Goldfinch

PROPOSED RESIDENTIAL DEVELOPMENT
ROSEDALE FARM
CHAPEL DROVE
HOLBEACH DROVE
SPALDING
LINCS

PROPOSED RESIDENTIAL DEVELOPMENT ROSEDALE FARM CHAPEL DROVE HOLBEACH DROVE SPALDING LINCS

GEOENVIRONMENTAL DESK STUDY

Report Ref.: 0914/1

Prepared by :

D Sargeant
BSc FGS

Date:

August 2023

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

CONTENTS

1.	INTRODUCTION	3
2.	LIMITATIONS	4
3.	LEGISLATIVE AND REGULATORY SETTING	5
4.	SITE LOCATION AND DESCRIPTION	6
5.	SITE HISTORY	10
6.	PRELIMINARY QUALITATIVE RISK ASSESSMENT	15
7.	RECOMMENDATIONS FOLLOWING PRELIMINARY RISK ASSESSMENT	18
8.	CONCLUSIONS	19

FIGURES

- Figure 1 Site Location Plan
- Figure 2 Proposed Layout Plan

APPENDICES

- Appendix 1 'Groundsure' Report

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

PROPOSED RESIDENTIAL DEVELOPMENT

ROSEDALE FARM, CHAPEL DROVE

HOLBEACH DROVE

SPALDING

LINCS

1. INTRODUCTION.

1.1 General.

This report describes the findings of a geoenvironmental desk study undertaken by Goldfinch Environmental Limited on the instruction of Mr A Cole (the Client), at a site on the western side of Chapel Drove to the south of Holbeach Drove to the south east of Spalding.

The Desk Study was required to support a planning application for the development of the site to a residential land use by establishment of new residential dwellings as shown in Figure 2 towards the back of this report.

A site location plan has been included as Figure 1 with the proposed layout shown in Figure 2 towards the back of this report to assist the reader.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

2. LIMITATIONS.

This report is for the sole reliance and use of the Client. Any Third Party coming into possession of this report relies on it at their risk, unless written permission is expressly sought from, and provided by, Goldfinch Environmental Limited. The author owes them no duty of care and skill. Goldfinch Environmental Ltd accepts no responsibility or liability for the consequences of this document being used for purposes other than that for which it was commissioned and the assessments provided herein should not be relied on as a legal opinion.

The findings and opinions expressed are relevant to the time of the site visit and information review and should not be relied upon to represent conditions at substantially later dates. The assessments and opinions given in this report are based upon information available at the time of the report. Where additional information comes available which may affect or identify a need to review our conclusions or assessments we request the opportunity (and reserve the right), to review the information and where warranted, modify our assessment / opinion in part or wholly, accordingly.

The purpose of this desk study report was to determine the historical use of the site and adjacent areas from searches of Public Registers and a review of available historical maps and included a site reconnaissance ('walkover') survey together with brief internet searches. The outcome of these activities is described below and this information was used to construct a conceptual model for the site from which a risk assessment was completed in the context of the proposed residential development of the site.

The risk assessment was based on the source-pathway-receptor framework, with respect to the geoenvironmental condition of the site in the context of various sensitive receptors. Goldfinch Environmental Ltd have based this desk study upon the sources given in this report, and believes them to be reliable but cannot and does not guarantee the authenticity or reliability of the data it has relied upon.

This desk study does not include any geotechnical considerations pertaining to the site as these were outside the agreed brief.

The recommendations given in this report are based on guidance and best practice in place at the time of issue of the report, the information available at the time of the investigation, the nature of the indicated proposed development and associated end user behaviour patterns. Should any of the foregoing change at any time, then this report should be reviewed in the context of proposed changes.

The absence of indicators in search data, or from on site observations does not rule out their presence in other parts of the site. This desk study report has been based on information supplied in the 'GroundSure' report and its component parts included at Appendix 1 towards the back of this report, discussions with the Client and in-house searches.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

3. LEGISLATIVE & REGULATORY SETTING.

The Environmental Protection Act of 1990 created the framework for the identification and remediation of contaminated land. The Act defines "contaminated land" as any land, which appears by the Local Authority to be "in such a condition, by reason of substances, in, on, or under the land that significant harm is being caused or there is significant possibility of such harm being caused, or, pollution of Controlled Waters is being, or is likely to be, caused".

Land potentially affected by 'contamination' is a material consideration for planning purposes together with its relationship with 'regulatory intervention' (Part IIa), and 'voluntary' investigation (which includes redevelopment of sites which may be affected by contamination). LCRM (Environment Agency 2020 updated April 2021), provide a generic framework indicating key technical activities applicable in each of these contexts.

The management of land contamination broadly comprises three components that are identified as 'Risk assessment', 'Options appraisal' and 'Implementation'. These, in turn, determine if any *un*acceptable risks exist, ascertain the most appropriate remediation strategy for the site and, finally, demonstrate that the strategy will be effective.

In accordance with this and other current guidance, where a 'land quality' risk assessment is required each 'Relevant Pollutant Linkage' (RPL, formerly referred to as "source-pathway-receptor" framework), is separately identified and a level of risk attached. This is documented in the form of a 'Conceptual Model'.

The outcome of the assessment of established, plausible relevant pollutant linkages is used to determine qualitatively the need for further investigation, or remediation with ensuing mitigation of the determined unacceptable risk. (In accordance with the Model Procedures and Regulatory preference, detailed remedial measures should be provided in a separate phase).

The risk assessment takes account of the local environment, end user behaviour patterns, and the nature of the development in relation to proven 'unacceptable' risk. This is the approach advocated by current guidance (LCRM 2020 and BS10175 etc), and therefore has been adopted in the assessment of this site.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

4. SITE LOCATION AND DESCRIPTION.

4.1 Introduction

A site visit was carried out during 9 August 2023 the purpose being to:-

I. Collect additional/relevant information about the site its environs and any site-specific potential contaminants, pathways and receptors.

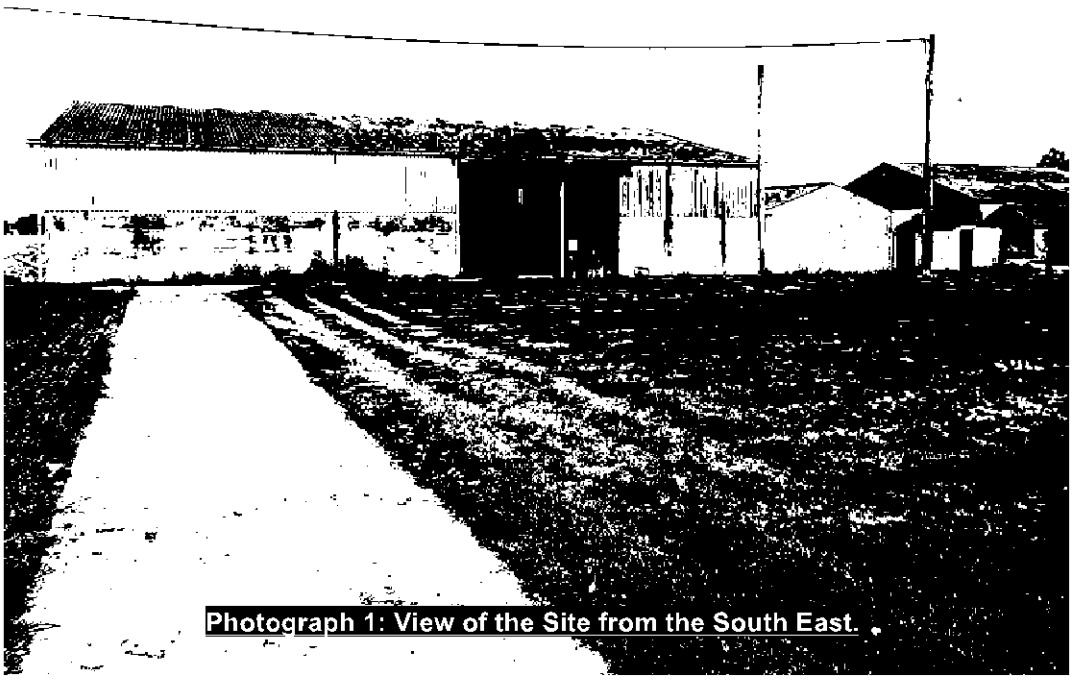
II. Record any aspects of the site not revealed by documentary searches. (e.g. the presence of above- or belowground hydrocarbon storage tanks.).

III. Collect any information that will assist in the planning of any subsequent phases of field investigation where the Desk Study deems this is necessary.

Approximate Grid Reference ^{5}32115, ^{3}11691 refers.

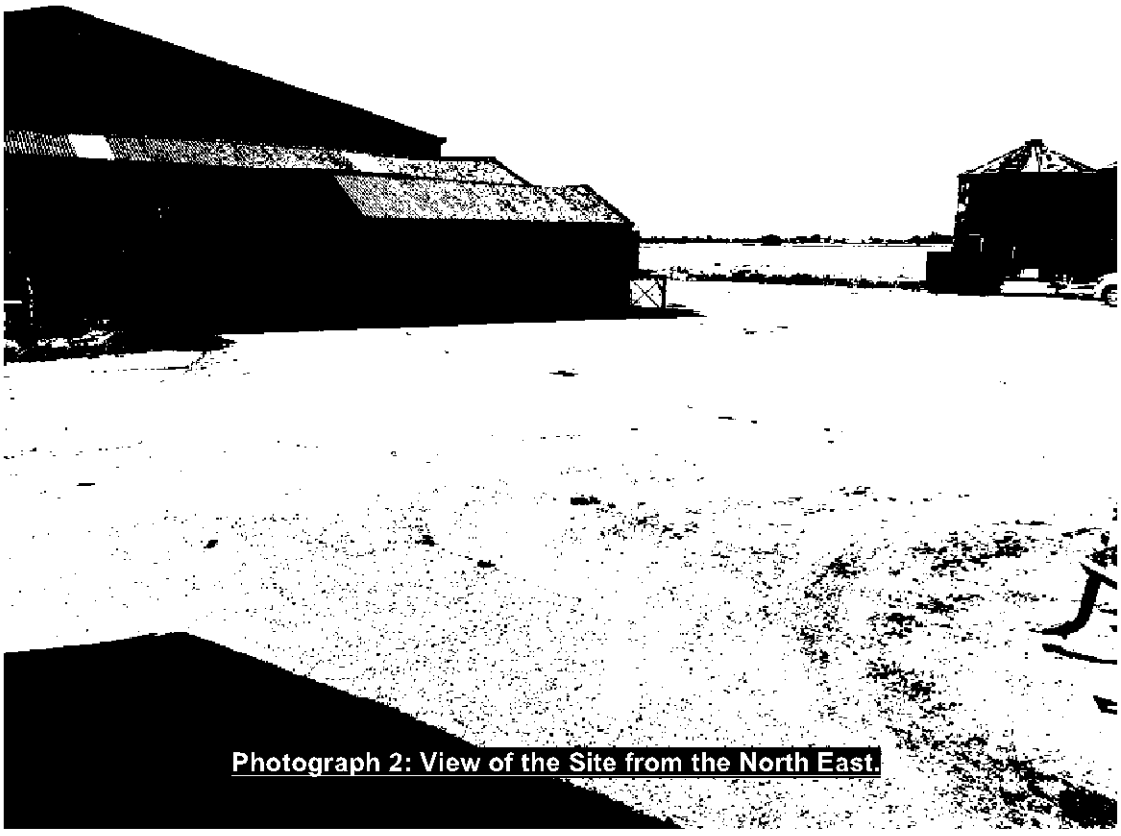
The site comprised a sensibly-level subrectangular plot of land on the western side of Chapel Drove, to the southeast of Spalding, Lincs..

At the time of the site walkover survey the site was capped with hard cover of concrete which included the footprint of a large building as can be seen in the images below.



Photograph 1: View of the Site from the South East.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681



Photograph 2: View of the Site from the North East.

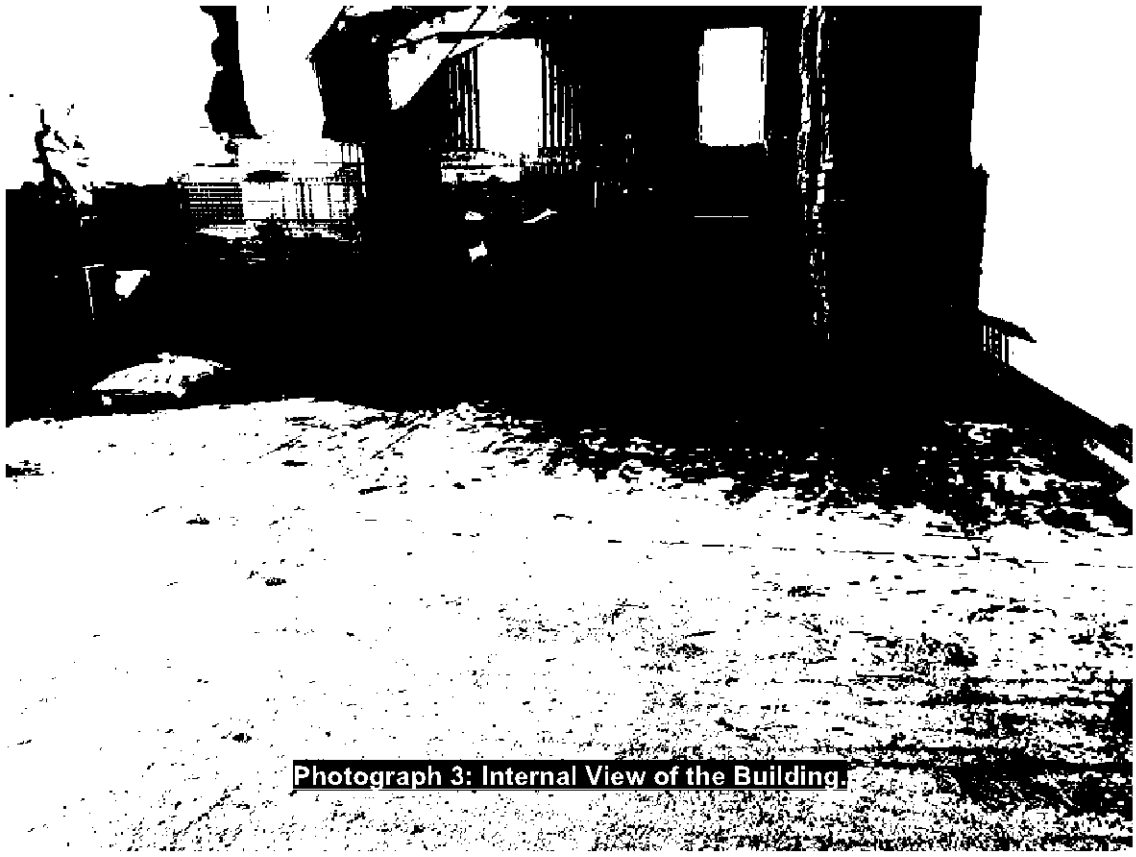
[Author Note: The green Silo's and black fabrication are outside the site boundary. The Reader should note that in Photograph 1 the front boundary of the site is just in front of the building].

As can be seen from the images above the site is entirely capped with concrete hard cover with the exception of a narrow strip of grass adjacent to the southeastern boundary [front] of the site.

Buildings at the site comprised a large barn with subordinate predominantly brick built structures off its northeastern elevation. The larger building had been constructed mainly from concrete blocks and corrugated cementised panels around a precast concrete frame all over s concrete floorslab.

Internal inspection of the larger building showed it had been in agricultural use and had been used for produce packing. A stand-alone cold store was noted towards the approximate centre of the internal area of the building. Elsewhere the building was being used to store agricultural plant and pallets as shown in Photograph 3 below.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681



Photograph 3: Internal View of the Building.

Occasional dark stains were noted in the surface of the floorslab. However, these were localised, as can be seen in Photograph 3, and were dull in appearance suggesting they were aged. Given the integrity of the floorslab it is reasonably anticipated that these will have not impacted underlying soils.

The referred [subordinate] brick built structures adjoining the larger barn were being used to store a variety of items which variously included; a pressure washer, polystyrene packing, occasional small hand tools, metal fabrication, small step ladders, occasional wooden pallets etc.. Again small stains were noted in the concrete floorslab but like the larger building it is reasonably anticipated that these will have not impacted underlying soils.

Around the footprint of the buildings as stockpile of metal sheets and wooden pallets were noted at the rear of the building and adjacent to the southwestern elevation a relatively small stockpile of comminuted concrete. The concrete hard cover in the western corner of the site accommodated further stockpiles of wooden pallets together with an excavator bucket.

Following visual inspection of the site there were no notable features with regard to land contamination. In addition, although the site had been subject to previous 'development' [as it had existed as part of a larger farm] there was no apparent evidence of:~

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

1. The presence of Made Ground [other than the referred inert sources].

2. The presence or storage of potentially leachable materials/chemicals.

3. Demolition or dispersal of *contaminated* rubble or other materials.

4. Importation of potentially contaminated fill onto the site.

5. Some elevations and roof structure appeared to have been formed from corrugated cementised panels which are likely to have a measurable asbestos content. It is anticipated that these materials will be removed off site as part of the redevelopment process.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

5. SITE HISTORY.

5.1 Historical Maps.

Where the attached maps are compiled from a composite of editions, the year of map upon which the majority of the site may be found is quoted below. These are reproduced at Appendix 1. Annotation, as it appears on the maps, is indicated by italics.

Land use in excess of 250m from the site is considered of potentially negligible to low risk to the application site and on that basis is generally excluded from the summary provided below (unless record review by this author suggests otherwise). However, should the reader require this additional detail, full disclosure records are included in Appendix 1 towards the back of this report.

(The reader should note at this point that occasionally on the older map editions the site boundaries can be slightly 'shifted' relative to more recent maps.).

1886 Edition {County Series - Scale 1:10 560}

The site was shown as an undeveloped plot of land with no near development.

There were no other notable features associated with the site or surrounding land use in the context of land quality.

1887 Edition {County Series - Scale 1:10 560}

There were no apparent changes to the site or its immediate environs at this scale of mapping.

1888-9 Edition {County Series - Scale 1:2 500}

There were no apparent changes to the site or its immediate environs at this scale of mapping.

1902 Edition {County Series - Scale 1:2 500}

There were no further apparent changes to the site at this scale of mapping.

There were no apparent change to the immediate environs of the site at this scale of mapping.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

1904 Edition {County Series - Scale 1:2 500}

There were no apparent changes to the site or its surroundings at this scale of mapping.

1905-6 Edition {County Series - Scale 1:10 560}

There were no apparent changes to the site.

There were no further pertinent land use changes to the immediate environs of the site.

1950 Edition {County Series - Scale 1:10 560}

The site appeared to show its first phase of development. A subrectangular feature was shown near the northeastern boundary.

There were no apparent changes to the immediate environs of the site at this scale of mapping.

1959 Edition {Provisional - Scale 1:10 560}

There were no apparent changes to the site.

There were no apparent changes to the immediate environs of the site at this scale of mapping.

1976-7 Edition {National Grid - Scale 1:2 500}

The site had undergone a second phase of development and now appeared to have the layout noted at the time of the walkover survey.

The immediate environs of the site had undergone minor development, possibly to a residential use, at this scale of mapping.

1980 Edition {National Grid - Scale 1:10 000}

There were no apparent changes to the site at this scale of mapping.

There were no apparent changes to surrounding land at this scale of mapping. However, this does not preclude minor development having taken place.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

1992-4 Edition {National Grid - Scale 1:2 500}

There were no apparent changes to the site at this scale of mapping.

There were no apparent changes to surrounding land at this scale of mapping. However, this does not preclude minor development having taken place.

2001 Edition {National Grid - Scale 1:10 000}

There were no apparent changes to the site.

There were no apparent changes to the immediate environs of the site except that a [horticultural] nursery was established on land to the east of the site.

2003 Edition {Landline - Scale 1:1 250}

There were no apparent changes to the site.

There were no apparent changes to the immediate environs of the site except that two circular features were established on land to the north of the site and were annotated '*Silos*'.

2010 Edition {National Grid - Scale 1:10 000}

There were no further changes to the site.

There were no apparent changes to the surrounding environs with respect to land contamination.

2020 Edition {National Grid - Scale 1:10 000}

There were no apparent changes to the site or surrounding environs with respect to land contamination.

5.2 Public Registers.

A search of public register information has been made using an Internet-based system. A disclosure report is reproduced at Appendix 1. The following commentary is restricted to entries within a 250m search radius of the site. Appendix 1 should be referred to for details on entries beyond of this range.

5.2.1 Past Land Use

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

5.2.1.1 Historical Industrial Land Uses

There were five entries for the referred search radius for the site. Supplied information indicated these were located between approximately 185 and 231m distant from the site and were given as; '*Unspecified Depot*'; '*Nursery*' and '*Pump House*' (x3).

5.2.2 Past Land Use – Ungrouped

5.2.2.1 Historical Industrial Land Uses

There were five entries for the referred search radius for the site. Supplied information indicated these were located between approximately 185 and 231m distant from the site and were given as; '*Unspecified Depot*'; '*Nursery*' and '*Pump House*' (x3).

5.2.3 Waste & Landfill

There were no records for this potential source of contamination within the search radius for the site.

5.2.4 Current Industrial Land Use

5.2.4.1 Recent Industrial Land Uses

There were two entries for the referred search radius for the site. Supplied information indicated these were located between approximately 3 and 4m distant from the site and were given as; '*Silos*' (x2).

5.2.5 Hydrogeology

5.2.5.1 Superficial Aquifer

Records were '*Identified*' within supplied search data and indicated the site was underlain by a '*Unproductive*' aquifer.

5.2.5.2 Bedrock Aquifer

Records were '*Identified*' within supplied search data and indicated the site was underlain by a '*Unproductive*' aquifer.

5.2.6 Geology

5.2.6.1 Superficial (1:50 000)

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

Records were '*Identified*' within supplied search data and indicated the site was underlain by Tidal Flats Deposits (Clay and Silt).

5.2.6.2 Bedrock (1:50 000)

Records were '*Identified*' within supplied search data and indicated the site was underlain by Oxford Clay Formation (Mudstone).

5.2.7 Radon

Searches indicated that the site is in an area where less than 1% of properties are above the 'Action Level' therefore radon protection measures are not necessary in extensions and new dwellings.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

6. PRELIMINARY QUALITATIVE RISK ASSESSMENT.

6.1 Introduction.

There are three factors that are taken into account whilst undertaking a qualitative risk assessment. These have been described in Section 3 of this document. At the time of this report, the site had been proposed for residential development.

6.2 Conceptual Model.

Source (s) (Potential)	Pathway	Target	Risk
Soil: The site had existed as 'undeveloped' plot of land until its first phase of development shown on the 1950 Edition with a second phase of development shown on the 1976-7 Edition with no further changes to the present day. i.e. the time of the site walkover survey carried out by this Author during 9 August 2023. There were no *plausible* [potential] site-specific indicators of potential soil-borne contamination. Visual and olfactory indicators of potential contamination immediately nearby off site were not noted.	❖ Dermal contact, ingestion and inhalation	• Present users • End users • Construction workers • General public	• Low • Low • Low • Low
	❖ Wind erosion and atmospheric dispersion	• Adjacent properties • General public • Ecological Systems • Archaeological Sites & Monuments	• Low • Low • Low • n/a
	❖ Leaching	• Adjacent properties • Shallow groundwater • Services/construction materials • Plant life • Surface water • Ecological Systems • Arch. & Monuments	• Low • Low • Low • Low • Low • Low • Low
Shallow groundwater: The site overlies '*Unproductive*' aquifers, which were not considered to be pollution sources.	❖ Groundwater migration	• Adjacent properties • Deep groundwater • Services/construction materials • Plant life • Ecological Systems • Archaeological Sites & Monuments	• Low • Low • Low • n/a • Low • Low
	❖ Dermal contact, ingestion and inhalation	• Present users • End users • Construction workers • General public	• Low • Low • Low • Neg-Low
Gas: Measurable (background) concentrations of ground gas would not (reasonably) be anticipated to be present as a result of historical site use or the underlying natural geology.	❖ Direct inhalation ❖ Soil migration ❖ Services migration	• End users • Construction workers • Buildings • Ecological Systems • Arch. Sites & Monuments	• Low • Low • Low • Low • Neg

Negligible Risk	Defined as the site should be considered suitable for present or future use and environmental setting. Contaminants unlikely to be present, which might have unacceptable impact on key targets.
Low Risk	Defined as the site should be considered suitable for present or future use and environmental setting. Contaminants may be present but unlikely to have unacceptable impact on key targets.
Medium Risk	Defined as the site may not be suitable for present or future use and environmental setting. Contaminants are probably present and might have unacceptable impact on key targets.
High Risk	Defined as the site is probably or certainly not suitable for present or future use and environmental setting. Contaminants probably or certainly present and likely to have an unacceptable impact on key targets.
Notes:	n/a = not applicable

The risk assessment follows below:-

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

6.3 Targets.

Potential targets, in the context of the risk assessment (based on the relevant pollutant linkage), where a plausible pathway can be proven, are discussed as follows.

At the time of this report, the proposed scheme comprised residential development.

6.3.1 Human Health (Site Users & Construction Workers)

The site had a limited documented development history as described, which included its establishment. There is little or no potential for the presence of limited thicknesses of Made Ground other than the referred inert sources.

Based upon the foregoing and the final paragraph of this report, regarding 'unanticipated contamination:-

A *Low* risk to this receptor has been identified until proven otherwise.

6.3.2 Services and Construction Materials

6.3.2.1 Concrete & Potable water supplies.

Adverse effects on services and construction materials may be anticipated where soils are impacted by localised raised/lowered pH values, PAH's, TPHs and metals contamination and where these are present in Made Ground materials. However, in this instance and based on the absence of Made Ground and the foregoing:-

A *Low* risk to this receptor has been identified.

6.4 Landscaping & Planting

Based on the foregoing a '*Low*' risk is presented to this receptor from the Made Ground present at the site.

6.5 Groundwater (Controlled Waters)

The site is underlain by '*Unproductive*' aquifers. However, there remains the potential for small quantities of perched groundwater in any superficial fills (or Made Ground), where these are present. However, searches indicated in this instance that the presence of significant thicknesses of Made Ground would not be reasonably anticipated given the documented history of the site.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

A *Low* risk to deeper groundwater has been identified.

6.6 Ground Gas

Measurable concentrations of soil gases (predominantly carbon dioxide) would not be reasonably anticipated to be present as a function of any made ground present. However, where present, any granular overburden would mitigate the risk of ground gas buildup via natural ventilation of ground gas to atmosphere.

On the basis of the foregoing:~

A *Low* risk has been identified.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

7. RECOMMENDATIONS FOLLOWING PRELIMINARY RISK ASSESSMENT.

7.1 Overview.

The desk study information (including the outcome of the walkover survey), showed the site had a limited documented developmental history since its establishment.

The site walkover survey and the searches carried out as part of this Desk Study indicated that there were no readily identifiable sources of contamination.

Made Ground [other than the referred inert sources] was not noted to be present.

On that basis, and subject to the final paragraph in this report (in blue text), the need for a Phase 2 intrusive investigation is considered ***un***warranted.

The opinions and recommendations in this report are subject to the agreement of the Regulators.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

8. CONCLUSIONS.

This geoenvironmental desk study prepared by Goldfinch Environmental Limited was undertaken on the instruction of Mr A Cole (the Client), at a site on the western side of Chapel Drove to the south of Holbeach Drove to the south east of Spalding.

The site was proposed for residential development.

There were no notable features present in the context of land contamination other than inert Made Ground as described above.

Desk Study searches have shown that the site rests on Clay and Silt underlain by Mudstone.

An *overall Low* risk is associated with the site *subject to the final paragraph in this report.*

Recommendations for the need for further work (or otherwise) have been discussed in Section 7 of this report.

Also, at all times especially once any necessary groundworks have commenced, the final paragraph below applies regarding 'unanticipated' contamination.

The reader should note that the opinions, recommendations and conclusions in this report are subject to the agreement of the Local Authority who are the final arbiters in these matters.

Based on the foregoing, a *Low* risk to construction workers and services installations has been associated with the site until proven otherwise. Site personnel, particularly groundworkers, should follow sound health and safety welfare practices that will further mitigate this level of risk.

Should unanticipated contamination be suspected, or revealed during any groundworks, then the area should be temporarily isolated and further advice sought by a suitably independent qualified person and a management strategy for these occurrences should be submitted to the Local Authority for their approval prior to proceeding, as required by Regulatory Offices.

Goldfinch Environmental Limited
19 Palmer Street, Walsham Le Willows, Bury St Edmunds, Suffolk, IP31 3BZ
Tel: 01359 258681

FIGURES

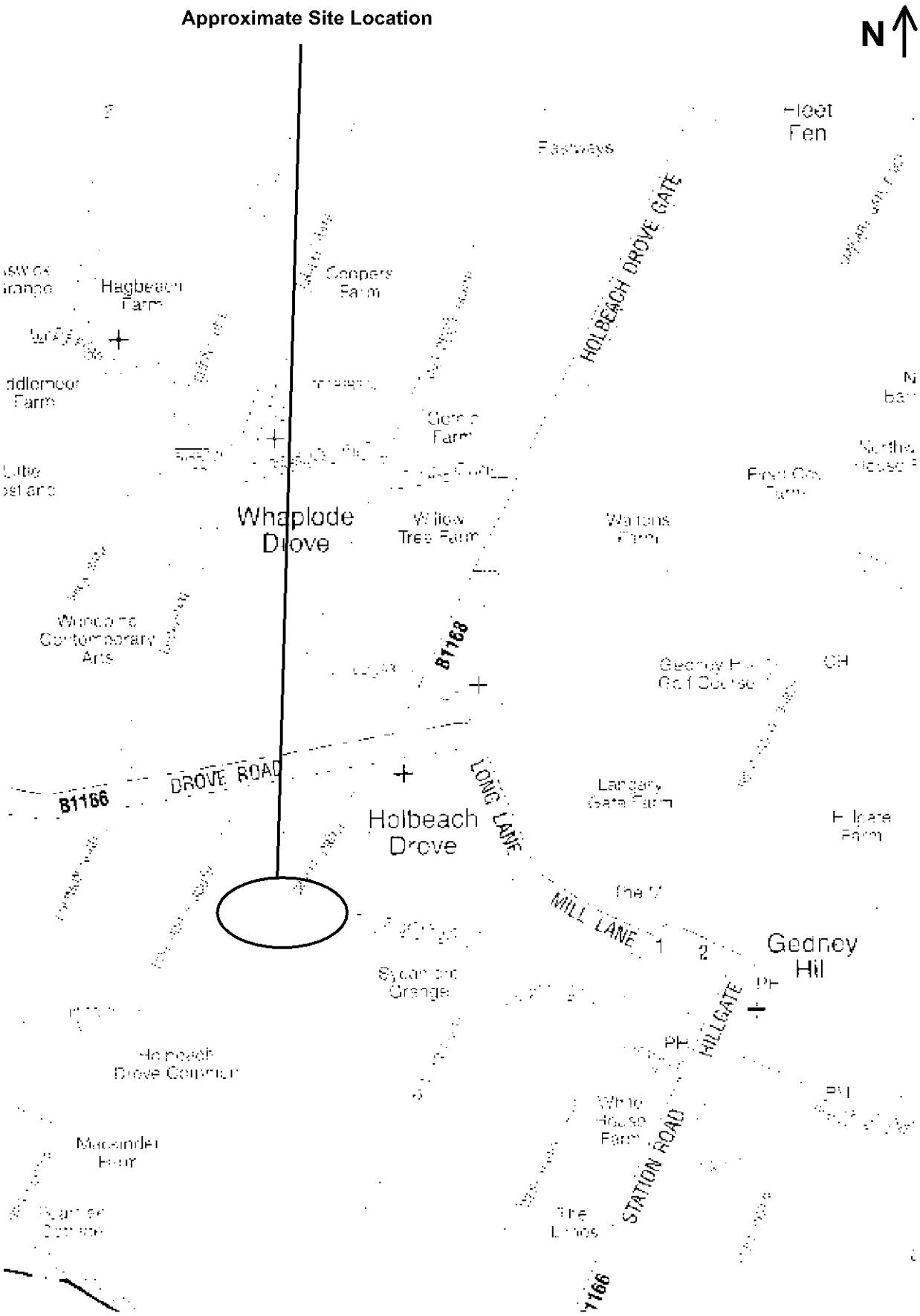


Figure 1	Site Location Plan	**Goldfinch** Environmental Ltd
Ref: 0914/1		

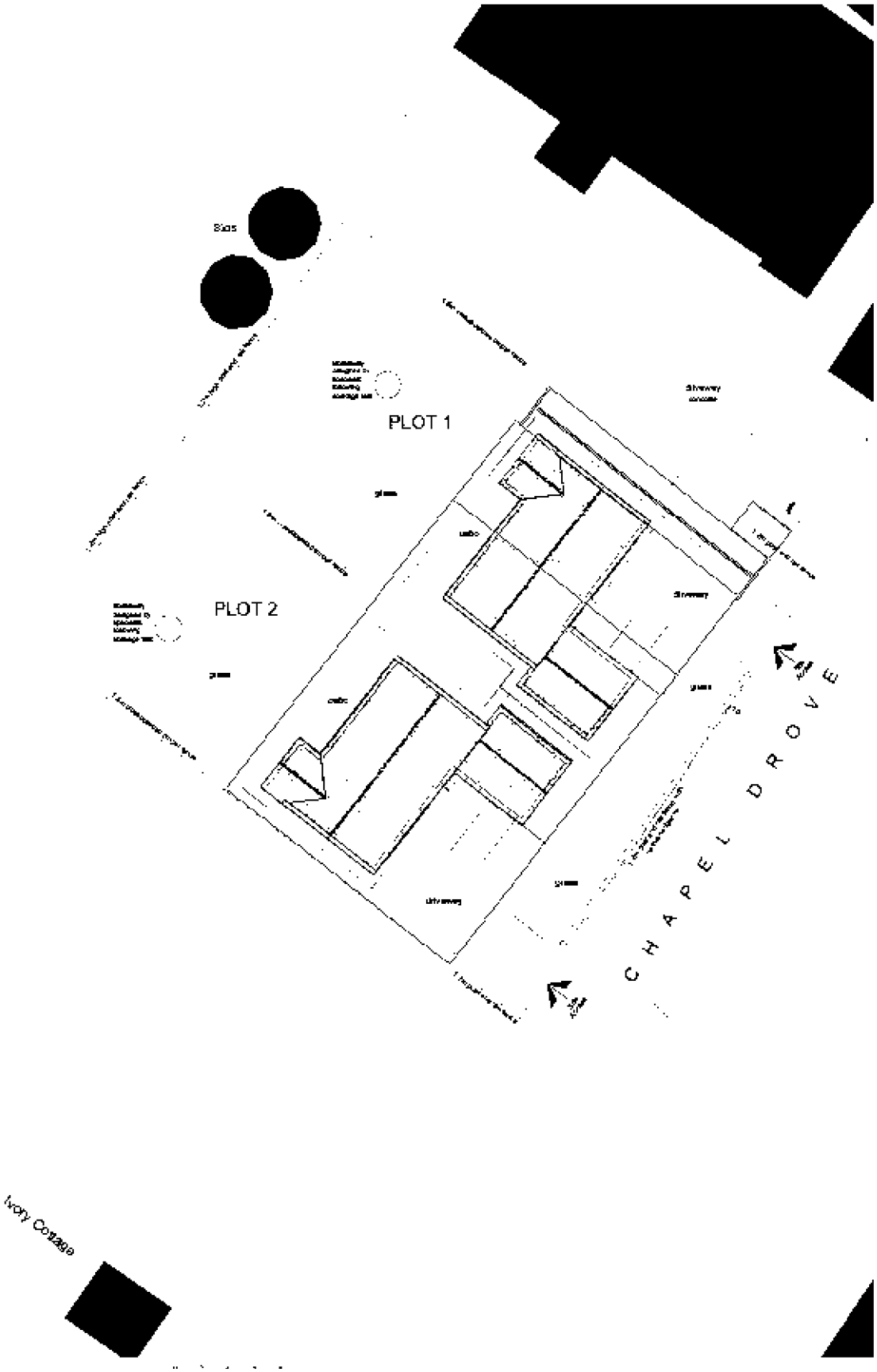
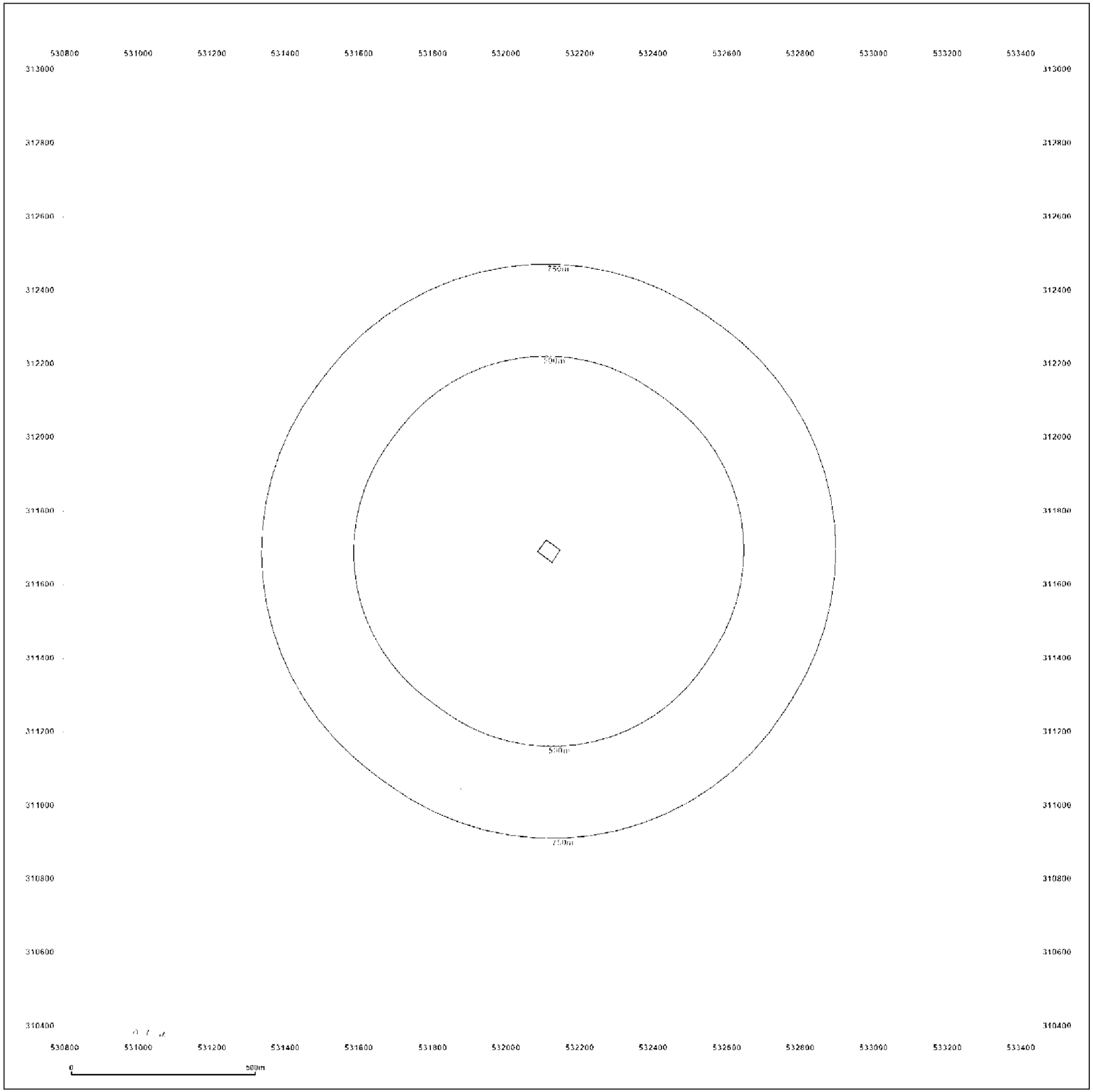


Figure 2	Proposed Layout Plan	**Goldfinch** Environmental Ltd
Ref: 0914/1		

APPENDIX 1

'Groundsure' Report



Groundsure
INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1886**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed 1886
Revised 1886
Edition N/A
Copyright N/A
Levelled N/A

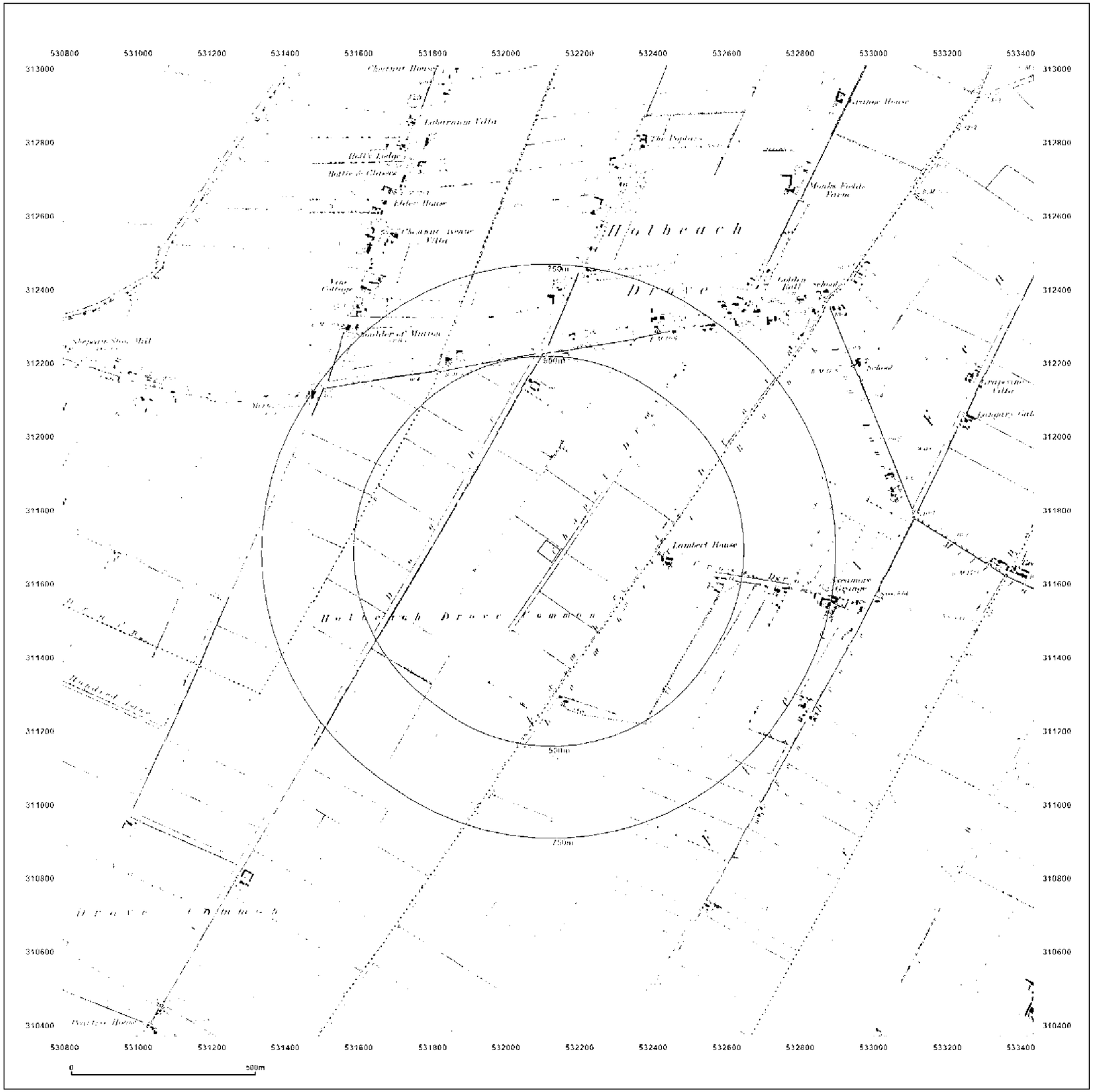
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

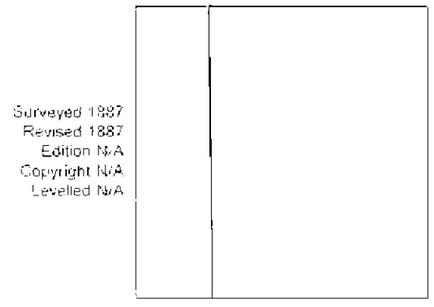
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1887**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



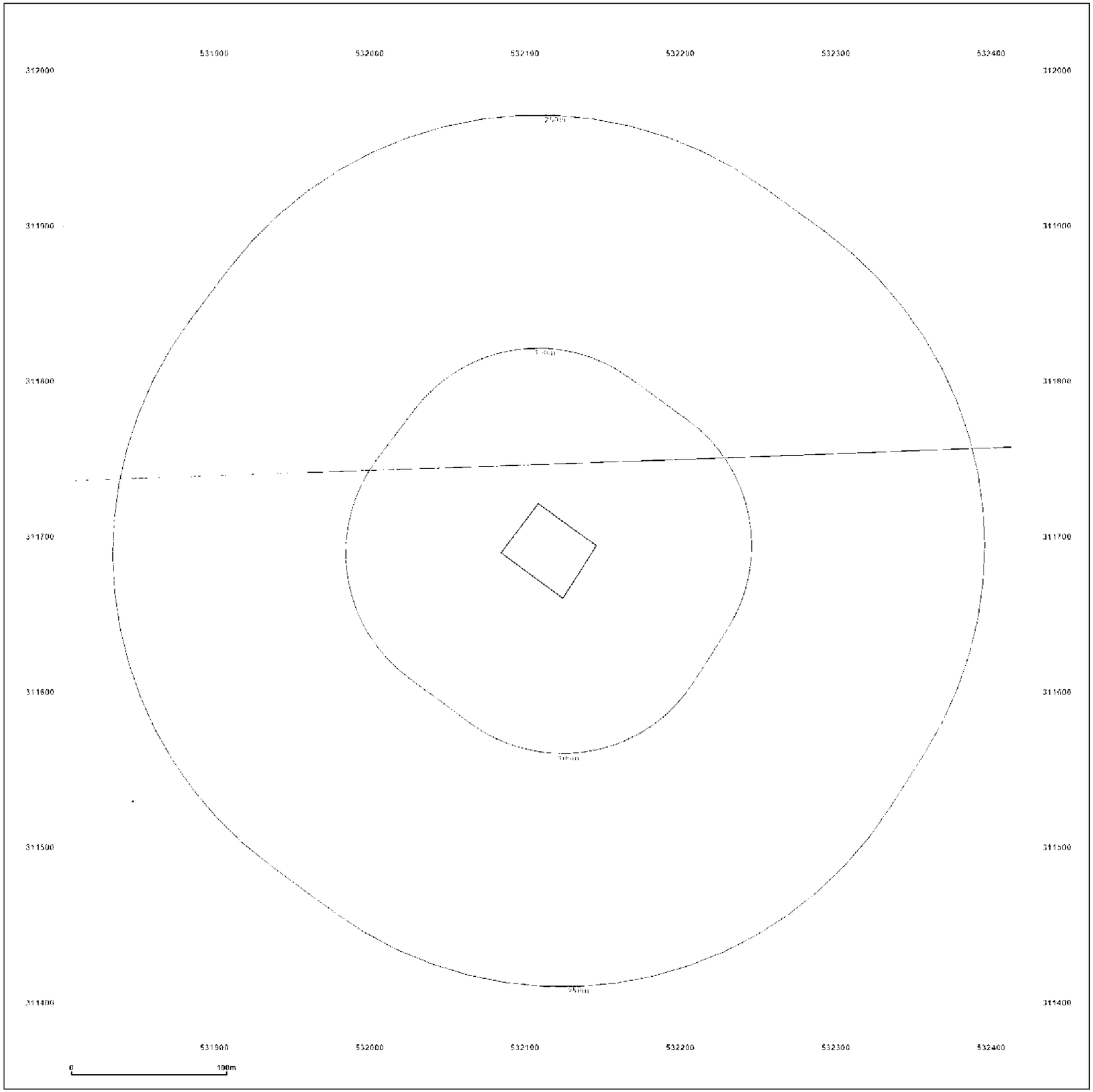
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure
INSIGHTS

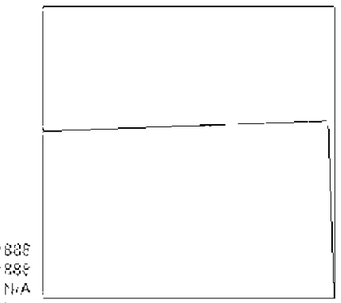
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1888**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



Surveyed 1888
Revised 1888
Edition N/A
Copyright N/A
Levelled N/A

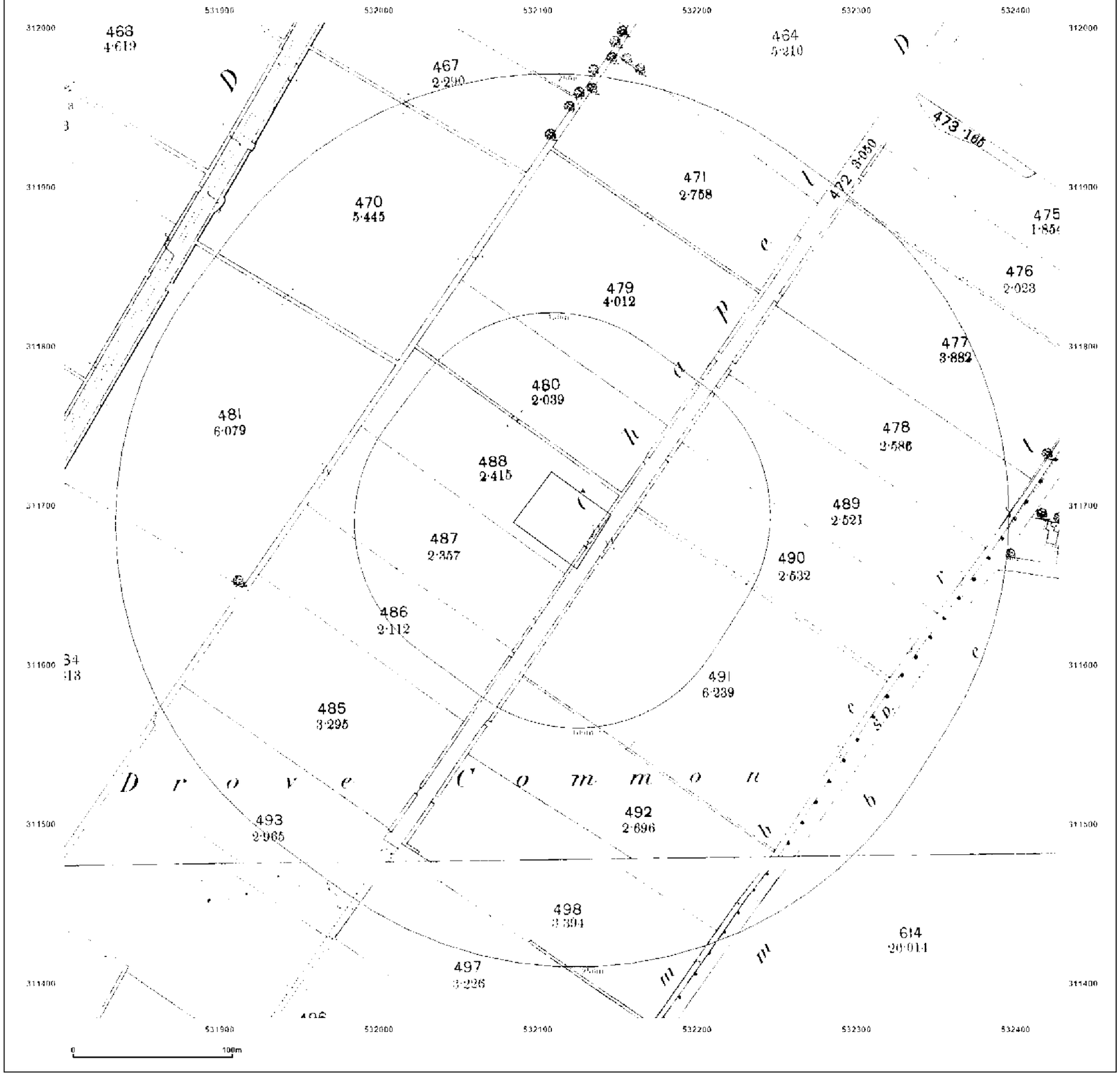
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

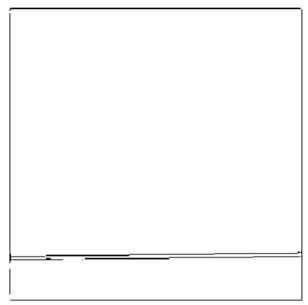
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1888-1889**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



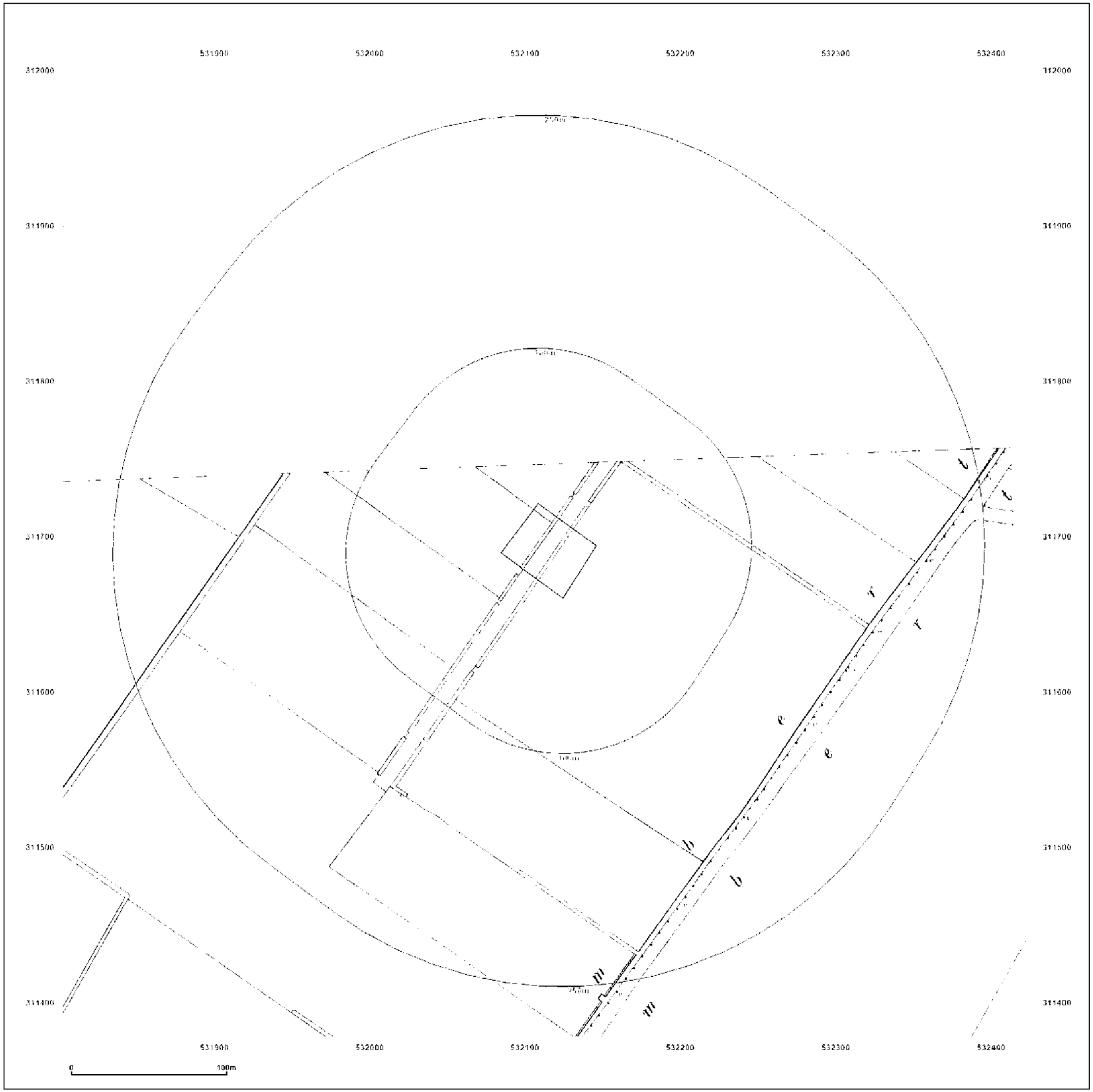
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure
INSIGHTS

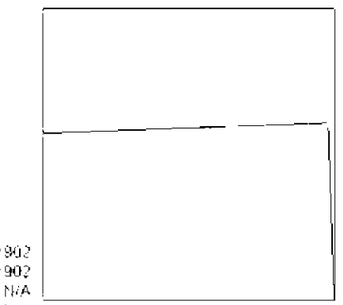
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1902**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



Surveyed 1902
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

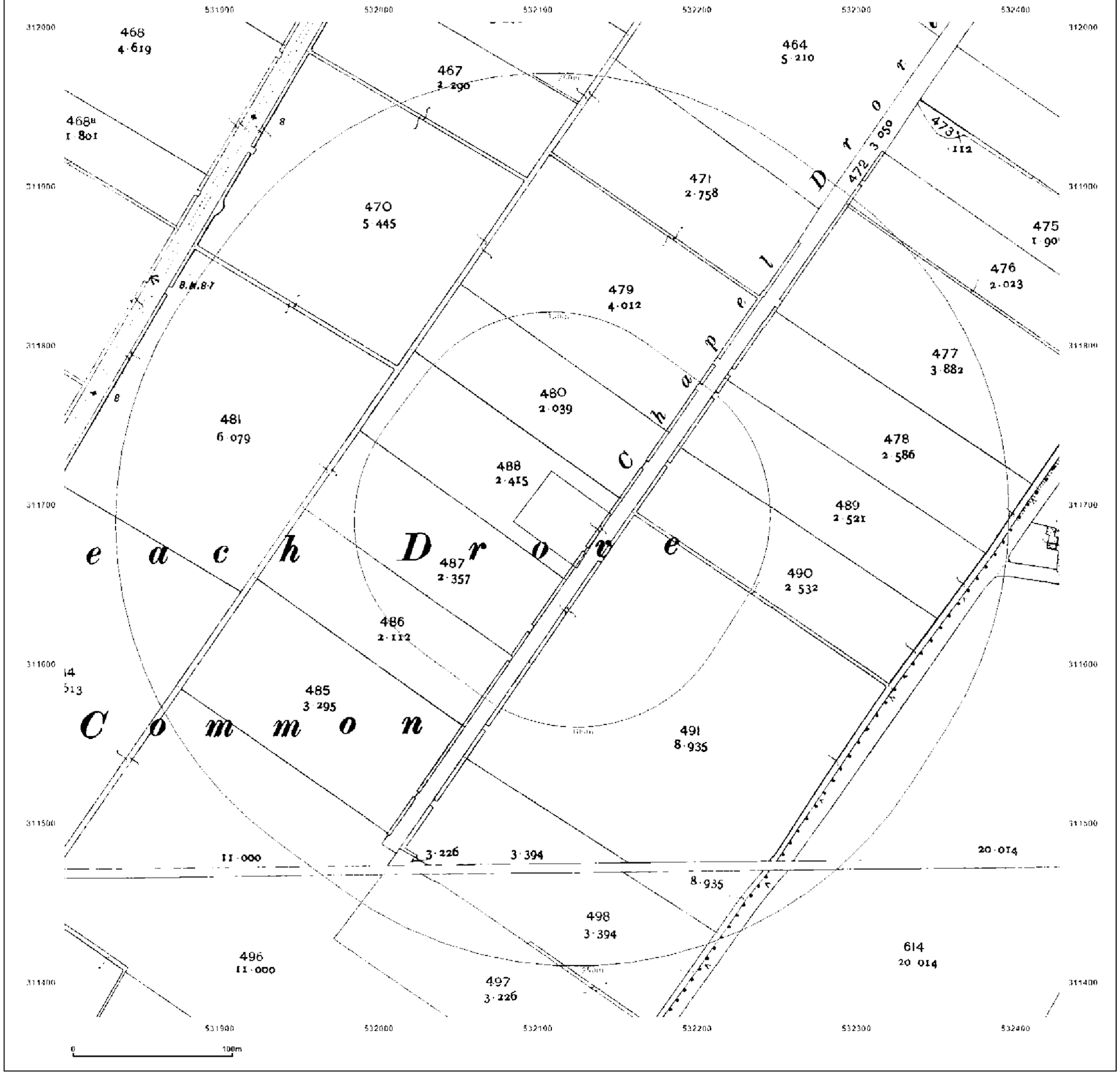
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

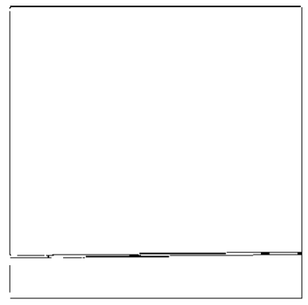
ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: 1904
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1904
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1904
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

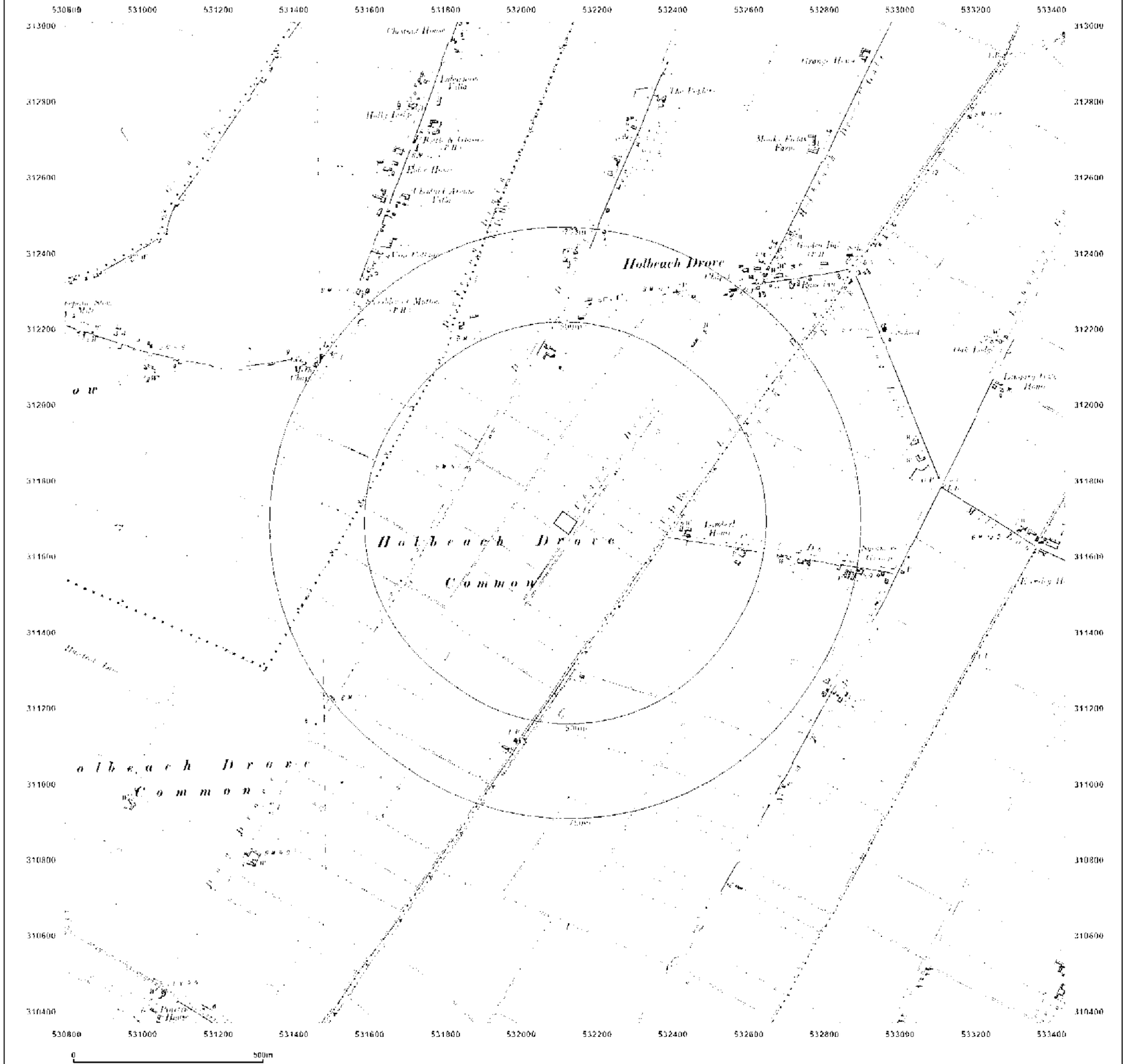
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

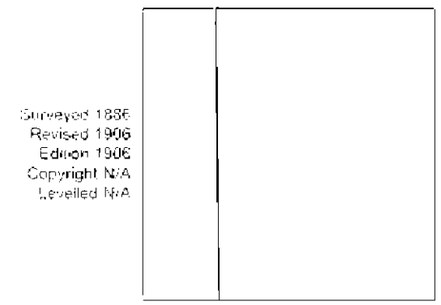
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1905-1906**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



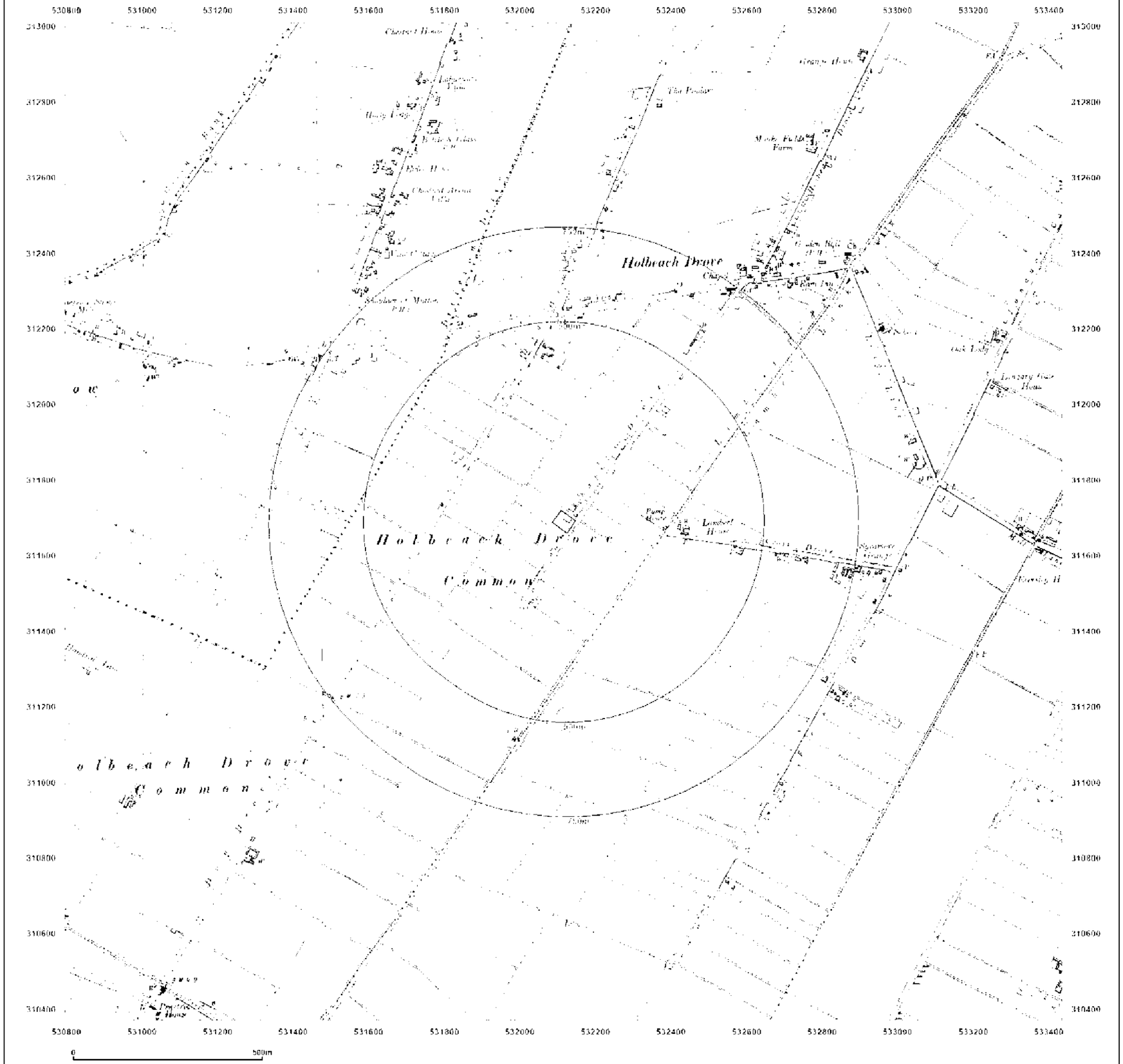
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

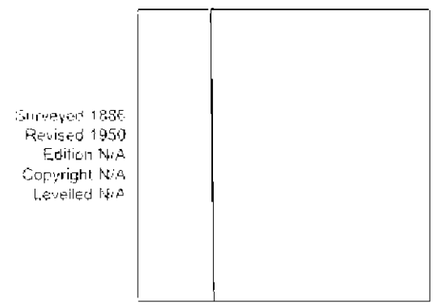
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: County Series
Map date: **1950**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S



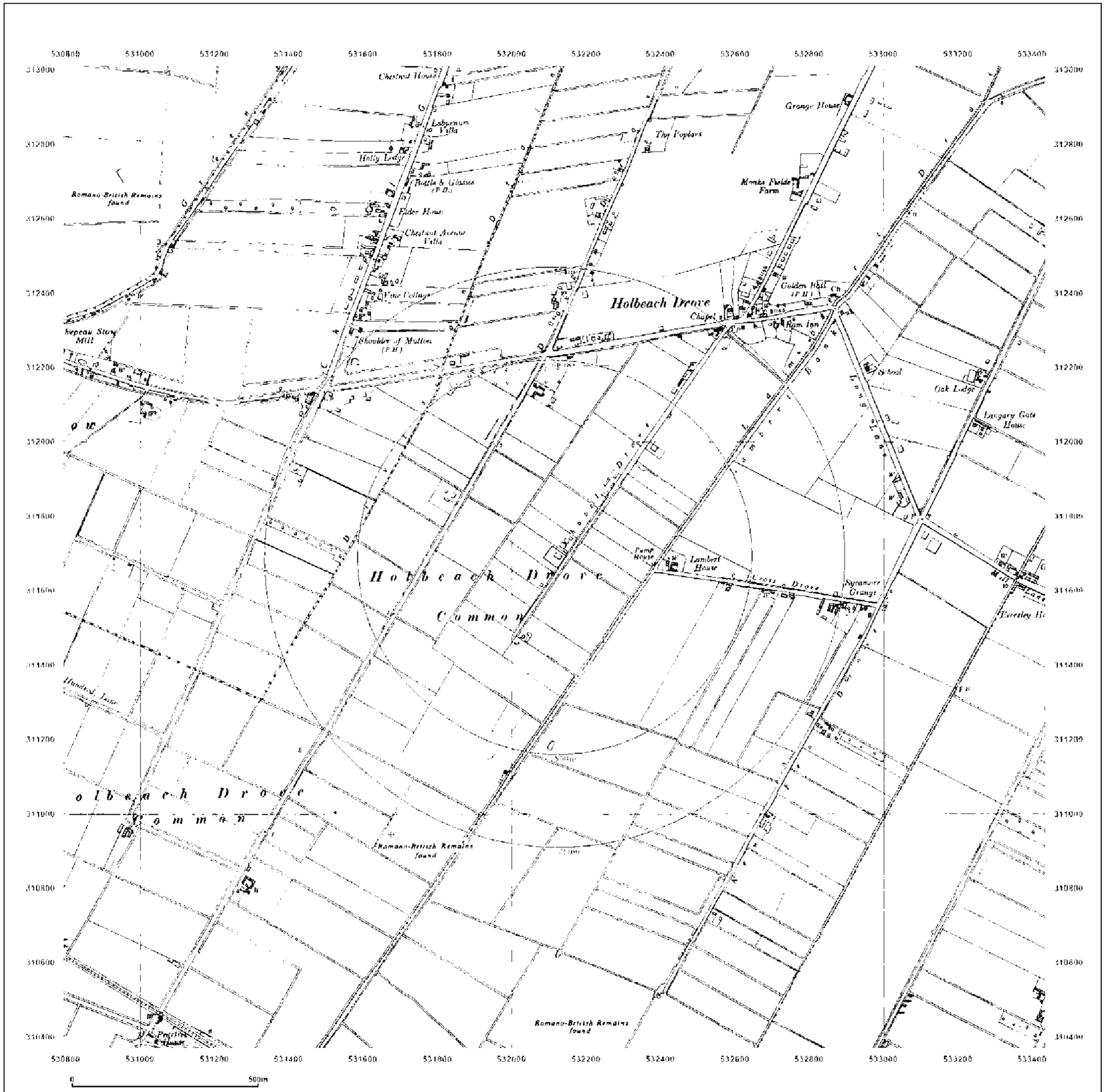
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: Provisional
Map date: **1959**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed 1950
Revised 1958
Edition N/A
Copyright 1959
Levelled 1959

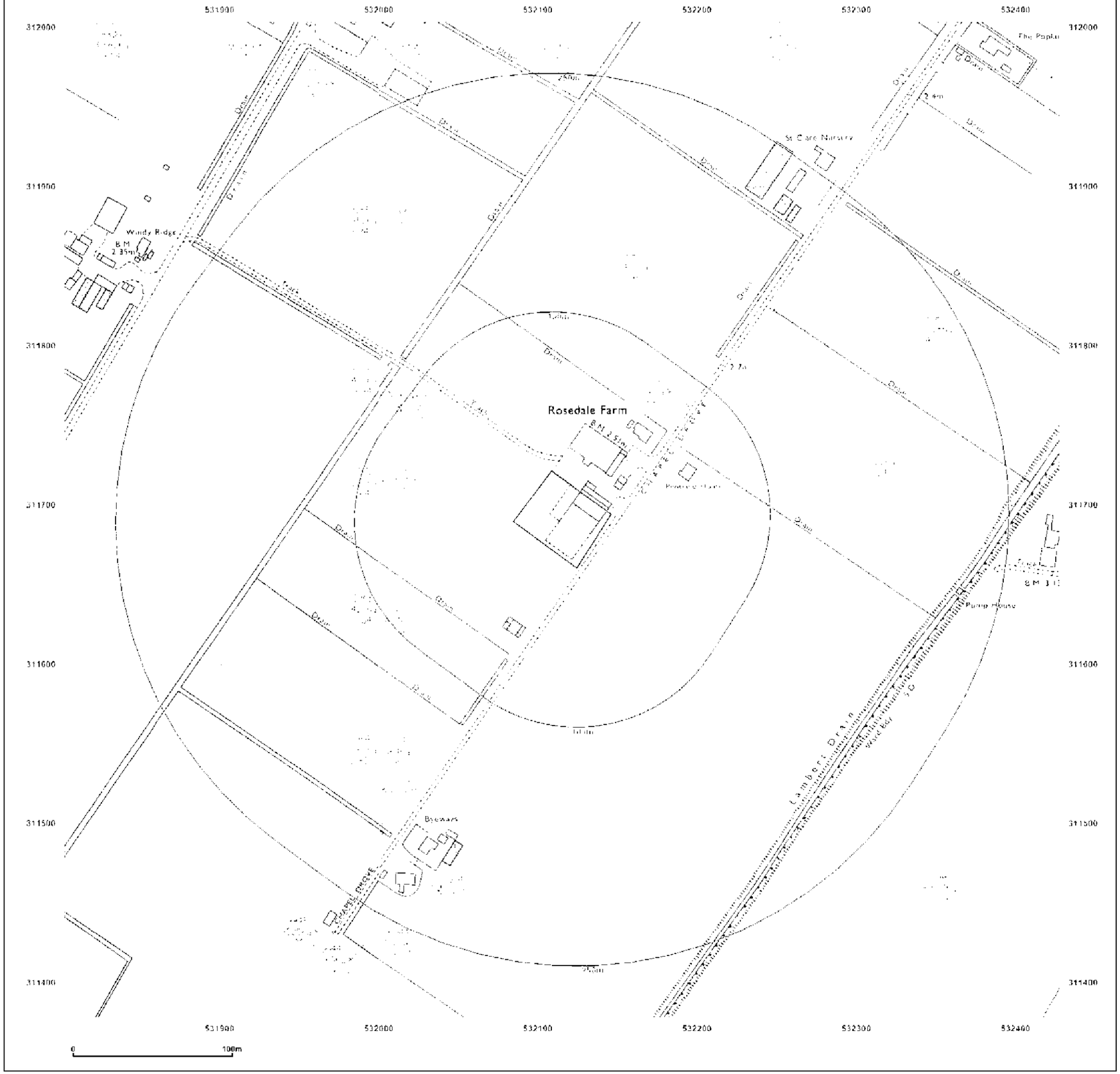
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

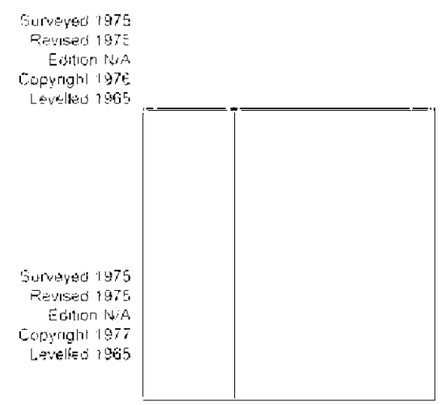
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid
Map date: **1976-1977**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



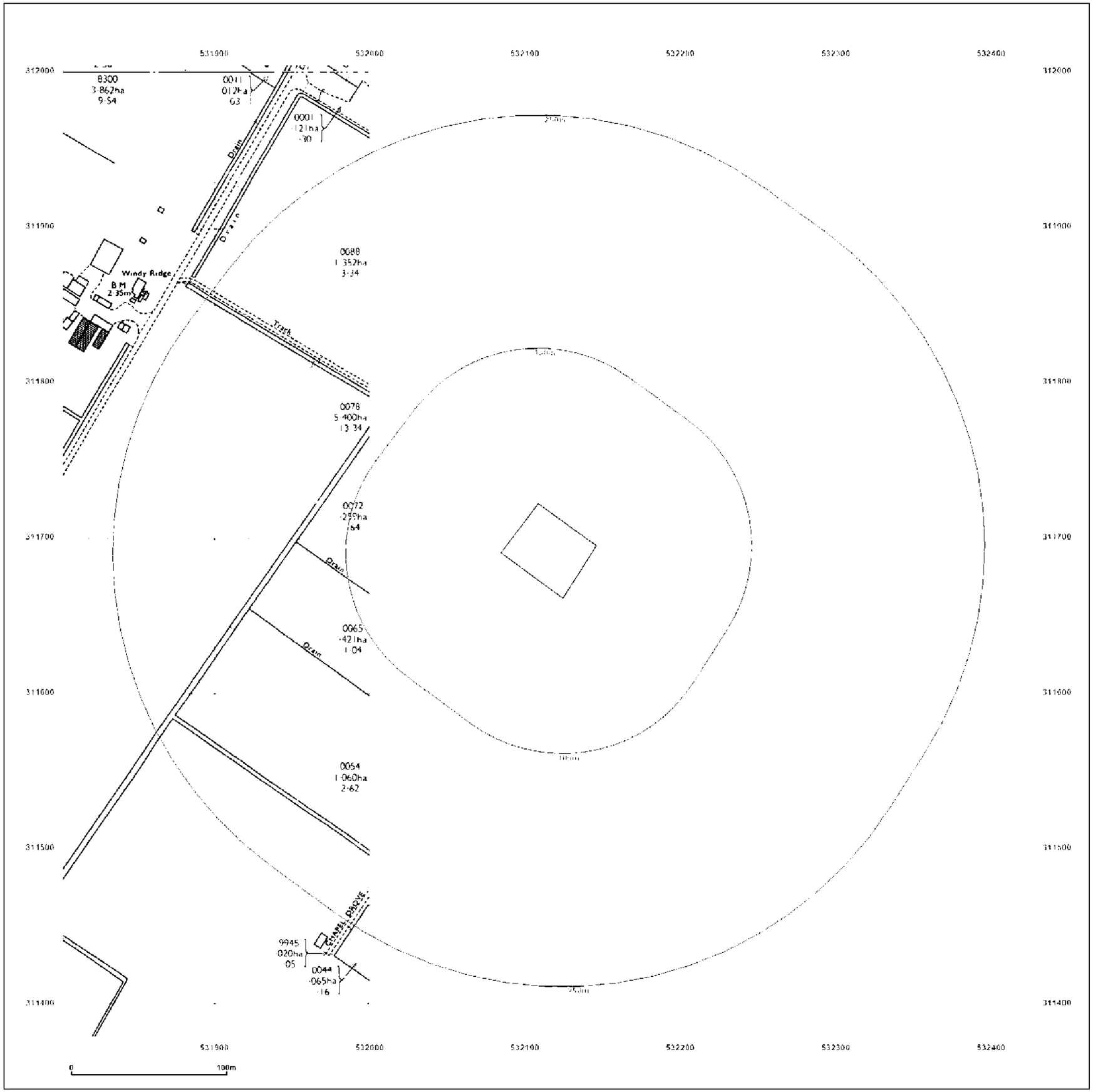
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

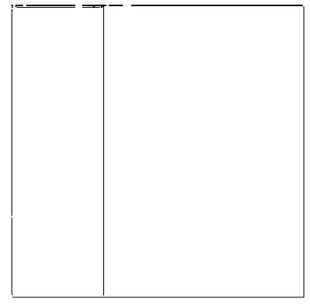
ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid
Map date: **1976-1977**
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



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

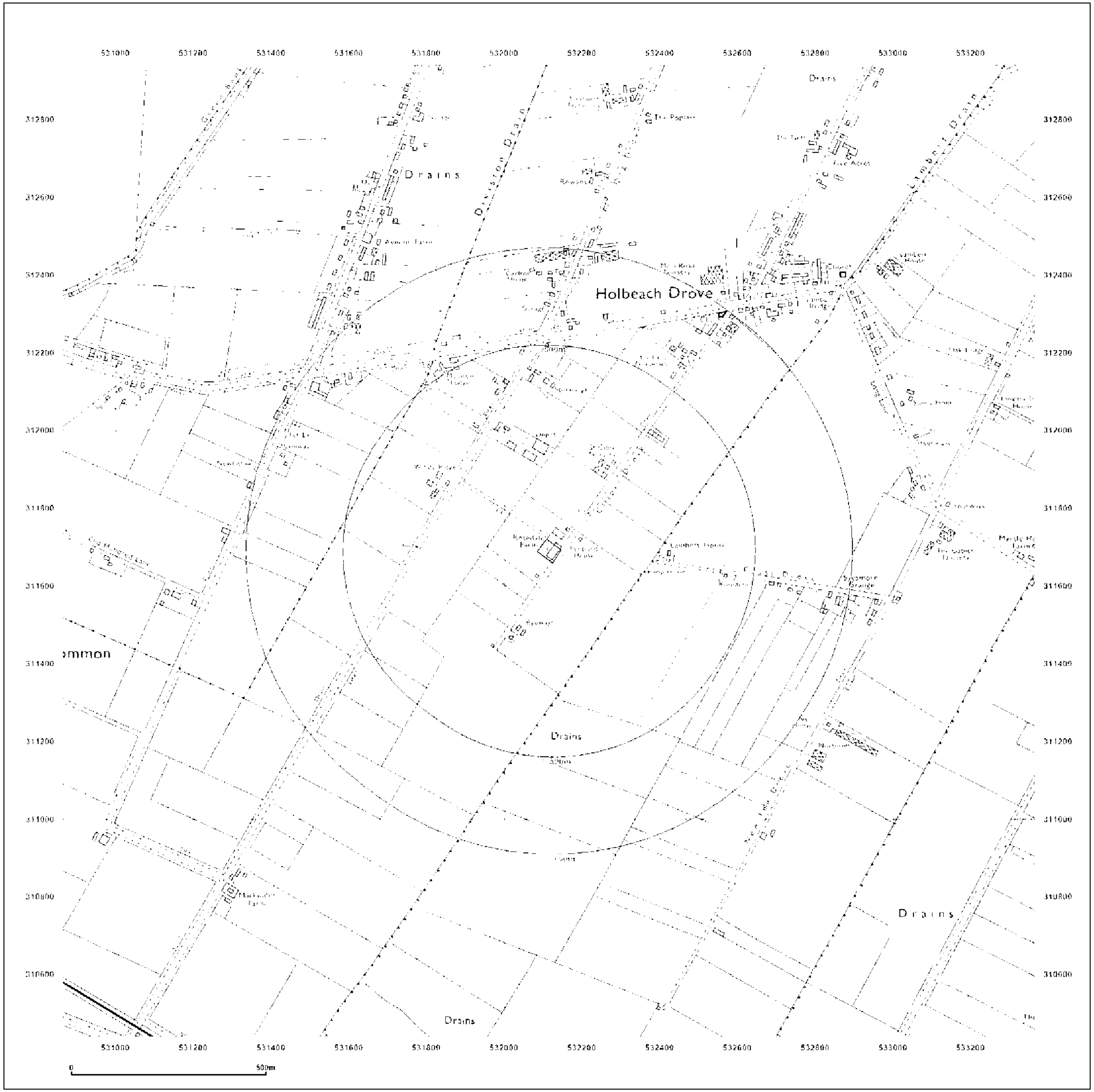
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid

Map date: **1980**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1976
Revised 1980
Edition N/A
Copyright N/A
Levelled N/A

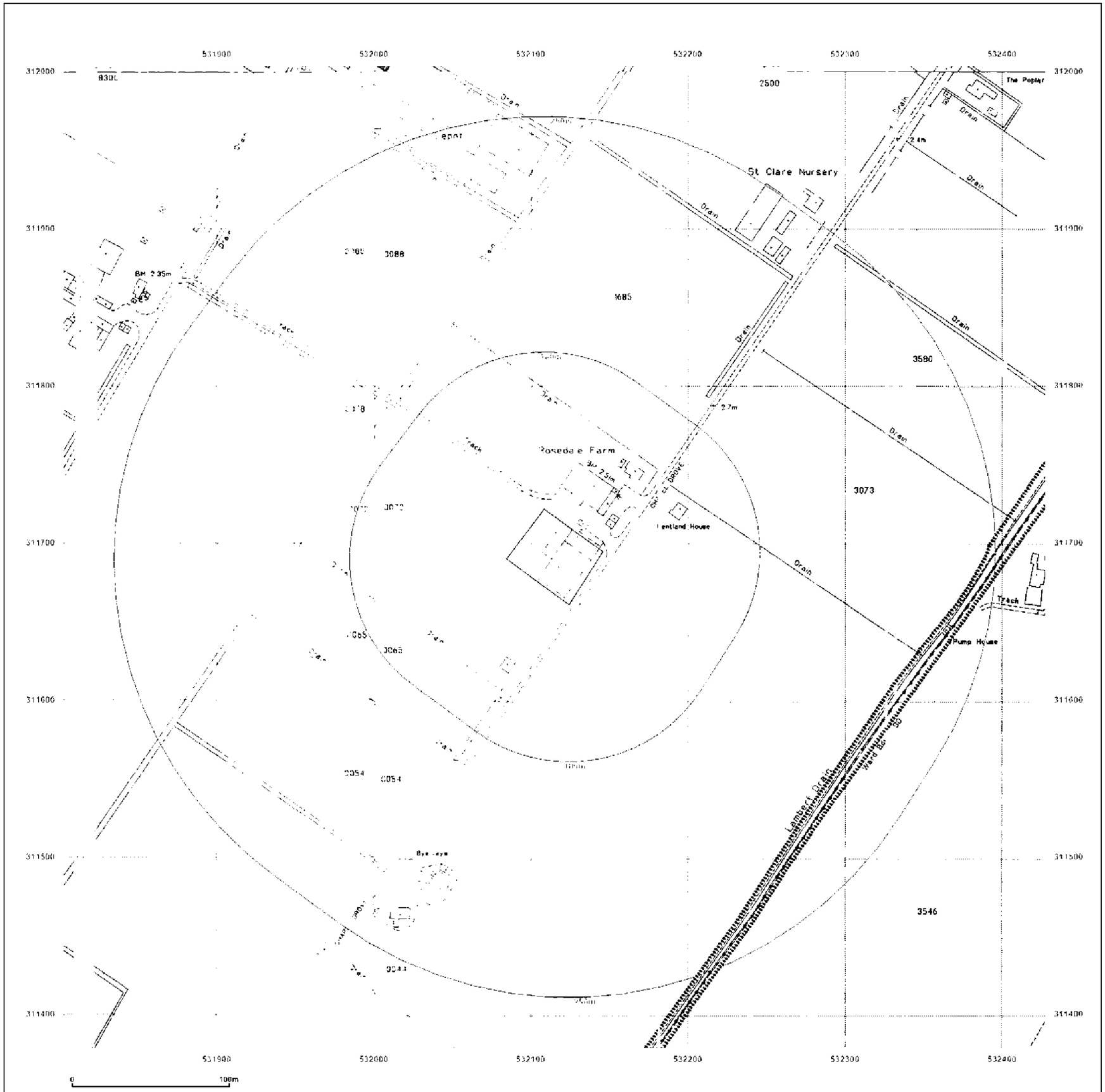
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

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

N
W E
S

Surveyed 1992 Revised 1993 Edition N/A Copyright 1993 Levelled N/A	Surveyed 1992 Revised 1992 Edition N/A Copyright 1992 Levelled N/A
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

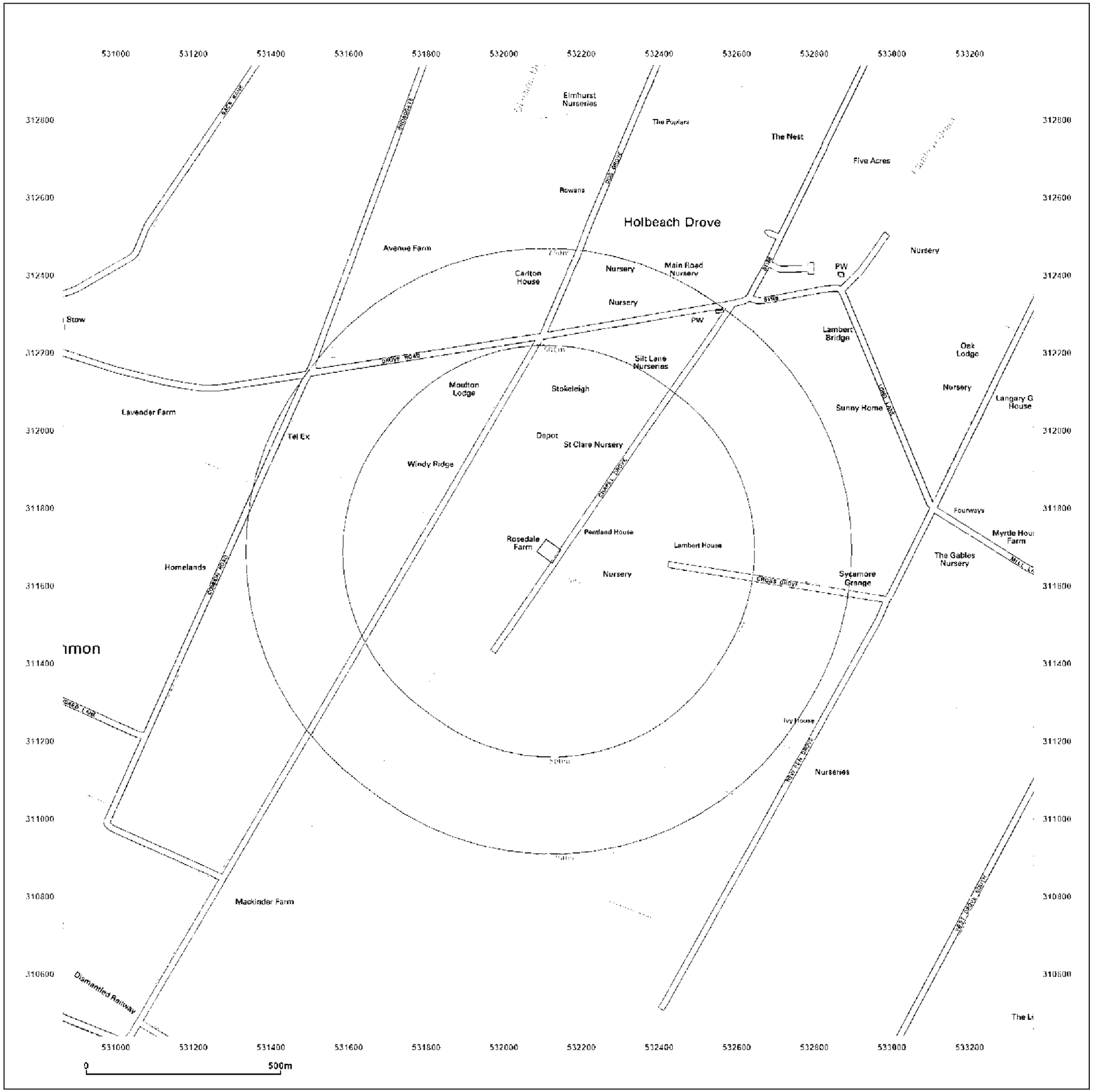
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

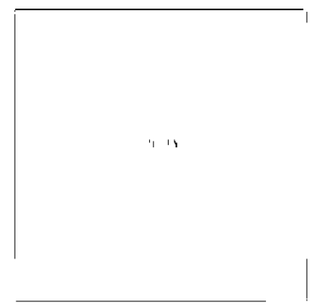
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid
Map date: **2001**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



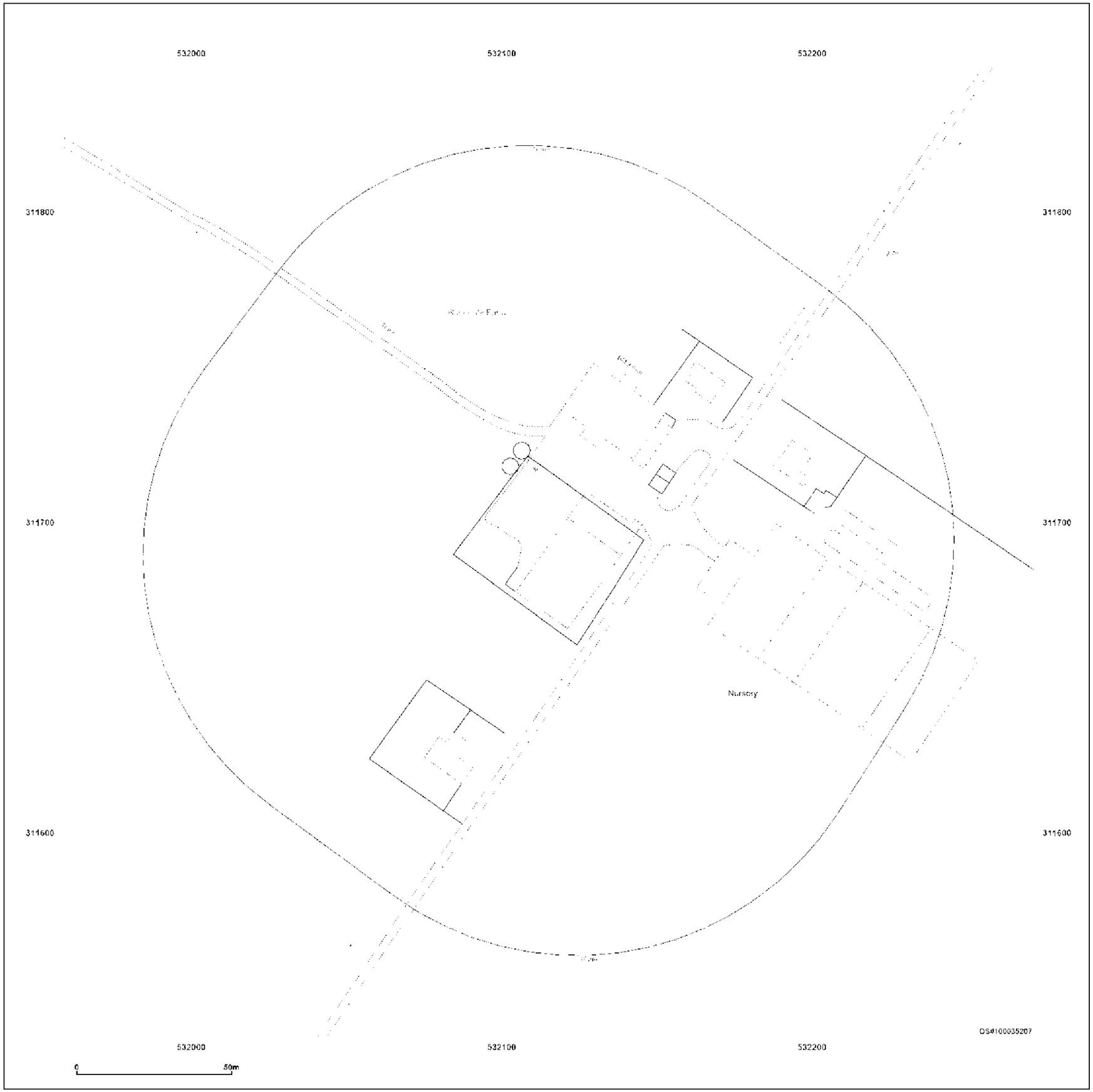
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure
INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

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

N
W E
S

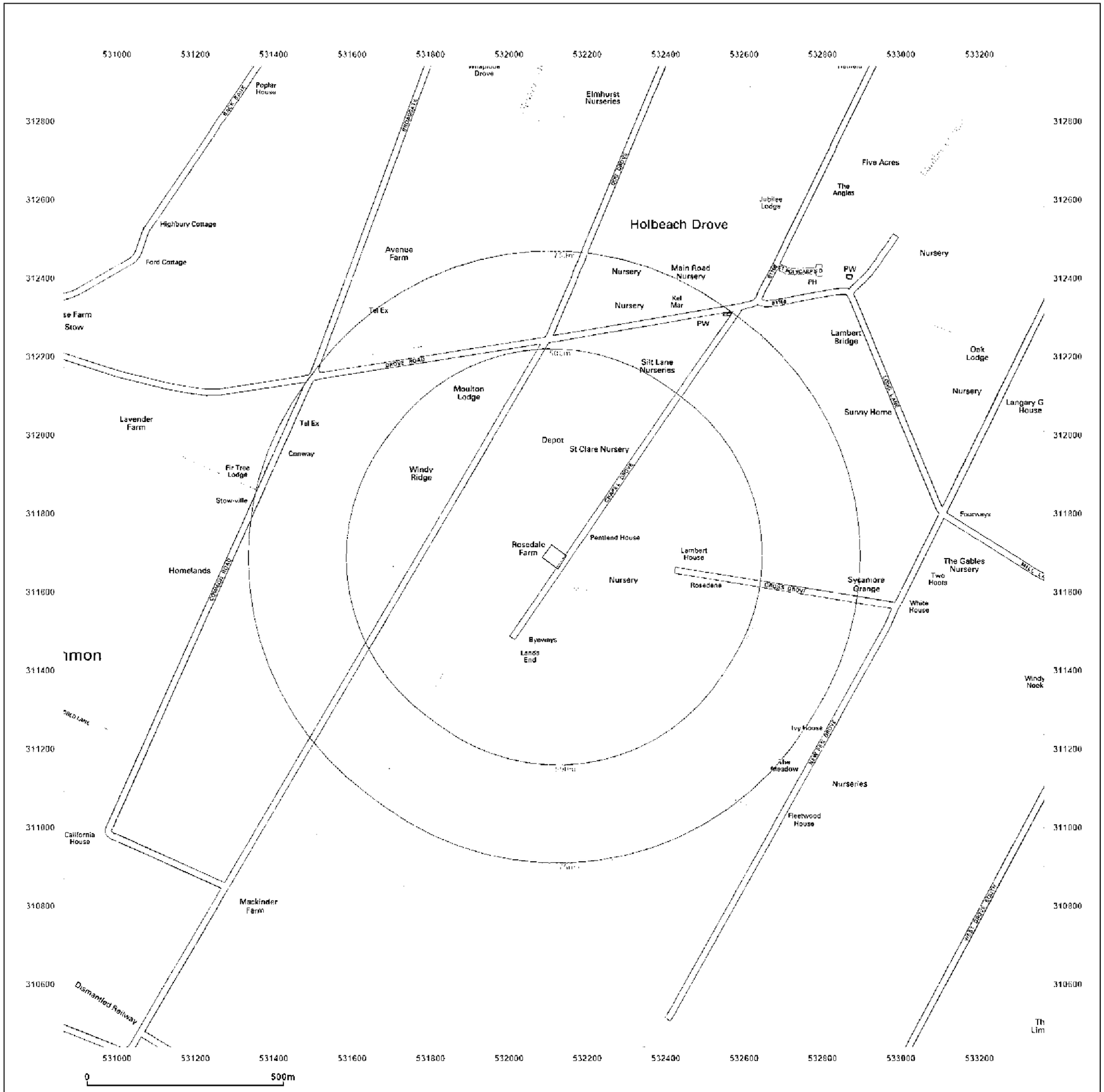
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

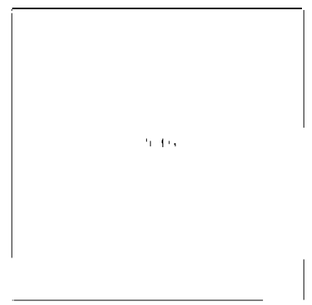
Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S



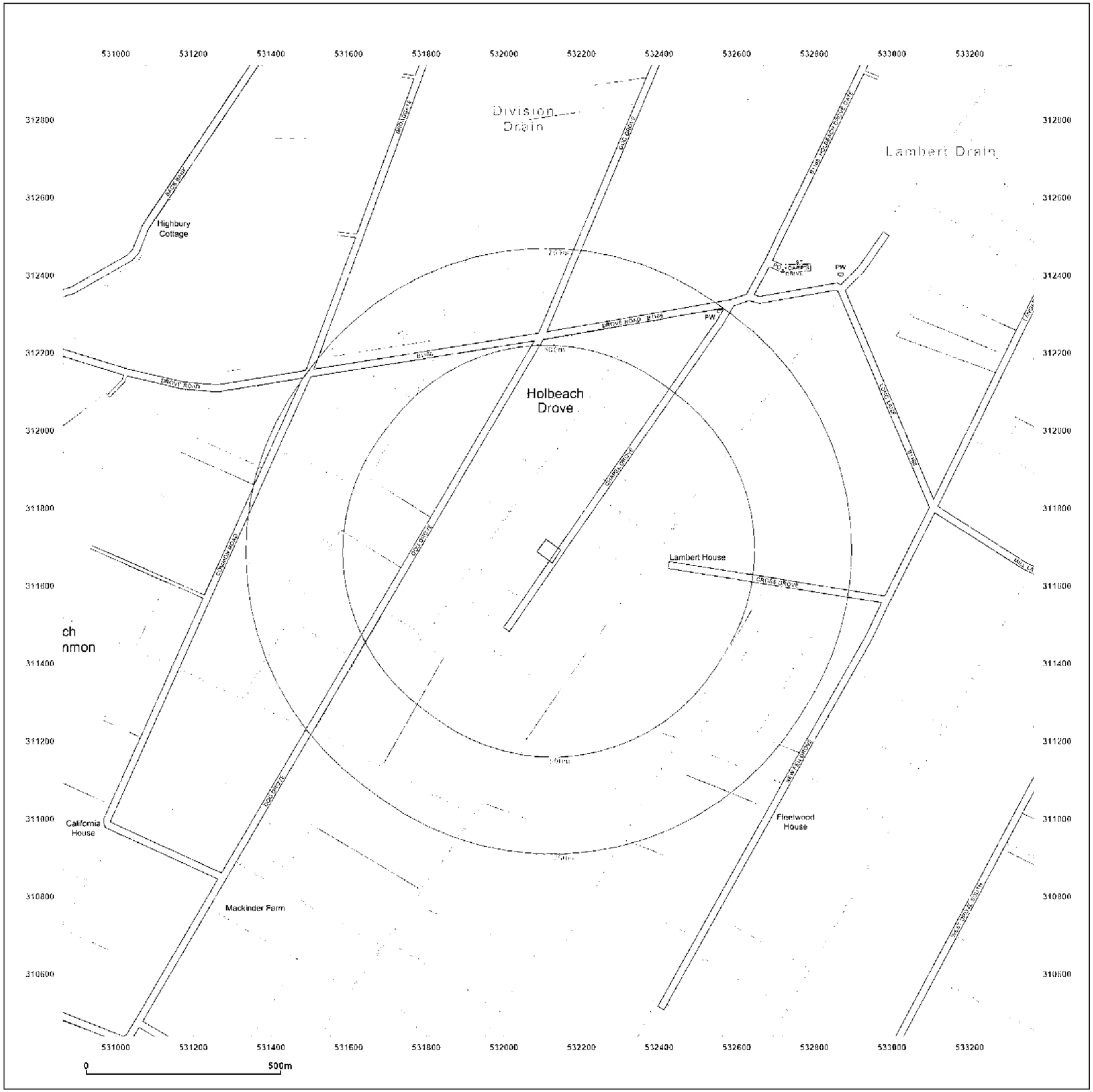
Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

ROSEDALE, CHAPEL DROVE,
HOLBEACH DROVE, SPALDING,
PE12 0PT

Client Ref: 0914-ds
Report Ref: GS-2391-5WO-NXG-UGL-YNT
Grid Ref: 532115, 311691

Map Name: National Grid
Map date: **2023**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

Powered by

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

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 August 2023

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

Groundsure Enviro+Geo Insight

ROSEDALE, CHAPEL DROVE, HOLBEACH DROVE, SPALDING, PE12 0PT

Order Details

Date: 09/08/2023

Your ref: 0914-ds

Our Ref: GS-2391-MSO-3U7-5OH-15K

Site Details

Location: 532113 311692

Area: 0.19 ha

Authority: South Holland District Council ↗



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

groundsure.com/insightuserguide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >			5	2	
16 >	1.2 >	Historical tanks >				1	
16	1.3	Historical energy features					
17	1.4	Historical petrol stations					
17	1.5	Historical garages					
17	1.6	Historical military land					
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
18 >	2.1 >	Historical industrial land uses >			5	2	
19 >	2.2 >	Historical tanks >				2	
19	2.3	Historical energy features					
19	2.4	Historical petrol stations					
20	2.5	Historical garages					
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill					
21	3.2	Historical landfill (BGS records)					
22	3.3	Historical landfill (LA/mapping records)					
22	3.4	Historical landfill (EA/NRW records)					
22	3.5	Historical waste sites					
22	3.6	Licensed waste sites					
22 >	3.7 >	Waste exemptions >			13	43	
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
28 >	4.1 >	Recent industrial land uses >		2			
29	4.2	Current or recent petrol stations					
29	4.3	Electricity cables					
29	4.4	Gas pipelines					
29	4.5	Sites determined as Contaminated Land					

29	4.6	Control of Major Accident Hazards (COMAH)					
30	4.7	Regulated explosive sites					
30	4.8	Hazardous substance storage/usage					
30	4.9	Historical licensed industrial activities (IPC)					
30	4.10	Licensed industrial activities (Part A(1))					
30	4.11	Licensed pollutant release (Part A(2)/B)					
31	4.12	Radioactive Substance Authorisations					
31 >	**4.13 >**	**Licensed Discharges to controlled waters >**				1	
31	4.14	Pollutant release to surface waters (Red List)					
31	4.15	Pollutant release to public sewer					
32	4.16	List 1 Dangerous Substances					
32	4.17	List 2 Dangerous Substances					
32	4.18	Pollution Incidents (EA/NRW)					
32	4.19	Pollution inventory substances					
32	4.20	Pollution inventory waste transfers					
33	4.21	Pollution inventory radioactive waste					
Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
34 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
35 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
36 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
37	5.4	Groundwater vulnerability- soluble rock risk					
37	5.5	Groundwater vulnerability- local information					
38 >	**5.6 >**	**Groundwater abstractions >**					1
39	5.7	Surface water abstractions					
39	5.8	Potable abstractions					
39	5.9	Source Protection Zones					
40	5.10	Source Protection Zones (confined aquifer)					
Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
41 >	**6.1 >**	**Water Network (OS MasterMap) >**			23		

43 >	**6.2** >	**Surface water features** >			11			
44 >	**6.3** >	**WFD Surface water body catchments** >	1					
44 >	**6.4** >	**WFD Surface water bodies** >						
44	6.5	WFD Groundwater bodies						
Page	Section	**River and coastal flooding** >	On site	0-50m	50-250m	250-500m	500-2000m	
45 >	**7.1** >	**Risk of flooding from rivers and the sea** >	Medium (within 50m)					
46	7.2	Historical Flood Events						
46	7.3	Flood Defences						
46	7.4	Areas Benefiting from Flood Defences						
46	7.5	Flood Storage Areas						
47 >	**7.6** >	**Flood Zone 2** >	Identified (within 50m)					
48 >	**7.7** >	**Flood Zone 3** >	Identified (within 50m)					
Page	Section	**Surface water flooding** >						
49 >	**8.1** >	**Surface water flooding** >	1 in 30 year, 0.1m - 0.3m (within 50m)					
Page	Section	**Groundwater flooding** >						
51 >	**9.1** >	**Groundwater flooding** >	Negligible (within 50m)					
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m	
52	10.1	Sites of Special Scientific Interest (SSSI)						
52	10.2	Conserved wetland sites (Ramsar sites)						
52	10.3	Special Areas of Conservation (SAC)						
52	10.4	Special Protection Areas (SPA)						
53	10.5	National Nature Reserves (NNR)						
53	10.6	Local Nature Reserves (LNR)						
53	10.7	Designated Ancient Woodland						
53	10.8	Biosphere Reserves						
54	10.9	Forest Parks						
54	10.10	Marine Conservation Zones						
54	10.11	Green Belt						
54	10.12	Proposed Ramsar sites						

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

66	14.4	Landslip (10k)					
67 >	**14.5 >**	**Bedrock geology (10k) >**	1				
68	14.6	Bedrock faults and other linear features (10k)					
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
69 >	**15.1 >**	**50k Availability >**	Identified (within 500m)				
70	15.2	Artificial and made ground (50k)					
70	15.3	Artificial ground permeability (50k)					
71 >	**15.4 >**	**Superficial geology (50k) >**	1			1	
72 >	**15.5 >**	**Superficial permeability (50k) >**	Identified (within 50m)				
72	15.6	Landslip (50k)					
72	15.7	Landslip permeability (50k)					
73 >	**15.8 >**	**Bedrock geology (50k) >**	1				
74 >	**15.9 >**	**Bedrock permeability (50k) >**	Identified (within 50m)				
74	15.10	Bedrock faults and other linear features (50k)					
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
75	16.1	BGS Boreholes					
Page	Section	**Natural ground subsidence >**					
76 >	**17.1 >**	**Shrink swell clays >**	Low (within 50m)				
77 >	**17.2 >**	**Running sands >**	Moderate (within 50m)				
78 >	**17.3 >**	**Compressible deposits >**	Moderate (within 50m)				
79 >	**17.4 >**	**Collapsible deposits >**	Negligible (within 50m)				
80 >	**17.5 >**	**Landslides >**	Very low (within 50m)				
81 >	**17.6 >**	**Ground dissolution of soluble rocks >**	Negligible (within 50m)				
Page	Section	Mining and ground workings	On site	0-50m	50-250m	250-500m	500-2000m
83	18.1	BritPits					
83	18.2	Surface ground workings					
83	18.3	Underground workings					
83	18.4	Underground mining extents					
84	18.5	Historical Mineral Planning Areas					

84	18.6	Non-coal mining					
84	18.7	JPB mining areas					
84	18.8	The Coal Authority non-coal mining					
85	18.9	Researched mining					
85	18.10	Mining record office plans					
85	18.11	BGS mine plans					
85	18.12	Coal mining					
85	18.13	Brine areas					
86	18.14	Gypsum areas					
86	18.15	Tin mining					
86	18.16	Clay mining					
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
87	19.1	Natural cavities					
87	19.2	Mining cavities					
87	19.3	Reported recent incidents					
87	19.4	Historical incidents					
88	19.5	National karst database					
Page	Section	**Radon** >					
89 >	**20.1** >	**Radon** >	Less than 1% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	**21.1** >	**BGS Estimated Background Soil Chemistry** >	1				
91	21.2	BGS Estimated Urban Soil Chemistry					
91	21.3	BGS Measured Urban Soil Chemistry					
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
92	22.1	Underground railways (London)					
92	22.2	Underground railways (Non-London)					
92	22.3	Railway tunnels					
92	22.4	Historical railway and tunnel features					
92	22.5	Royal Mail tunnels					

93	22.6	Historical railways
93	22.7	Railways
93	22.8	Crossrail 1
93	22.9	Crossrail 2
93	22.10	HS2

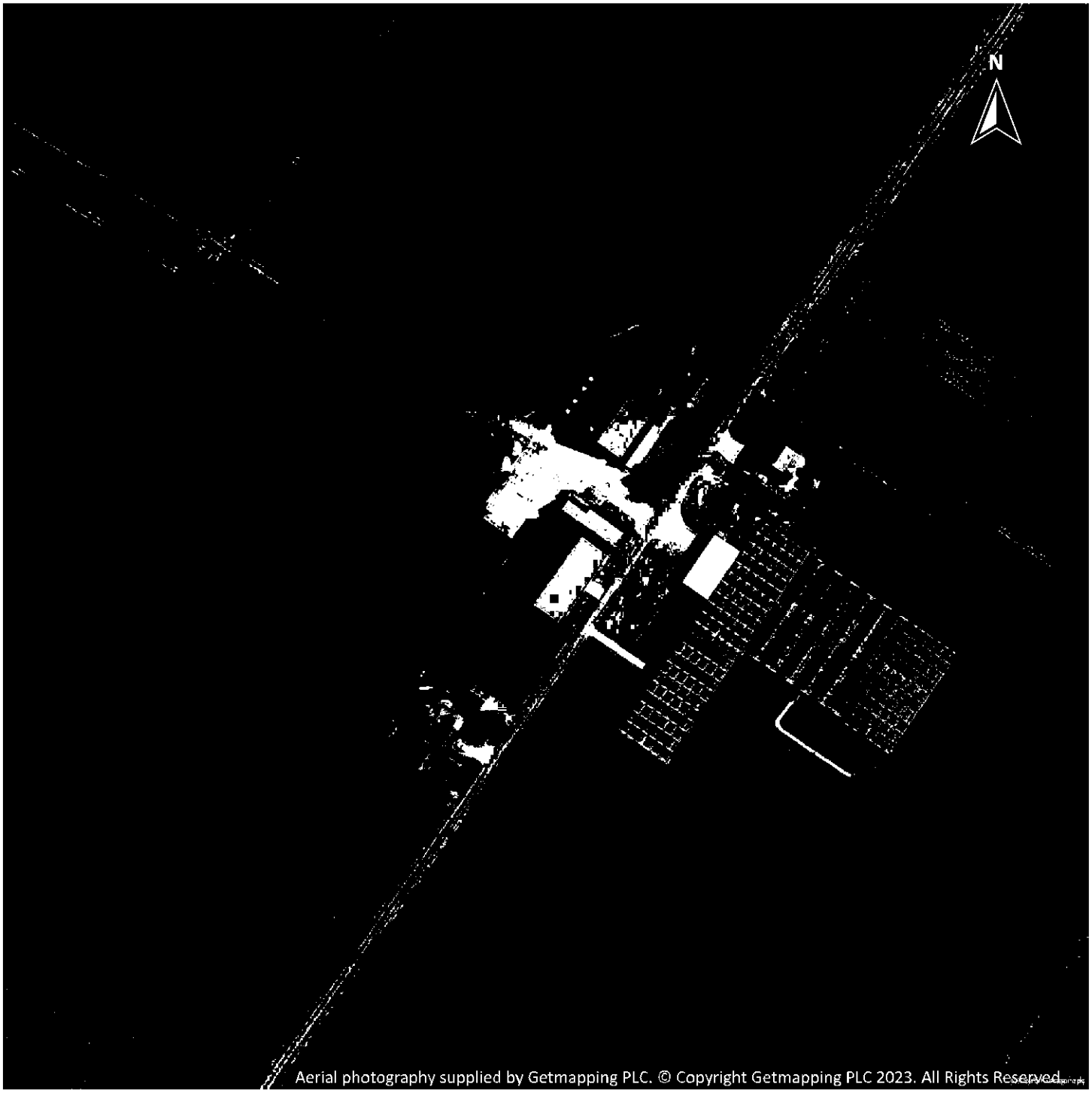
Recent aerial photograph



Capture Date: 09/06/2021

Site Area: 0.19ha

Recent site history - 2015 aerial photograph



Capture Date: 06/04/2015

Site Area: 0.19ha

Recent site history - 2013 aerial photograph



Capture Date: 27/05/2013

Site Area: 0.19ha

Recent site history - 2011 aerial photograph



Capture Date: 29/09/2011

Site Area: 0.19ha

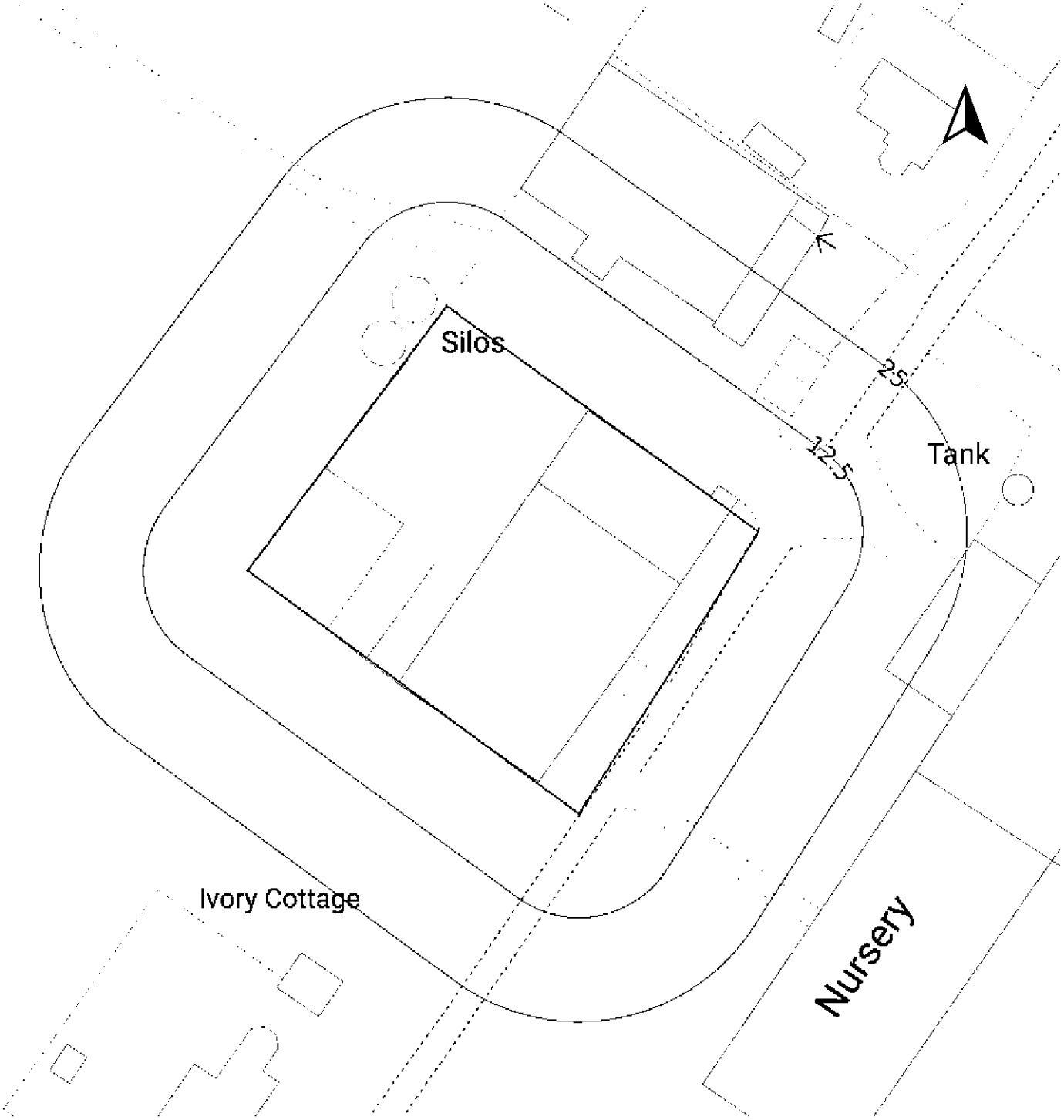
Recent site history - 1999 aerial photograph



Capture Date: 18/06/1999

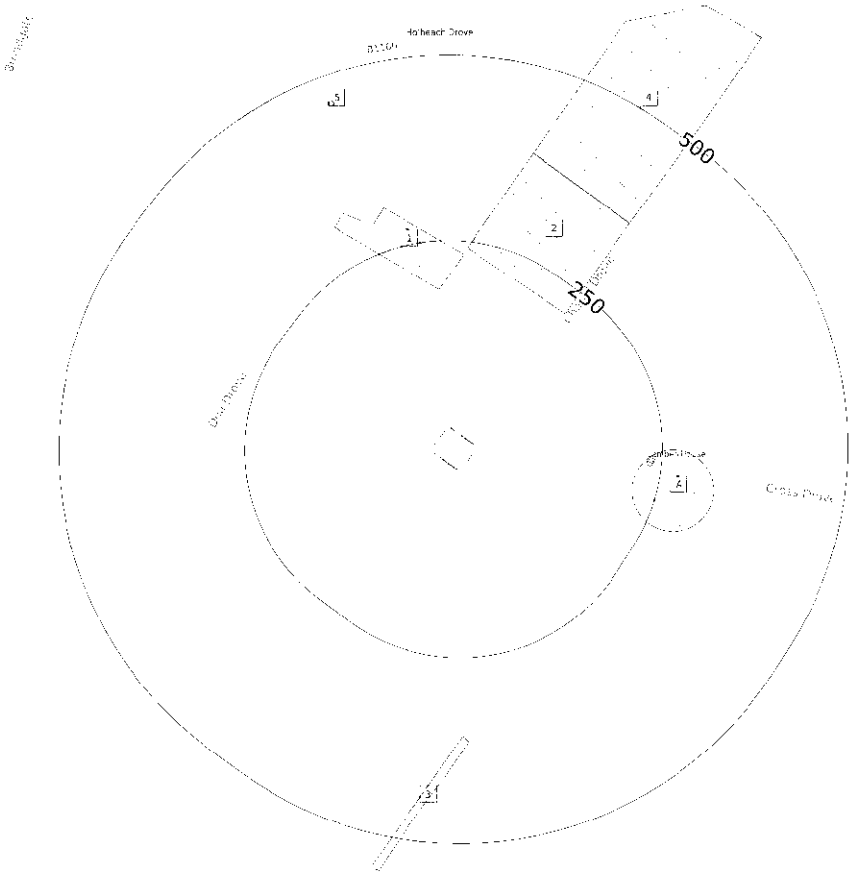
Site Area: 0.19ha

OS MasterMap site plan



Site Area: 0.19ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

1.1 Historical industrial land uses

Records within 500m **7**

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

Features are displayed on the Past land use map on **page 15** >

ID	Location	Land use	Dates present	Group ID

ID	Location	Land use	Dates present	Group ID

1.2 Historical tanks

Records within 500m **1**

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID

1.3 Historical energy features

Records within 500m **0**

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

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'.

1.5 Historical garages

Records within 500m **0**

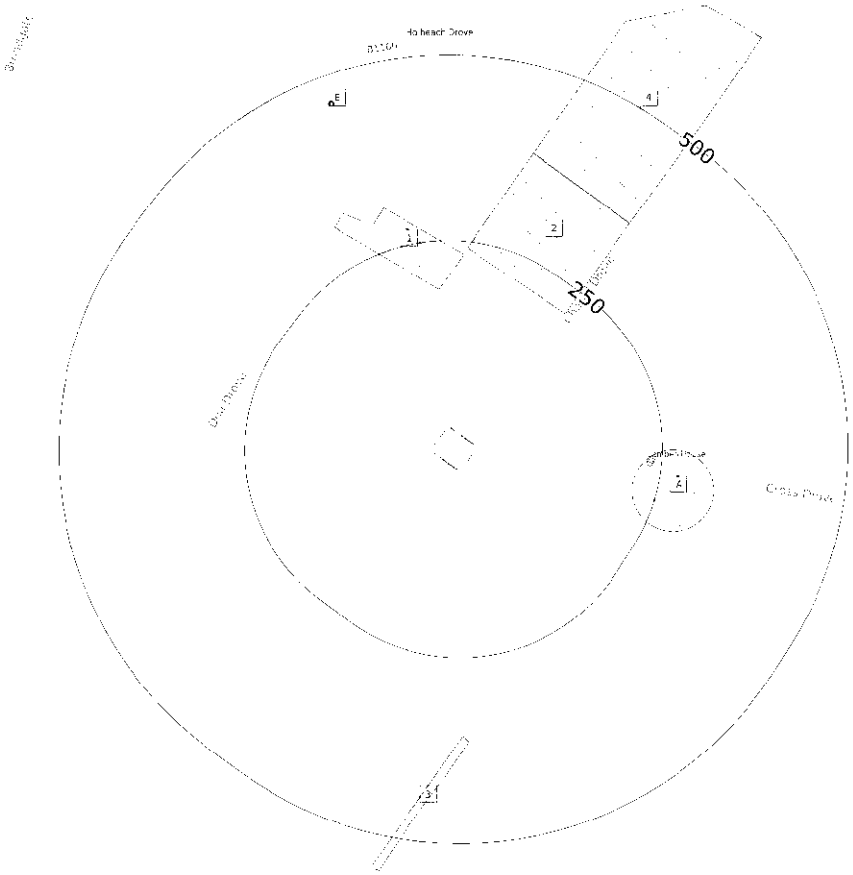
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately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

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.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

2.1 Historical industrial land uses

Records within 500m **7**

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

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

ID	Location	Land Use	Date	Group ID

ID	Location	Land Use	Date	Group ID

2.2 Historical tanks

Records within 500m **2**

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

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

ID	Location	Land Use	Date	Group ID

2.3 Historical energy features

Records within 500m **0**

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

2.4 Historical petrol stations

Records within 500m **0**

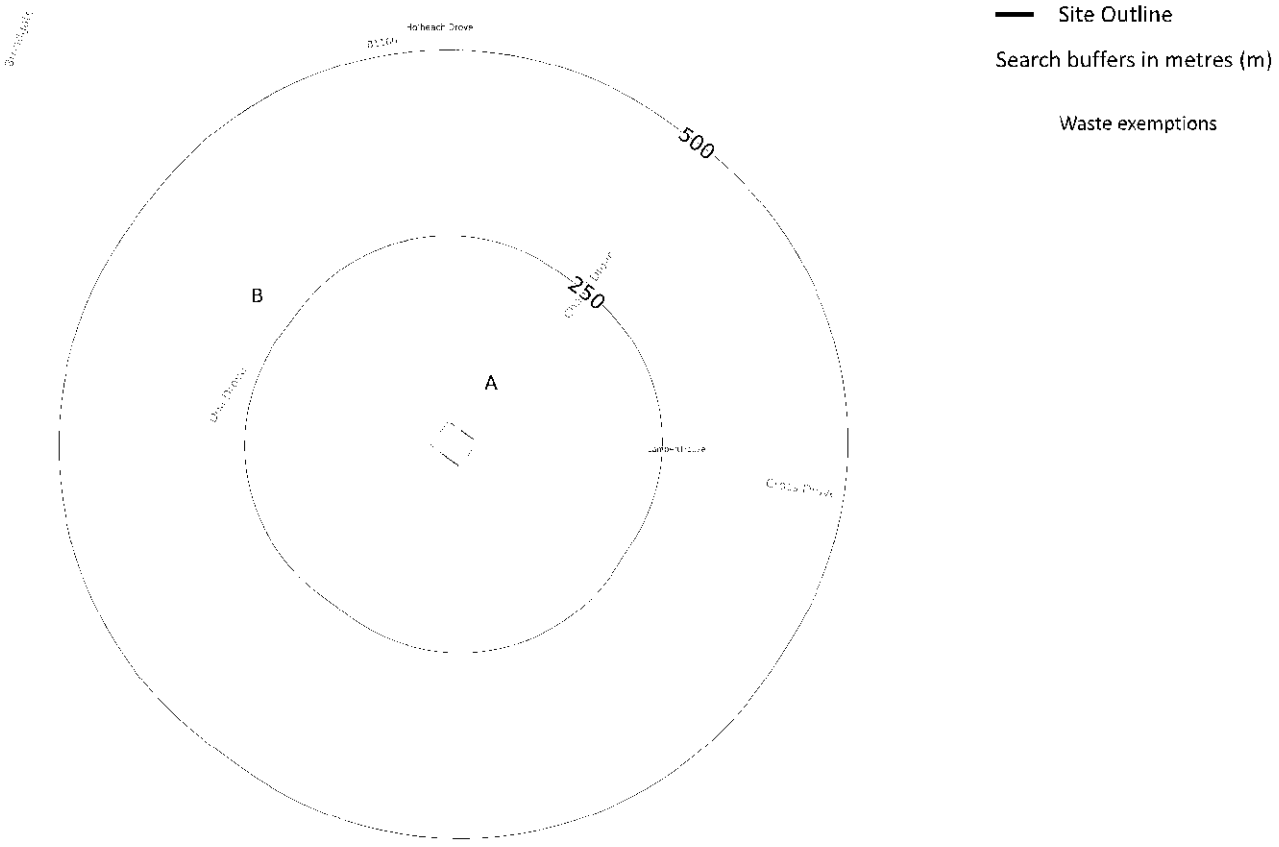
Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

2.5 Historical garages

Records within 500m	**0**

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

3 Waste and landfill



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

3.1 Active or recent landfill

Records within 500m	**0**

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

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.

3.3 Historical landfill (LA/mapping records)

Records within 500m **0**

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

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.

3.5 Historical waste sites

Records within 500m **0**

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

3.6 Licensed waste sites

Records within 500m **0**

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

3.7 Waste exemptions

Records within 500m **56**

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 21** >

ID	Location	Site	Reference	Category	Sub-Category	Description

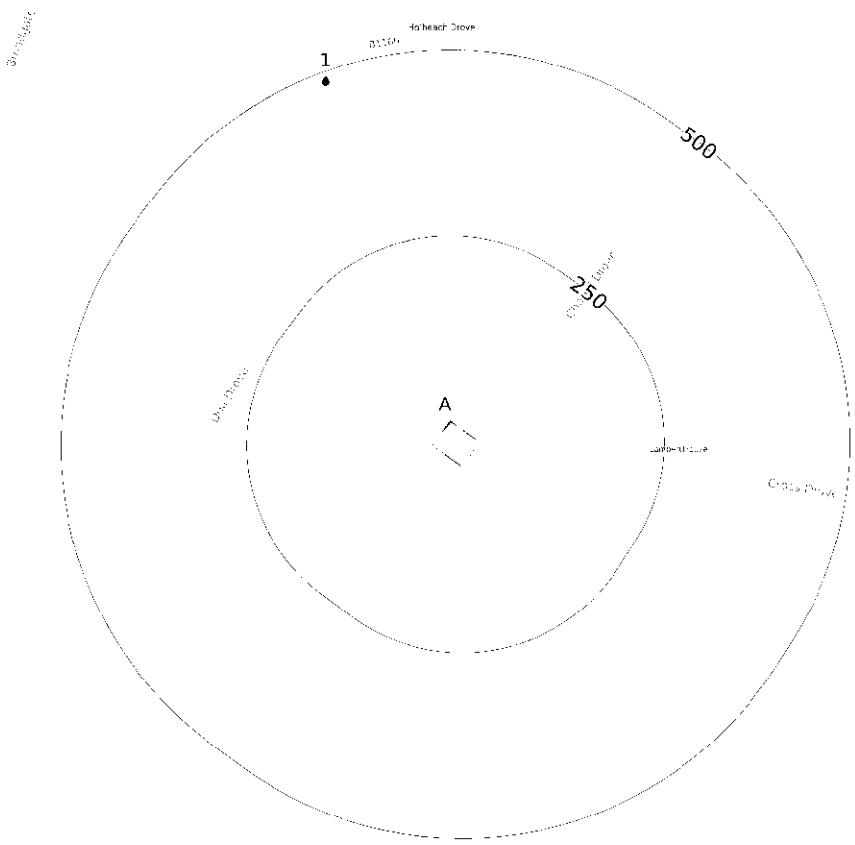
ID	Location	Site	Reference	Category	Sub-Category	Description

ID	Location	Site	Reference	Category	Sub-Category	Description

ID	Location	Site	Reference	Category	Sub-Category	Description

ID	Location	Site	Reference	Category	Sub-Category	Description

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Licensed Discharges to controlled waters

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

4.1 Recent industrial land uses

Records within 250m **2**

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category

4.2 Current or recent petrol stations

Records within 500m	**0**

Open, closed, under development and obsolete petrol stations.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

4.4 Gas pipelines

Records within 500m	**0**

High pressure underground gas transmission pipelines.

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.

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.

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.

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.

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.

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.

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.

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.

4.13 Licensed Discharges to controlled waters

Records within 500m **1**

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

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

ID	Location	Address	Details

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.

4.15 Pollutant release to public sewer

Records within 500m **0**

Discharges of Special Category Effluents to the public sewer.

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.

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.

4.18 Pollution Incidents (EA/NRW)

Records within 500m **0**

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

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.

4.20 Pollution inventory waste transfers

Records within 500m **0**

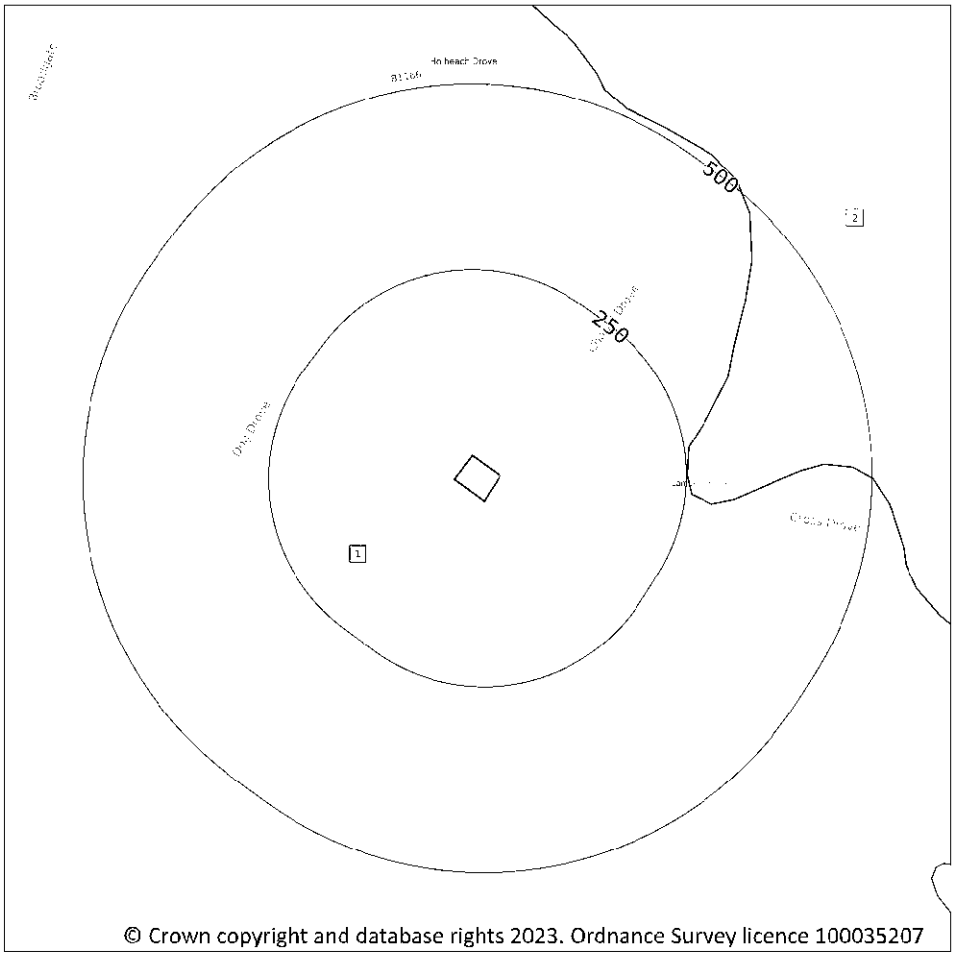
The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most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

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.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

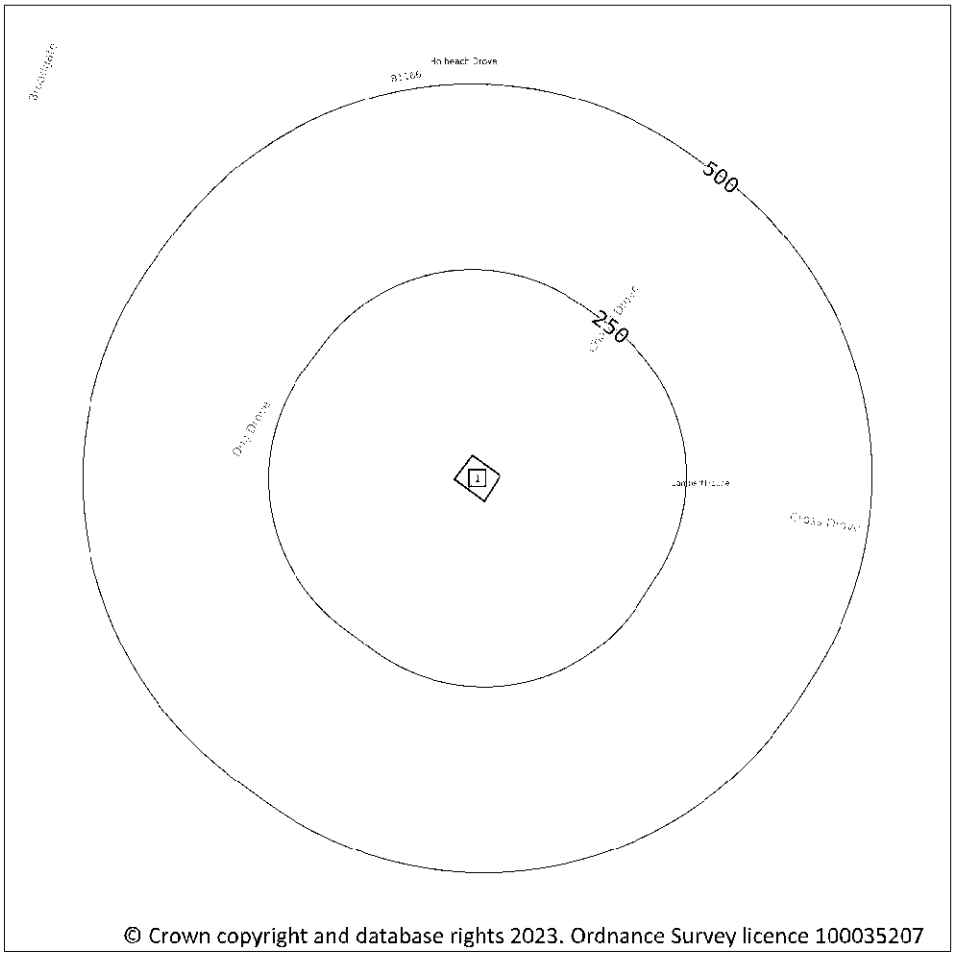
Records within 500m **2**

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 34** >

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

Bedrock aquifer



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

5.2 Bedrock aquifer

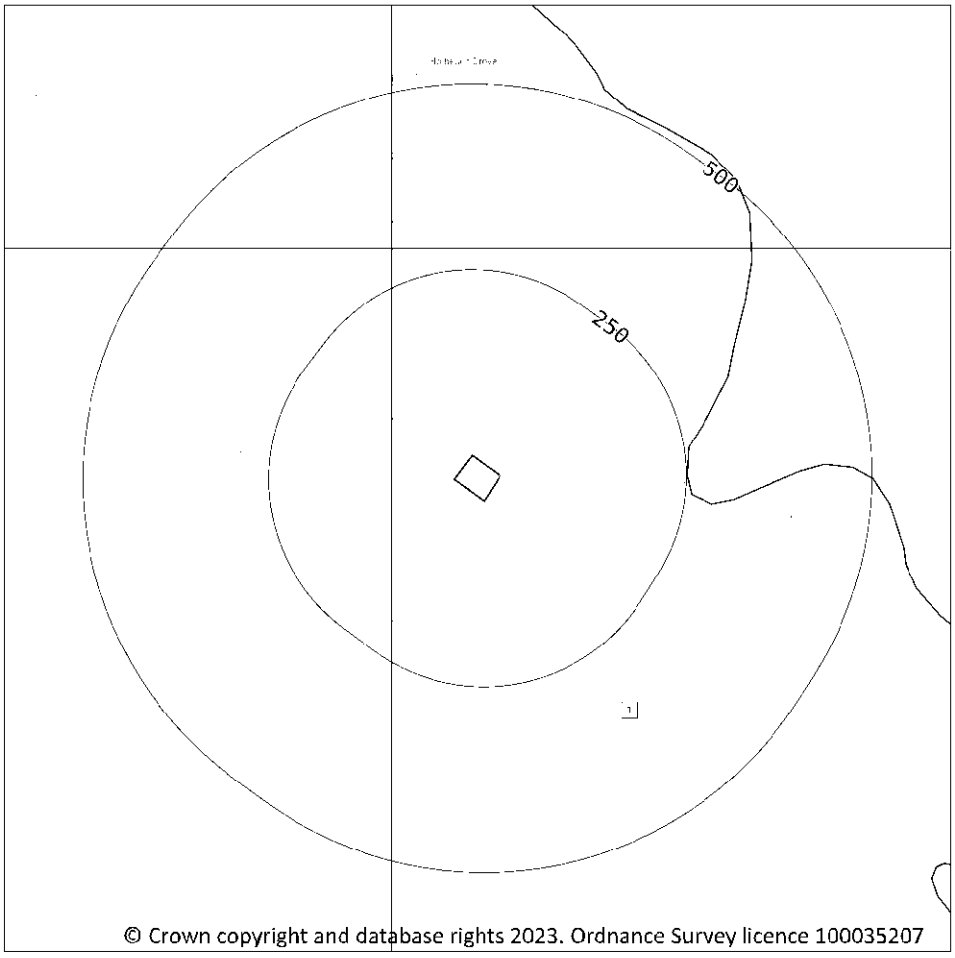
Records within 500m **1**

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35 >**

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

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 **1**

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

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

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

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, Unproductive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: <300mm/year**	**Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures**

5.4 Groundwater vulnerability- soluble rock risk

Records on site **0**

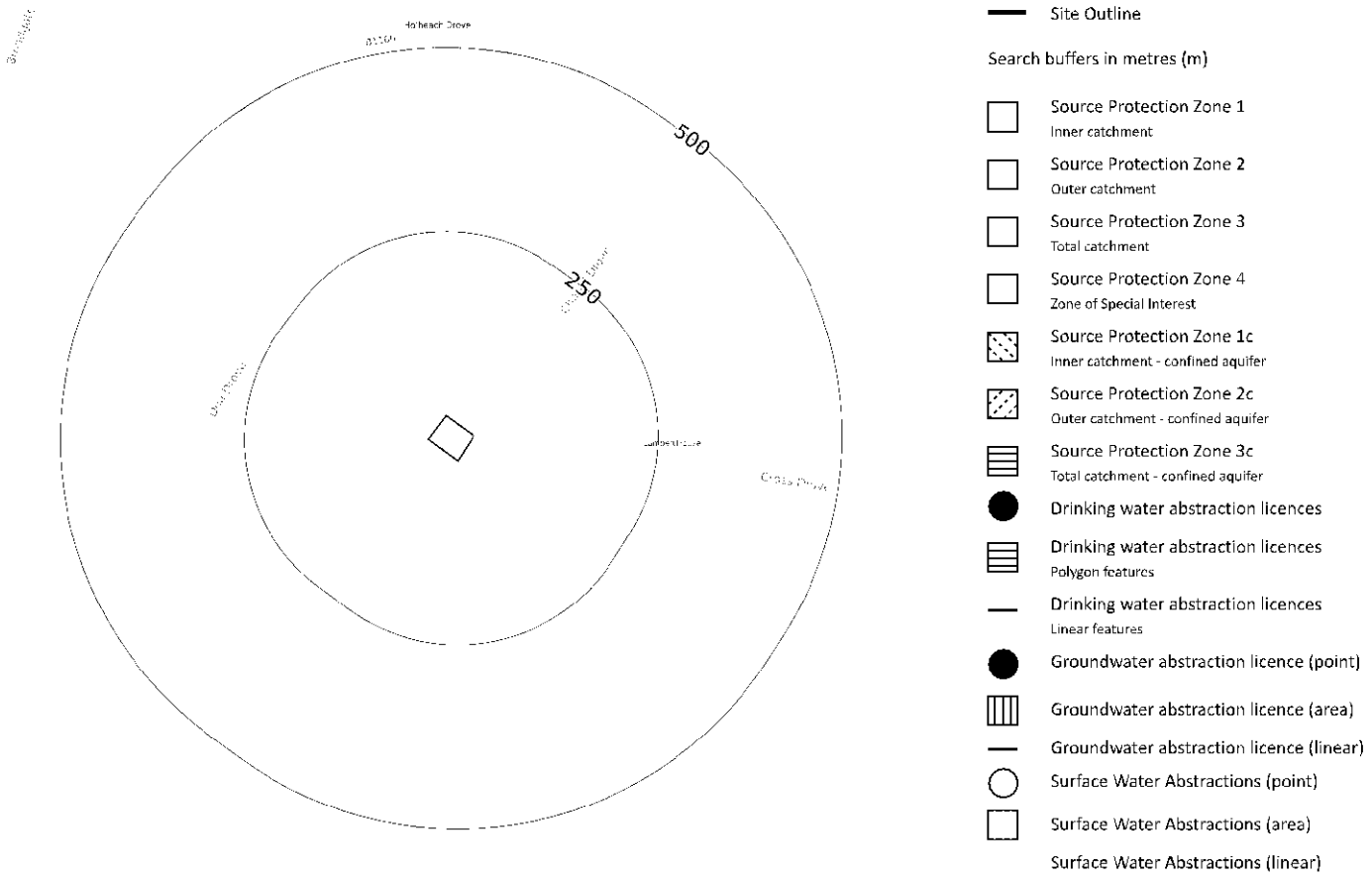
This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

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 ↗.

Abstractions and Source Protection Zones



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

5.6 Groundwater abstractions

Records within 2000m **1**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 38 >**

ID Location Details

5.7 Surface water abstractions

Records within 2000m **0**

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

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.

5.9 Source Protection Zones

Records within 500m **0**

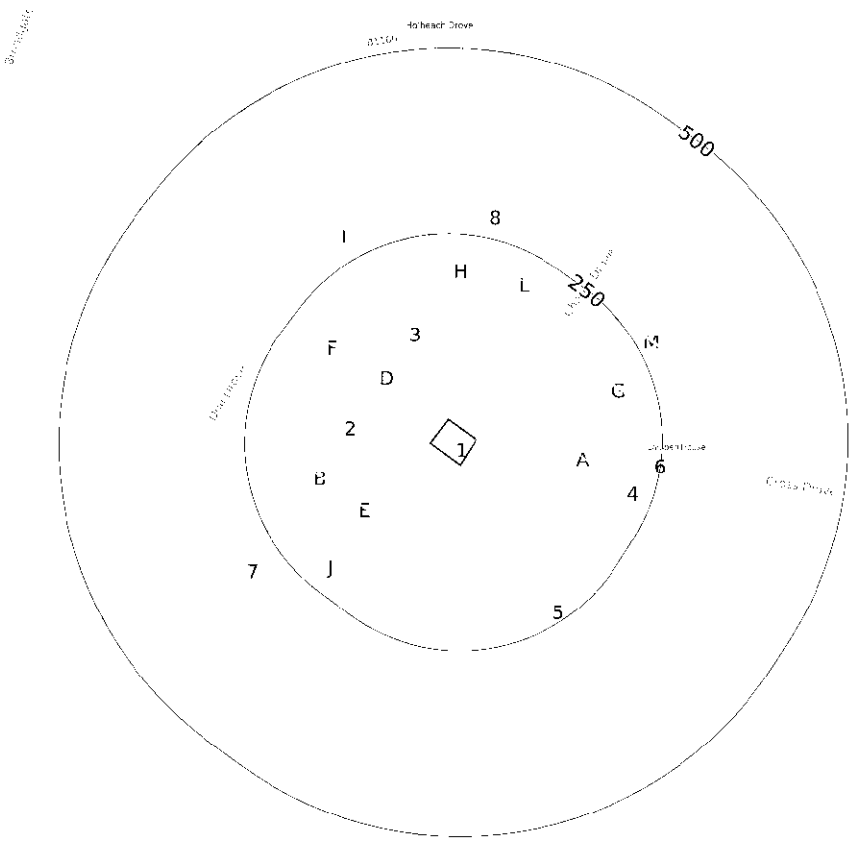
Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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.

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

6.1 Water Network (OS MasterMap)

Records within 250m **23**

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 41 >**

ID	Location	Type of water feature	Ground level	Permanence	Name

ID	Location	Type of water feature	Ground level	Permanence	Name

ID	Location	Type of water feature	Ground level	Permanence	Name

6.2 Surface water features

Records within 250m **11**

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 41** >

6.3 WFD Surface water body catchments

Records on site **1**

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

Features are displayed on the Hydrology map on **page 41 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**South Holland Main Drain**	**GB205032050405**	**Nene Lower**	**Nene**

6.4 WFD Surface water bodies

Records identified **1**

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

Features are displayed on the Hydrology map on **page 41 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
				GB205032050405 ↗				

6.5 WFD Groundwater bodies

Records on site **0**

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.

7 River and coastal flooding



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

7.1 Risk of flooding from rivers and the sea

Records within 50m **4**

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

Features are displayed on the River and coastal flooding map on **page 45** >

Distance	Flood risk category
On site	**Medium**

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.

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.

7.4 Areas Benefiting from Flood Defences

Records within 250m **0**

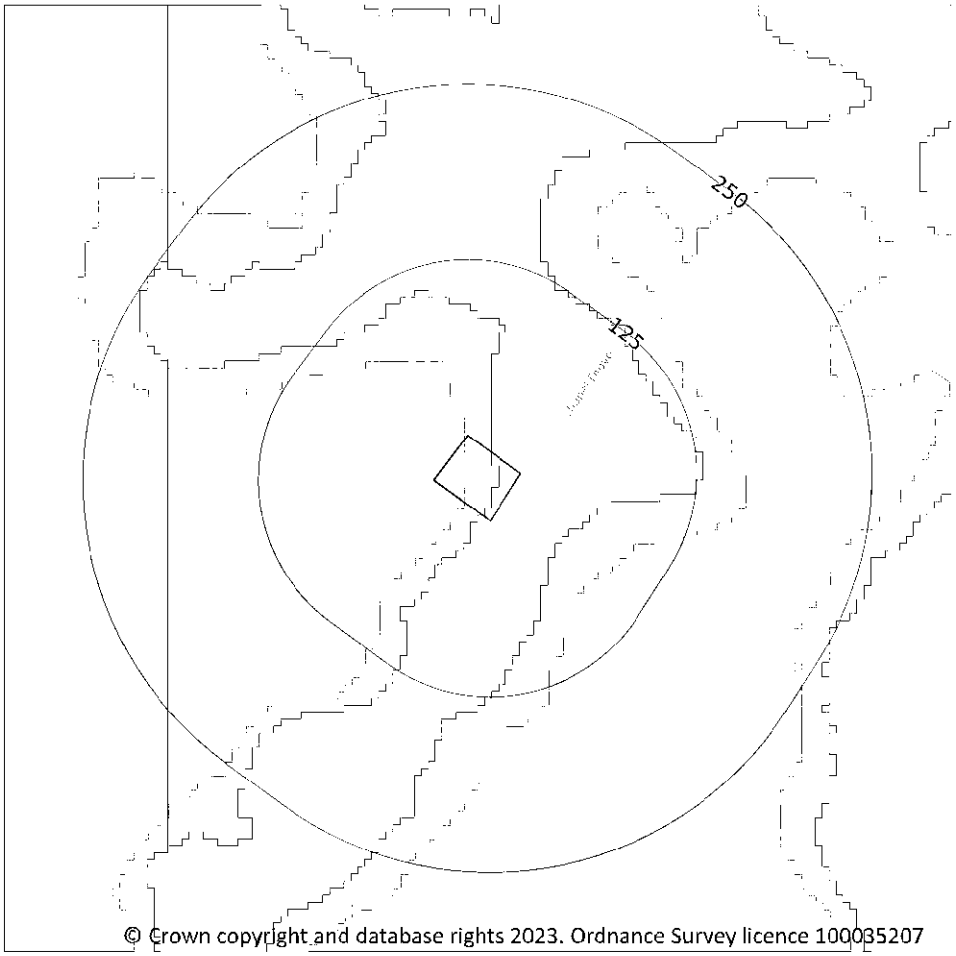
Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

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.

River and coastal flooding - Flood Zones



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

7.6 Flood Zone 2

Records within 50m **1**

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

Features are displayed on the River and coastal flooding map on **page 45 >**

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

7.7 Flood Zone 3

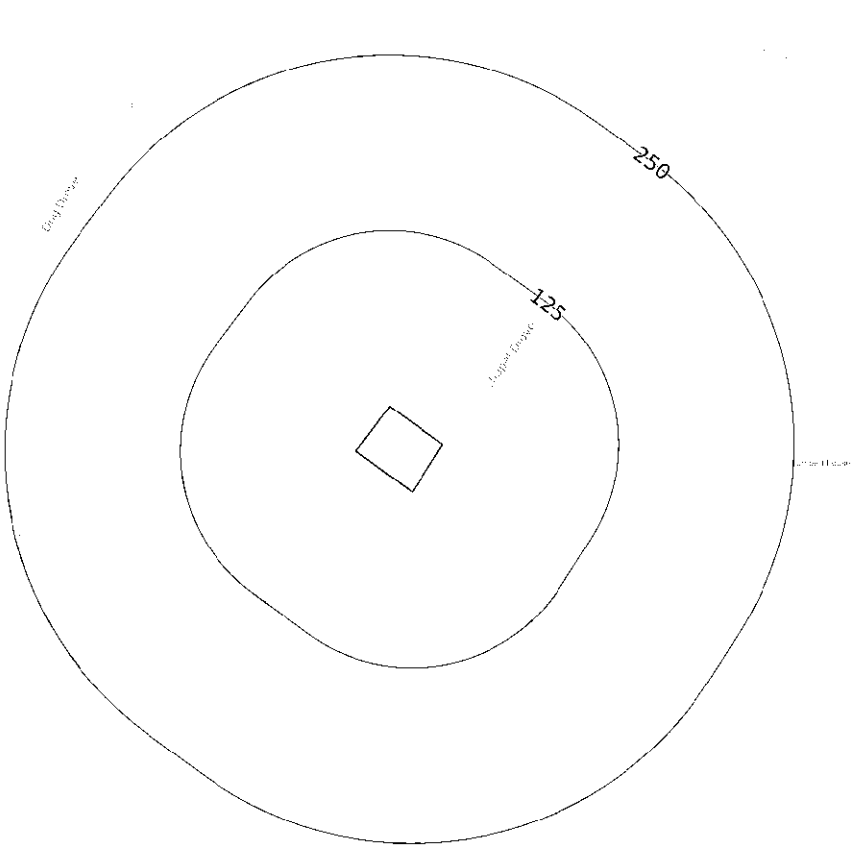
Records within 50m **1**

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

Features are displayed on the River and coastal flooding map on **page 45 >**

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

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

8.1 Surface water flooding

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

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

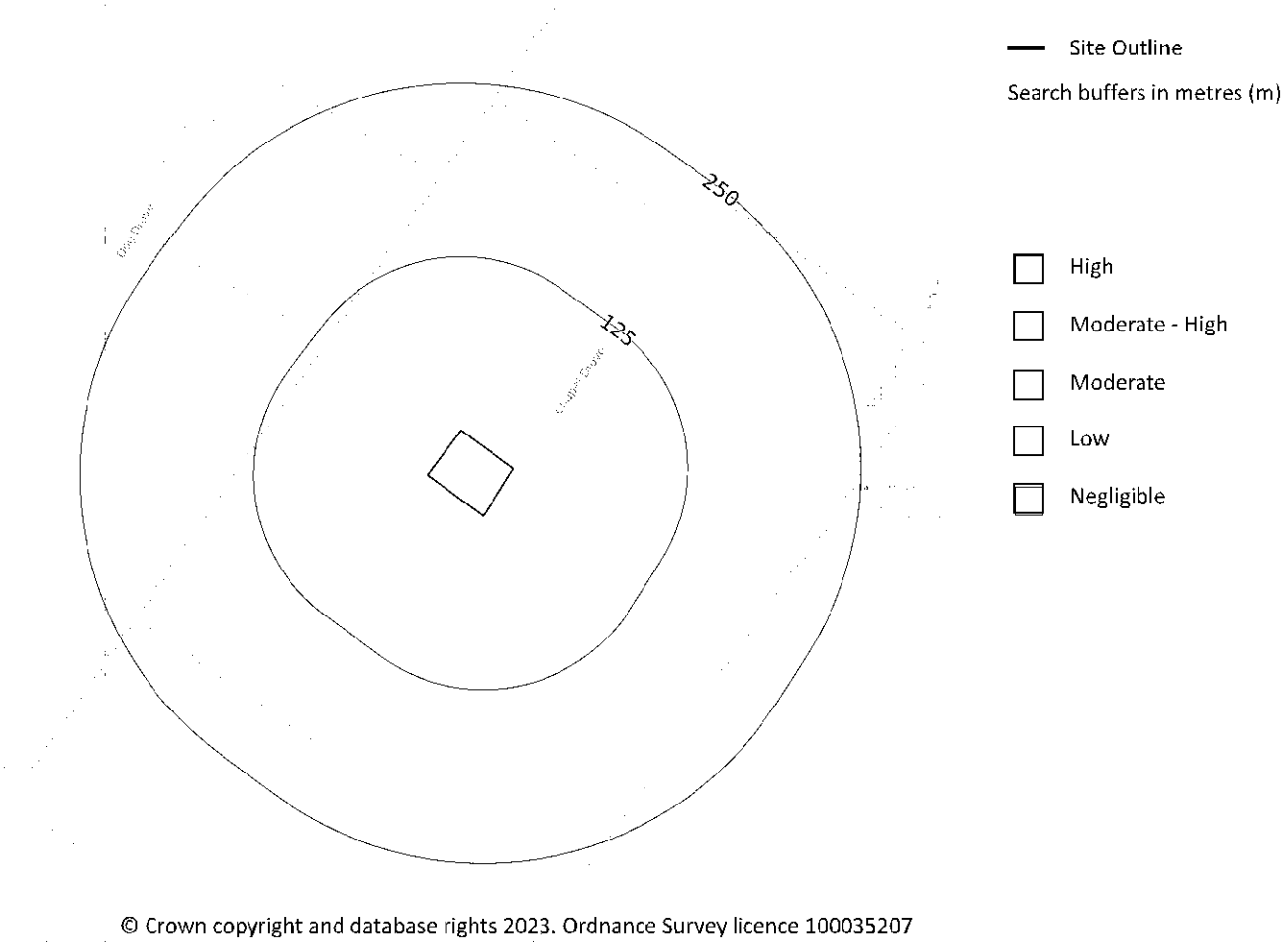
Features are displayed on the Surface water flooding map on **page 49 >**

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

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

Return period	Maximum modelled depth

9 Groundwater flooding



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

9.1 Groundwater flooding

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

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

Features are displayed on the Groundwater flooding map on **page 51 >**

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m **0**

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were 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.

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.

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.

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.

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.

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.

10.7 Designated Ancient Woodland

Records within 2000m **0**

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

10.8 Biosphere Reserves

Records within 2000m **0**

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

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.

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.

10.11 Green Belt

Records within 2000m **0**

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

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.

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.

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.

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).

10.16 Nitrate Vulnerable Zones

Records within 2000m **1**

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site **0**

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

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.

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m **0**

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

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.

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.

11.4 Listed Buildings

Records within 250m **0**

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

11.5 Conservation Areas

Records within 250m **0**

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

11.6 Scheduled Ancient Monuments

Records within 250m **0**

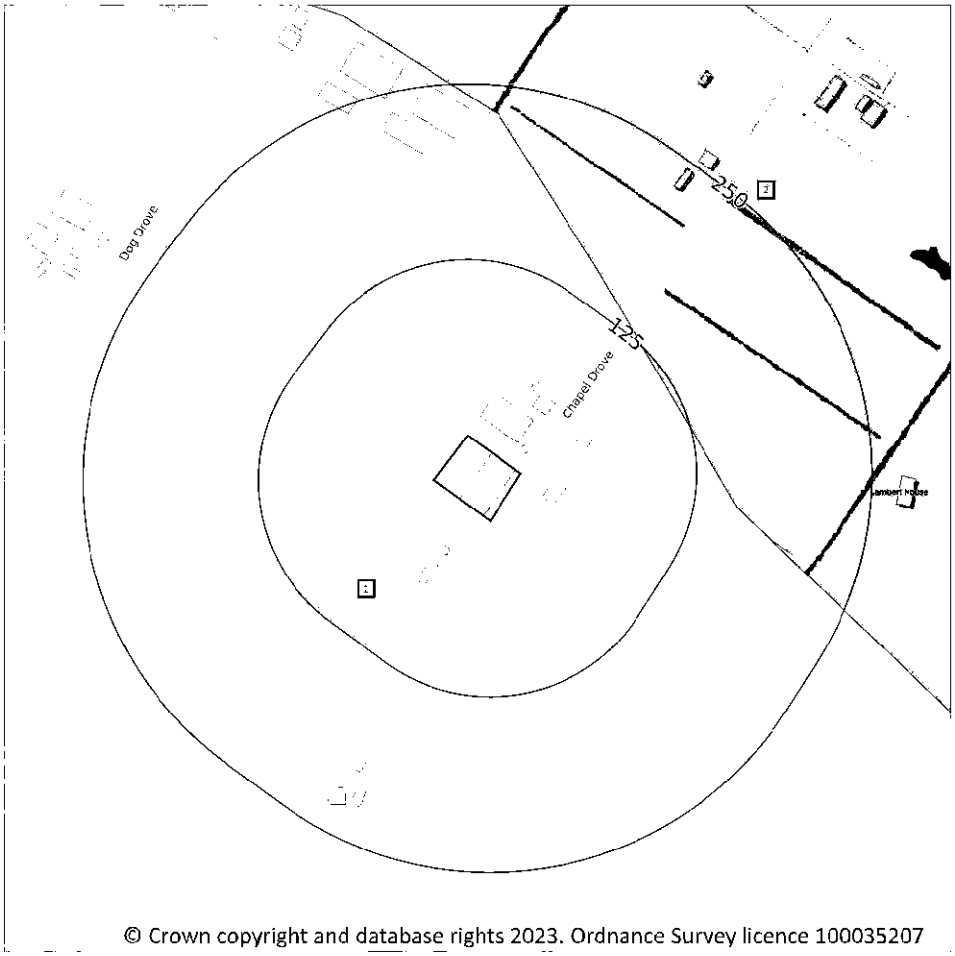
A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and 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.

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.

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

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 59 >**

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.**

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.

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.

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.

12.5 Countryside Stewardship Schemes

Records within 250m **1**

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.

Location	Reference	Scheme	Start Date	End Date

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m **0**

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

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.

13.3 Open Mosaic Habitat

Records within 250m **0**

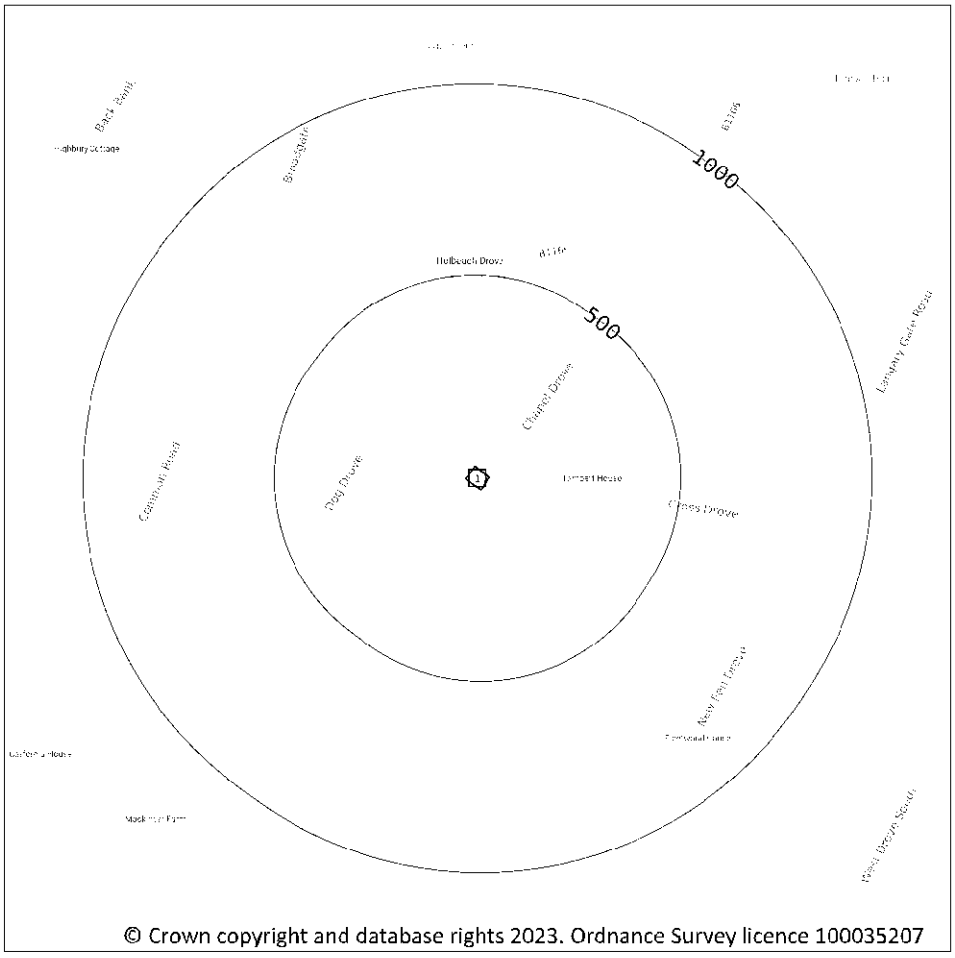
Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

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.

14 Geology 1:10,000 scale - Availability



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

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 63 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**TF31SW**

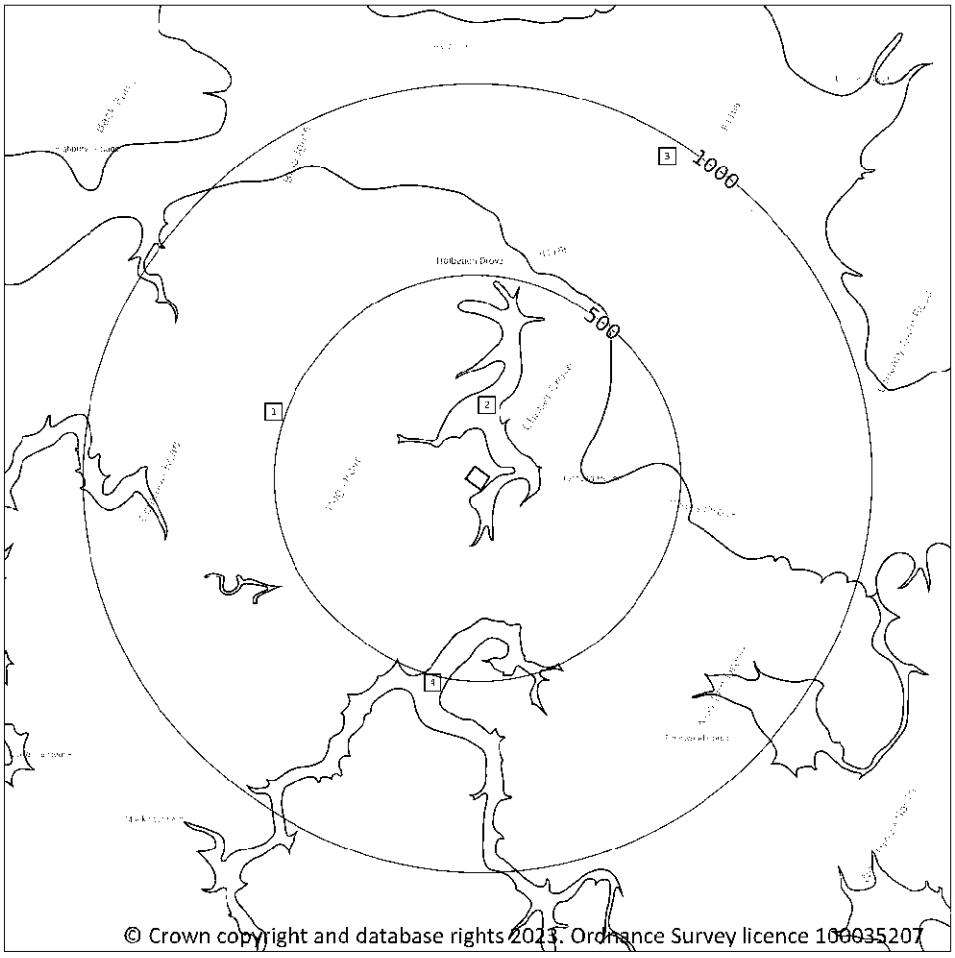
Geology 1:10,000 scale - Artificial and made ground

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.

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 **4**

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 65 >**

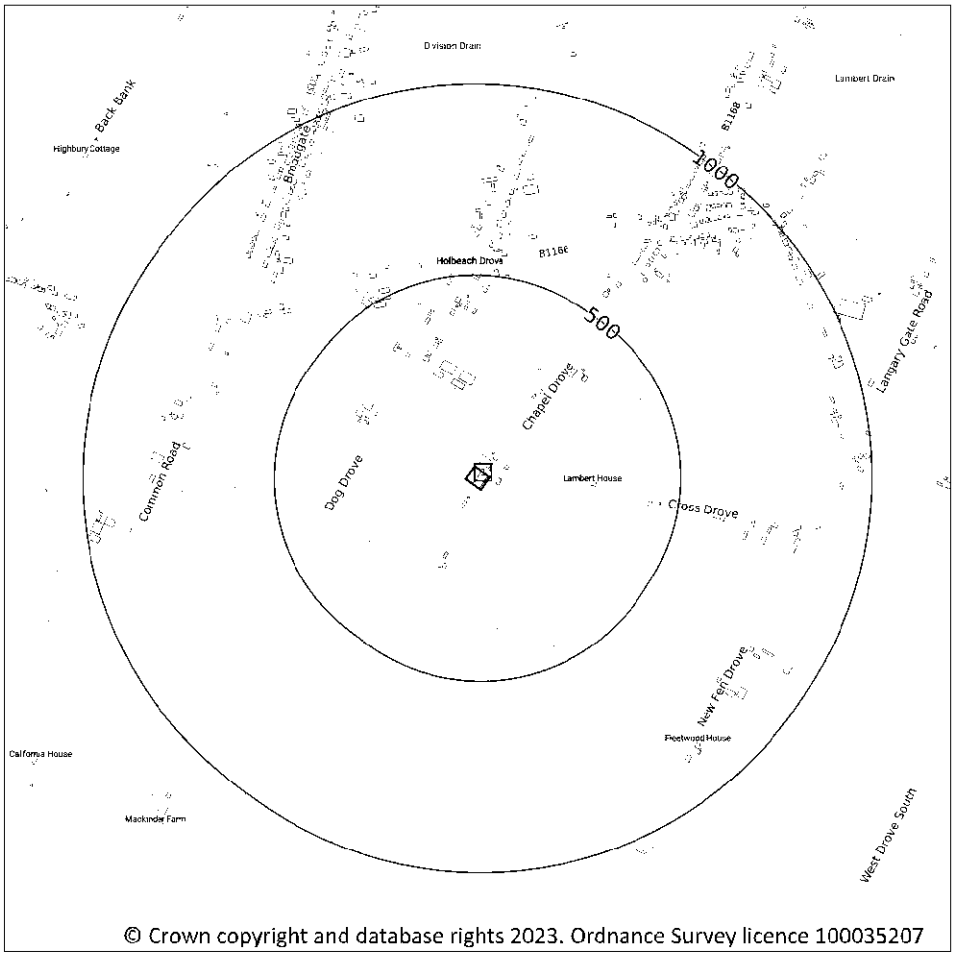
ID	Location	LEX Code	Description	Rock description
1	**On site**	**BYD-XCZ**	**Barroway Drove Beds - Clay And Silt**	**Clay And Silt**

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.

Geology 1:10,000 scale - Bedrock



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m **1**

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 67 >**

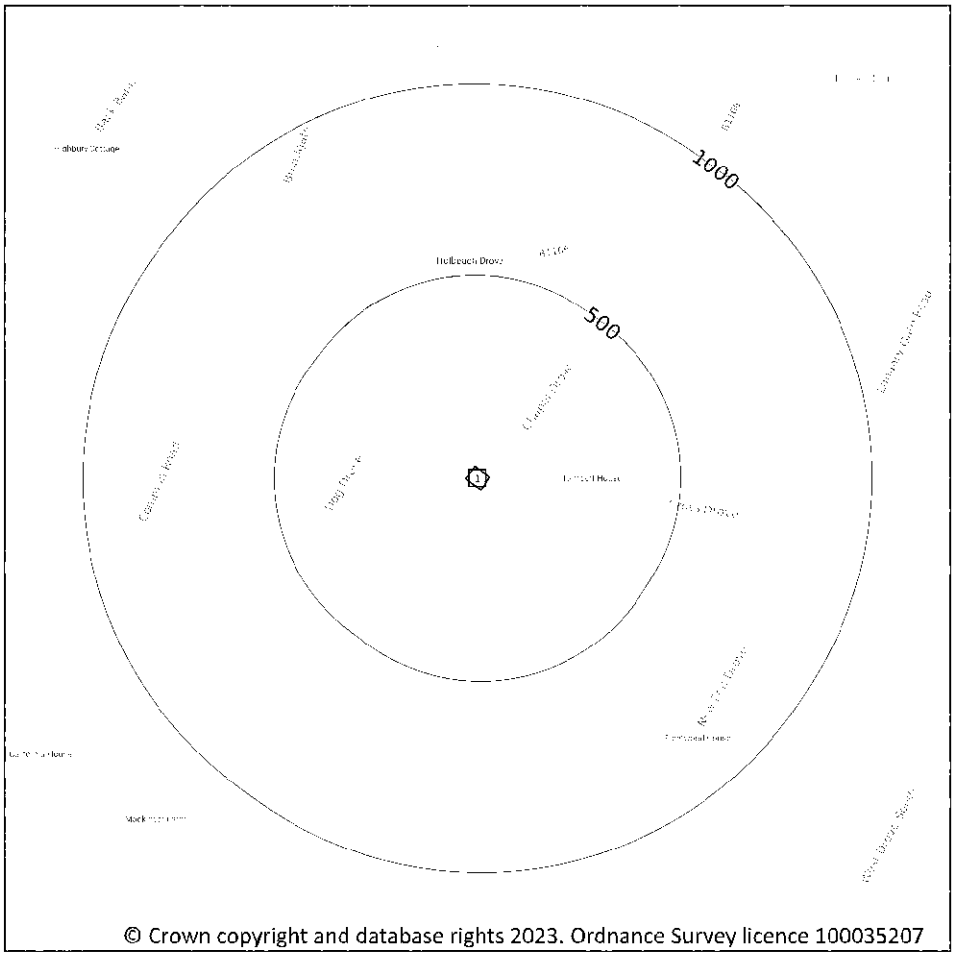
ID	Location	LEX Code	Description	Rock age
1	**On site**	**OXC-MDST**	**Oxford Clay Formation - Mudstone**	**Oxfordian Age - Callovian Age**

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.

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 69 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**EW158_peterborough_v4**

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.

15.3 Artificial ground permeability (50k)

Records within 50m **0**

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

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **2**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 71 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TFD1-XCZ**	**TIDAL FLAT DEPOSITS, 1**	**CLAY AND SILT**

15.5 Superficial permeability (50k)

Records within 50m **1**

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

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

15.6 Landslip (50k)

Records within 500m **0**

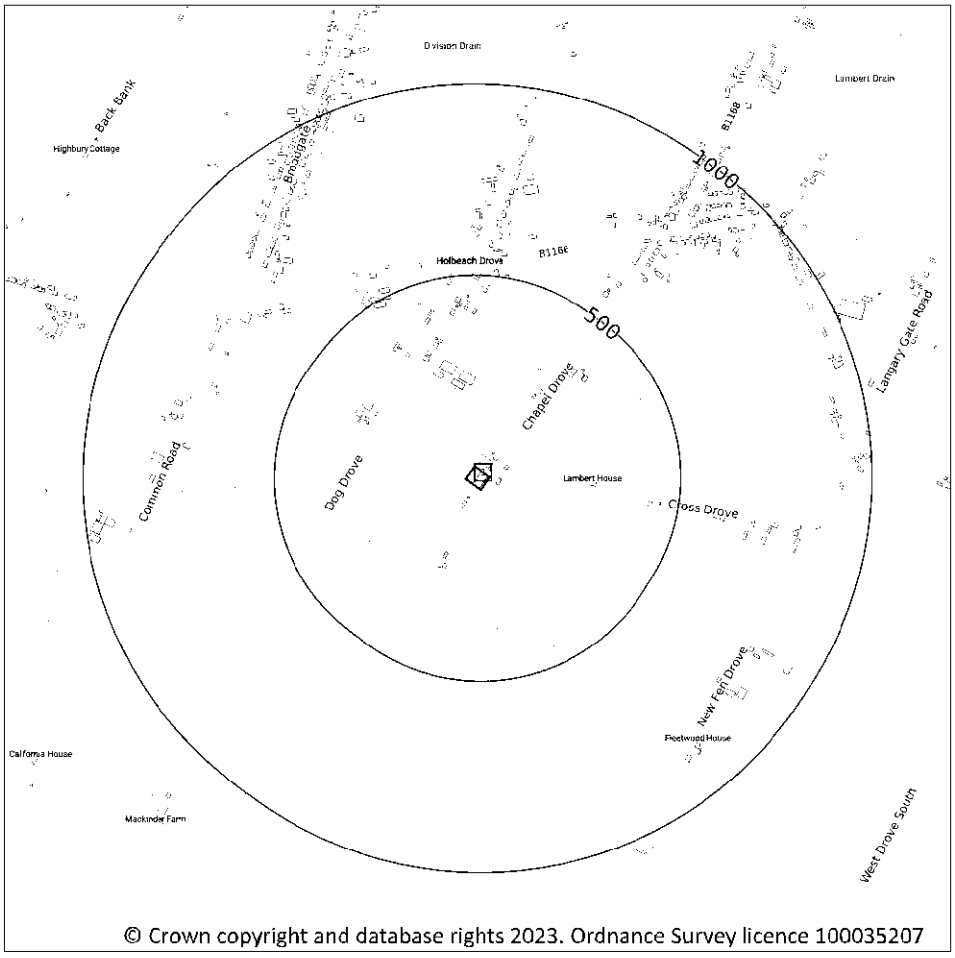
Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

15.7 Landslip permeability (50k)

Records within 50m **0**

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

Geology 1:50,000 scale - Bedrock



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m **1**

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

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

ID	Location	LEX Code	Description	Rock age
1	**On site**	**OXC-MDST**	**OXFORD CLAY FORMATION - MUDSTONE**	**CALLOVIAN**

15.9 Bedrock permeability (50k)

Records within 50m **1**

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

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

15.10 Bedrock faults and other linear features (50k)

Records within 500m **0**

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

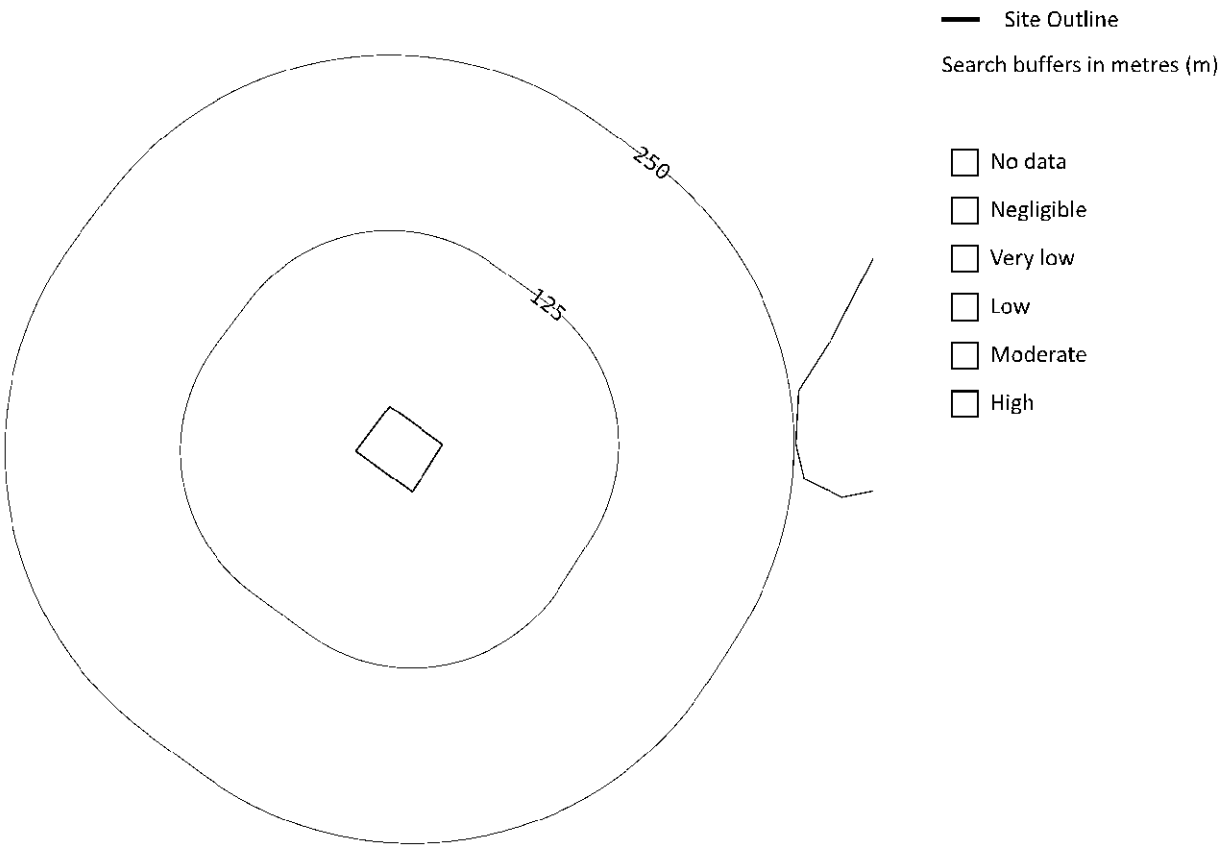
16 Boreholes

16.1 BGS Boreholes

Records within 250m	**0**

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

17 Natural ground subsidence - Shrink swell clays



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

17.1 Shrink swell clays

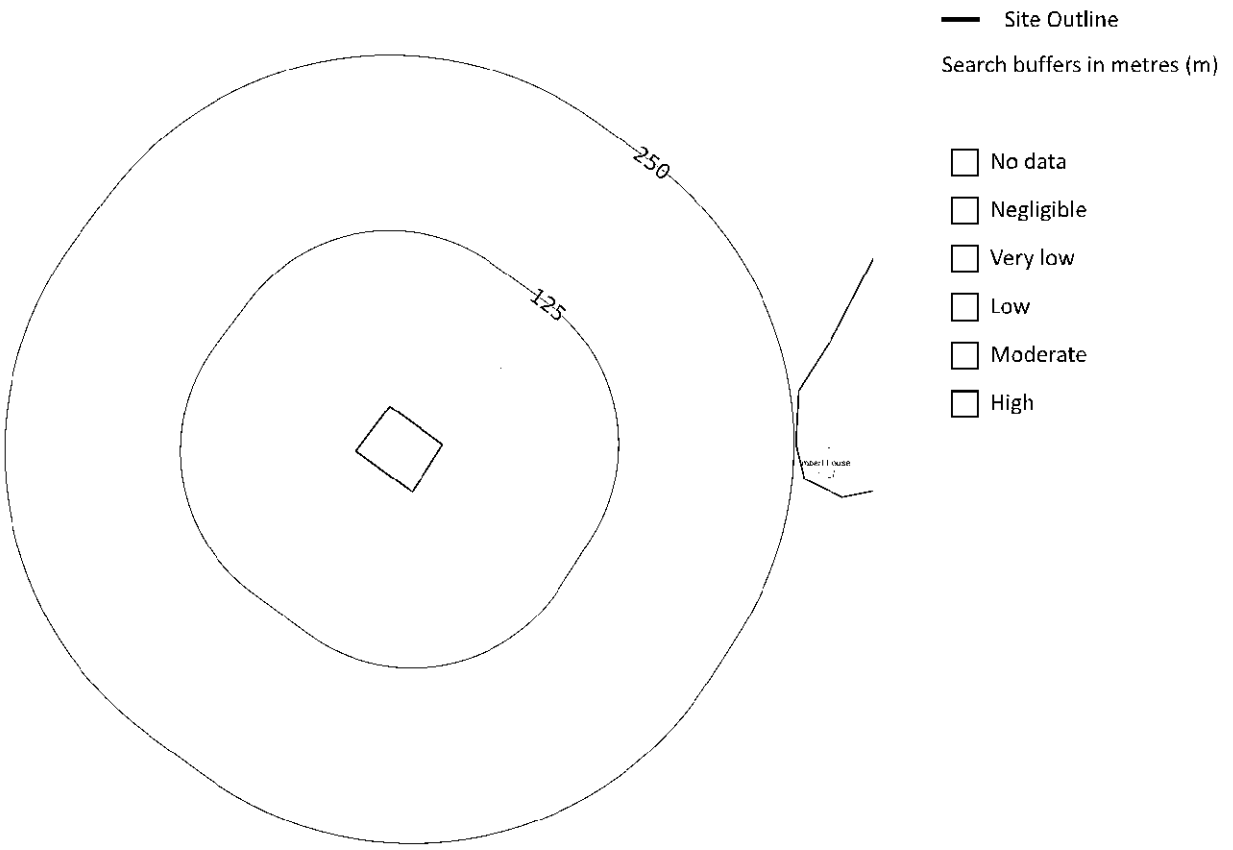
Records within 50m **1**

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 76** >

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

Natural ground subsidence - Running sands



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

17.2 Running sands

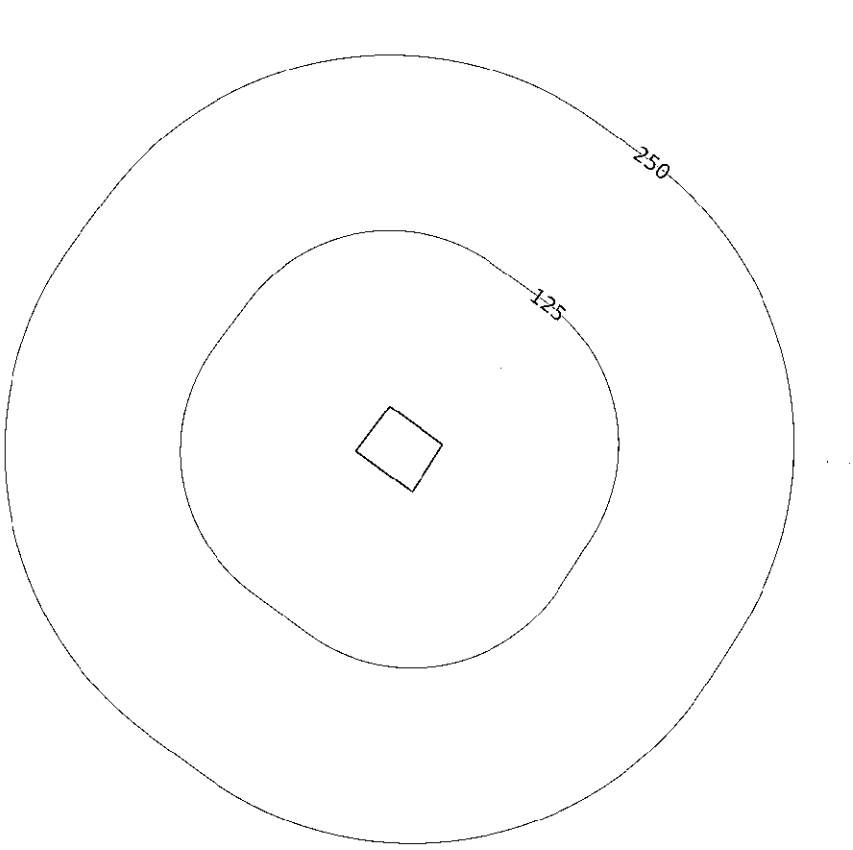
Records within 50m **1**

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 77 >**

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

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

17.3 Compressible deposits

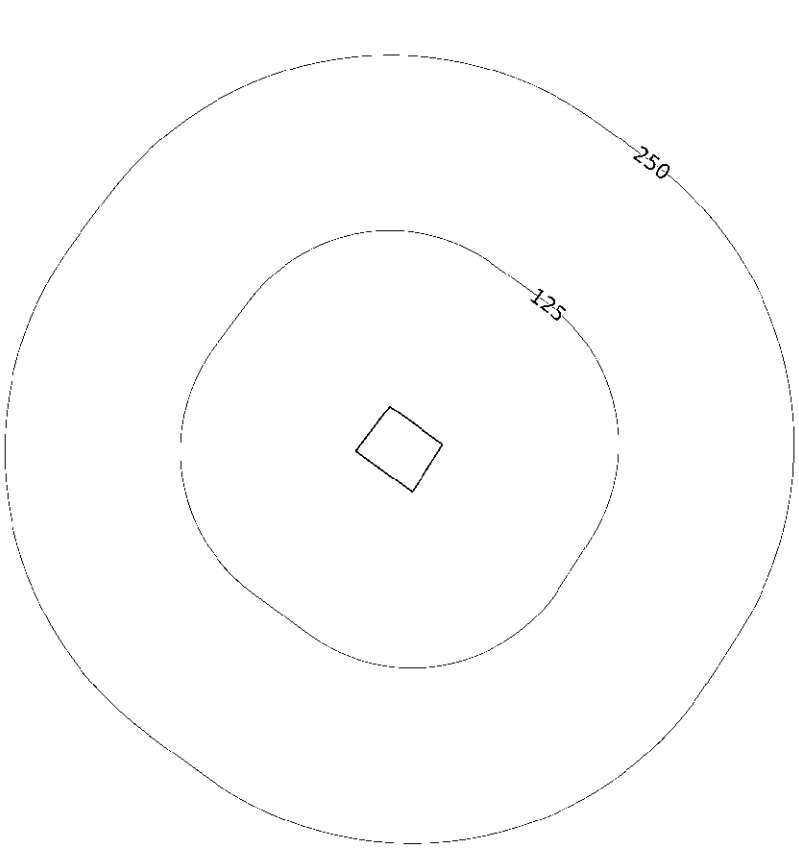
Records within 50m **1**

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 78 >**

Location	Hazard rating	Details
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

17.4 Collapsible deposits

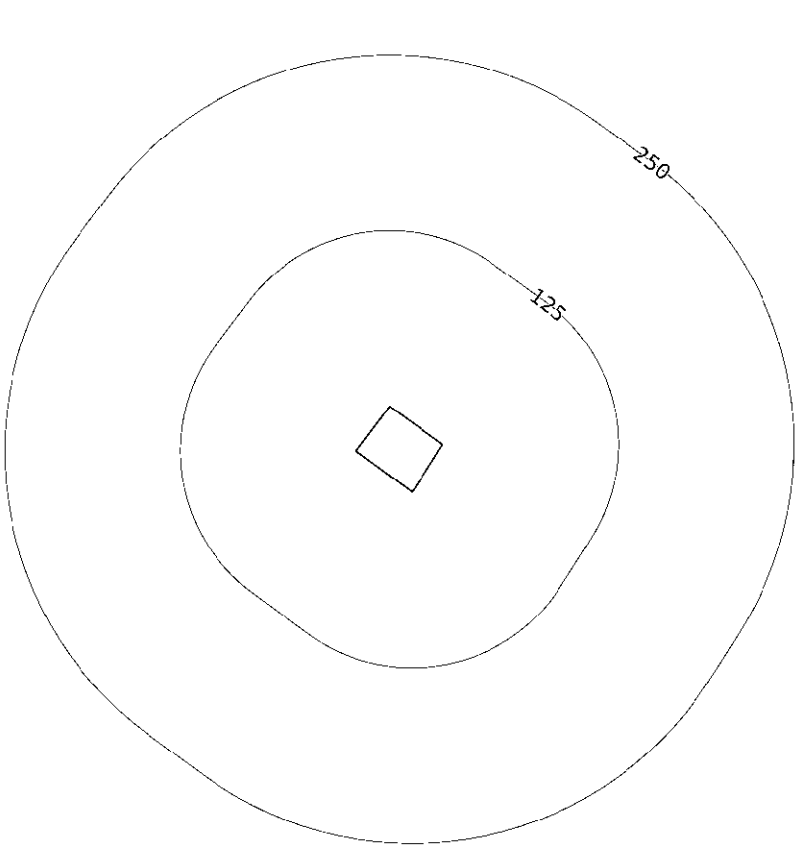
Records within 50m **1**

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 79 >**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

17.5 Landslides

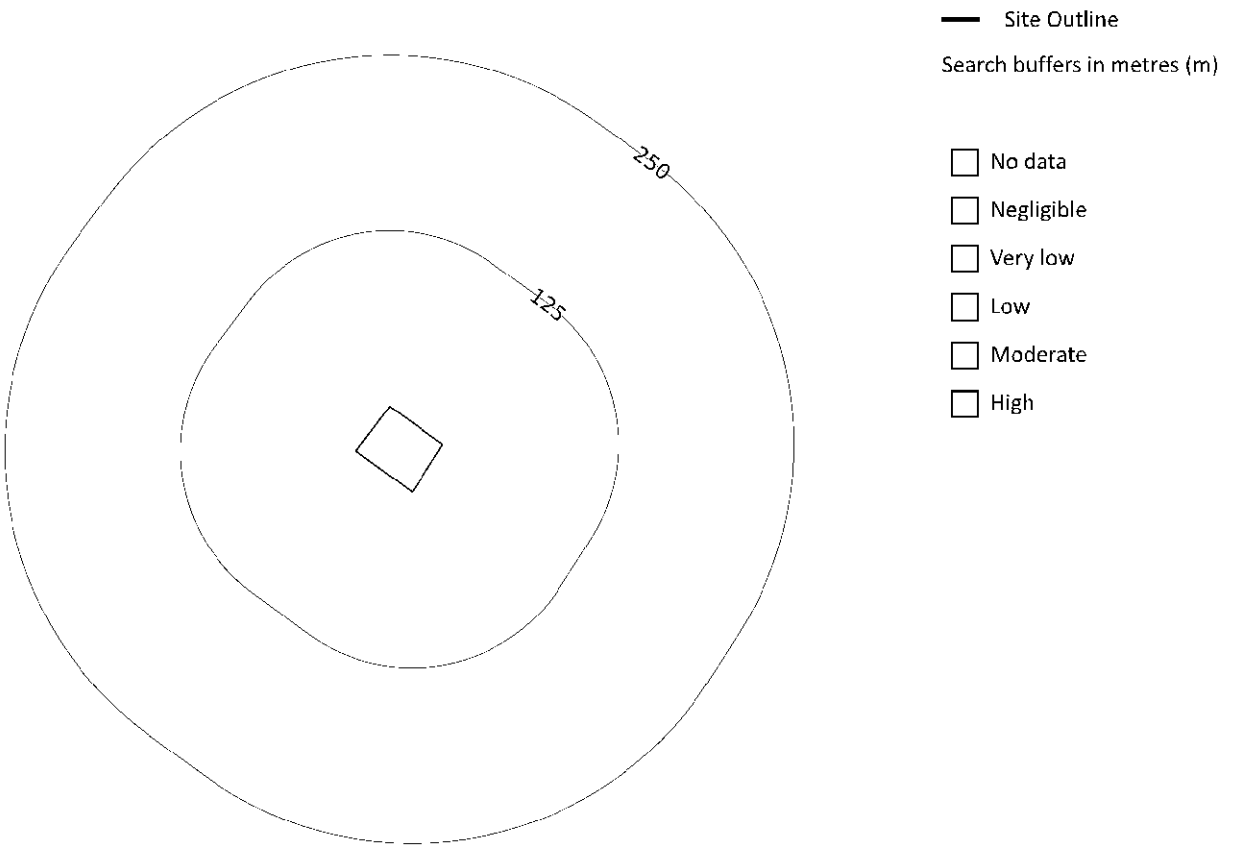
Records within 50m **1**

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 80 >**

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.**

Natural ground subsidence - Ground dissolution of soluble rocks



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

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 81** >

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.**

18 Mining and ground workings

18.1 BritPits

Records within 500m **0**

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

18.2 Surface ground workings

Records within 250m **0**

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.

18.3 Underground workings

Records within 1000m **0**

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

18.4 Underground mining extents

Records within 500m **0**

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

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.

18.6 Non-coal mining

Records within 1000m **0**

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

18.7 JPB mining areas

Records on site **0**

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

18.8 The Coal Authority non-coal mining

Records within 500m **0**

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

18.9 Researched mining

Records within 500m	0

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

18.10 Mining record office plans

Records within 500m	0

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

18.11 BGS mine plans

Records within 500m	0

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

18.12 Coal mining

Records on site	0

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

18.13 Brine areas

Records on site	0

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

18.14 Gypsum areas

Records on site	**0**

Generalised areas that may be affected by gypsum extraction.

18.15 Tin mining

Records on site	**0**

Generalised areas that may be affected by historical tin mining.

18.16 Clay mining

Records on site	**0**

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m **0**

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

19.2 Mining cavities

Records within 1000m **0**

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

19.3 Reported recent incidents

Records within 500m **0**

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

19.4 Historical incidents

Records within 500m **0**

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

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

19.5 National karst database

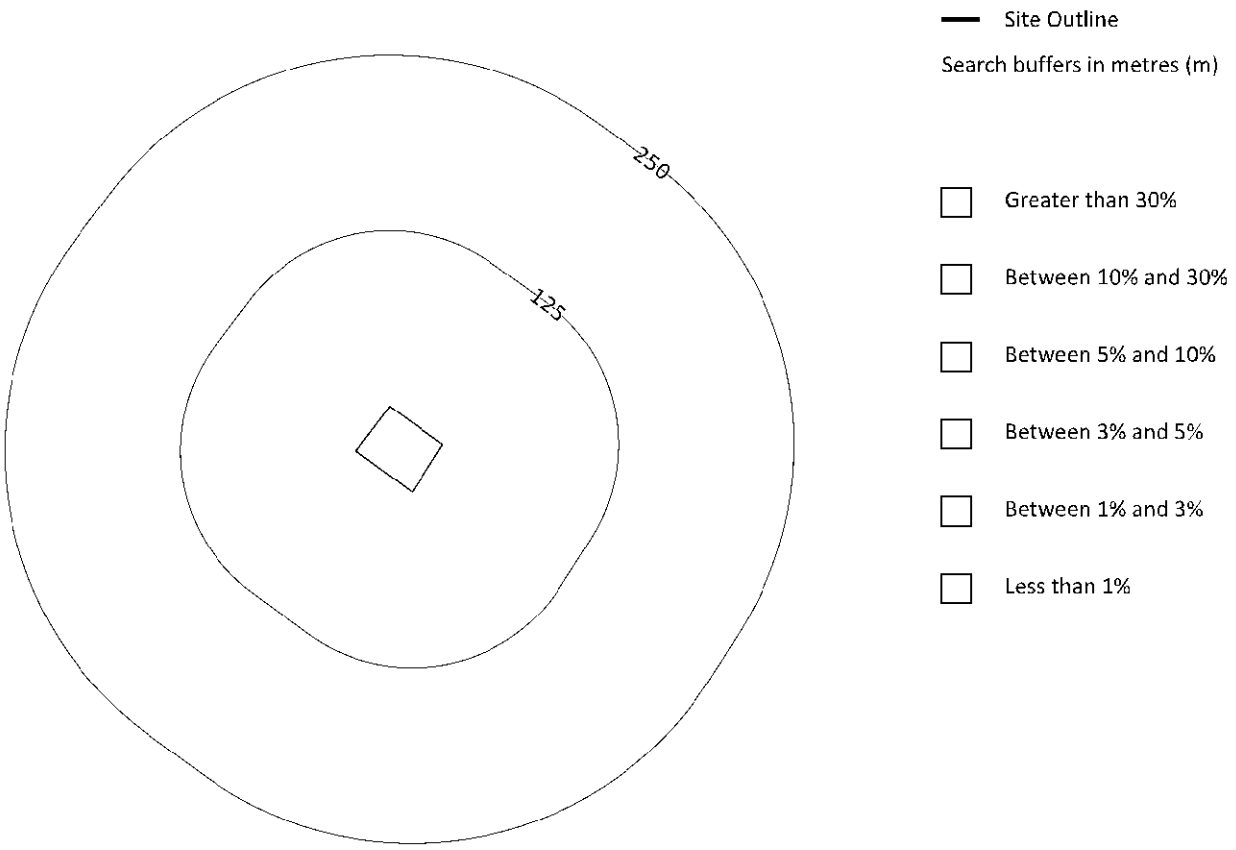
Records within 500m	**0**

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

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

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

20 Radon



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

20.1 Radon

Records on site **1**

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

Features are displayed on the Radon map on **page 89** >

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m **1**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 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**	**30 - 45 mg/kg**

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m **0**

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

21.3 BGS Measured Urban Soil Chemistry

Records within 50m **0**

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

22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m **0**

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

22.2 Underground railways (Non-London)

Records within 250m **0**

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

22.3 Railway tunnels

Records within 250m **0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

22.4 Historical railway and tunnel features

Records within 250m **0**

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

22.5 Royal Mail tunnels

Records within 250m **0**

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

22.6 Historical railways

Records within 250m **0**

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

22.7 Railways

Records within 250m **0**

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

22.8 Crossrail 1

Records within 500m **0**

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

22.9 Crossrail 2

Records within 500m **0**

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

22.10 HS2

Records within 500m **0**

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

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-april-2023/ ↗.