Capture Date: 13/09/2012

Site Area: 11.29ha

Recent site history - 2009 aerial photograph

Capture Date: 22/08/2009

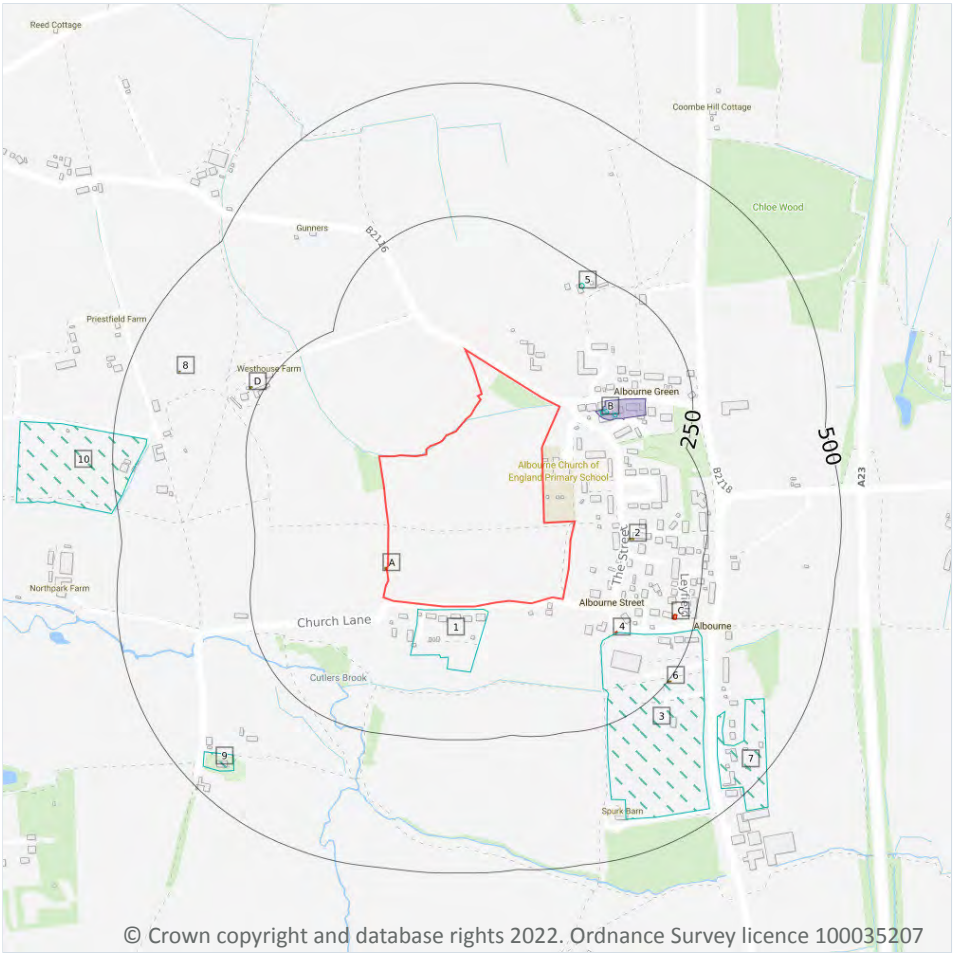
Site Area: 11.29ha

Recent site history - 1999 aerial photograph

Capture Date: 04/09/1999

Site Area: 11.29ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	8

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

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

ID	Location	Land use	Dates present	Group ID
1	5m S	Nursery	1963	2161139

ID	Location	Land use	Dates present	Group ID
B	77m E	Smithy	1896 - 1947	2212199
B	102m E	Unspecified Tank	1896	2153494
3	108m SE	Nurseries	1963 - 1992	2255508
5	213m NE	Unspecified Tank	1992	2153497
7	364m SE	Nursery	1974 - 1992	2180145
9	409m SW	Grave Yard	1875	2145569
10	437m W	Nurseries	1963	2168200

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**7**

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

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

ID	Location	Land use	Dates present	Group ID
A	0m W	Unspecified Tank	1994	405948
A	1m W	Unspecified Tank	1955 - 1976	383572
2	107m E	Unspecified Tank	1937	360264
6	251m SE	Unspecified Tank	1955 - 1962	395413
D	271m NW	Unspecified Tank	1897	360234
D	273m NW	Tank or Trough	1874	379376
8	406m NW	Pump and Tank	1874	374805

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	3

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

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

ID	Location	Land use	Dates present	Group ID
4	116m SE	Electricity Substation	1955	241795
C	209m E	Electricity Substation	1975 - 1992	273991
C	211m E	Electricity Substation	1997	258805

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	1

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

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

ID	Location	Land use	Dates present	Group ID
B	68m E	Garage	1955 - 1962	85296

This data is sourced from Ordnance Survey / Groundsure.

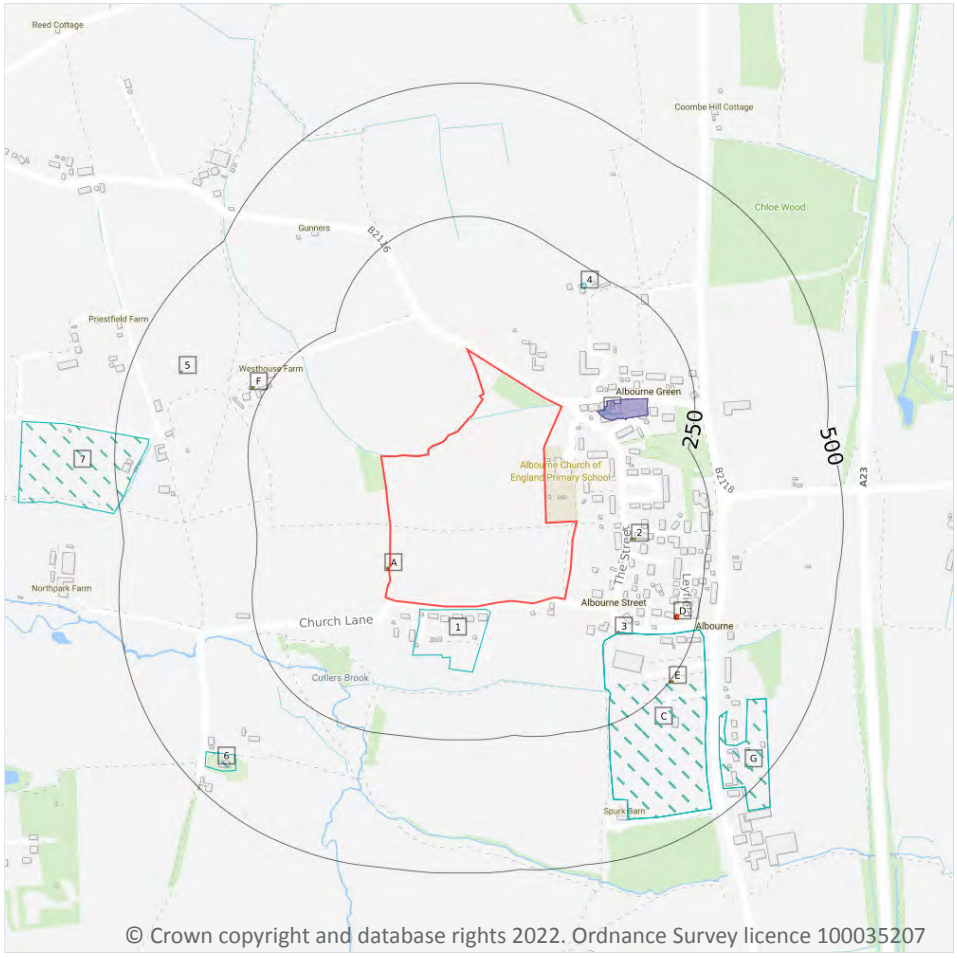
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	13

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

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
1	5m S	Nursery	1963	2161139
B	77m E	Smithy	1947	2212199
B	77m E	Smithy	1909	2212199

ID	Location	Land Use	Date	Group ID
B	77m E	Smithy	1896	2212199
B	102m E	Unspecified Tank	1896	2153494
C	108m SE	Nurseries	1992	2255508
C	108m SE	Nurseries	1974	2255508
C	108m SE	Nurseries	1963	2255508
4	213m NE	Unspecified Tank	1992	2153497
G	364m SE	Nursery	1992	2180145
G	364m SE	Nursery	1974	2180145
6	409m SW	Grave Yard	1875	2145569
7	437m W	Nurseries	1963	2168200

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**9**

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 17**

ID	Location	Land Use	Date	Group ID
A	0m W	Unspecified Tank	1994	405948
A	1m W	Unspecified Tank	1976	383572
A	1m W	Unspecified Tank	1955	383572
2	107m E	Unspecified Tank	1937	360264
E	251m SE	Unspecified Tank	1962	395413
E	251m SE	Unspecified Tank	1955	395413
F	271m NW	Unspecified Tank	1897	360234
F	273m NW	Tank or Trough	1874	379376
5	406m NW	Pump and Tank	1874	374805

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	4

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

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
3	116m SE	Electricity Substation	1955	241795
D	209m E	Electricity Substation	1992	273991
D	211m E	Electricity Substation	1997	258805
D	211m E	Electricity Substation	1975	273991

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	2

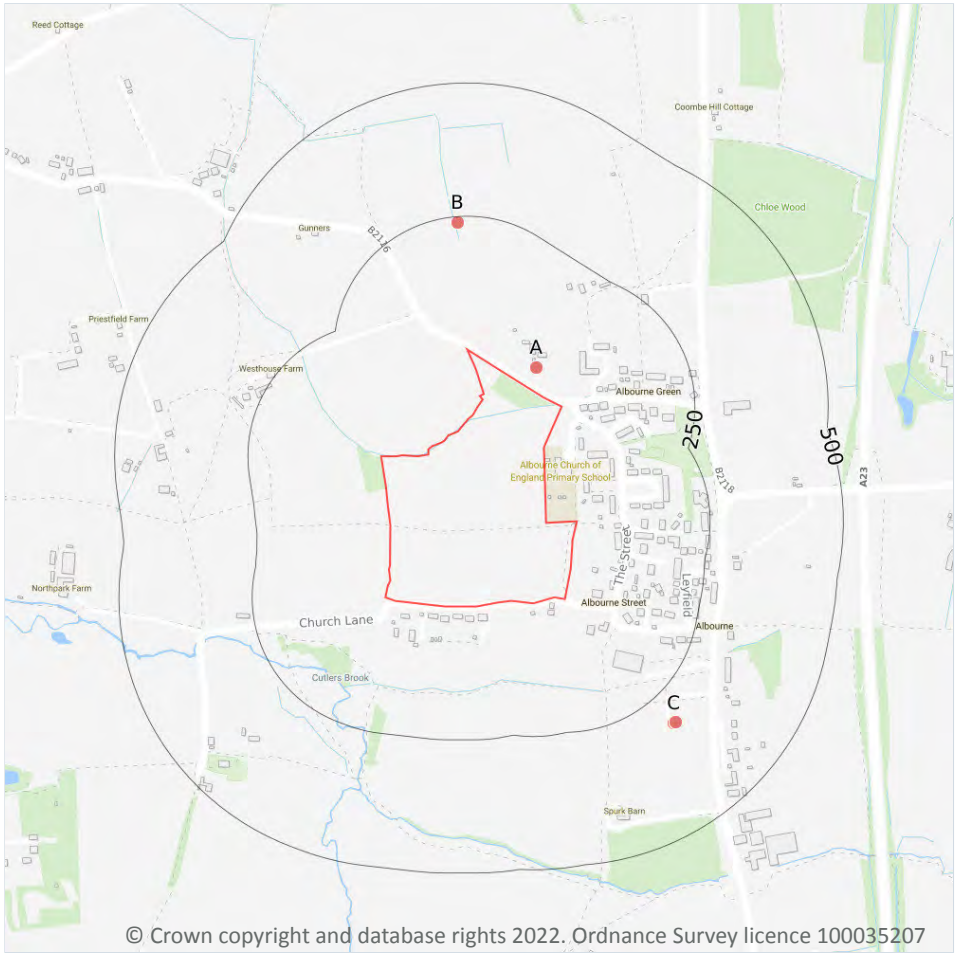
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
B	68m E	Garage	1962	85296
B	68m E	Garage	1955	85296

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	57

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 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Disposing of waste exemption	On a farm	Disposal by incineration
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Disposing of waste exemption	On a farm	Burning waste in the open
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Storing waste exemption	On a farm	Storage of waste in secure containers
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Storing waste exemption	On a farm	Storage of waste in a secure place
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Treating waste exemption	On a farm	Anaerobic digestion at premises used for agriculture and burning of resultant biogas
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Treating waste exemption	On a farm	Treatment of waste in a biobed or biofilter

ID	Location	Site	Reference	Category	Sub-Category	Description
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Using waste exemption	On a farm	Use of waste in construction
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	39m NE	INHOLMES FARMHOUSE, HENFIELD ROAD, ALBOURNE, HASSOCKS, BN6 9DE	WEX030959	Using waste exemption	On a farm	Use of waste for a specified purpose
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste in a biobed or biofilter
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Disposal by incineration
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in secure containers
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Cleaning, washing, spraying or coating relevant waste
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Anaerobic digestion at premises used for agriculture and burning of resultant biogas
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
B	238m N	Land at TQ2612517186 Henfield Road Hassocks West Sussex BN6 9DE	EPR/KE5888MQ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Burning of waste as a fuel in a small appliance

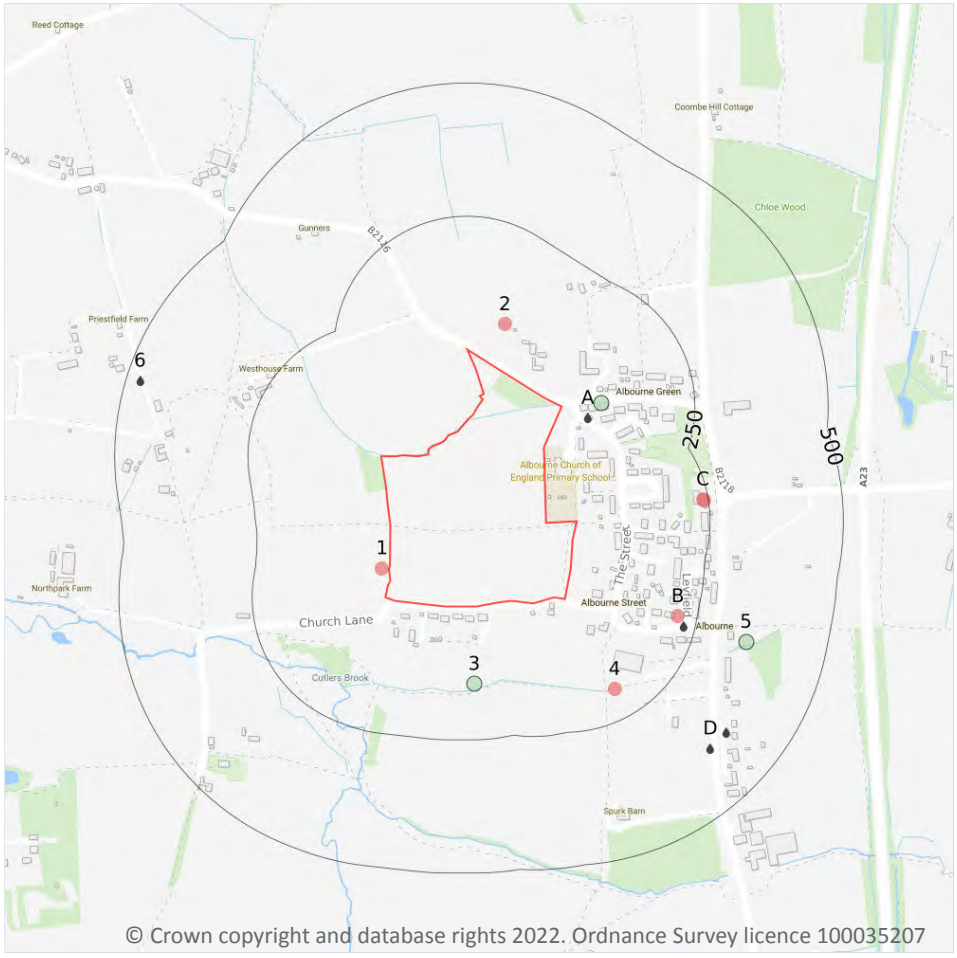
ID	Location	Site	Reference	Category	Sub-Category	Description
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
C	310m SE	Hazeldens London Road HASSOCKS West Sussex BN6 9BL	EPR/FE5054JC/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Disposing of waste exemption	Not on a farm	Deposit of waste from dredging of inland waters
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Using waste exemption	Not on a farm	Use of waste in construction
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Disposing of waste exemption	Not on a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	312m SE	HAZELDENS NURSERY, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX179783	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Disposing of waste exemption	Not on a farm	Deposit of waste from dredging of inland waters
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Disposing of waste exemption	Not on a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Storing waste exemption	Not on a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Using waste exemption	Not on a farm	Use of waste in construction
C	312m SE	HAZELDENS NURSERY BUNGALOW, LONDON ROAD, ALBOURNE, HASSOCKS, BN6 9BL	WEX014065	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit

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

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	**6**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	Activity	Category
1	13m W	Tank	West Sussex, BN6	Tanks (Generic)	Industrial Features
2	78m NE	Wind Turbine	West Sussex, BN6	Energy Production	Industrial Features
4	193m SE	Pumping Station	West Sussex, BN6	Water Pumping Stations	Industrial Features

ID	Location	Company	Address	Activity	Category
B	214m E	Electricity Sub Station	West Sussex, BN6	Electrical Features	Infrastructure and Facilities
C	240m E	Softech Rail Ltd	Softech House, London Road, Albourne, Hassocks, West Sussex, BN6 9BN	Railway Companies and Information	Transport, Storage and Delivery
C	243m E	R P S	Softech House, London Road, Albourne, Hassocks, West Sussex, BN6 9BN	Civil Engineers	Engineering Services

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	5

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

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
A	53m SE	HENFIELD ROAD, ALBOURNE, HASSOCKS, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01579 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 31/03/1967 Effective Date: 31/03/1967 Revocation Date: 31/03/1997
B	228m E	HOUSING ESTATE NR. THE GALLOPS, ALBOURNE, HASSOCKS, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01049 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 13/07/1964 Effective Date: 13/07/1964 Revocation Date: 03/03/1994
D	391m SE	ARDEN GRANGE, LONDON ROAD ALBOURNE, HASSOCKS, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P02796 Permit Version: 1 Receiving Water: FRESHWATER STREAM OR RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/06/1990 Effective Date: 19/06/1990 Revocation Date: -

ID	Location	Address	Details	
D	392m SE	HILLBROOK HOUSE, ALBOURNE, SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P05602 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 23/11/1994 Effective Date: 23/11/1994 Revocation Date: 31/03/1997
6	474m W	SEWAGE TREATMENT PLANT, GRETTA GATE ALBOURNE, HASSOCKS, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: S01030 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 25/11/1964 Effective Date: 25/11/1964 Revocation Date: 31/03/1997

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	3

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

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Details	
A	74m E	Incident Date: 14/08/2001 Incident Identification: 24108 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
3	145m S	Incident Date: 19/11/2002 Incident Identification: 121851 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
5	349m E	Incident Date: 03/10/2003 Incident Identification: 194261 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

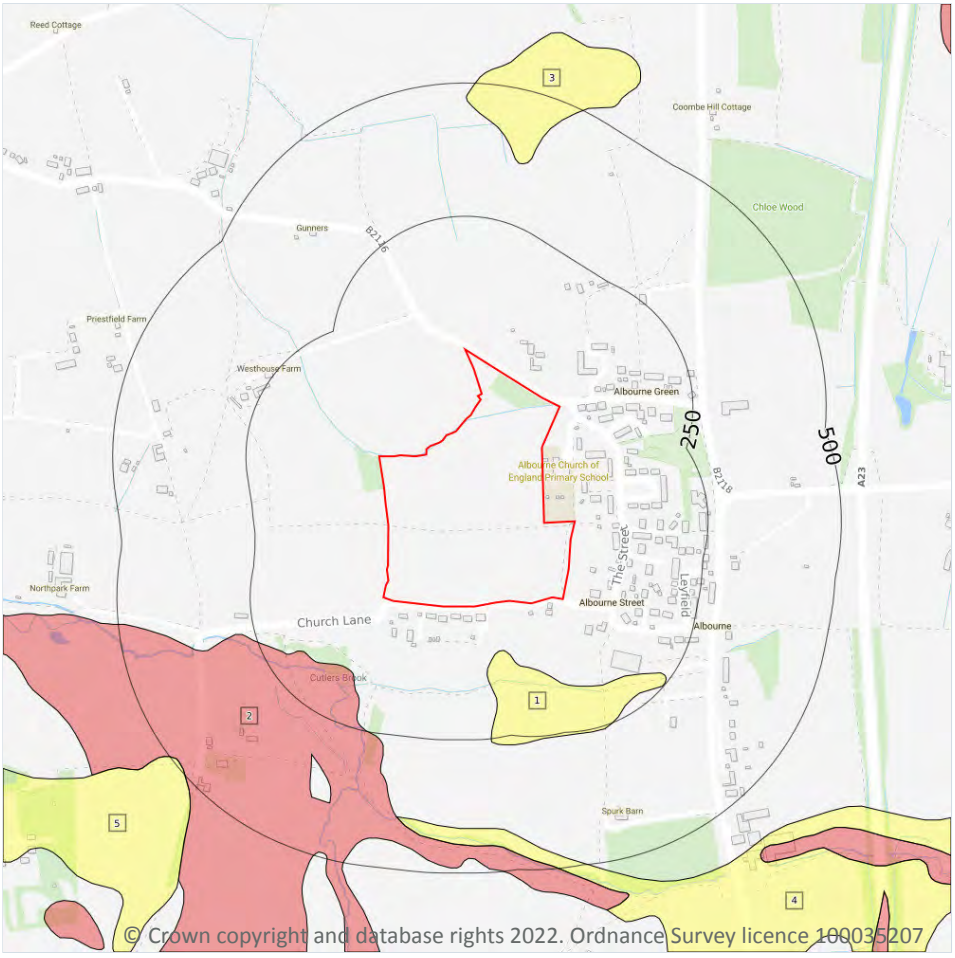
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	5

Aquifer status of groundwater held within superficial geology.

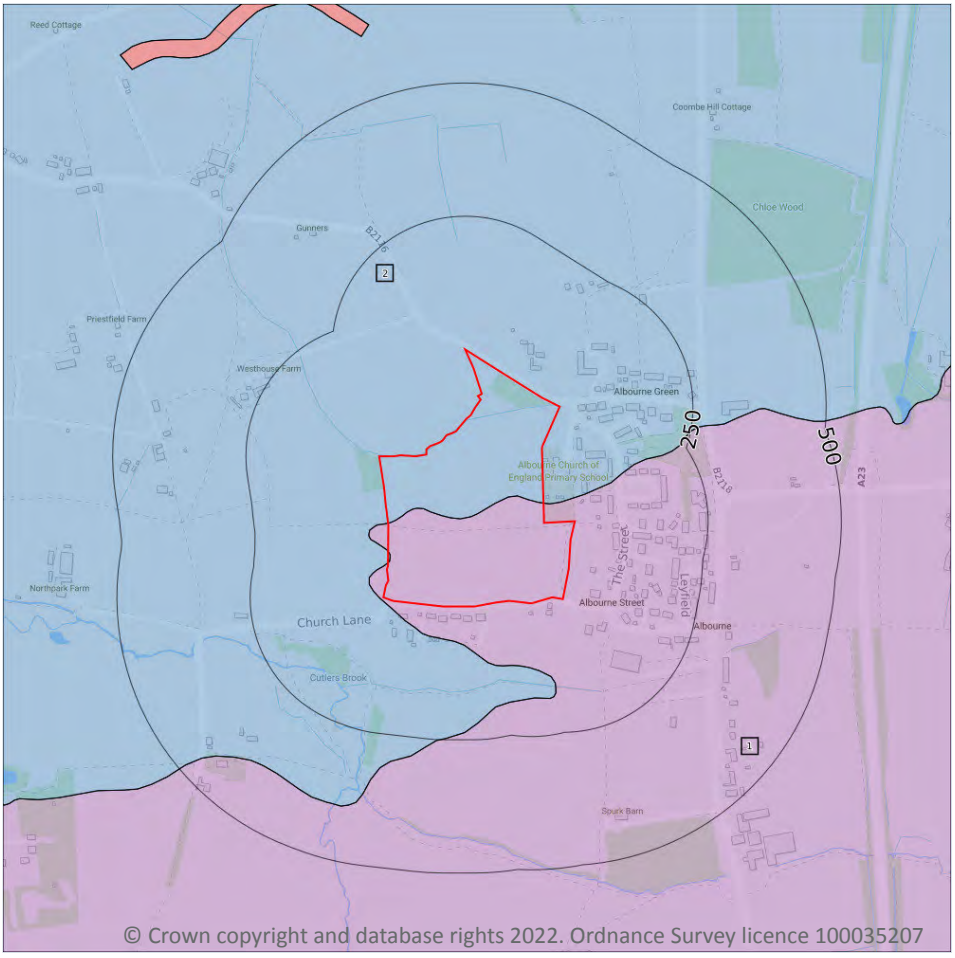
Features are displayed on the Hydrogeology map on **page 35**

ID	Location	Designation	Description
1	91m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	149m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

ID	Location	Designation	Description
3	364m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	402m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5	492m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

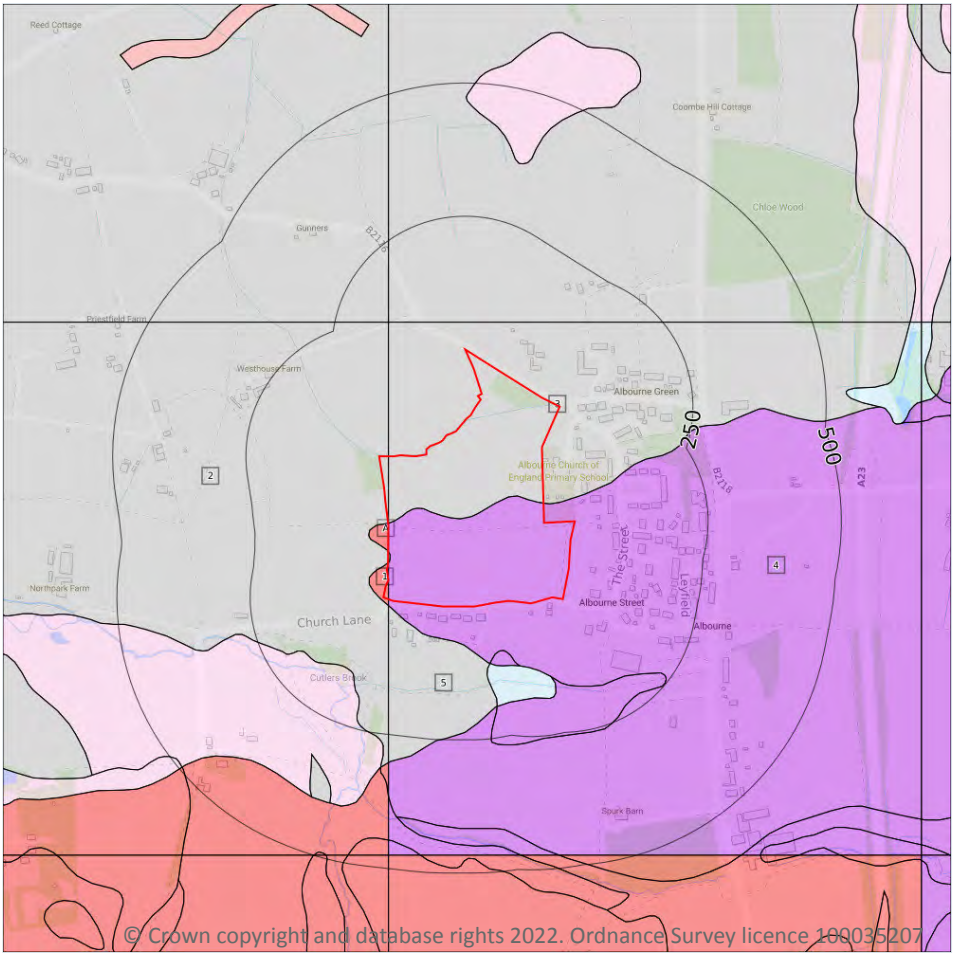
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 37**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	7

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

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

Features are displayed on the Groundwater vulnerability map on **page 38**

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

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
5	11m S	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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.

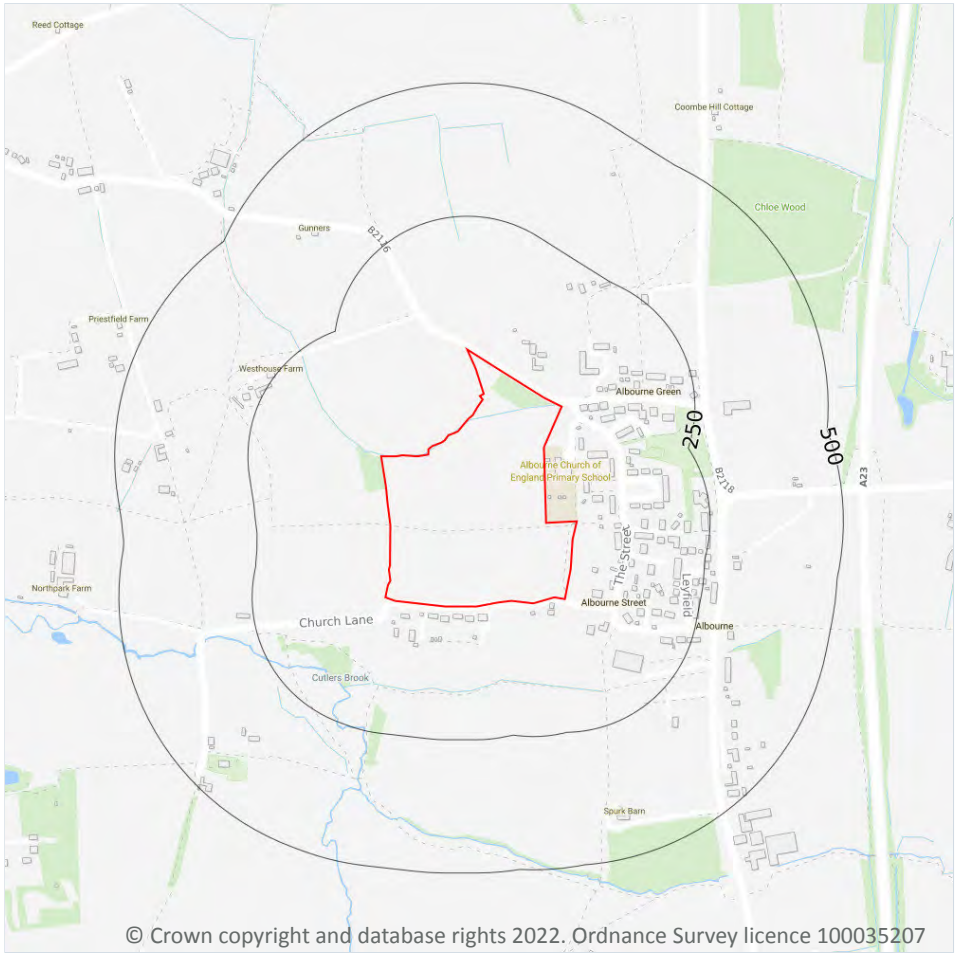
5.5 Groundwater vulnerability- local information

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



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	0

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

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

5.7 Surface water abstractions

Records within 2000m	1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 41**

ID	Location	Details	
-	685m S	Status: Historical Licence No: 10/41/321115 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: CUTLERS BROOK & TRIBUTARIES AT ALBOURNE PLACE FARM Data Type: Point Name: De-Soutter Easting: 525900 Northing: 115800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/02/1975 Expiry Date: - Issue No: 100 Version Start Date: 10/07/1992 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

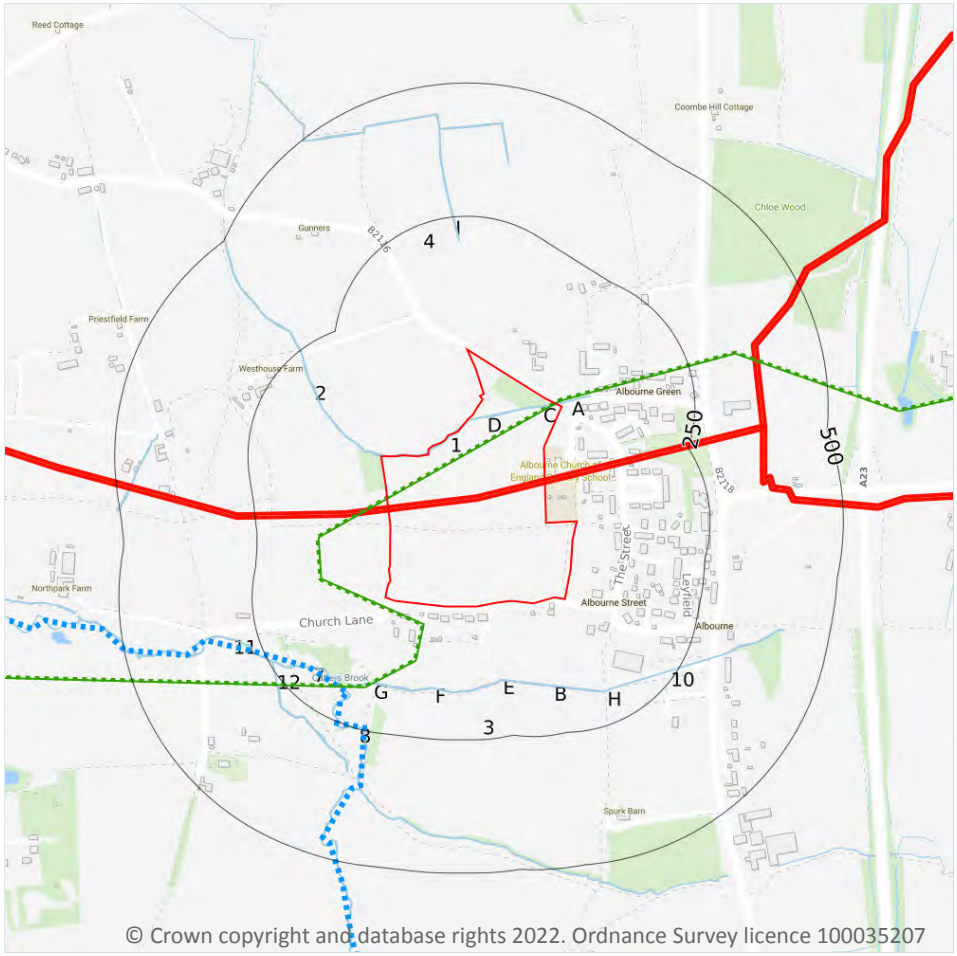
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	**22**

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

Features are displayed on the Hydrology map on **page 44**

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
C	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
C	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**-**
D	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	47m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	142m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	143m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	143m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	147m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
F	148m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	160m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	161m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
7	177m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cutlers Brook
8	186m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cutlers Brook
10	188m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	188m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	188m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	206m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	243m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cutlers Brook
12	243m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**8**

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 44**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	**On site**	**River**	**Chess Stream**	**GB107041012110**	**Adur Upper**	**Adur and Ouse**
4	**On site**	**River**	**Adur East (Sakeham)**	**GB107041012900**	**Adur Upper**	**Adur and Ouse**

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

6.4 WFD Surface water bodies

Records identified	2

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 44**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
9	188m SW	River	Chess Stream	GB107041012110	Moderate	Fail	Moderate	2019
-	3446m NW	River	Adur East (Sakeham)	GB107041012900	Poor	Fail	Poor	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 44**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
B	**On site**	**Lower Greensand Adur & Ouse**	**GB40701G502400**	**Good**	**Good**	**Good**	**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), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

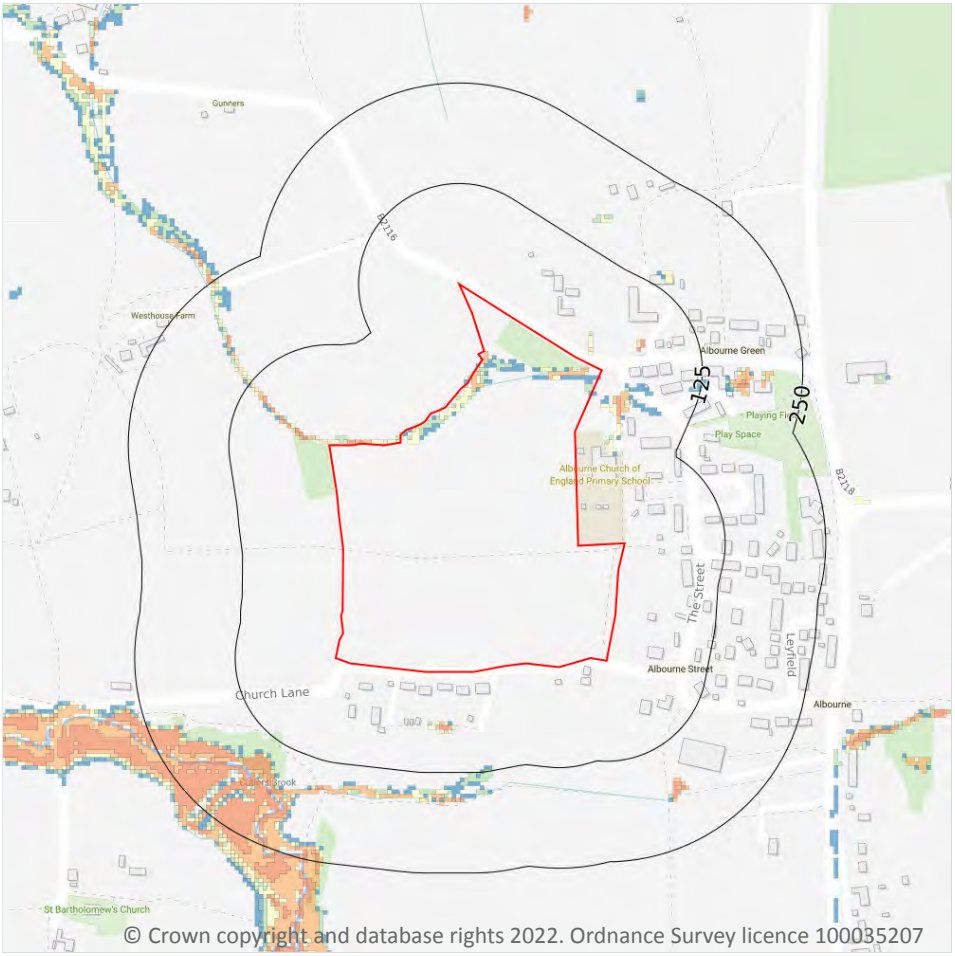
7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

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

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

Features are displayed on the Surface water flooding map on **page 52**

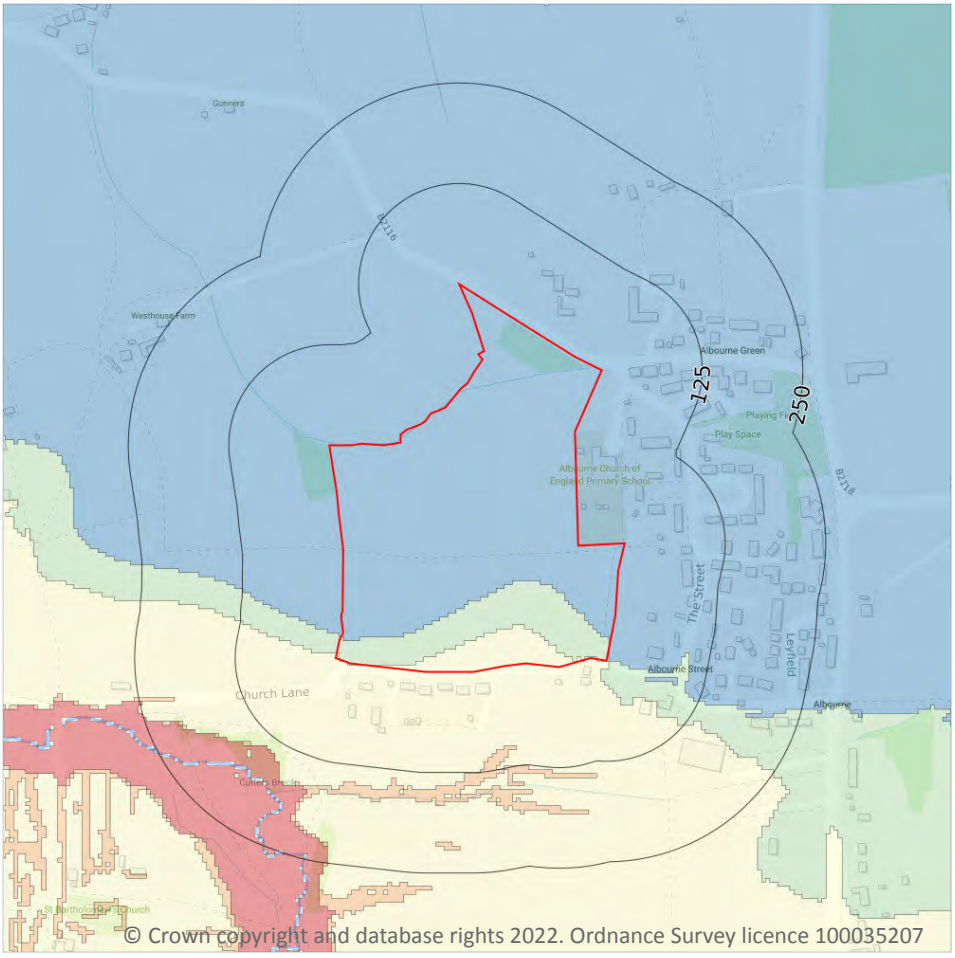
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

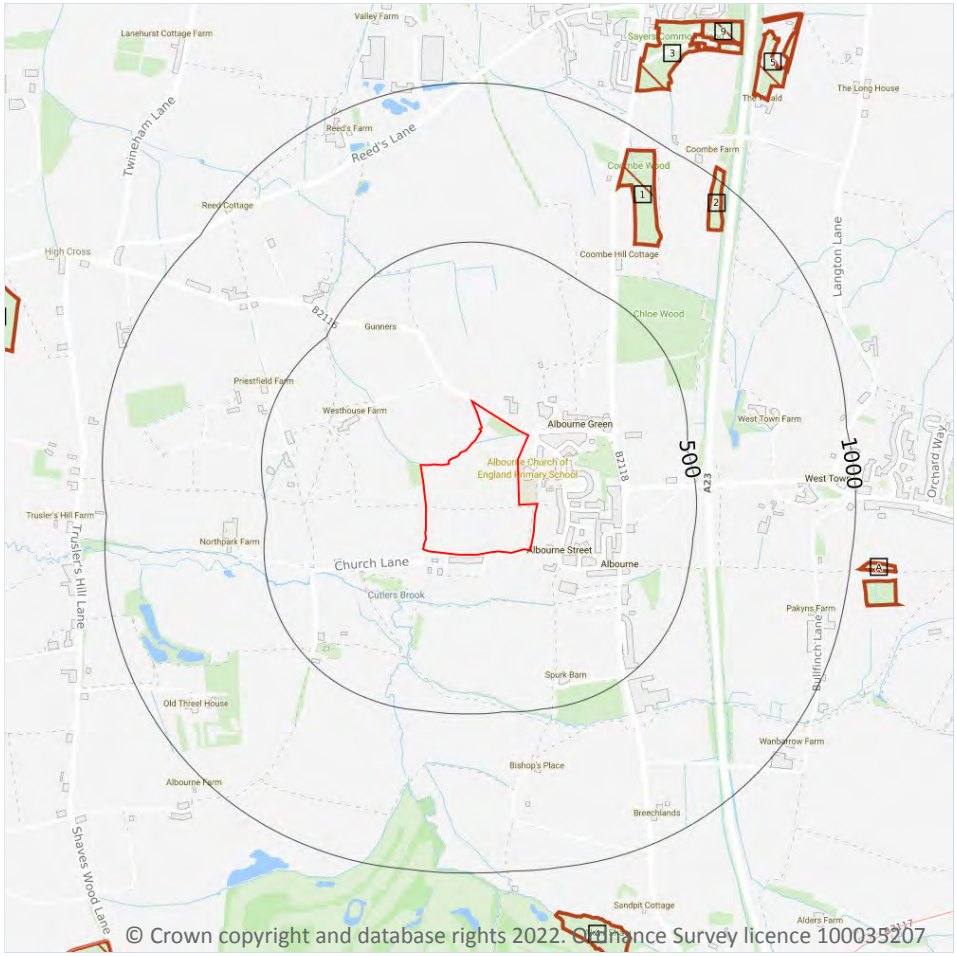
Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

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 54**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

Biosphere Reserves

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	34

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

Features are displayed on the Environmental designations map on **page 55**

ID	Location	Name	Woodland Type
1	688m NE	Coombe Wood	Ancient & Semi-Natural Woodland
2	859m NE	Coombe Farm Shaw	Ancient & Semi-Natural Woodland
A	1033m E	Grange Farm Shaw_N	Ancient & Semi-Natural Woodland
A	1049m E	Grange Farm Shaw	Ancient & Semi-Natural Woodland
3	1105m NE	Sayers Common Wood_W	Ancient & Semi-Natural Woodland
4	1139m S	Aldershaw	Ancient & Semi-Natural Woodland
5	1283m NE	Sayers Common Wood_E	Ancient & Semi-Natural Woodland
6	1332m W	Blackstone Gate Wood	Ancient & Semi-Natural Woodland
-	1343m S	Calves Wood	Ancient & Semi-Natural Woodland
9	1357m NE	Sayers Common Wood	Ancient & Semi-Natural Woodland
-	1377m N	Laundry Wood	Ancient & Semi-Natural Woodland
-	1378m S	Brickkiln Shaw	Ancient & Semi-Natural Woodland
-	1455m SW	Calves Wood	Ancient Replanted Woodland
-	1522m S	Brickkiln Shaw	Ancient Replanted Woodland
12	1584m SW	Unknown	Ancient & Semi-Natural Woodland
-	1598m S	Shaves Wood	Ancient Replanted Woodland

ID	Location	Name	Woodland Type
-	1640m S	Shaves Wood	Ancient & Semi-Natural Woodland
-	1680m SE	Stalkers Copse	Ancient & Semi-Natural Woodland
-	1692m SW	Home Gill	Ancient & Semi-Natural Woodland
-	1702m S	Shaves Wood	Ancient & Semi-Natural Woodland
-	1722m SW	Unknown	Ancient & Semi-Natural Woodland
-	1750m S	Pondtail Wood	Ancient Replanted Woodland
-	1755m SW	East Woods Farm	Ancient & Semi-Natural Woodland
-	1762m S	Locksgreen Shaw	Ancient & Semi-Natural Woodland
-	1812m S	Shaves Wood	Ancient Replanted Woodland
-	1854m S	Pondtail Wood	Ancient & Semi-Natural Woodland
-	1859m NW	Unknown	Ancient & Semi-Natural Woodland
-	1875m SW	Shaves Farm Shaw	Ancient & Semi-Natural Woodland
-	1890m S	Shaves Wood	Ancient Replanted Woodland
-	1917m SW	Unknown	Ancient & Semi-Natural Woodland
-	1928m E	The Wilderness	Ancient & Semi-Natural Woodland
-	1930m SW	Holmbush Plantation	Ancient & Semi-Natural Woodland
-	1959m SE	Randolphs Copse_N	Ancient & Semi-Natural Woodland
-	1994m SE	Randolphs Copse	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	**1**

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.

Features are displayed on the Environmental designations map on **page 55**

ID	Location	Name	Status
7	1343m S	Brighton and Lewes Downs	Declared

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

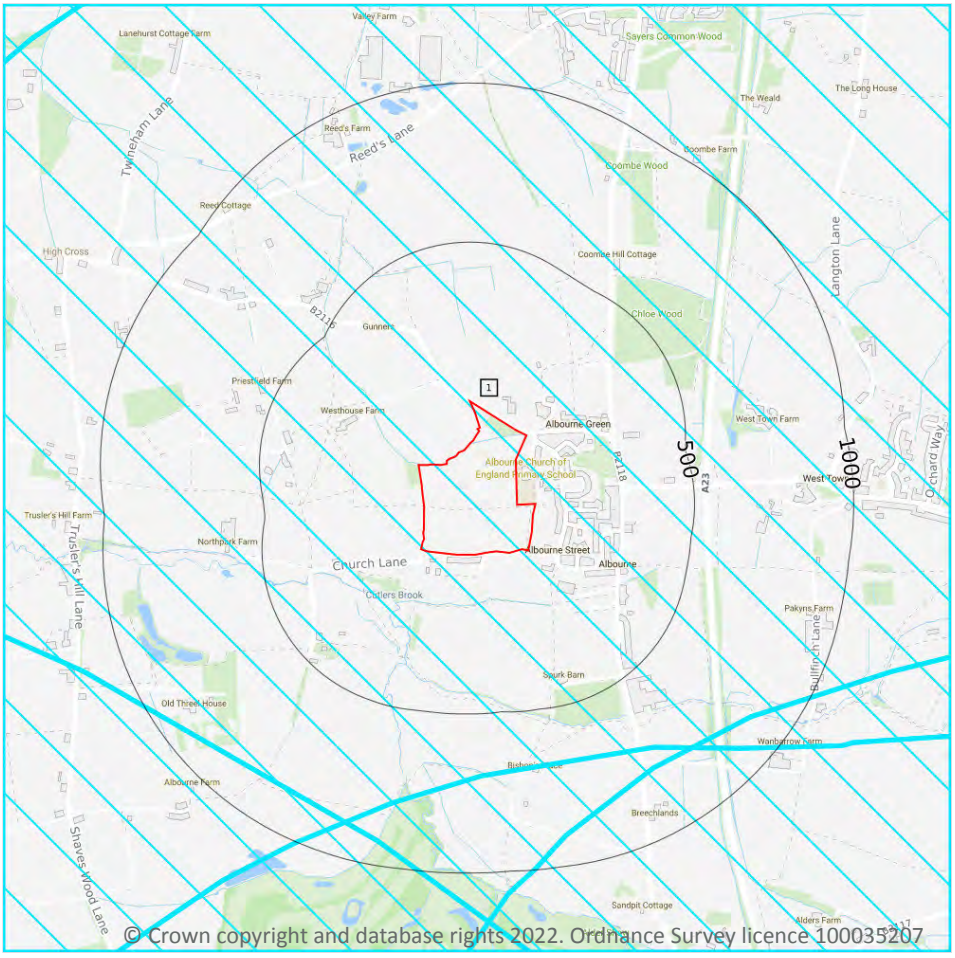
Records within 2000m	6

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

Location	Name	Type	NVZ ID	Status
On site	**Chess Stream NVZ**	**Surface Water**	**808**	**Existing**
On site	**Adur East (Sakeham) NVZ**	**Surface Water**	**522**	**Existing**
485m S	Chess Stream NVZ	Surface Water	808	Existing
1891m W	Chess Stream NVZ	Surface Water	808	Existing
1964m W	Chess Stream NVZ	Surface Water	808	Existing
1981m NW	Adur East (Sakeham) NVZ	Surface Water	522	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 61**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Minerals, Oil and Gas - Oil & gas exploration/extraction.** **Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.**

This data is sourced from Natural England.

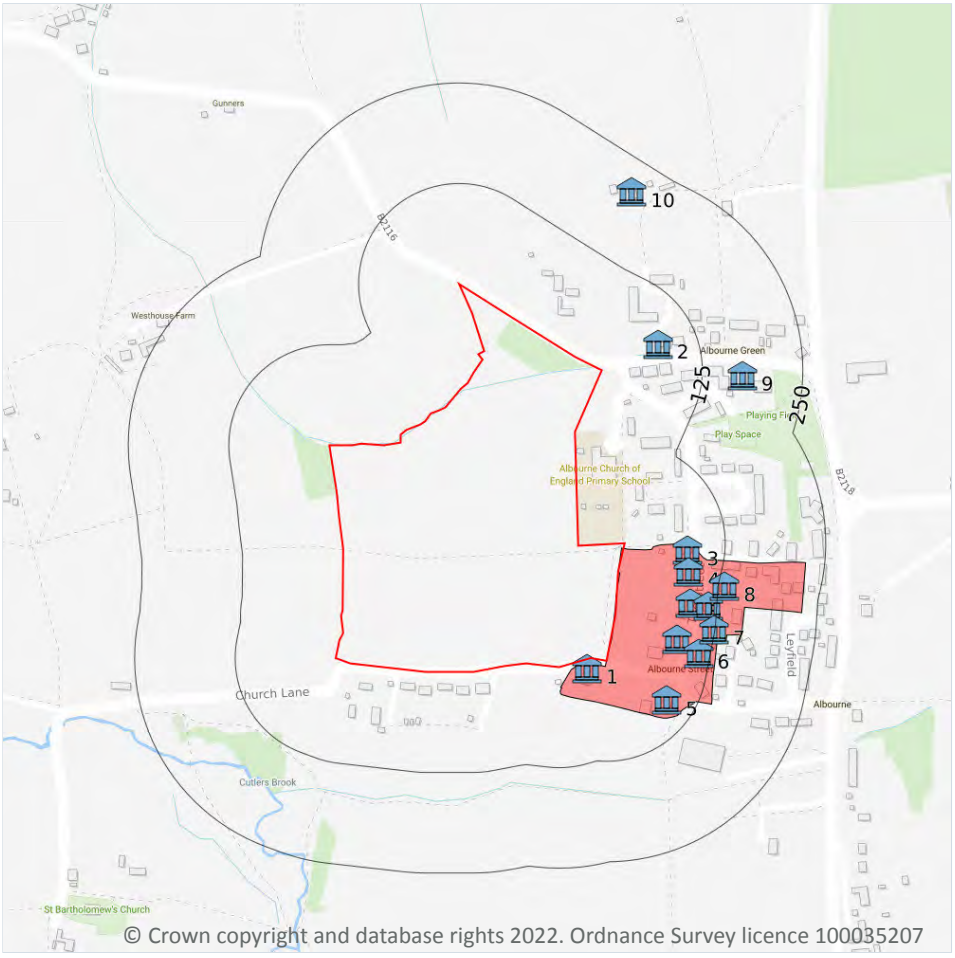
10.18 SSSI Units

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



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	13

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 63**

ID	Location	Name	Grade	Reference Number	Listed date
1	12m S	Spring Cottage, Albourne, Mid Sussex, West Sussex, BN6	II	1025824	11/05/1983
2	77m NE	inholmes Cottage, Albourne, Mid Sussex, West Sussex, BN6	II	1025782	11/05/1983
3	79m E	Hunter's Cottage, Albourne, Mid Sussex, West Sussex, BN6	II	1354800	11/05/1983
A	80m E	Souches, Albourne, Mid Sussex, West Sussex, BN6	II	1025785	28/10/1957
4	86m E	Bounty Cottage, Albourne, Mid Sussex, West Sussex, BN6	II	1025784	11/05/1983

ID	Location	Name	Grade	Reference Number	Listed date
5	90m SE	Yew Tree Farmhouse, Albourne, Mid Sussex, West Sussex, BN6	II	1025786	11/05/1983
B	92m E	Finches, Albourne, Mid Sussex, West Sussex, BN6	II	1354801	11/05/1983
6	110m E	The Arches, Albourne, Mid Sussex, West Sussex, BN6	II	1025788	28/10/1957
B	115m E	Curtains, Albourne, Mid Sussex, West Sussex, BN6	II	1286715	11/05/1983
7	124m E	Nortons Cottage, Albourne, Mid Sussex, West Sussex, BN6	II	1025787	11/05/1983
8	133m E	Gallops, Albourne, Mid Sussex, West Sussex, BN6	II	1354802	28/10/1957
9	175m E	Goldsmiths, Albourne, Mid Sussex, West Sussex, BN6	II	1025783	11/05/1983
10	211m NE	Potters Field, Albourne, Mid Sussex, West Sussex, BN6	II	1245936	04/07/2001

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

11.5 Conservation Areas

Records within 250m	**1**

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.

Features are displayed on the Visual and cultural designations map on **page 63**

ID	Location	Name	District	Date of designation
A	**On site**	**Albourne**	**Mid Sussex**	**01/1989**

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

11.6 Scheduled Ancient Monuments

Records within 250m	**0**

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

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

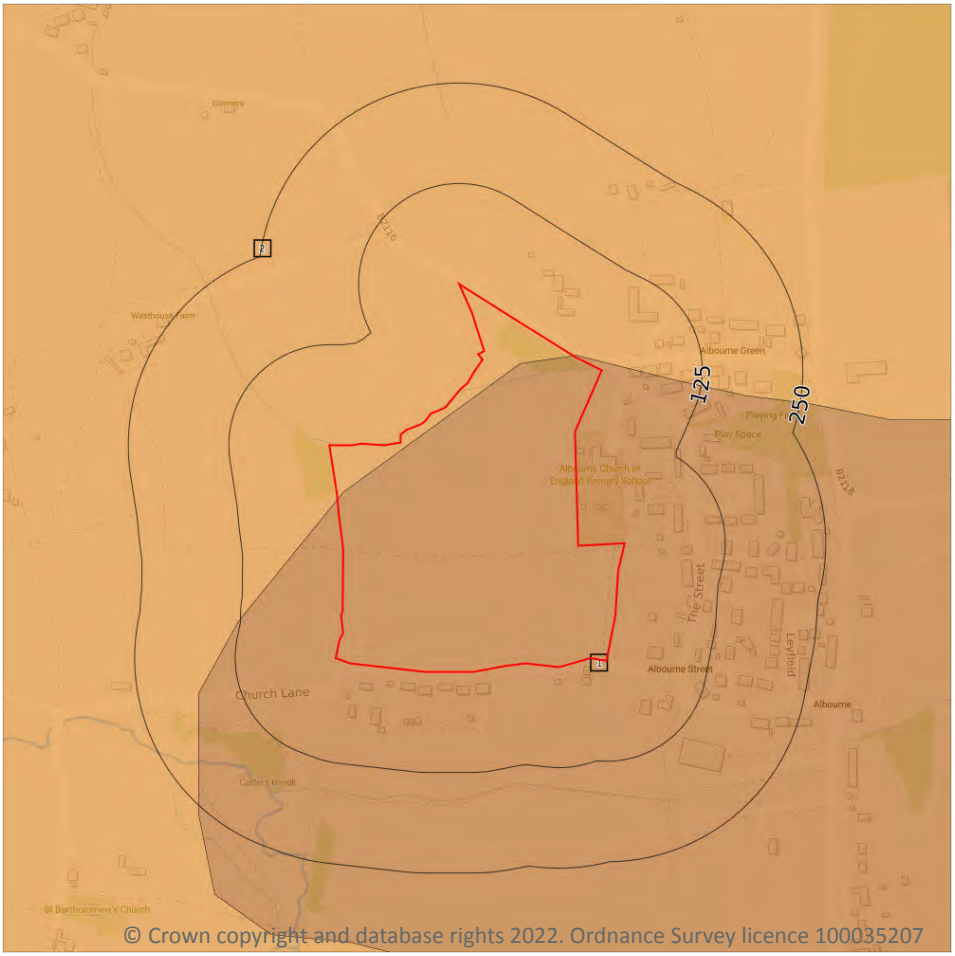
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	2

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

Features are displayed on the Agricultural designations map on **page 67**

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

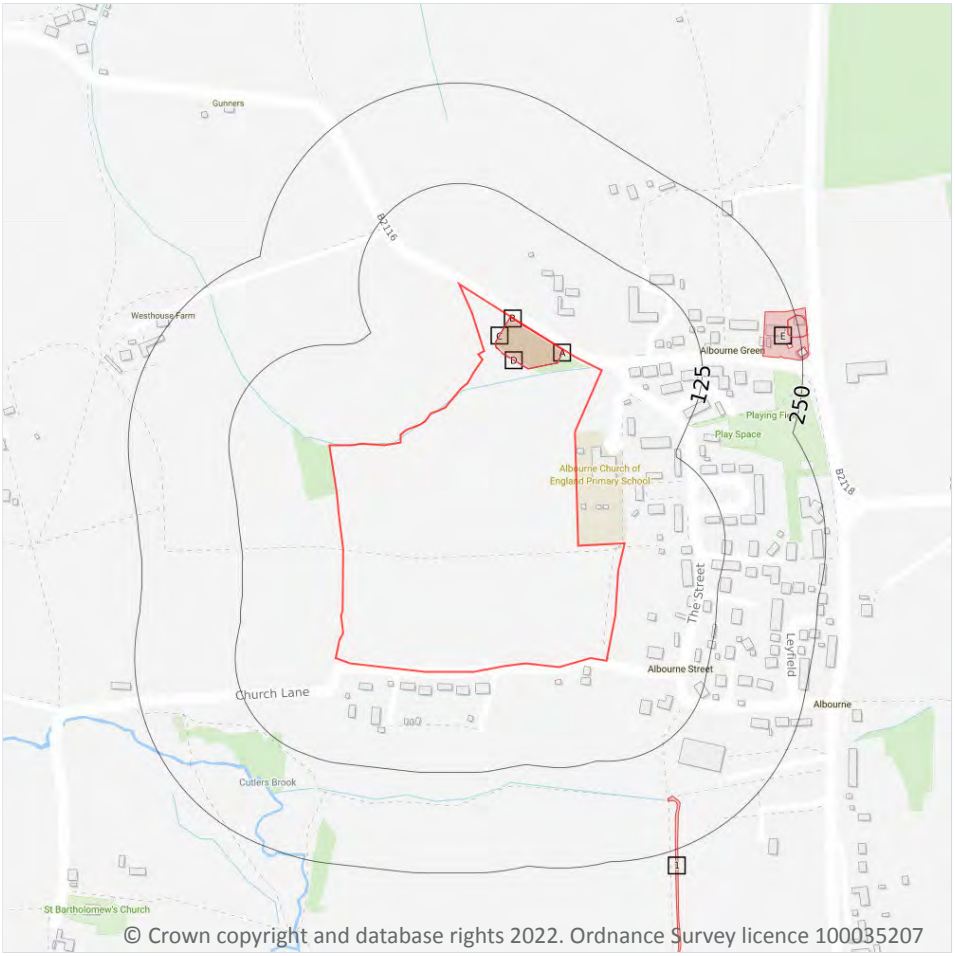
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	12

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 70**

ID	Location	Main Habitat	Other habitats
A	**On site**	**Traditional orchard**	**Main habitat: TORCH (INV > 50%)**
A	**On site**	**Traditional orchard**	**Overruled by Traditional Orchards HAP Inventory dataset**
B	**On site**	**Traditional orchard**	**Main habitat: TORCH (INV > 50%)**
B	**On site**	**Traditional orchard**	**Overruled by Traditional Orchards HAP Inventory dataset**

ID	Location	Main Habitat	Other habitats
C	**On site**	**Traditional orchard**	**Main habitat: TORCH (INV > 50%)**
C	**On site**	**Traditional orchard**	**Main habitat: TORCH (INV > 50%)**
D	**On site**	**Traditional orchard**	**Main habitat: TORCH (INV > 50%)**
D	**On site**	**Traditional orchard**	**Overruled by Traditional Orchards HAP Inventory dataset**
D	**On site**	**Traditional orchard**	**Overruled by Traditional Orchards HAP Inventory dataset**
1	187m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
E	201m E	No main habitat but additional habitats present	Additional: TORCH (INV 50%)
E	236m E	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**0**

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**0**

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

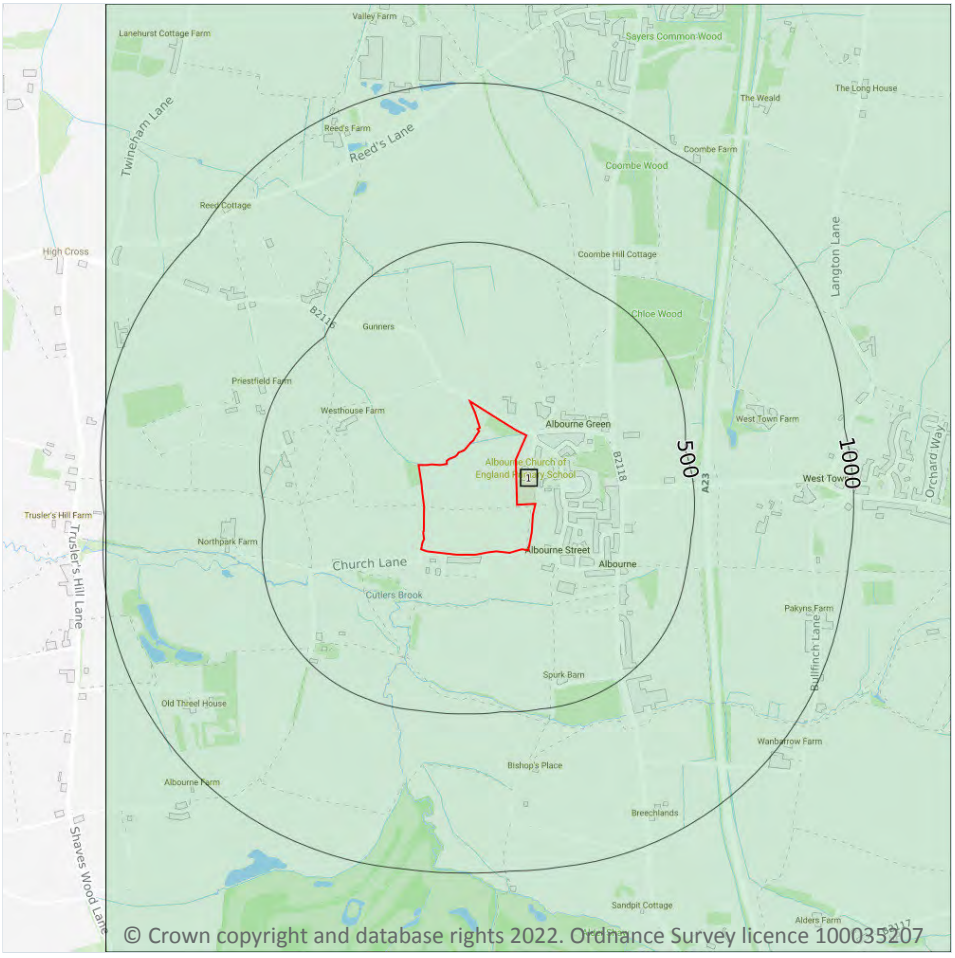
Records within 250m	**0**

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

Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 73**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**TQ21NE**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m **6**

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 75**

ID	Location	LEX Code	Description	Rock description
1	62m S	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
2	139m SW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	257m SW	AD2T3-XZSV	River Terrace Deposits, 2 To 3 (adur) - Silt, Sand And Gravel	Silt, Sand And Gravel

ID	Location	LEX Code	Description	Rock description
4	389m S	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	391m N	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	488m SW	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

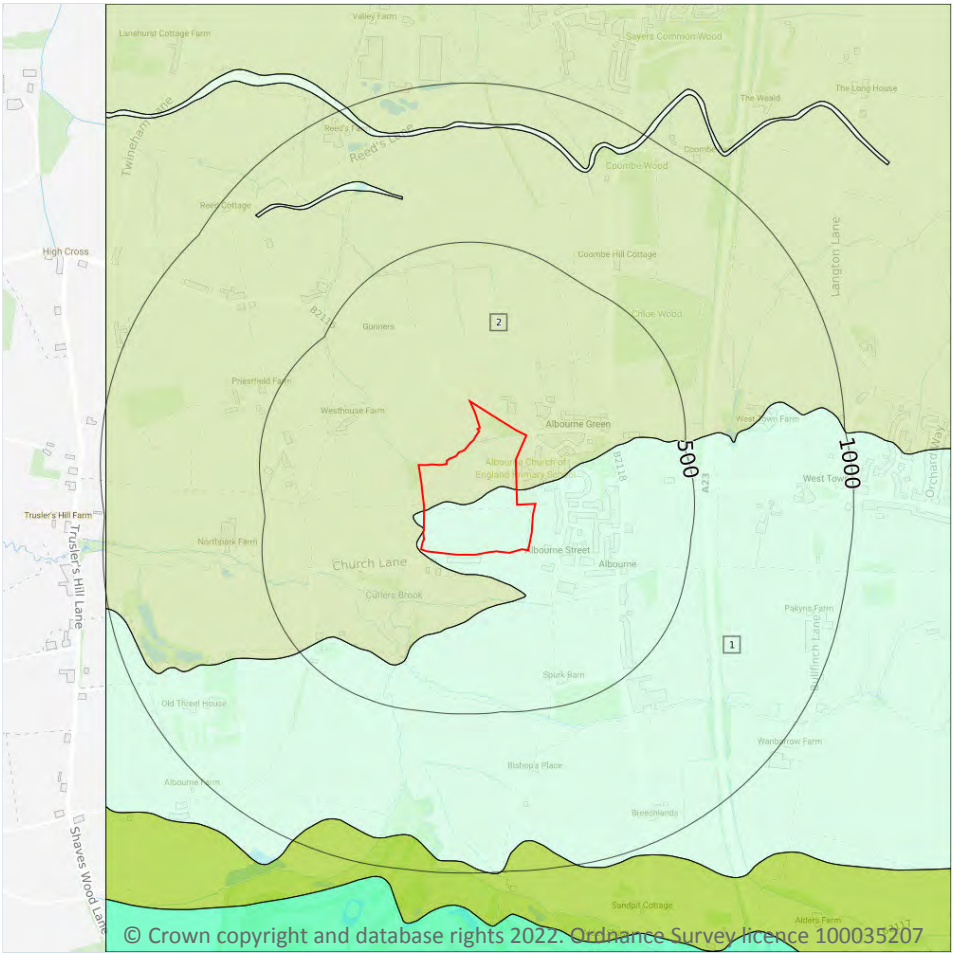
14.4 Landslip (10k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 77**

ID	Location	LEX Code	Description	Rock age
1	On site	LGS-SLSST	Lower Greensand Group - Silty Sandstone	Albian Age - Aptian Age
2	On site	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age

This data is sourced from the British Geological Survey.

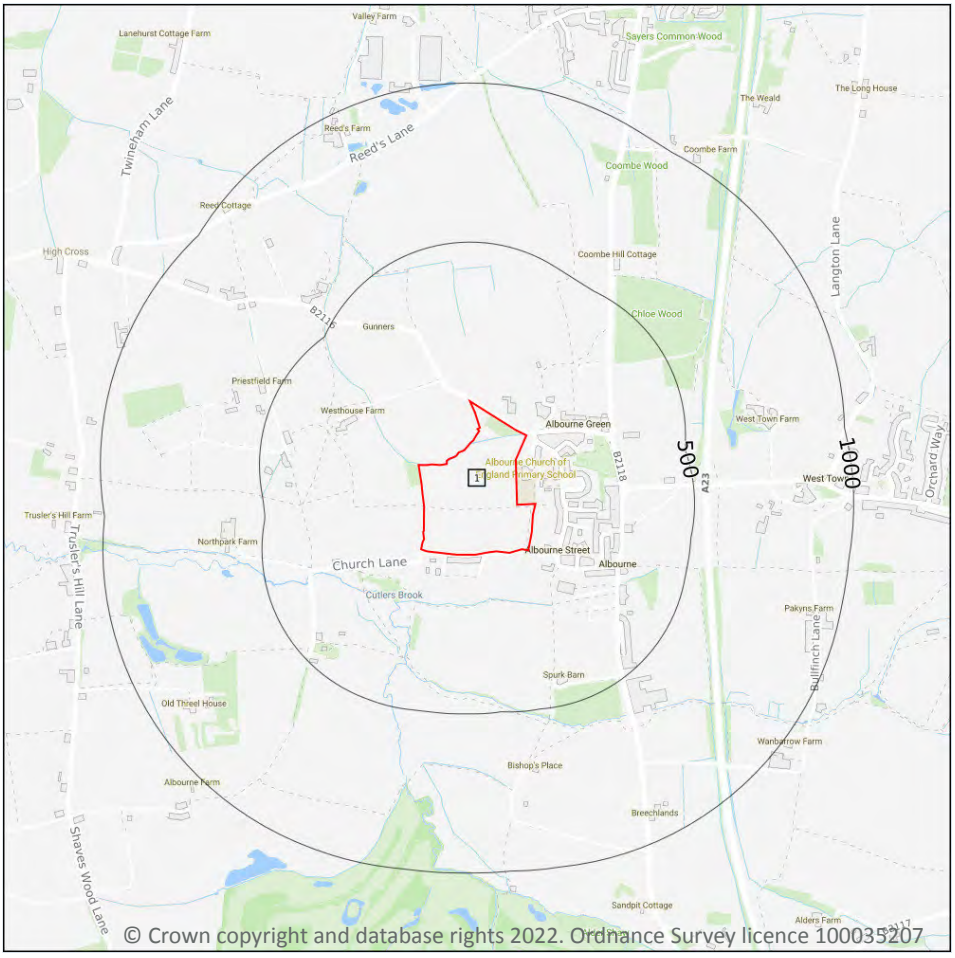
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 79**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW318_333_brighton_and_worthing_v4**

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

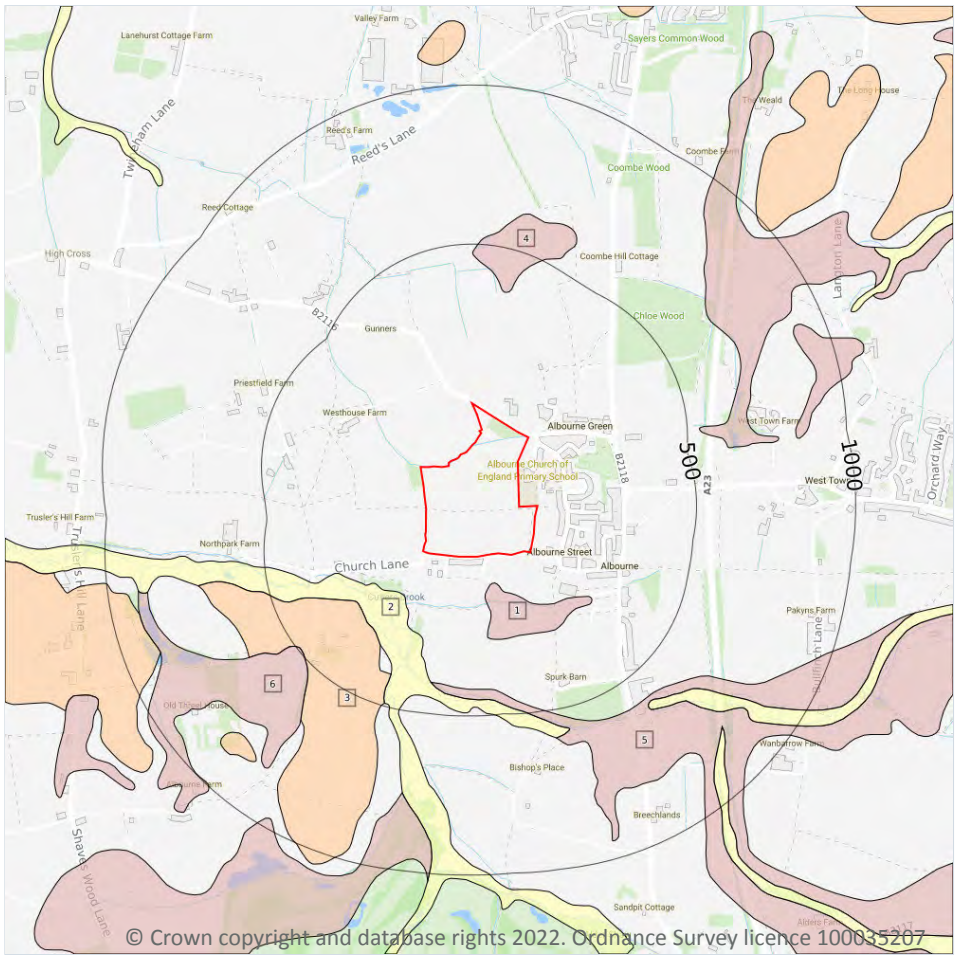
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **6**

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 81**

ID	Location	LEX Code	Description	Rock description
1	91m S	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	149m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	262m SW	AD2T3-XSV	RIVER TERRACE DEPOSITS, 2 TO 3 (ADUR)	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	364m N	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
5	402m S	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
6	492m SW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

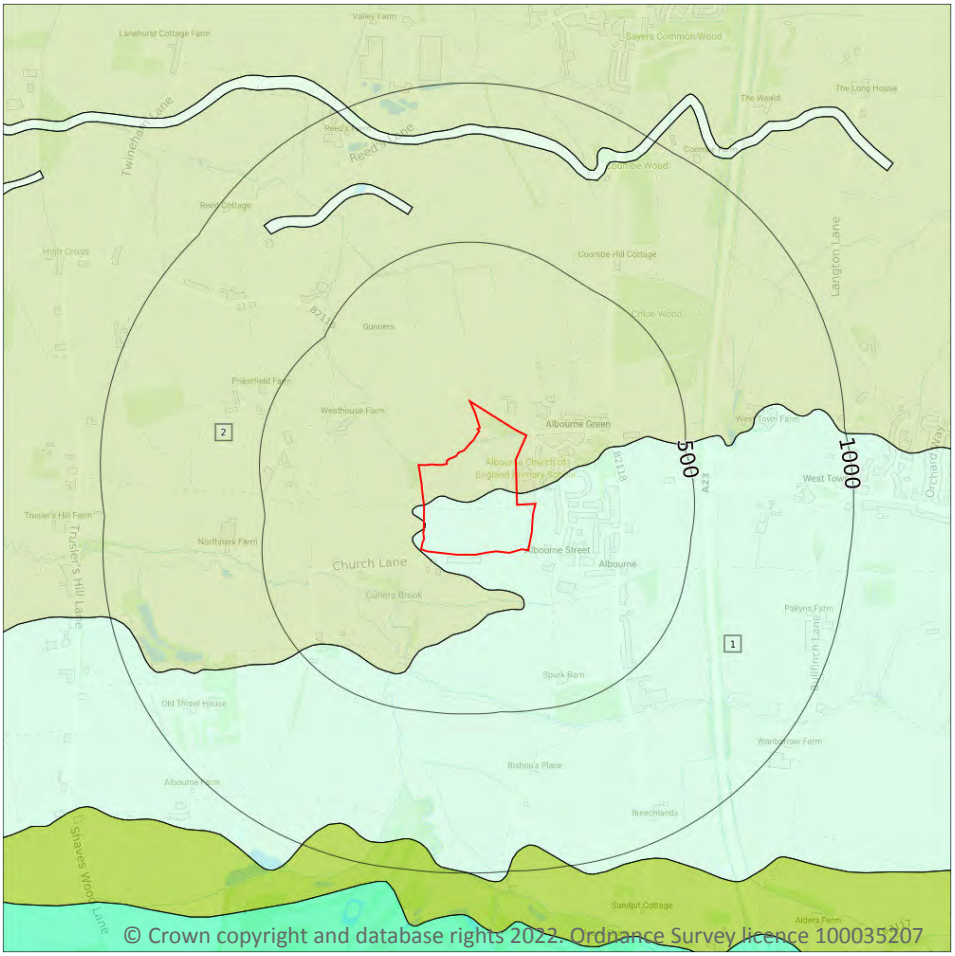
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	2

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 83**

ID	Location	LEX Code	Description	Rock age
1	On site	LGS-SLSST	LOWER GREENSAND GROUP - SANDSTONE, SILTY	APTIAN
2	On site	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Moderate**	**Moderate**
On site	**Fracture**	**Low**	**Very Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes

Site Outline

Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m	**1**

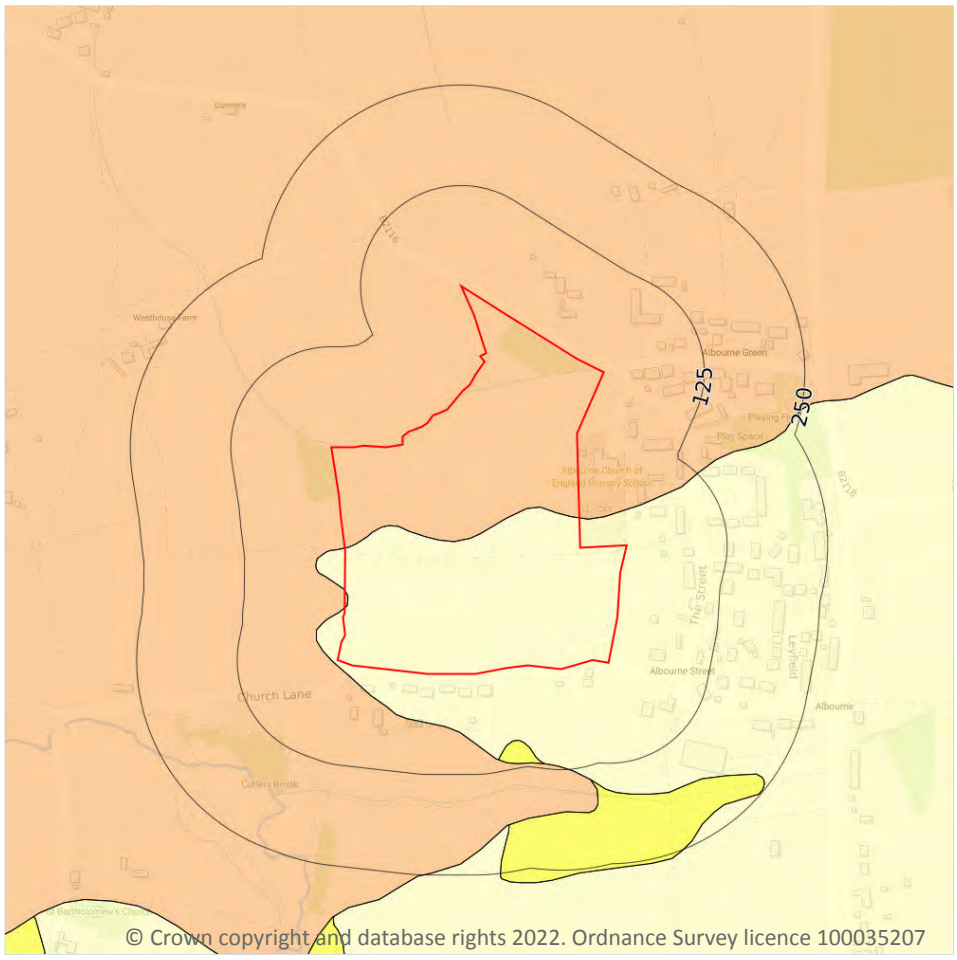
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 85**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	8m S	526290 116470	SPRING COTT ALBOURNE	-2.0	N	584214

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

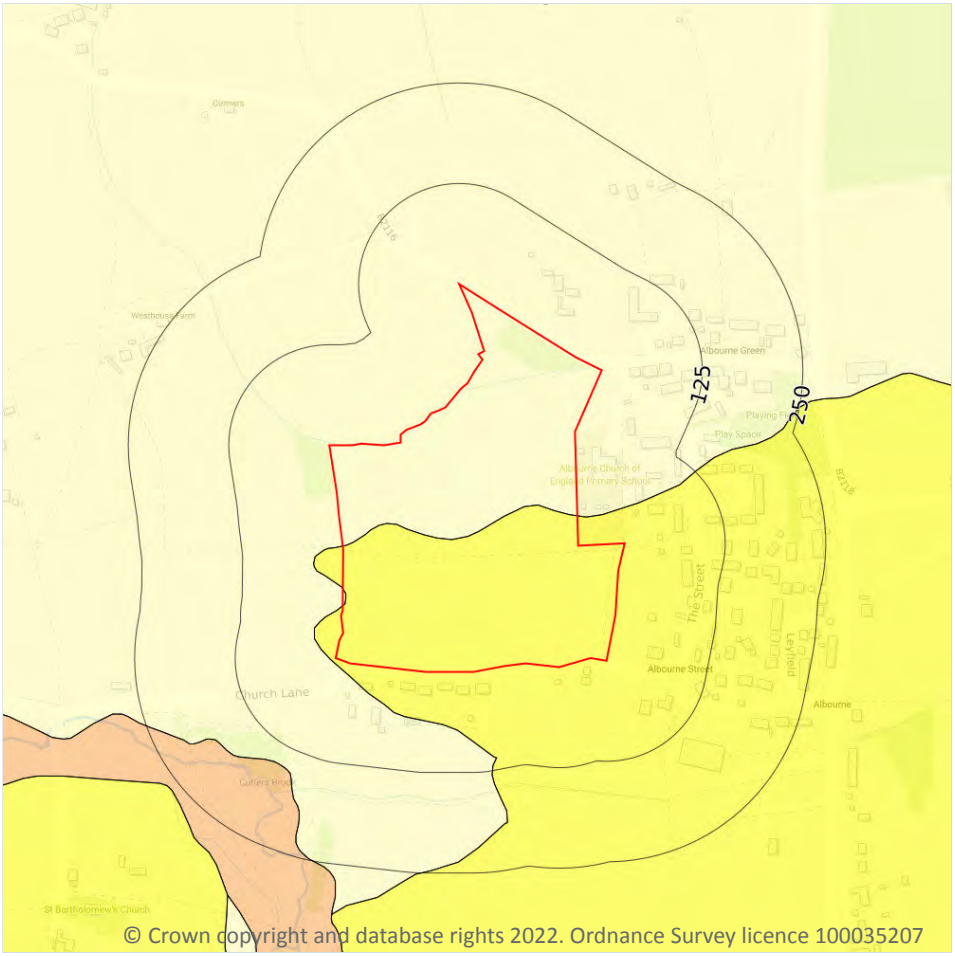
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	2

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

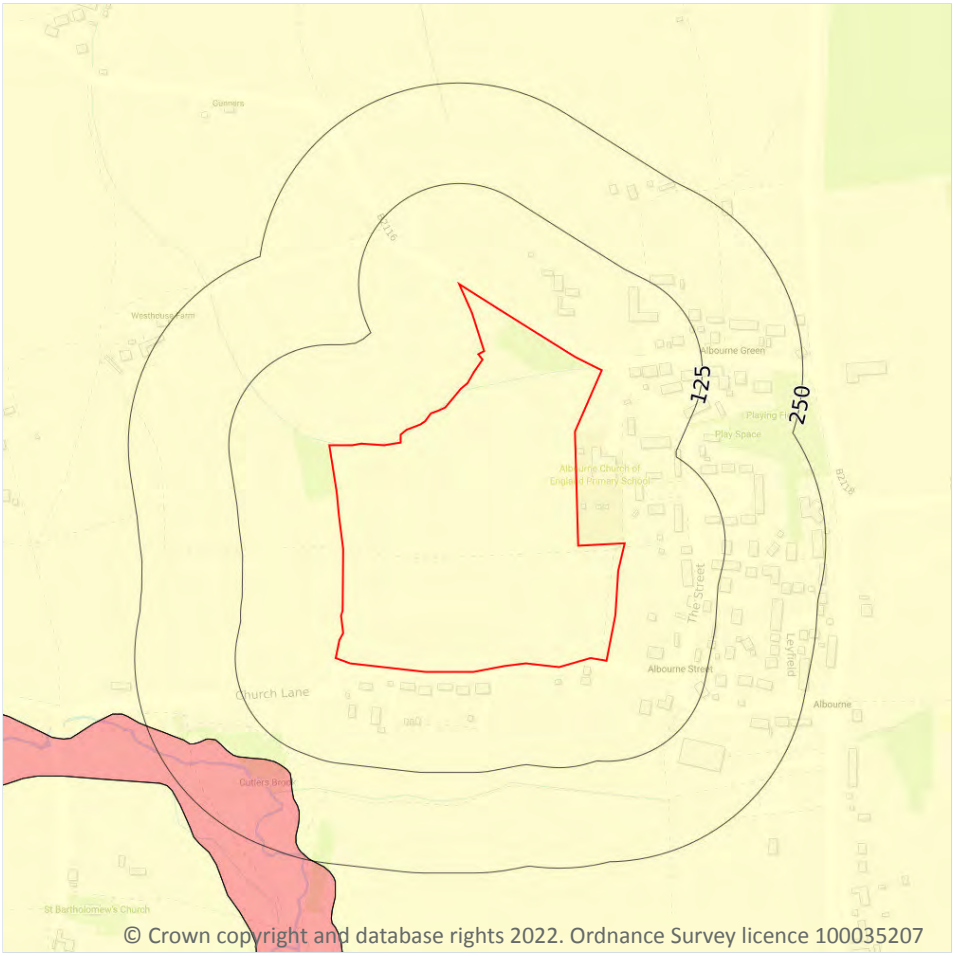
Features are displayed on the Natural ground subsidence - Running sands map on **page 87**

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

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



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

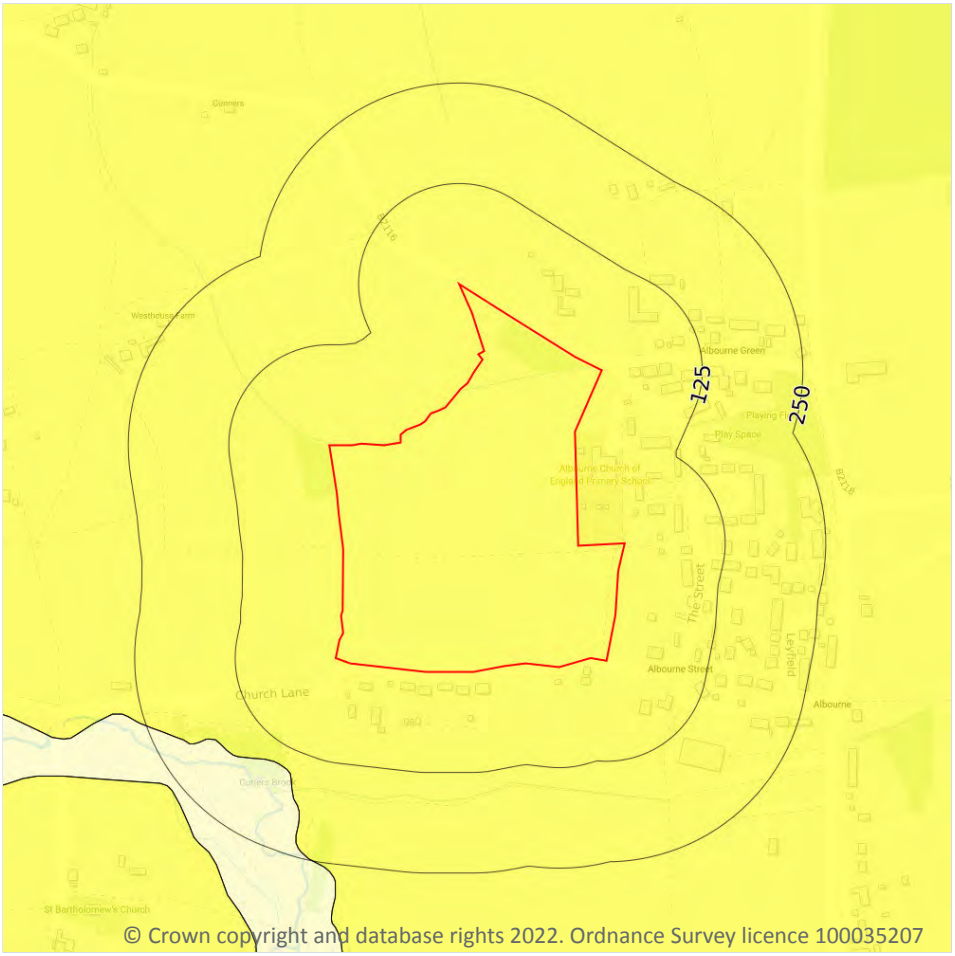
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

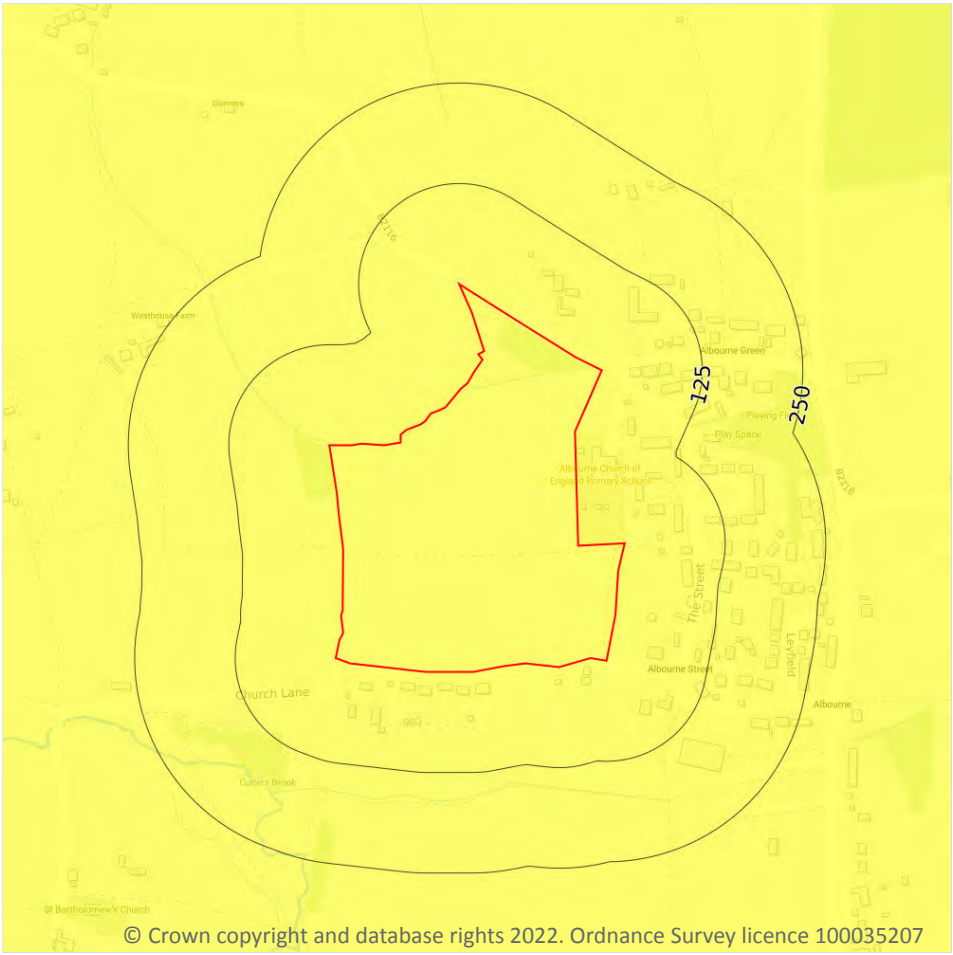
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

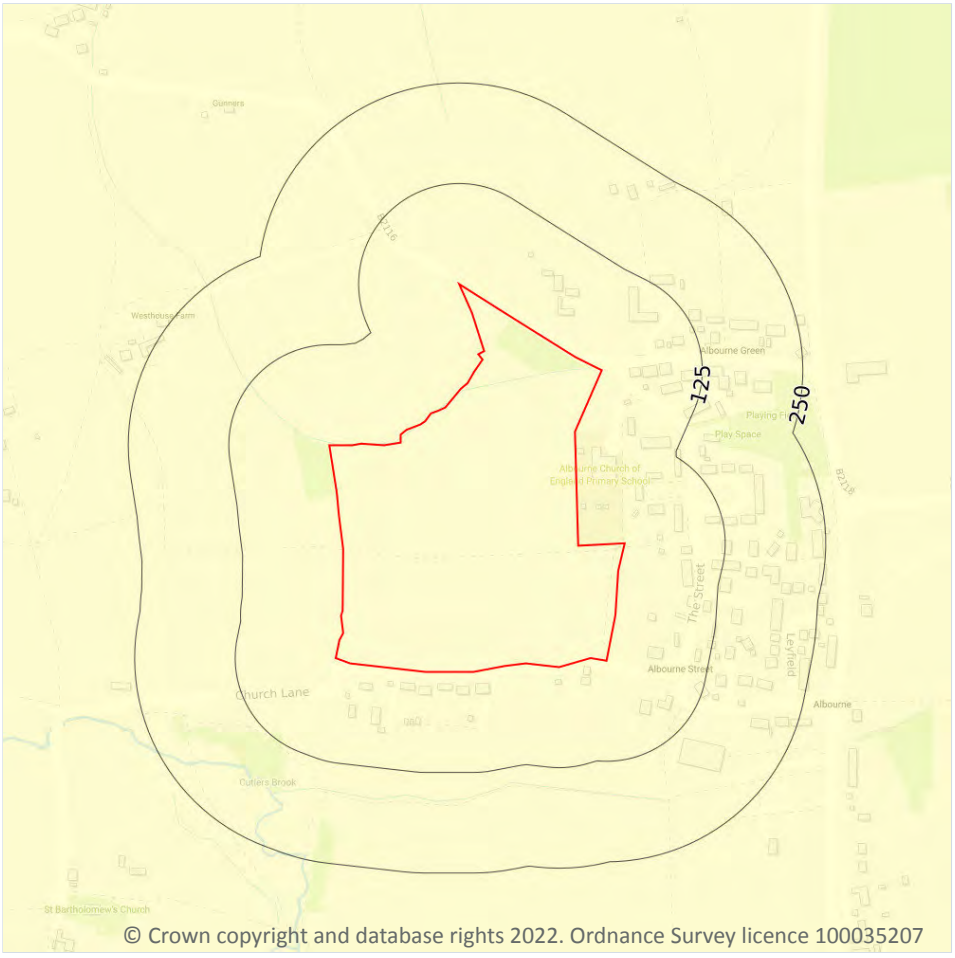
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 91**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

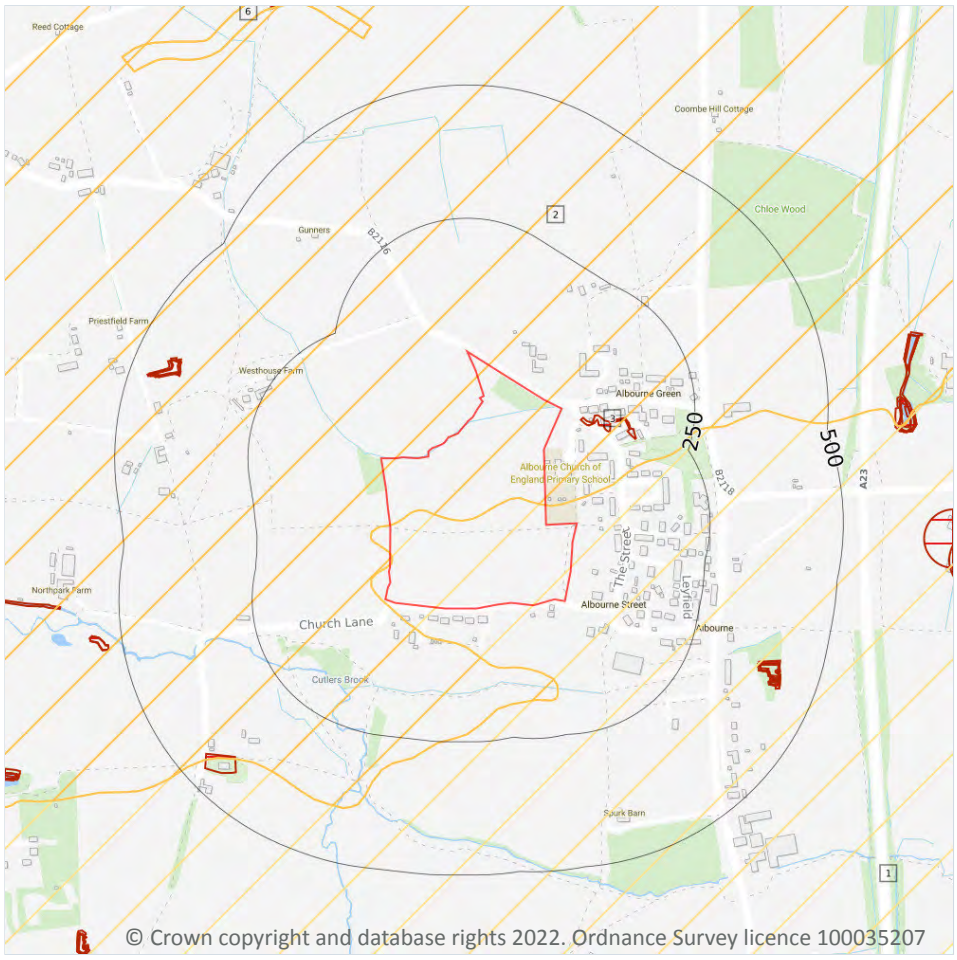
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 92**

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



Site Outline

Search buffers in metres (m)

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

Non Coal Mining

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

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	1

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

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

ID	Location	Land Use	Year of mapping	Mapping scale
3	41m SE	Ponds	1875	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	5

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

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

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Sand**	**A**	**Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered**
2	**On site**	**Not available**	**Sand/Building Stone**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
6	619m N	Not available	Iron Ore	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	788m NE	Not available	Iron Ore	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	983m W	Not available	Sand/Building Stone	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

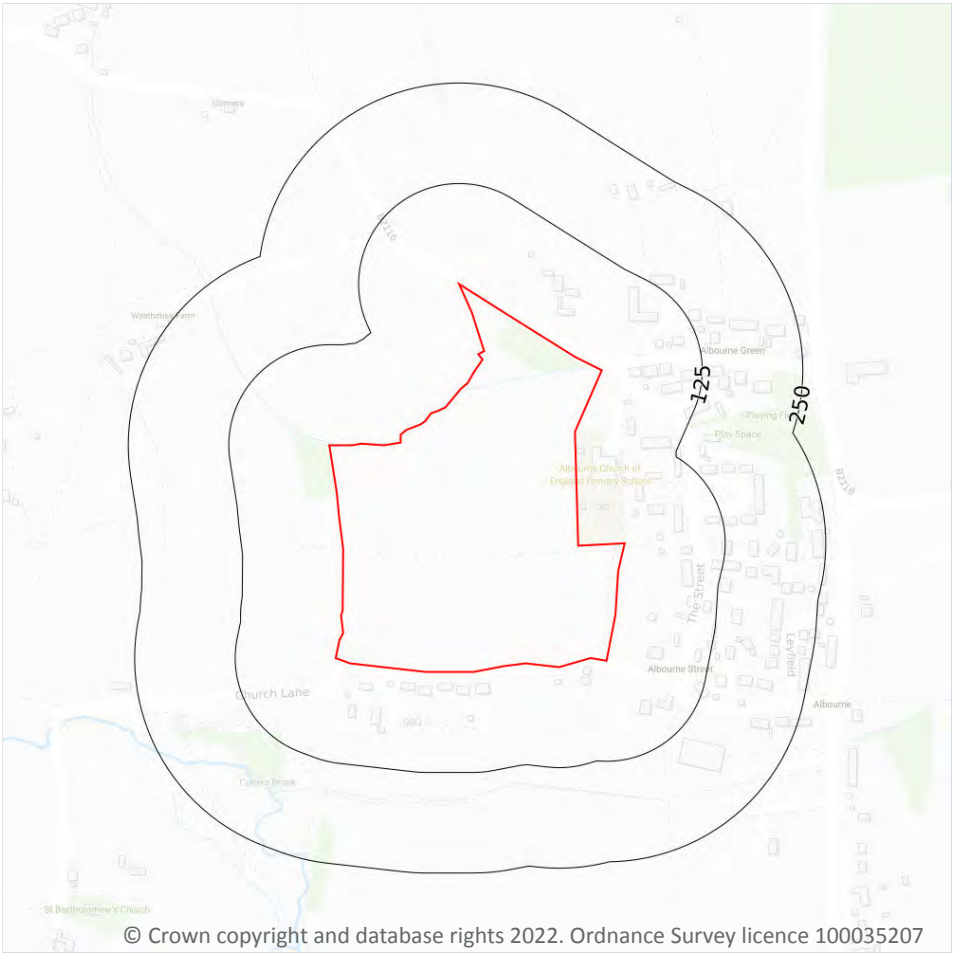
18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

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

19.1 Radon

Records on site	1

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

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

Location	Estimated properties affected	Radon Protection Measures required
On site	**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	**16**

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

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
6m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**0**

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	**0**

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

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

Appendix 5 BGS Archive Records

TQ2629 1647

318/235 Spring Cottage, Albourne

TQ 21/29

Surface +102. Spring rising in H. In use for village. *1951*.

ground water in larger or smaller amounts. The yield of water obtained depends primarily on the thickness and lateral extent of the more permeable lenses or layers within the deposit. Supplies of water from all the superficial deposits are liable to bacterial pollution. Valley deposits are undoubtedly the most important for ground-water supplies, especially where they are in hydraulic continuity with river waters. Of the other drift deposits, peat has no significance as a direct source of water supply, boulder clay may yield occasional small supplies, and glacial sand and gravel, although commonly of value for local or domestic supplies, has no significance as a major source of ground water except possibly where they are in hydraulic continuity with river terraces. The characteristics of the various deposits are discussed below.

Peat. Where this deposit occurs as a thick sheet covering appreciable areas, it may have an indirect effect on the water resources of the area in that it may influence infiltration into underlying strata and the form of stream hydrographs. Peat can absorb large quantities of water during wet seasons, discharging it relatively slowly at other periods. Drainage from peat is through a series of discrete channels at the base, and water discharged into rivers in this way contributes to the base flow components of stream hydrographs. Quantitative measurements of the infiltration capacity of peat, and of rates of discharge from it, are not available at the present time.

Valley deposits. Alluvial deposits of the flood plains of present-day rivers are commonly saturated up to river level and are in hydraulic continuity with the river, unless the river bed is puddled or the alluvial deposits include impermeable clays. Observations made by the Trent River Authority at various localities in the Trent Basin indicate that in places there may be only limited connexion between the river water and the ground water of the alluvial deposits. For example, near Colwick, at a site only 150 ft from the River Trent, extensive excavations in the alluvium were kept dry by pumping at about 0.3 m.g.d., suggesting a low permeability for the alluvium and/or some degree of puddling of the river bed. Near Gunthorpe, about 5 miles north-east of Nottingham, a gravel pit at the junction of river terrace and alluvium is reported as 'dry'. The alluvium in this area is known to contain a high

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

For Survey use only

TQ 21/29 N.

318/235

EXACT SITE OF WELL

At Spring Cottage

Town or Village Albourne

County Sussex Six-inch quarter sheet 38. SE/W

~~For Mr.~~ Cuckfield R.D.C. State whether owner, tenant, builder, contractor, consultant, etc. :— Owners

Address (if different from above) Council Offices, Ditton Rd., Haywards Heath

Level of ground surface above sea-level (O.D.) +102 ft. If well-top is not at ground level, state how far ... {above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days' test

pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins. / hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Engineer & Surveyor, Cuckfield RDC

ADDITIONAL NOTES

Extract from correspondence:- Never known to dry up for past 50 years. "Water supplies 21 houses, a school, farm & horticultural interests. Originally pure, a slight pollution now necessitates its chlorination." 13.2.51. ✓58 (See letter of 13.2.'51) WQ 318/235

Visited and site checked. OD. + 102. In use for above supplies.

Owner Mr. George Hole of 'Pakeyns' Hurstpierpoint, Sussex

Inf. from Mid-Sussex W. Co. 17-6-61

MP 12.7.58.

P.T.O.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		13/2/51		⊙	⊙

(*35243) Wt.44731/0424 12,000 8/48 A.&E.W.Ltd. Gp.685

(For Survey use only) Geological Classification	NATURE OF STRATA If measurements start below ground surface, state how far ...	Thickness Feet ...	 Inches ...	Depth Feet	 Inches

Inf. from Mr. G. G. Hole. "This spring x supplies water for the following and is continually running to waste:—

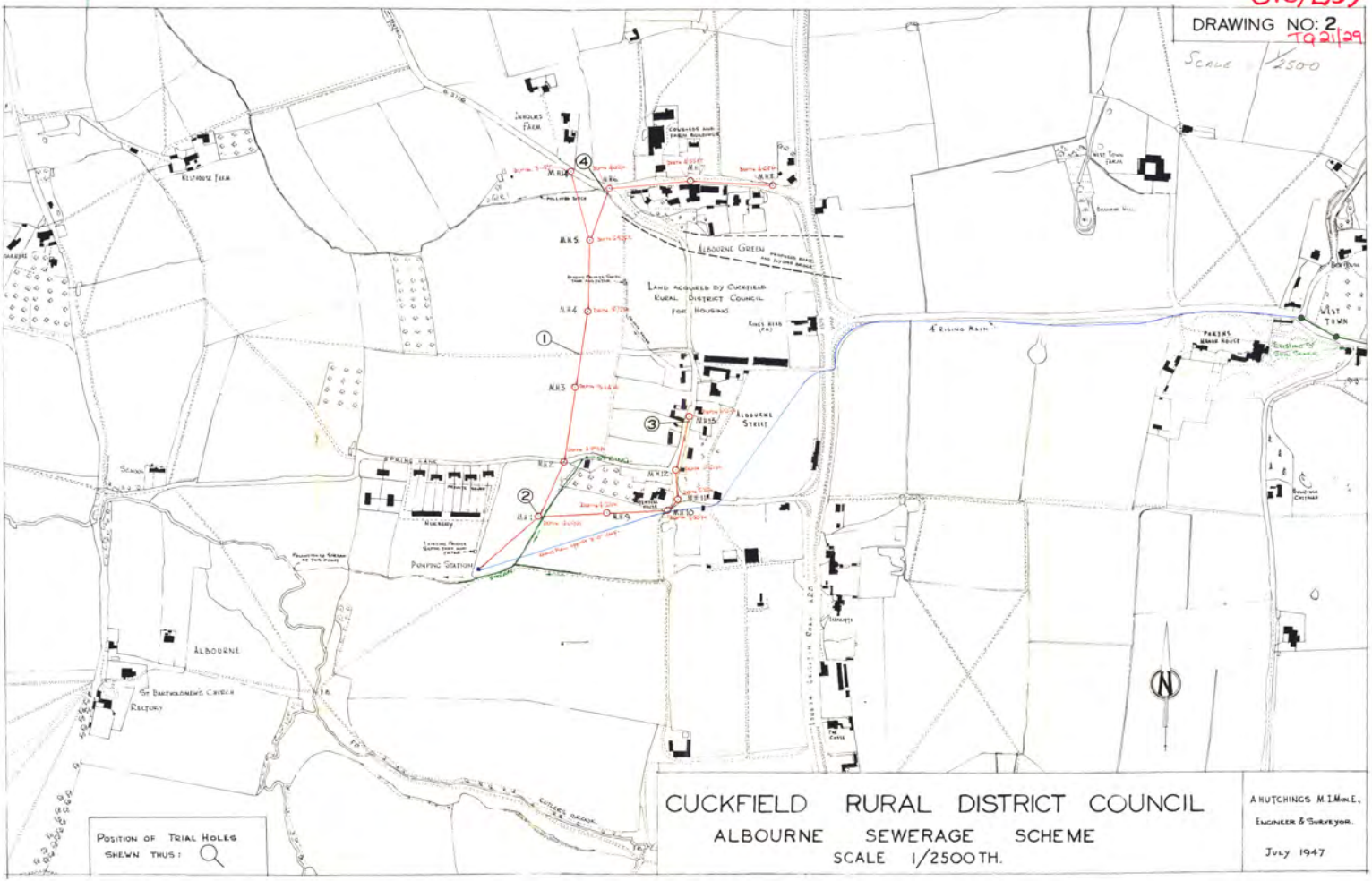
19 cottages, 1 farmhouse, herd of 70 cows + followers (winter + summer), Water requirements for 5 glasshouses, the local school, washing of 3 cars.

24-1-1961.

x Spring rises in the Hythe Beds outcrop.

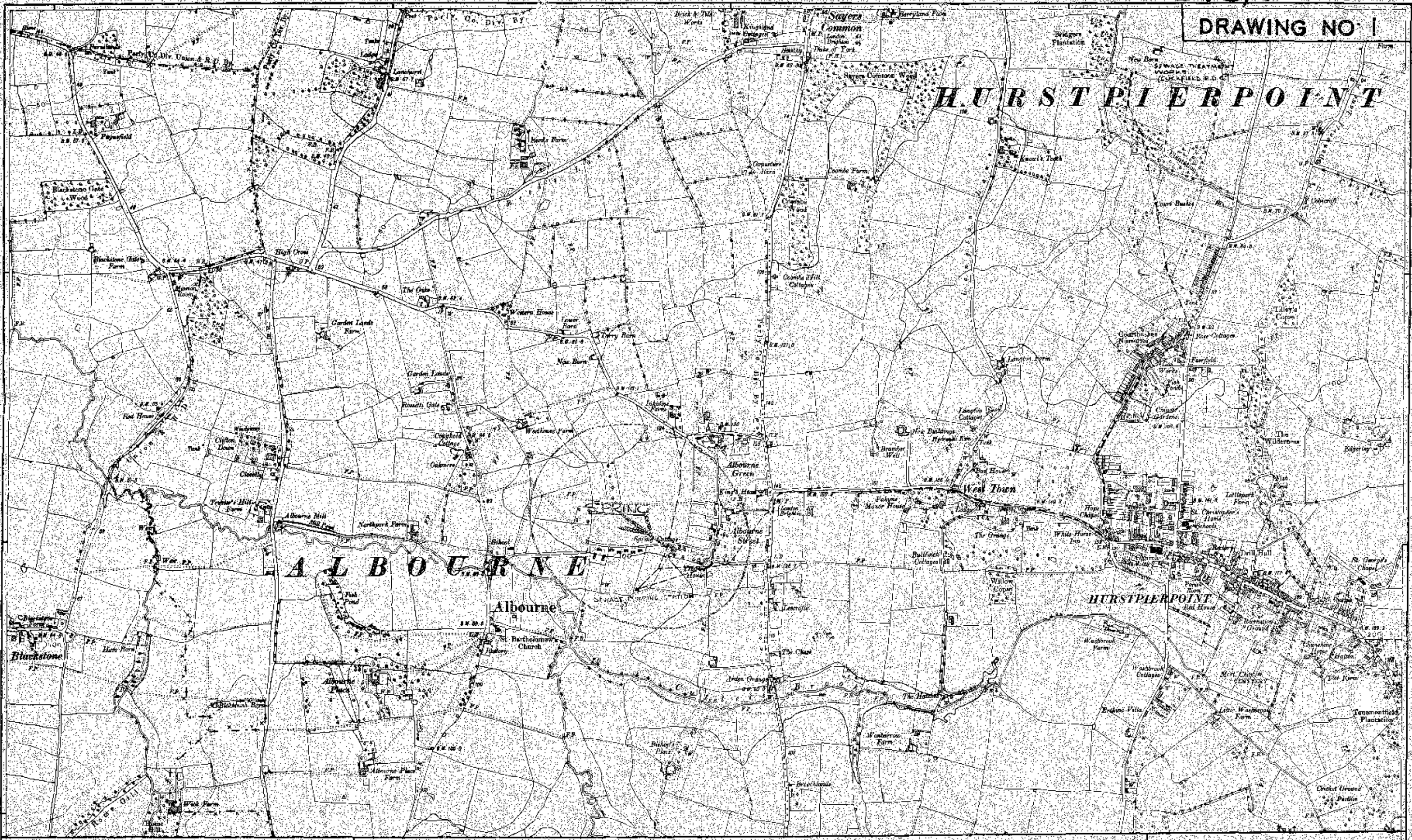
22/3/63

DATA Bank



318/235 TQ 21/29

DRAWING NO 1



Existing Foul Sewers.

Proposed 6" Foul Sewers.

Proposed 4" Rising Main.

CUCKFIELD RURAL DISTRICT COUNCIL
ALBOURNE SEWERAGE SCHEME

A. HUTCHINGS M.I.Mun.E.
ENGINEER & SURVEYOR
SCALE 6" TO 1 MILE
AUGUST 1947.

SEE ORDNANCE SURVEY 1/2500TH SHEET NO. SUSSEX [EAST] XXXVIII. 15
FOR SITE OF SPRING.

TQ21NE/6
2629.164

318/235 Spring Cottage, Albourne

Surface +102. Spring rising in H. In use for village. *1951.*

OD3 No. 27-31

Appendix 6 Tables of Estimated Risks

Receptor	Receptor Sensitivity ('0' if not present)	Pathway	Present (Y=1, N=0)	EPH & Solvents	PAHs	Inorganics and Metals	Asbestos	Biocides	Permanent Gases	Consequence	Probability/ Likelihood	Estimated Risk
Human Health - On-Site Current Users	4	Ingestion of fruit or vegetable leaf or roots	0	✓	✓	✓	x	✓	x	N/A	N/A	N/A
		Ingestion of contaminated drinking water	0	✓	✓	x	x	✓	x	N/A	N/A	N/A
		Ingestion of water / sediments when swimming	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
		Ingestion of soil/dust indoors	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
		Ingestion of soil/dust outdoors	1	✓	✓	✓	✓	✓	x	Minor	Unlikely	Very Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	✓	✓	✓	✓	✓	x	Minor	Unlikely	Very Low
		Inhalation of vapours/gases – outdoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Inhalation of vapours/gases - indoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Dermal absorption via direct contact with soil	1	✓	✓	✓	✓	✓	x	Minor	Unlikely	Very Low
		Dermal absorption via waters (swimming / showering)	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
Human Health On-Site Future User	5	Ingestion of fruit or vegetable leaf or roots	1	✓	✓	✓	x	✓	x	Mild	Unlikely	Very Low
		Ingestion of contaminated drinking water	0	✓	✓	x	x	✓	x	N/A	N/A	N/A
		Ingestion of water / sediments when swimming	0	✓	✓	x	x	✓	x	N/A	N/A	N/A
		Ingestion of soil/dust indoors	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Ingestion of soil/dust outdoors	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Inhalation of vapours – outdoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Inhalation of vapours - indoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Dermal absorption via direct contact with soil	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Dermal absorption via waters (swimming / showering)	0	✓	✓	✓	✓	✓	x	N/A	Unlikely	N/A
Human Health - Neighbours	5	Ingestion of fruit or vegetable leaf or roots	0	✓	✓	✓	x	✓	x	N/A	N/A	N/A
		Ingestion of contaminated drinking water	0	✓	✓	x	x	✓	x	N/A	N/A	N/A
		Ingestion of water / sediments when swimming	0	✓	✓	x	x	✓	x	N/A	N/A	N/A
		Ingestion of soil/dust indoors	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
		Ingestion of soil/dust outdoors	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	✓	✓	✓	✓	✓	x	Mild	Unlikely	Very Low
		Inhalation of vapours – outdoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Inhalation of vapours - indoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Dermal absorption via direct contact with soil	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
		Dermal absorption via waters (swimming / showering)	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A
Human Health - Construction/ Maintenance Workers	4	Ingestion of soil/dust indoors	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Ingestion of soil/dust outdoors	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Inhalation of particles (dust / soil) outdoor	1	✓	✓	✓	✓	✓	x	Minor	Unlikely	Very Low
		Inhalation of vapours – outdoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Inhalation of vapours - indoor	0	✓	x	x	x	x	✓	N/A	N/A	N/A
		Dermal absorption via direct contact with soil	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
Groundwater	3	Leaching	1	✓	✓	✓	x	✓	x	Minor	Low	Very Low
		Migration via natural or anthropogenic	1	✓	✓	✓	x	✓	x	Minor	Low	Very Low
Surface Water	3	Direct runoff or discharges from pipes	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Indirect via recharge from groundwater (hydraulic flow)	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Deposition of wind blown dust	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
Property - Buildings	1	Direct contact	1	✓	✓	✓	x	x	x	Minor	Unlikely	Very Low
		Explosion due to gas migration via natural / anthropogenic	0	✓	x	x	x	x	✓	N/A	N/A	N/A
Ecological Systems	1	Direct deposition of particles / dust - wind blown or flood	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Indirect - through watering	1	✓	✓	✓	x	✓	x	Minor	Unlikely	Very Low
		Inhalation of gases/vapours or particulates/dust by animals	0	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A
		Ingestion of of vegetation / water / soil by animals	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
Property - Animal/Crop	1	Direct (including deposition via wind or flood)	1	✓	✓	✓	✓	✓	x	Minor	Low	Very Low
		Indirect (through watering)	1	✓	✓	✓	x	✓	x	Minor	Unlikely	Very Low
		Inhalation of gas / vapour / particulates / dust by animals	1	✓	✓	✓	✓	✓	✓	Minor	Low	Very Low
		Ingestion of vegetation / water / soil by animals	0	✓	✓	✓	✓	✓	x	N/A	N/A	N/A

Risk estimation establishes the magnitude and probability of the possible consequences (what degree of harm might result and how likely).
The criteria for classifying probability and consequence are set out in Tables 4 and 5 of the Stantec methodology.
Green text highlights one or more elements of the Pollutant Linkage are missing and therefore eliminated

EPH = Extractable hydrocarbons
PAHs = Poly Aromatic Hydrocarbons
Note For Metals there is an Inhalation pathway if Mercury is present
Note for PAHs there are Inhalation and/or Solubility pathways for some eg Naphthalene

Caversham Bridge House, Waterman Place, Reading, RG1 8DN Tel 0118 950 0761 Fax 0118 959 7499

Client

Croudace Homes

Land off Henfield Road, Albourne

TABLE SUMMARISING POLLUTANT LINKAGES AND RISK ESTIMATION

Date	16/05/2022
A3 Scale	NTS
Drawn By	SG
Checked By	NH

HAZARD CLASSIFICATION	1	THE POTENTIAL CONTAMINANTS OF CONCERN ARE :- Agrichemicals (pesticides & herbicides)