



Phase I Geoenvironmental Site Assessment
Bolton Fold Farm, Preston Road

Reference: 16-817-R1-1
Date: December 2023



PHASE I GEOENVIRONMENTAL SITE ASSESSMENT

Bolton Fold Farm,
Preston Road,
Preston,
United Kingdom
PR3 3BN

Prepared for:

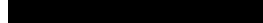
PWA Planning

Report Ref: 16-817-R1-1

Date Issued: December 2023

E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ


<https://e3p.co.uk>

Registered in England

CRN: 08725262

QUALITY ASSURANCE

Report reference	16-817-R1
-------------------------	------------------

REV REF:	DESCRIPTION	AUTHOR	CHECKED	AUTHORISED	DATE
R1-1	First issue	JC	EF	AS	04/12/23
R1-2					

This report has been prepared for the sole benefit, use, and information of the client. The liability of Environmental Engineering Partnership Limited t/a E3P with respect to the information contained in the report will not extend to any third party. This report has been prepared by the qualified persons as listed below.

WRITTEN BY	QUALIFICATIONS	DATE
J. Clayton	BSc(Hons)	10th November 2023

REVIEWED BY	QUALIFICATIONS	DATE
E. Fearn	BSc(Hons), MSc, FGS	28 th November 2023

AUTHORISED BY	QUALIFICATIONS	DATE
A Smith	BSc(Hons), FGS, MIEnvSc, CEnv	6 th December 2023

EXECUTIVE SUMMARY

Site Address	Bolton Fold Farm, Preston Road, Preston, PR3 3BN.
Grid Reference	E360090, N435334.
Site Area	0.18 Ha.
Proposed Development	E3P understands the client intends to construct two low-rise residential dwellings with associated gardens.
Current Site Use	The site comprises of an irregularly shaped parcel of land to the east of Alston Lane, Preston. The site is currently agricultural land comprising grassland utilised for grazing, with trees and hedges present along the field boundaries. There are no structures present on site, and the site is recorded as agricultural land. There is little topographical variance on site.
Site History	A review of the pertinent Ordnance Survey mapping suggests the site has remain undeveloped agricultural land since the earliest available mapping. The only exception being minor infilling of field boundaries in the north.

ENVIRONMENTAL SETTING

Geology	Drift Geology	Glacial Till - Predominantly cohesive.
	Bedrock Geology	Silsden Formation - MUDSTONE
	Faults	None recorded within 250m of the site.
Geomorphology	<p>The site is relatively flat and the cohesive soils were likely deposited during the last glacial period, typically comprising a unsorted and unstratified accumulation of glacial sediment.</p> <p>Due to the largely undeveloped nature of site, it is considered the present-day geomorphology is representative of natural conditions.</p>	
Hydrogeology	Glacial Till Secondary – Undifferentiated and the Mudstone - Secondary A Aquifer.	
	No groundwater/potable abstractions within 1km of the site	
Hydrology	No surface watercourses within 100m. Closest is c. 171m southeast.	
	Unaffected by flooding from rivers.	
Utility Locations	A formal drainage survey has not been completed, however service infrastructure across the site is not anticipated.	
Landfill Sites and Ground Gases	No landfill sites (current or historic) are located within 250 m of the Site.	
Radon	No radon protection measures are required.	
Hazardous Installations	No hazardous installations that could potentially prejudice the proposed construction of highly sensitive residential dwellings have been identified within influencing distance of the subject site.	



PRELIMINARY CONTAMINATED LAND ASSESSMENT

Human Health	<p>Given the undeveloped nature of the site, there are unlikely to be any significant sources of contamination present that would pose a significant risk to human health or prejudice the development of the dwellings.</p> <p>However, local Made Ground cannot be entirely discounted although the overall risk is very low.</p>
Controlled Waters	<p>The Initial Conceptual Site Model has not identified any potentially significant on-site sources of mobile contamination, as such the site is deemed to pose a very low risk to controlled waters.</p>
Ground Gas	<p>No significant sources of hazardous ground gas have been identified and the overall risk is considered to be very low.</p>

PRELIMINARY COAL MINING ASSESSMENT

Coal Mining/Land Stability	<p>The site is not affected by shallow coal mining therefore no assessment is required.</p>
-----------------------------------	---

PRELIMINARY GEOTECHNICAL ASSESSMENT

Initial Geotechnical Assessment	<p>A volume change potential assessment may be required and consideration of the potential water demand of trees affecting foundations should be considered. No significant geological constraints are anticipated.</p>
Brine Workings	<p>The Site is not located within an area affected by brine workings.</p>
Civil and Structural	<p>No significant civil or structural restraints are anticipated.</p>
Abnormal Foundations	<p>Shallow foundations will likely be suitable for the proposed dwellings. Further site investigation will be required to confirm this.</p>

CONCLUSIONS AND RECOMMENDATIONS

A detailed Phase II intrusive investigation is required to confirm the findings of the initial conceptual site model and determine the characteristics of the underlying geology to support the structural design of the proposed structures.



Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION	5
1.1. Background	5
1.2. Proposed Development	5
1.3. Objectives	6
1.4. Sources of Information	6
1.5. Limitations	6
1.6. Risk Classification	6
1.7. Confidentiality	6
2. SITE SETTING	7
2.1. Site Details	7
2.2. Current Site Use	7
2.3. Surrounding Area	8
3. SITE HISTORY	9
3.1. On-Site Historical Development	9
3.1.1. Summary Of On-Site Historical Development	10
3.2. Off-Site Historical Development	10
3.3. Planning History	10
3.4. Anecdotal Information	11
3.5. Previous Reports	11
4. ENVIRONMENTAL SETTING	12
4.1. Geology and Hydrogeology	12
4.2. Hydrogeology	12
4.3. Natural Landform and Geomorphology	12
4.4. Radon Risk Potential	13
4.5. Hydrology	13
4.6. Landfill Sites and Waste Treatment Sites	14
4.6.1. Waste Management Licenses & Environmental Permits	14
4.7. Unexploded Ordnance	14
4.8. Industrial Land Uses	15
4.9. Soil chemistry	16
4.10. Site Sensitivity Assessment	17
4.11. Regulatory Consultations	17
4.12. Regulatory Database	18
5. PRELIMINARY GEOTECHNICAL ASSESSMENT	19
5.1. Geotechnical Data	19
5.2. Subsidence	19
5.3. Preliminary Geotechnical Assessment	19
5.4. Coal Mining and brine	20
5.5. Preliminary Geotechnical Risk Register	21
6. INITIAL CONCEPTUAL SITE MODEL	22
6.1. Initial Conceptual Site Model	23
7. CONCLUSIONS	26
7.1. Contaminated Land Assessment	26
7.2. Geotechnical Assessment	26



APPENDIX I	27
LIMITATIONS	27
APPENDIX II GLOSSARY	29
APPENDIX III RISK CLASSIFICATION	32
APPENDIX IV DRAWINGS	34
APPENDIX V HISTORICAL MAPS	36

Drawing List

- 16-817-R1-001 - Site Location Plan
- 16-817-R1-002 - Proposed Development Plan
- 16-817-R1-003 - Site Features Plan
- 16-817-R1-004 - Historical Features Plan



1. INTRODUCTION

1.1. BACKGROUND

E3P has been commissioned by PWA Planning (the client) to undertake a detailed Phase I Geoenvironmental Site Assessment of Bolton Fold Farm, Preston Road, Preston, PR3 3BN; herein referred to as the site.

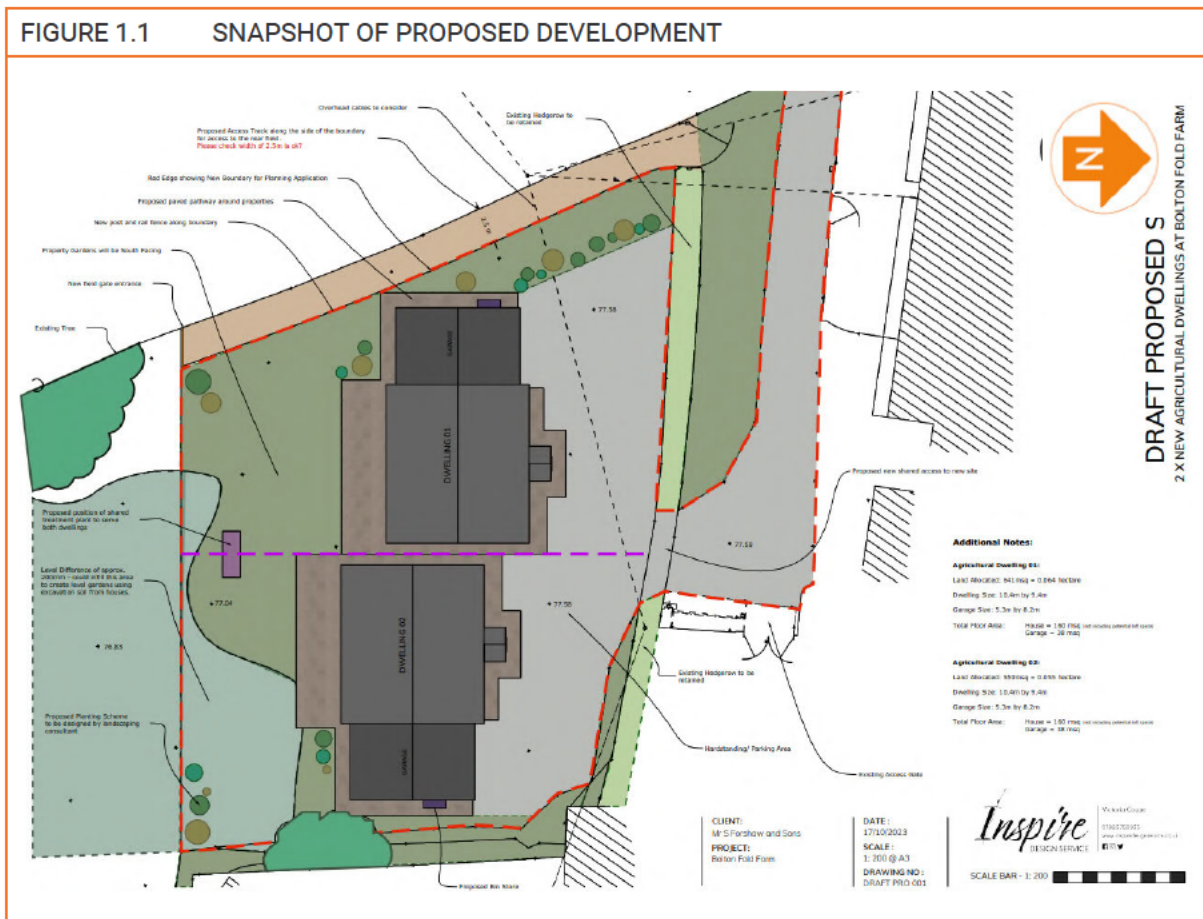
This report is required to determine potential contaminated land and geotechnical liabilities for the proposed site redevelopment.

1.2. PROPOSED DEVELOPMENT

E3P understands that PWA Planning intends to assist their client, Mr S Forshaw and Sons to construct a low-rise residential development comprising of two dwellings with associated gardens, estate road and infrastructure.

A snapshot of the proposed development layout is indicated in Figure 1.1 and Drawing 16-817-002 (Appendix IV)

FIGURE 1.1 SNAPSHOT OF PROPOSED DEVELOPMENT



1.3. OBJECTIVES

The objectives of the geoenvironmental site assessment are as follows:

- ✦ Review historical plans, geology, hydrogeology, site sensitivity, floodplain issues, mining records and any local authority information available in order to complete a desk study in line with Environment Agency (EA) document *Land Contamination: Risk Management (LCRM) (July 2023)*.
- ✦ Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site concerning the site's future use and in relation to off-site receptors.
- ✦ Assess the desk study information and, where possible, provide preliminary recommendations concerning foundations, pavement construction, general geotechnical issues, floor slabs and coal mining related issues.
- ✦ Provide recommendations regarding future works required.

1.4. SOURCES OF INFORMATION

- ✦ Groundsure Enviro+Geo Insight Search Reference GS-YFQ-4DX-1GR-QVH ;
- ✦ Historical mapping dated 1846 to present day. A selection of historical maps are reproduced in Appendix VI;
- ✦ Online planning records held by Ribble Valley Borough Council;
- ✦ Consultations with representatives of Ribble Valley Borough Council;
- ✦ <https://en-gb.topographic-map.com/>
- ✦ Radon: Guidance on protective measures for new buildings (BRE Document BR 211, 2007);
- ✦ British Geological Survey Map and Borehole Records;
- ✦ UXO - <https://zeticauxo.com/downloads-and-resources/risk-maps/>; and,
- ✦ Flood Risk - <https://flood-map-for-planning.service.gov.uk/>

1.5. LIMITATIONS

The limitations of this report are presented in Appendix I.

1.6. RISK CLASSIFICATION

The description of risk classification and the likely action required as set out in CIRIA C552 are included in Appendix III.

1.7. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from E3P; a charge may be levied against such consent.



2. SITE SETTING

2.1. SITE DETAILS

Site Address	Bolton Fold Farm, Preston Road, Preston, PR3 3BN.
National Grid Reference	E 360090, N 435334.
Site Area	0.18 Ha.

The Glossary presented in Appendix II defines all acronyms used within this report.

A site location map is presented in Appendix IV as Drawing 16-817-001.

2.2. CURRENT SITE USE

A desk-based site assessment has been completed by an E3P representative, with the full details included in Table 2.2.

TABLE 2.1 SITE DESCRIPTION

Occupancy/Use	The site is currently agricultural land comprising grassland utilised for grazing, with trees and hedges present along the field boundaries.	
Surface Cover (%)	Buildings	0
	Hardstand	0
	Soft Cover	100
Structures	No structures are present within the site boundary.	
Retaining Structures	No retaining structures are identified as present within the site boundary.	
Access	Vehicular and pedestrian access is present from Alston Lane, via a field gate in the north western corner of the site, from the access road to Bolton Fold Farm.	
Slope	The site is topographically flat.	
Vegetation/Ecology	The site is covered in grazed grassland with hedgerows on the northern, eastern and western boundaries. Areas of mature/semi-mature trees are present on the north eastern and south western boundaries.	
Hazardous Material Storage	No hazardous materials are stored within the site boundary.	
Asbestos-Containing Material (ACM)	In the absence of any historical development, the presence of ACM within the underlying Made Ground is not anticipated, though cannot be discounted.	
Polychlorinated Biphenyls (PCBs)	No electrical substations (which may contains PCBs) are present on site.	
PFAS/PFOA	No potential sources of PFAS and PFOA has been identified.	
Waste Storage	No potentially hazardous waste streams are generated at the Site.	
Drainage	A formal drainage survey has not been completed; however, in the absence of any historic development, site wide drainage is not anticipated.	



2.3. SURROUNDING AREA

The surrounding area land uses are summarised in Table 2.2.

TABLE 2.2 SURROUNDING LAND USES

DIRECTION	LAND USE
North	Residential Dwellings.
East	Bolton Fold Farm and Outbuildings.
South	Agricultural Land.
West	Residential Dwellings and The White Bull Inn Pub.






3. SITE HISTORY

3.1. ON-SITE HISTORICAL DEVELOPMENT

A review of historical mapping and historical aerial imagery pertinent to the site is summarised in Table 3.1. In addition, historical site features are presented on Drawing 16-817-004 in Appendix IV.

TABLE 3.1 HISTORICAL DEVELOPMENT

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
<p>1846 to 1892 1:10,560</p>	<p>The site is recorded as undeveloped agricultural land.</p> <p>A series of trees line the field boundary in the north and south west of the site.</p>	
<p>1967 1:2,500</p>	<p>No significant changes recorded.</p>	
<p>2020 Satellite Imagery</p>	<p>No significant changes recorded and the site remains in this configuration.</p>	

3.1.1. SUMMARY OF ON-SITE HISTORICAL DEVELOPMENT

The following summary points have been highlighted after a detailed review of the historical mapping series.

POTENTIAL HISTORICAL CONTAMINATION ISSUES

- ✿ Made Ground – infilling and ground workings associated with the removal of the hedgerows in the north of the site; is a potential source of heavy metals, asbestos containing materials (ACMs), PAHs and TPHs.
- ✿ Made Ground – localised infilling in the north of the site and potential peat deposits and are potential source of hazardous ground gas.

POTENTIAL HISTORICAL GEOTECHNICAL ISSUES

- ✿ Localised areas of infilled ground may be present – engineered to an unknown specification.
- ✿ Localised areas of peat may also be present.

3.2. OFF-SITE HISTORICAL DEVELOPMENT

A review of the off-site historical development through the historical ordnance survey within a 250m radius of the site is summarised below in Table 3.2.

TABLE 3.2 SURROUNDING HISTORICAL DEVELOPMENT

SURROUNDING FEATURE	DISTANCE	DATES	DIRECTION
Well	50m	Pre 1892 – Present	East
Well	45m	Pre 1892 – Present	South West
Pipe ...then no longer recorded	144m	Pre 1846 – Pre1892 Pre 1892 – Present	North West
Industrial Building	235m	Pre 1960 – Present	South West
Pond ...then no longer recorded	240m	Pre 1892 – Pre 1994 Pre 1994 – Present	South West

3.3. PLANNING HISTORY

E3P has undertaken a search of online planning records held by of Ribble Valley Borough Council which has not identified any environmentally pertinent planning applications for the subject site.

However, applications for the erection of a farm building and a single storey extension and recorded on neighbouring sites, however these are not likely to have an impact on the application site.

In light of this, there are no considered to be any adverse impact on the site from local developments.



3.4. ANECDOTAL INFORMATION

A web-based search of the subject site has revealed that the site formed part of Bolton Fold Farm that was bought by Ann Forshaw in 1980 and utilised to produce milk for the Forshaw's family run business, Alston Dairies.

3.5. PREVIOUS REPORTS

No previous site investigation reports have been provided for E3P to review.



4. ENVIRONMENTAL SETTING

4.1. GEOLOGY AND HYDROGEOLOGY

The British Geological Survey (BGS) map for the site, and online records indicate the site is underlain by the geological sequence presented in Table 4.1.

TABLE 4.1 SUMMARY OF UNDERLYING GEOLOGY

GEOLOGICAL UNIT	CLASSIFICATION	DESCRIPTION	AQUIFER CLASSIFICATION
Drift	Glacial Till	Clay, Silt and Gravel	Secondary Undifferentiated
Solid	Silsden Formation	MUDSTONE	Secondary A Aquifer

E3P has reviewed the BGS database, however there are no borehole records within 250m of the site boundary from which to compare the published geology above.

However, one geological fault has been recorded within 500m of the site, located c. 315m to the south.

4.2. HYDROGEOLOGY

The Groundsure report indicates that the site is not located within a Groundwater Source Protection Zone.

Furthermore, there are no groundwater / potable / surface water abstractions within 1km of the site.

Based on the local topography and location of surface watercourses it is considered likely that shallow groundwater, if present, will flow in a south westerly direction towards Tun Brook.

4.3. NATURAL LANDFORM AND GEOMORPHOLOGY

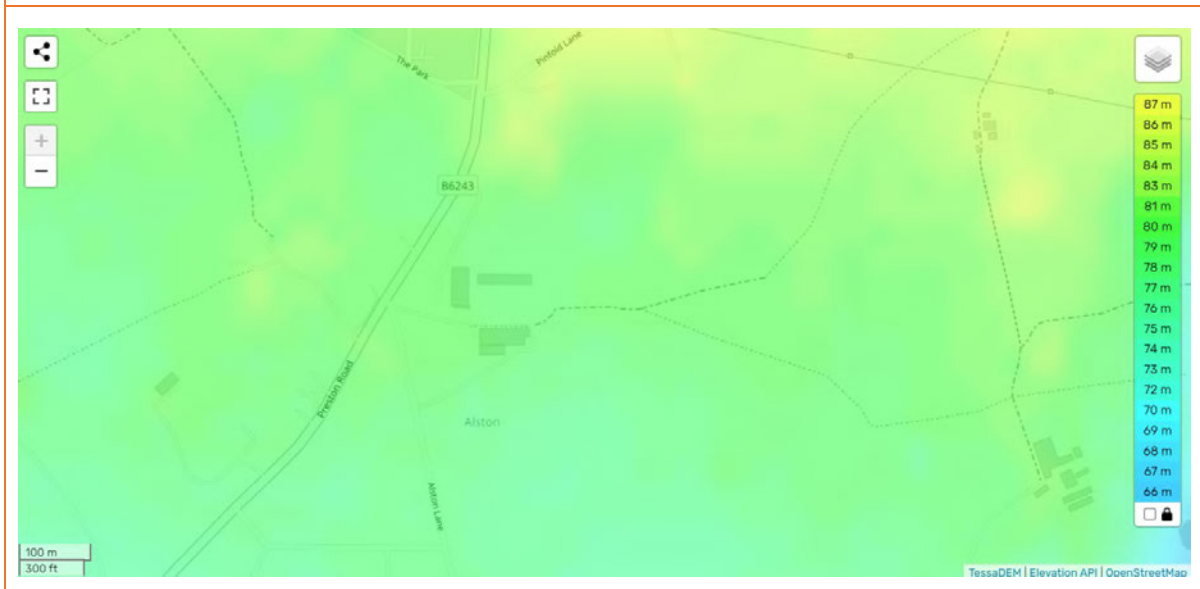
Based on the initial geological assessment, a review of available topographic data and pertinent mapping, E3P has undertaken a preliminary geomorphological evaluation of the landform and its possible mechanism for formation.

The site is relatively flat and the cohesive soils were likely deposited during the last glacial period, typically comprising a unsorted and unstratified accumulation of glacial sediment.

Due to the largely undeveloped nature of site, it is considered the present-day geomorphology is representative of natural conditions.



FIGURE 4.3 SURFACE LIDAR DATA (HTTPS://EN-GB.TOPOGRAPHIC-MAP.COM/)



4.4. RADON RISK POTENTIAL

The Groundsure report indicates that the site is situated in an area where less than 1% of homes are above the “Action Level” and that the BGS reports that full protective measures are not necessary for the construction of new dwellings or extensions.

4.5. HYDROLOGY

There are no other surface watercourses recorded within 100m of the site boundary.

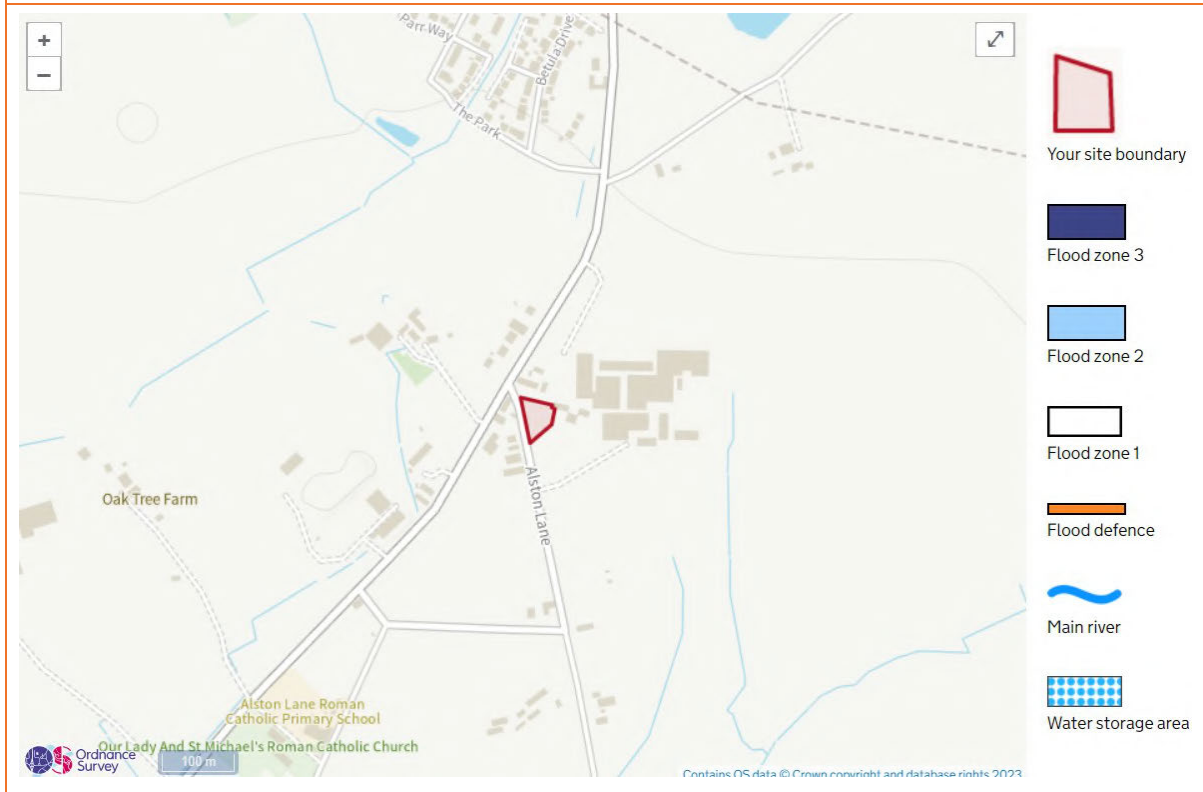
The closest is Tun Brook located c. 71m southeast at its nearest approach.

The site is recorded as Flood Zone 1 and is therefore largely unaffected by surface water / river flooding.

A record associated with surface water flooding may relate to drains not being able to cope with an extreme rainfall event. It is recommended that any drains at the site be subject to regular maintenance.

The Fluvial Flood Risk Map is presented in Figure 4.4.

FIGURE 4.4 FLUVIAL FLOOD RISK MAP



Source - <https://flood-map-for-planning.service.gov.uk/>

4.6. LANDFILL SITES AND WASTE TREATMENT SITES

No historic or active landfill and waste treatment sites are located within a 500m radius of the subject site.

4.6.1. WASTE MANAGEMENT LICENSES & ENVIRONMENTAL PERMITS

Two waste exemptions have been recorded within 500m of the subject site and these are summarised in Table 4.3 below.

TABLE 4.3 WASTE EXEMPTIONS

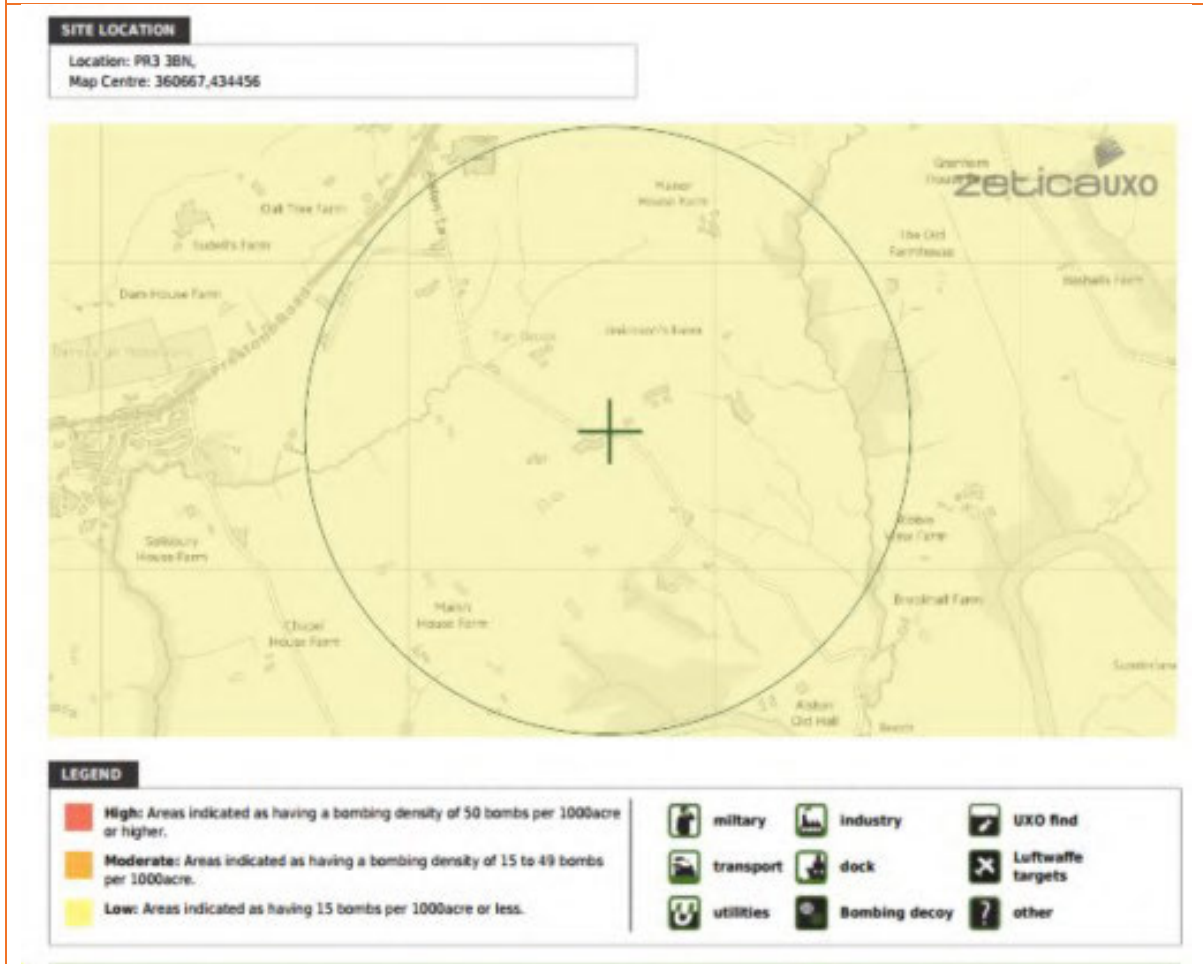
LOCATION	SITE	REFERENCE	CATEGORY	SUB-CATEGORY	DESCRIPTION
25m East	Bolton Fold Farm, Alston Lane, Alston, Preston, PR3 3BN	WEX036596	Using waste exemption	On a farm	Use of waste in construction
25m East		WEX036612	Using waste exemption		Use of waste in construction

4.7. UNEXPLODED ORDNANCE

The regional unexploded bomb risk map from Zetica (2014) indicates that the Site is in an area at low risk from possible unexploded ordnance (UXO) resulting from the Second World War.

The Zetica UXO Risk Map is presented in Figure 4.5.

FIGURE 4.5 ZETICA UXO RISK MAP



Source : <https://zeticauxo.com/downloads-and-resources/risk-maps/>

4.8. INDUSTRIAL LAND USES

There are four active industrial land uses within 250m of the site boundary, these have been summarised in Table 4.4 below.

TABLE 4.4 INDUSTRIAL LAND USES

COMPANY	ACTIVITY	DISTANCE (m)	DIRECTION
Alston Dairy	Dairy Products	56m	North East
Electricity Sub Station	Electrical Features	69m	North
Slurry Pit	Waste Storage, Processing and Disposal	200m	East
Electricity Sub Station	Electrical Features	207m	South West



4.9. SOIL CHEMISTRY

The UK Soil Observatory Map Viewer datasets details the topsoil concentrations of five potentially harmful elements (PHEs): Arsenic (As), Cadmium (Cd), Chromium (Cr), Nickel (Ni) and Lead (Pb). Elevated concentrations of these PHEs can exist because of natural geological conditions or possible anthropogenic sources.

The following estimated soil chemistry levels for the site are detailed in Table 4.5 overleaf.

TABLE 4.5 ESTIMATED SOIL CHEMISTRY

POTENTIALLY HARMFUL ELEMENT	ESTIMATED GEOMETRIC MEAN CONCENTRATION RANGE WITHIN THE SITE BOUNDARY (mg/kg)
Arsenic	~15
Cadmium	~1.8
Chromium	90 – 120
Lead	~100
Nickel	15 – 30

A comparison of these estimated concentrations with relevant Tier I values would indicate that these heavy metal compounds would not pose a development constraint.

However, actual concentrations within any local Made Ground deposits will need to be confirmed through ground investigation.



4.10. SITE SENSITIVITY ASSESSMENT

The site is assessed to be located within a “Moderate” sensitivity setting as discussed within Table 4.6 overleaf.

TABLE 4.6 SITE SENSITIVITY ASSESSMENT

SENSITIVITY PROFILE	DISCUSSION	RATING
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is not situated within a Groundwater Source Protection Zone.	Low
Distance to the Closest Groundwater Abstraction Point	A historical abstraction point was located 1545m north of the site for general use at Mill Farm.	Low
Aquifer Classification in Superficial Drift Deposits	Secondary undifferentiated aquifer.	Low
Aquifer Classification in Bedrock	Secondary A Aquifer. The Secondary A Aquifer is not considered a sensitive receptor. Furthermore, the overall sensitivity is reduced due to the absence of any potable water supply boreholes within 1000m of the site.	Low
Is the Site Underlain by Low-Permeability Drift to Depths in Excess of 10 m?	The underlying superficial deposits are likely to comprise impermeable cohesive soils and will therefore limit the potential for downward migration of any mobile contaminants.	Low
Is the Site Located Within 50 m of a Surface Watercourse?	No surface water features are located within 50m of the site boundary.	Low
Sensitive Land Uses Within Close Proximity (e.g. Residential, School, Nursery, Local Nature Reserves)	The closest residential properties are located approximately 10m to north and west of the site. No other sensitive land uses are recorded within 250m of the site.	Moderate
OVERALL SITE ENVIRONMENTAL SENSITIVITY		Moderate

4.11. REGULATORY CONSULTATIONS

E3P have contacted Ribble Valley Borough Council and they provided the following information:

- ✳ The Council have not classified the site as Contaminated Land as defined in Part 2A of the EPA 1990;
- ✳ The Council do not intend to investigate the site; and
- ✳ No historic land uses of concern or sites identified as possibly being affected by contamination in that area on their mapping records.



4.12. REGULATORY DATABASE

The information summarised in Table 4.6 has been obtained from a commercially available environmental database.

The summary table only includes records from within 250 m of the subject site and not otherwise detailed in the report.

TABLE 4.6 SUMMARY OF ENVIRONMENTAL DATA

RECORD	ENTRIES WITHIN 250 m	DETAILS
Contaminated Land Register Entries and Notices	0	None identified.
Authorised Industrial Processes (Part A1, A2 and B Processes)	0	None identified.
Fuel Stations Entries	0	None identified.
Licensed Radioactive Substances	0	None identified.
Enforcements, Prohibitions or Prosecutions	0	None identified.
Discharge Consents	3	86m South West – Sewage discharges 2009. 86m South West – Sewage discharges 2012. 192m South West – Trade discharges 1979.
Pollution Incidents	3	213m South West – Inorganic chemicals/product pollution 2001. 234m North – Atmospheric Pollutants and effects 2003. 244m South East – Agricultural Materials and Wasters 2007.
Consents Issued Under the Planning (Hazardous Substances) Act 1990	0	None identified.
Control of Major Accident Hazard (COMAH) Sites	0	None identified.



5. PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1. GEOTECHNICAL DATA

Geotechnical data presented within a commercially available environmental database is summarised in Table 5.1.

TABLE 5.1 SUMMARY OF GEOTECHNICAL DATA

HAZARD	DESIGNATION
Shrink-Swell Clay	Very Low Risk
Landslides	Very Low Risk
Ground Dissolution	Negligible
Compressible Ground	Negligible
Collapsible Deposits	Very Low Risk
Running Sand	Very Low Risk

5.2. SUBSIDENCE

Information within the Groundsure Report states the site is within an area of negligible hazard from rock solubility.

When undertaking an online search for sinkholes in the area, a news report identifies a sink hole opened up on Inglewhite Road 4.3km from site in 2021. The cause of this was attributed to an infrastructural issue with local water provider United Utilities' sewer collapsing, the report stated that the company would rectify the issue.

5.3. PRELIMINARY GEOTECHNICAL ASSESSMENT

Based on the desk-study information, the following geotechnical assessment has been made:

- ✦ The site has remained undeveloped agricultural land, and as such, the presence of site wide deep Made Ground is not anticipated. However, local areas of Made Ground associated with the infilled pond in the southeast corner cannot be discounted.
- ✦ In the absence of any structures, no relict foundations or buried sub-structures (which may require deep excavations) are considered likely.
- ✦ The site is not underlain by any recorded historic shallow mine workings, or instability issues which may pose a future subsidence risk.
- ✦ The underlying superficial geology comprises a predominantly cohesive soils and as such is not likely to offer the required degree of permeability to make soak-away drainage viable in this instance.



5.4. COAL MINING AND BRINE

The site is not located within a Coal Authority defined 'Development High Risk Area' and the Groundsure report states the site is in an area which may not be affected by coal mining activity.

Therefore, E3P do not believe any further assessment is required at this stage.

Furthermore, the site is not within the Cheshire Brine district and no further assessment is required.



5.5. PRELIMINARY GEOTECHNICAL RISK REGISTER

POTENTIAL ABNORMAL CONSTRAINT	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Remediation of Contaminated Soils	Site	TBC	No significant sources of contamination have been identified. Investigation is required to determine the presence of any local Made Ground and any levels of contamination, prior to developing remediation strategies, if necessary.
Steep Slope to Adjacent Site	N/A	N/A	The wider landform is largely flat with not significant slopes in the surrounding areas.
Obstructions	N/A	N/A	In the absence of any historic development, the presence of obstructions are not anticipated.
Artificially Levelled and Filled Platforms	N/A	N/A	The site is not likely to have been levelled, however local areas may have been infilled historically.
Infilled Pond / Hedges	N/A	N/A	None recorded, but infilled areas cannot be entirely discounted.
Mature Trees	Site	>5	Mature / semi trees are present at the southwest boundary. Arboriculture survey may be required to determine areas of potential tree influence if any development is planned for this portion of the site.
Volume Change Potential Clay	All	100	Heave precautions likely to be needed at the site within areas of shallow cohesive soils. The full extent of precautions will only be determined after site investigation.
Running Sands	N/A	N/A	Data searches indicate Very Low Risk.
Ground Dissolution	N/A	N/A	Data searches indicate Negligible Risk.
Shallow Bedrock	N/A	N/A	The presence of shallow bedrock is not anticipated.
Peat	TBC	-	To be confirmed during Ground Investigation though not anticipated.
Low-Permeability Ground	TBC	-	Soakaways unlikely to be effective in areas where low permeability cohesive deposits are present or where areas of potentially contaminated soil and groundwater are present.
Services/Sensitive Structures	N/A	N/A	Overhead lines are present and therefore these may need to be diverted as part of the construction activities. No other services / sensitive structures anticipated.
Abnormal Foundation Solutions	N/A	N/A	Not anticipated.



6. INITIAL CONCEPTUAL SITE MODEL

Under EA LCRM (July 2023) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 Risk Assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area.

An initial screening of the on and potential off-site sources of contamination has been undertaken below.

ON-SITE SOURCES OF CONTAMINATION

The site has remained undeveloped agricultural land and no permanent structures are recorded throughout its mapped history.

A pond is noted to have been infilled (or silted up) in the southeast corner and the local Made Ground may contain low-level concentrations of asbestos, heavy metals, hydrocarbons, PAHs.

However, site-wide contamination is not anticipated.

OFF-SITE SOURCES OF CONTAMINATION

No significant off-site sources of contamination have been identified.

A detailed initial CSM included overleaf as Table 6.1.



6.1. INITIAL CONCEPTUAL SITE MODEL

Upon assessment of the information collated for the Phase 1 desk study, the initial conceptual site model shown in Table 6.2 has been prepared for the Site.

TABLE 6.2 INITIAL CONCEPTUAL MODEL

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
SOIL					
Made Ground Metals and PAHs in areas of infilled ground	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2	Human Health – site personnel	Yes	Moderate	The initial CSM has identified contaminants of concern that may be present within areas of infilled ground. Recommendation: Construction works to be completed with appropriate PPE and welfare facilities.
		Human Health – end users	No	Low	In the absence of any significant sources of contamination or sensitive receptors, E3P consider the site to pose no unacceptable level risk to constructions workers or future site users. Recommendation: Therefore, the site is likely considered suitable for redevelopment without the requirement for any remediation works or mitigation measures.
Made Ground Asbestos (Asbestos containing materials (ACM) and loose fibres)	Inhalation (of fibres). Construction works disturbing bound material and releasing fibres. PL3	Human Health - Site personnel, end land users, and users of adjacent sites	Yes	Low	Risk of inhalation of fibres is low due to the absence of any structures or previous earthworks. Recommendation: Intrusive investigation will be required to determine presence of ACMs within any infilled ground and develop appropriate mitigation measures. Construction works to be completed with appropriate PPE and welfare facilities.



CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
Made Ground Sulphate from potential ash within the Made Ground.	Sulphate attack on concrete. PL6	Building concrete	Yes	Moderate	Due to the potential presence of Made Ground on the north of the site, the potential for sulphate in ash deposits is high which may impact the proposed building concrete. Recommendation: Intrusive investigation will be required to assess the concrete classification. Construction works to be completed with appropriate PPE and welfare facilities.
Made Ground Organic contaminants such as hydrocarbons, solvents	Ingestion of tainted water supply. PL7	Human Health – End Users Water pipeline	Yes	Low	Possible Made Ground may contain organic contaminants such as hydrocarbons which pose a risk to future site users through the ingestion of tainted water supply. The risk is considered to be low. Recommendation: Intrusive investigation required.
Made Ground Phytotoxic contaminants	Direct contact (plant uptake). PL8	Flora	Yes	Moderate	Likely probability as contamination considered possible, which may be taken up by flora in soft landscaping/gardens. Recommendation: Intrusive investigation required.
CONTROLLED WATERS					
Made Ground (Mobile Contaminants)	Leaching of contaminants from Made Ground through infiltration and percolation of rainwater. PL5	Controlled waters, underlying Secondary Undifferentiated aquifer	Yes (limited)	Low	There is the potential for Made Ground deposits to be present in localised areas beneath the site. The underlying superficial deposits are likely to comprise impermeable cohesive soils and will therefore limit the potential for downward migration of any mobile contaminants. The sensitivity of the aquifer is reduced, given the fact that no groundwater/potable abstractions are recorded within 1km of site.



CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
Groundwater	Contact with contaminated groundwater. PL2	Human Health – site personnel	No	Low	Groundwater is known to be below construction level and as such, is expected to not rise above ground level or the final level of the road.
GROUND GAS					
Ground Gases (methane and carbon dioxide)	Inhalation of ground gas. PL4	Human Health – site personnel	Yes	Low	During excavation work removal of confining strata may expose workers to volumes of pocketed gas. Protective measures during the work required. There is also potential for hazardous ground gas to accumulate in confined spaces.
		Human Health – end users	No	Low	The underlying superficial deposits are likely to comprise impermeable cohesive soils and will therefore limit the potential for migration of any ground gas. If ground gases are identified, mitigation measures should be implemented, however there is unlikely to be a viable source.
	Accumulation of ground gas in confined spaces (asphyxiation or explosion)	Infrastructure and services	No	Low	Service conduits have been designed with passive venting systems.

Main exposure pathways:

PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas Inhalation; PL5 = Vertical / Lateral Migration; PL6 = Corrosion of concrete; PL7=Tainting of water supply; PL8 = Uptake by plants.



7. CONCLUSIONS

7.1. CONTAMINATED LAND ASSESSMENT

Human Health	<p>Given the undeveloped nature of the site, there are unlikely to be any significant sources of contamination present that would pose a significant risk to human health or prejudice the development of the dwellings.</p> <p>However, local Made Ground cannot be entirely discounted although the overall risk is very low.</p>
Controlled Waters	<p>The Initial Conceptual Site Model has not identified any potentially significant on-site sources of mobile contamination, as such the site is deemed to pose a very low risk to controlled waters.</p>
Ground Gas	<p>No significant sources of hazardous ground gas have been identified and the overall risk is considered to be very low.</p>
Potable Water	<p>The site will likely require Standard PE Pipework.</p> <p>A UKWIR risk assessment is required following an intrusive investigation to confirm the water pipeline design.</p>

7.2. GEOTECHNICAL ASSESSMENT

Geological	<p>A volume change potential assessment may be required and consideration of the potential water demand of trees affecting foundations should be considered.</p> <p>No other significant geological restraints are anticipated.</p>
Civil and Structural	<p>No significant civil or structural restraints are anticipated.</p>
Abnormal Foundations	<p>No abnormal foundations are anticipated.</p>

END OF REPORT

APPENDIX I LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



APPENDIX II

GLOSSARY

TERMS

ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
CA	Coal Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation
MCV	Moisture condition value	WRAP	Waste and Resources Action Programme



MIBK	Methyl isobutyl ketone	WTE	Water table elevation
m	Metres	ppm	Parts per million
km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)		



APPENDIX III

RISK CLASSIFICATION

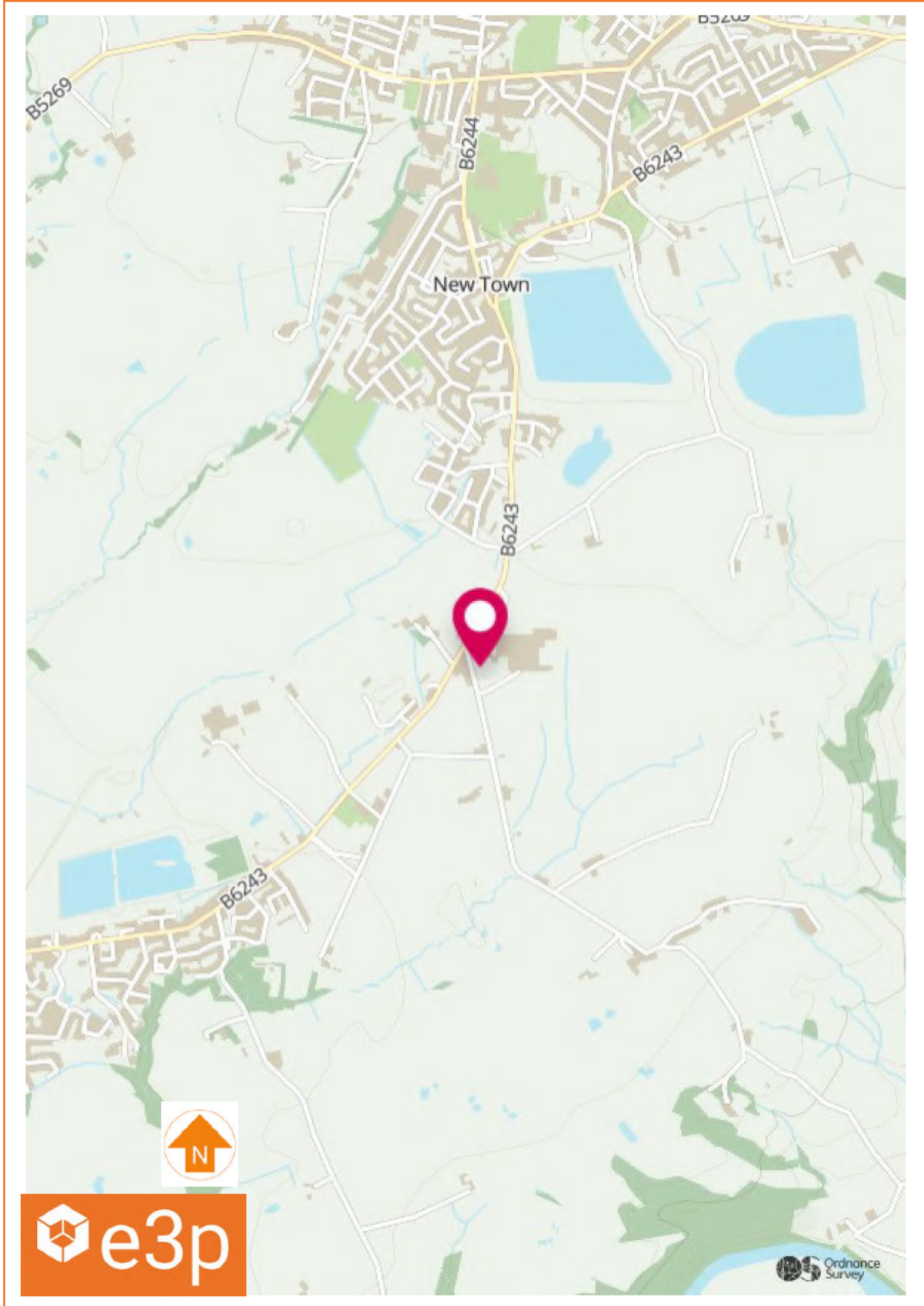
RISK CLASSIFICATION

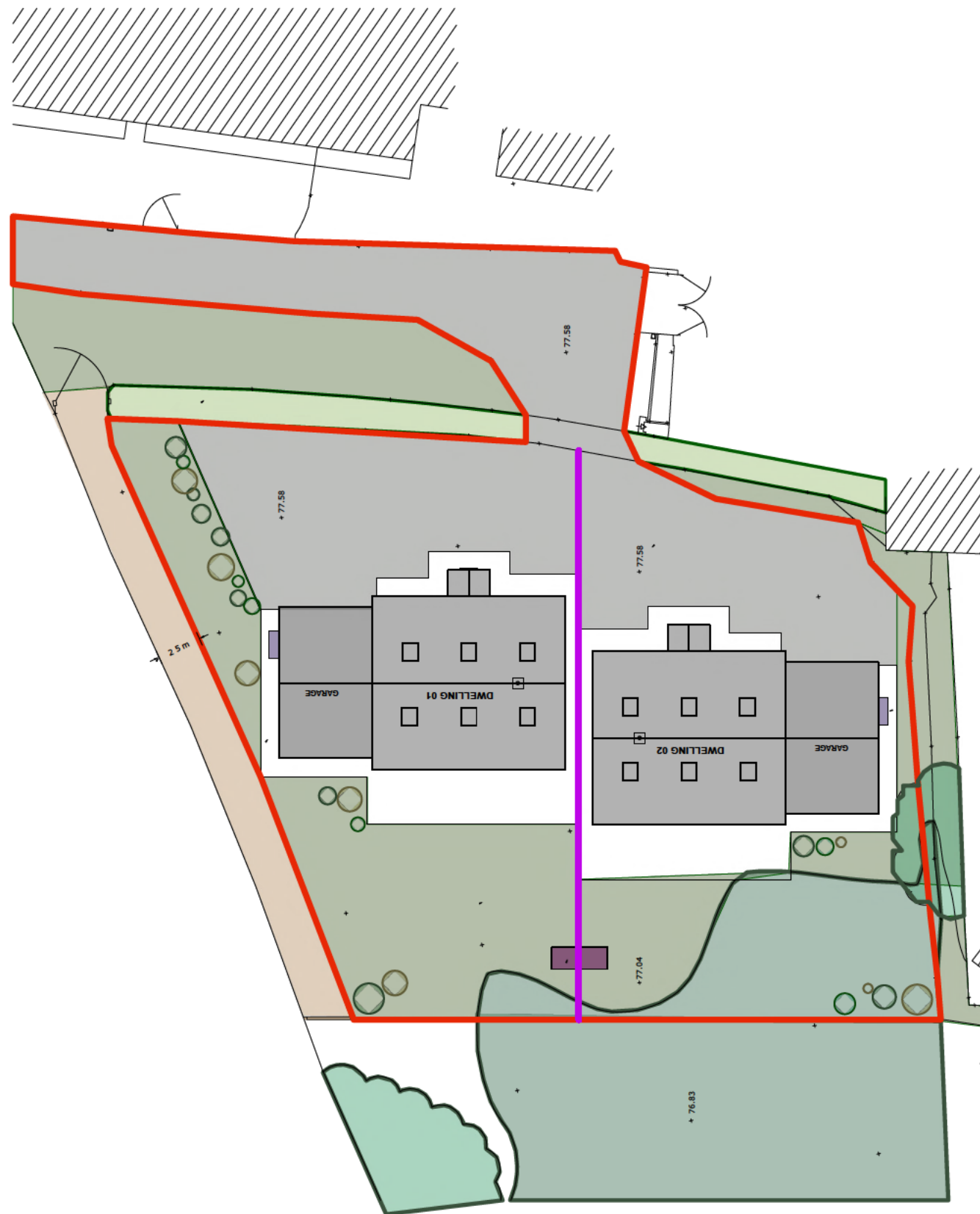
RISK	DEFINITION
Low	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property.
Low Moderate	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property with regard to the proposed use. However, minor issues may require further consideration in the event of future redevelopment of the Site.
Moderate	Some potential contaminated land liabilities/geotechnical constraints are likely to affect the property as a result of historical and/or current activities. The risks identified are unlikely to pose an immediate significant issue but the purchaser/developer may wish to make further enquiries of the vendor or undertake further environmental improvements. Redevelopment of the Site will likely require further site investigation.
Moderate High	Some potentially significant contaminated land liabilities/geotechnical constraints have been identified at the property that requires further assessment, including intrusive ground investigations.
High	Significant potential contaminated land liabilities/geotechnical constraints have been identified at the property. Further assessment including intrusive ground investigation will be required to determine the level of risk and associated liability.



APPENDIX IV DRAWINGS

DRAWING 16-817-001 – SITE LOCATION PLAN





Notes:

P1	REVA	16.11.2023	CB	JC	EF
Phase	Issue	Date	Drawn	Checked	PM

Client:
PWA Planning


Job Title:
**Bolton Fold Farm,
Preston**

Job No:
16-817

Drawing No:
002

Date:
16.11.2023

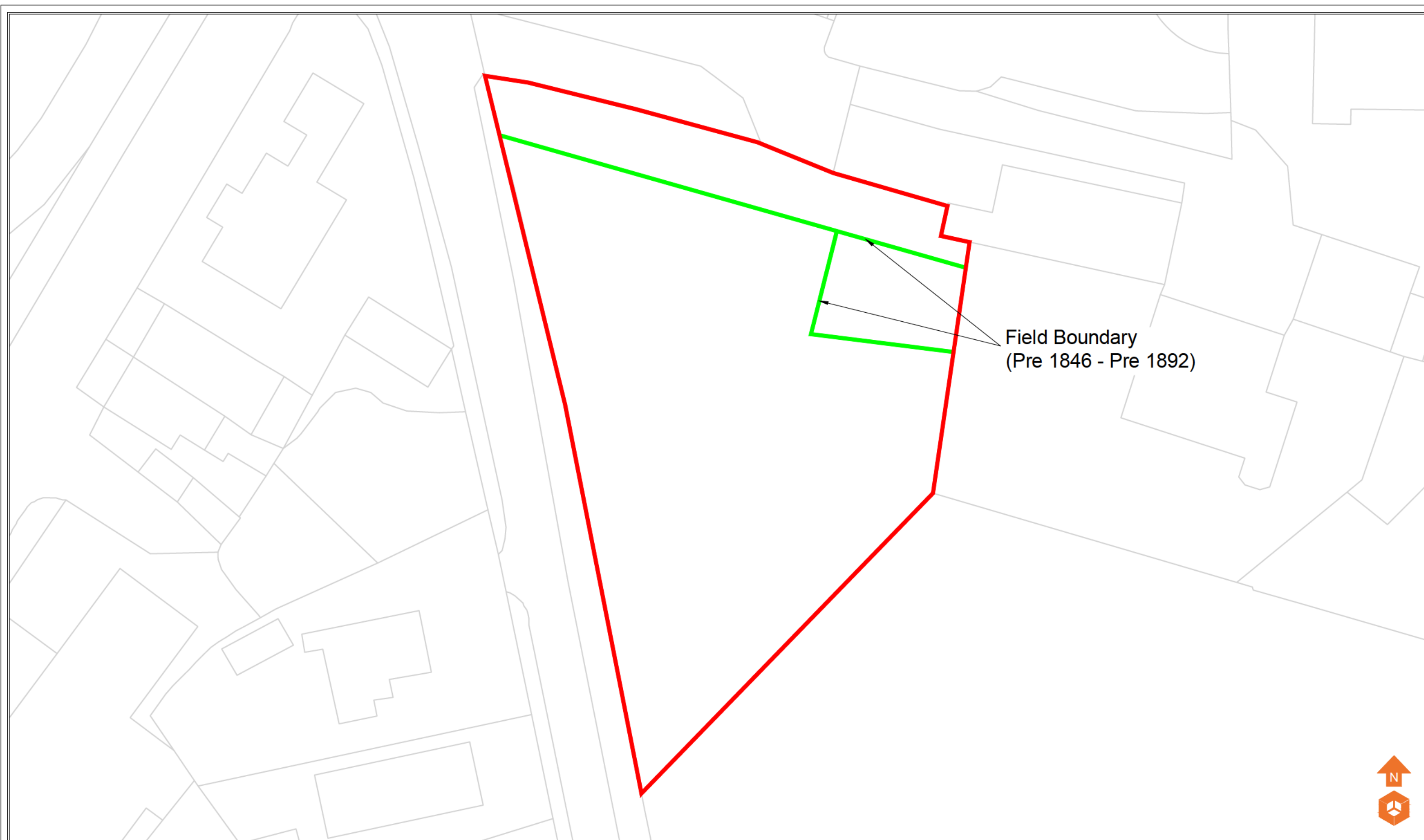
Scale:
NTS @ A3



Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

Drawing Title:
Proposed Development Plan



Historical Features

Field Boundary (Pre 1846 - Pre 1892)

P1	REVA	15.11.2023	CB	JC	EF
Phase	Issue	Date	Drawn	Checked	PM

Notes:


Client:
PWA Planning

Job No:
16-817

Drawing No:
003

Date:
15.11.2023

Scale:
NTS @ A3



Environmental Engineering Partnership Ltd
 Taylor Road, Trafford Park
 Urmston, Manchester, M41 7JQ
 Tel: 0161 707 9612
 E-mail: info@e3p.co.uk
 Website: www.e3p.co.uk

P1	REVA	15.11.2023	CB	JC	EF
Phase	Issue	Date	Drawn	Checked	PM

Job Title:
**Bolton Fold Farm,
Preston**

Drawing Title:
**Historical Features
Plan**

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



Site Features						
	Hedgerows					
	Mature Trees					
	Soft Cover					

Notes:					
P1	REVA	15.11.2023	CB	JC	EF
Phase	Issue	Date	Drawn	Checked	PM

Client:	
PWA Planning	
Job Title:	
Bolton Fold Farm, Preston	

Job No:	16-817
Drawing No:	004

Date:	15.11.2023
Scale:	NTS @ A3
Drawing Title:	
Site Features Plan	

Environmental Engineering
Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

APPENDIX V

HISTORICAL MAPS

Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

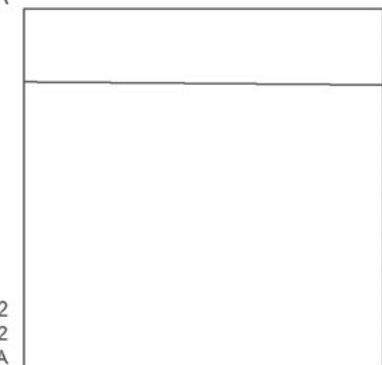
Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1892
 Revised 1892
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1892
 Revised 1892
 Edition N/A
 Copyright N/A
 Levelled N/A

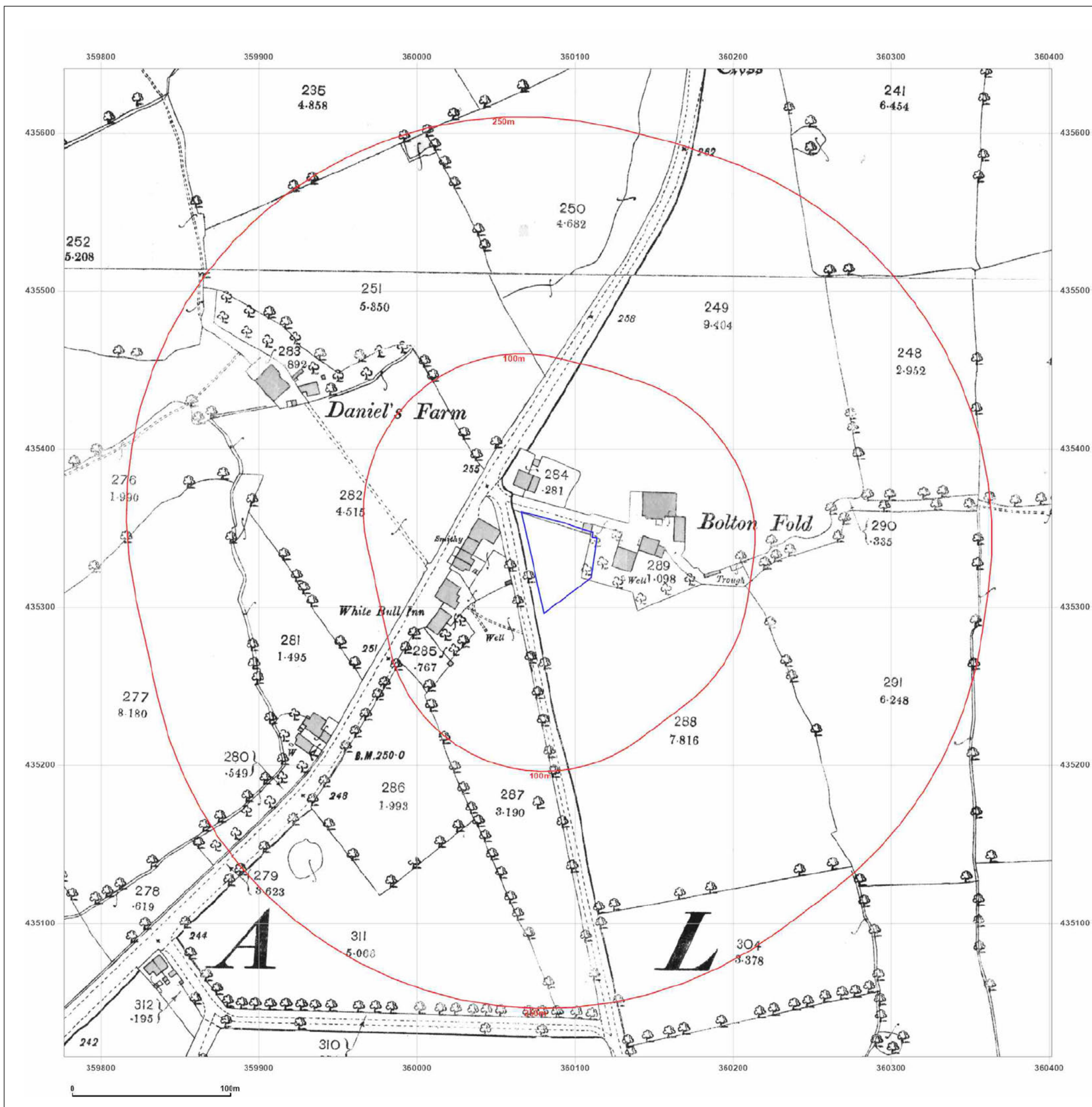


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

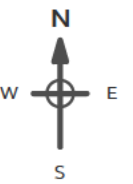
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

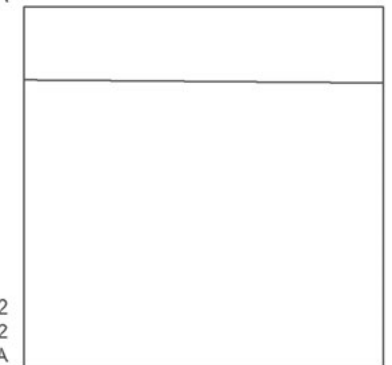
Map date: 1912

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1912
 Revised 1912
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1912
 Revised 1912
 Edition N/A
 Copyright N/A
 Levelled N/A

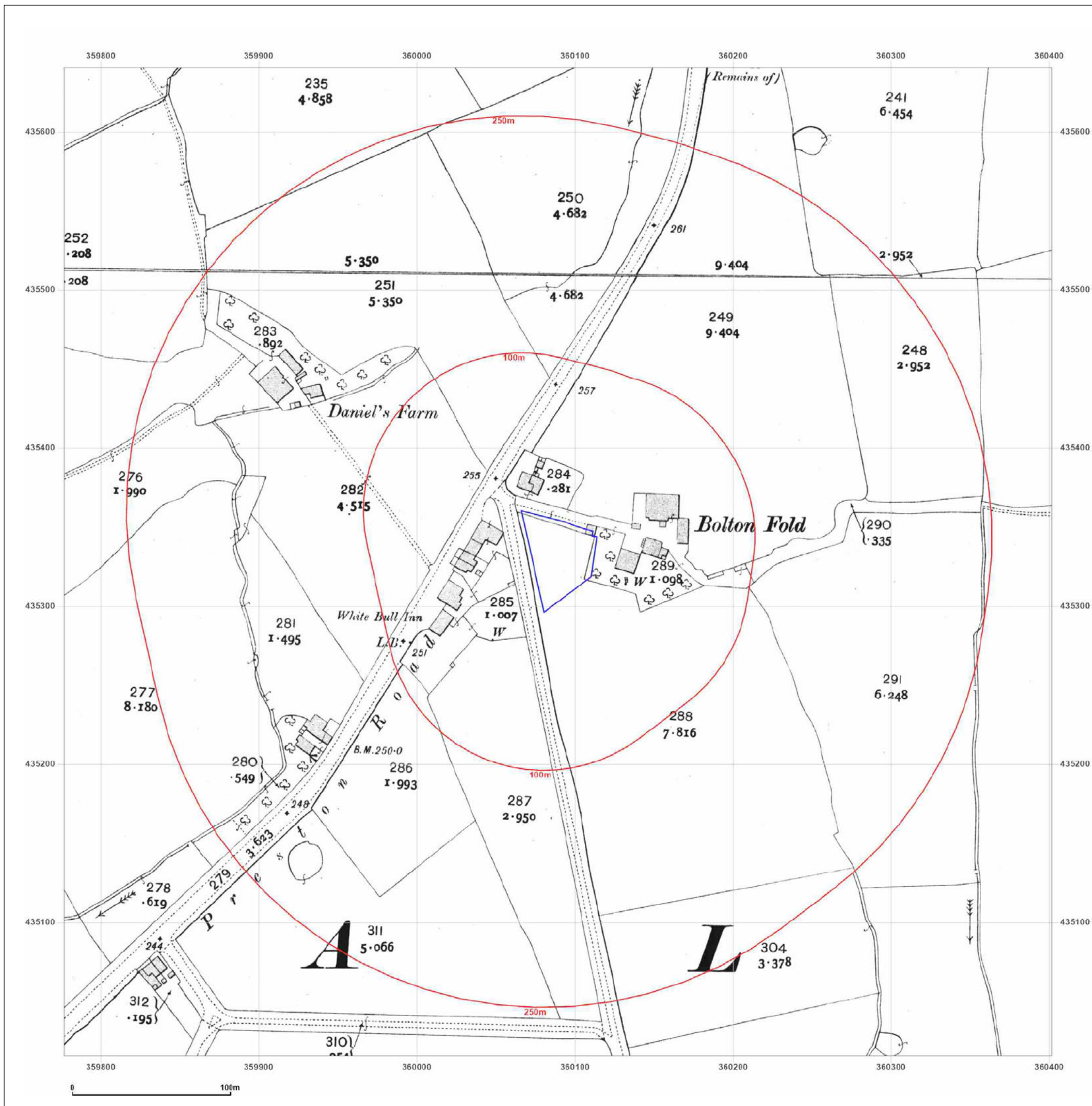


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

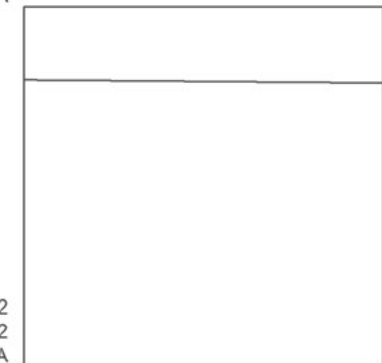
Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1932
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1932
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A

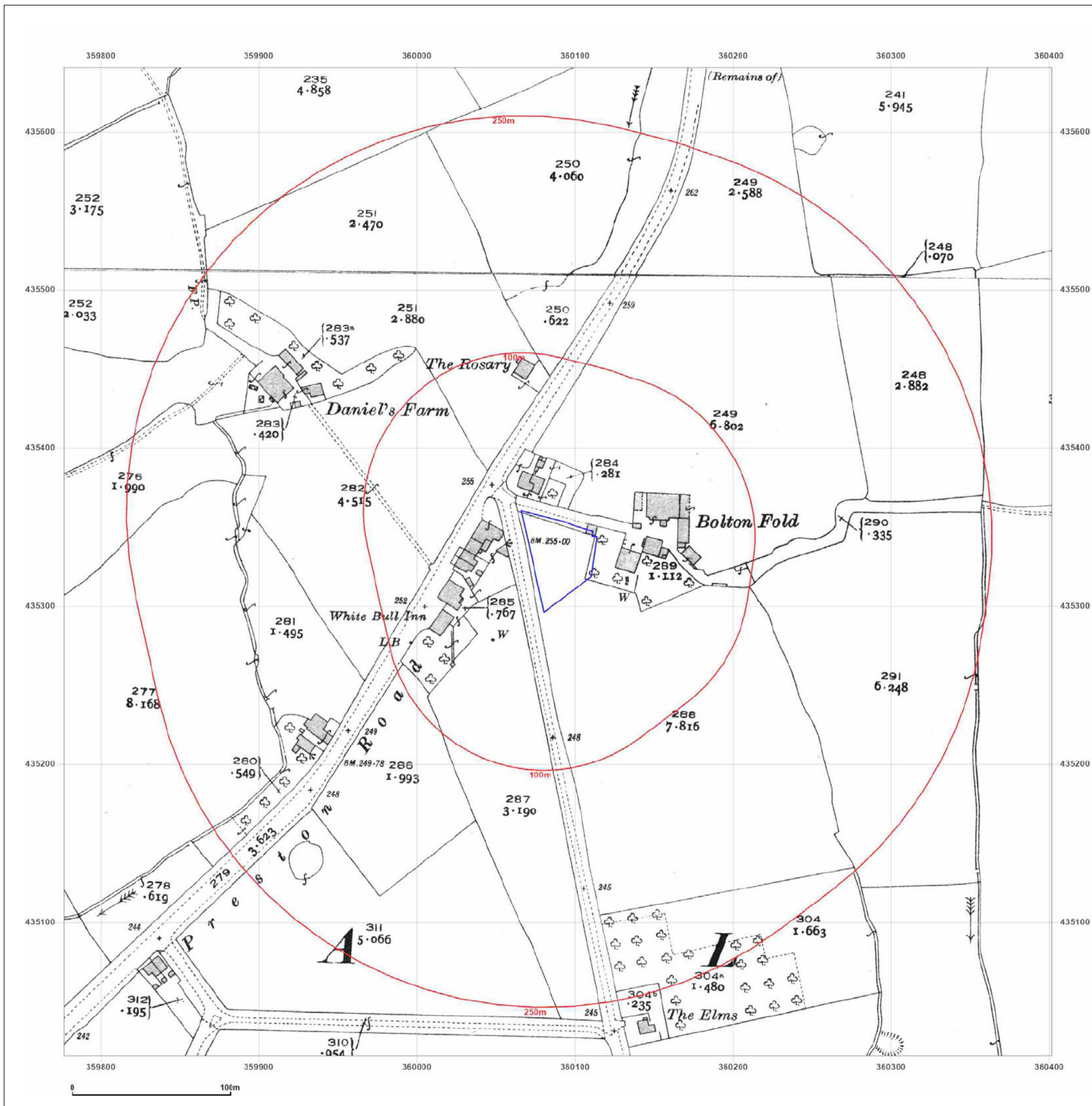


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

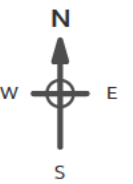
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

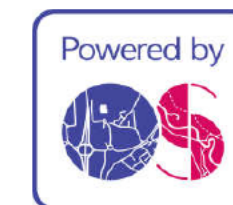
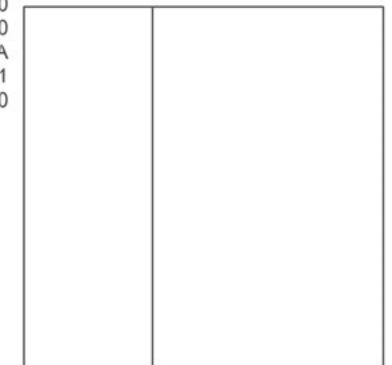
Map date: 1960

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1960
 Revised 1960
 Edition N/A
 Copyright 1961
 Levelled 1930

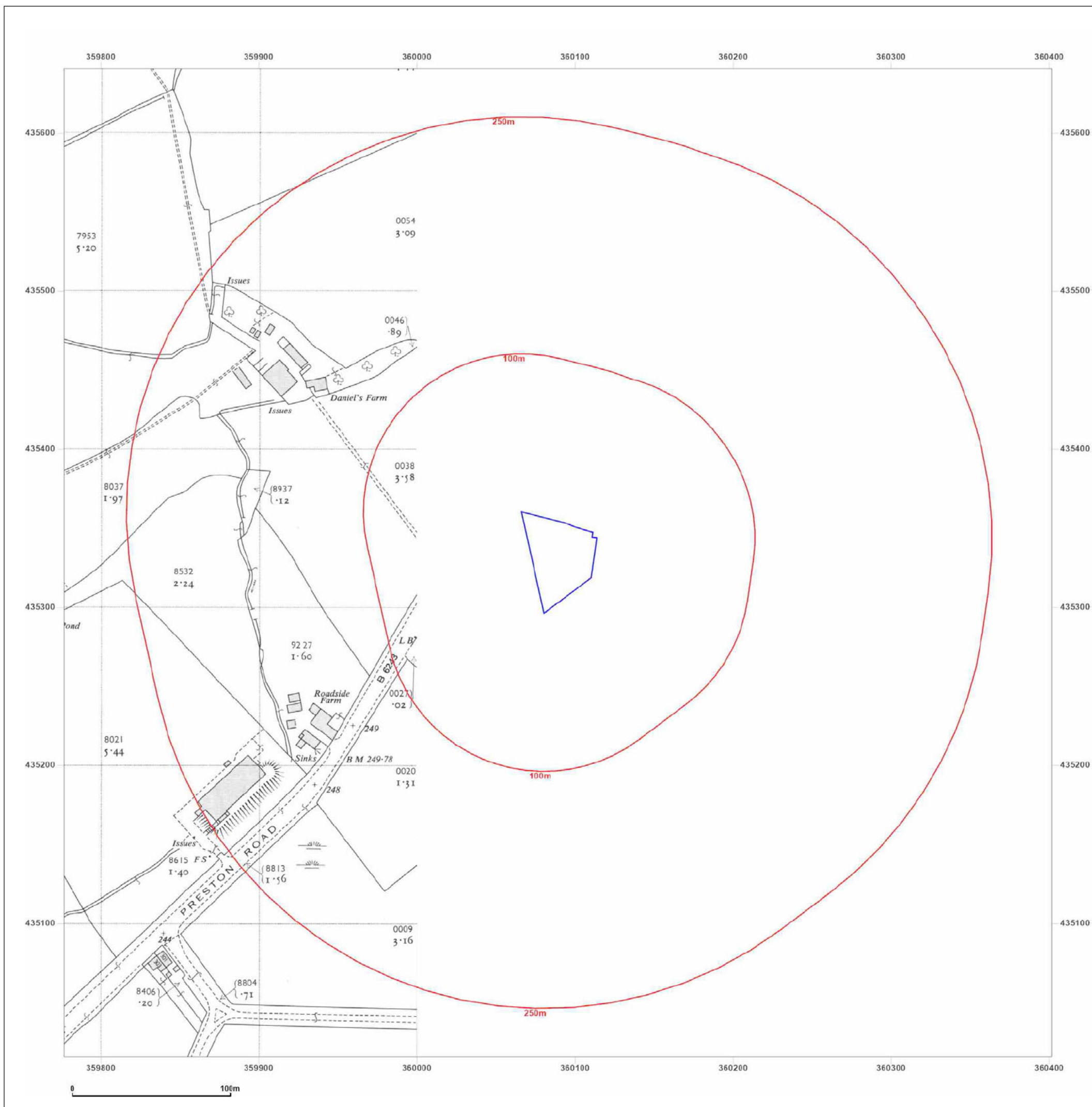


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

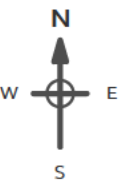
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

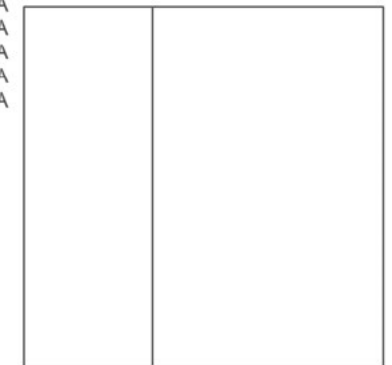
Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



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

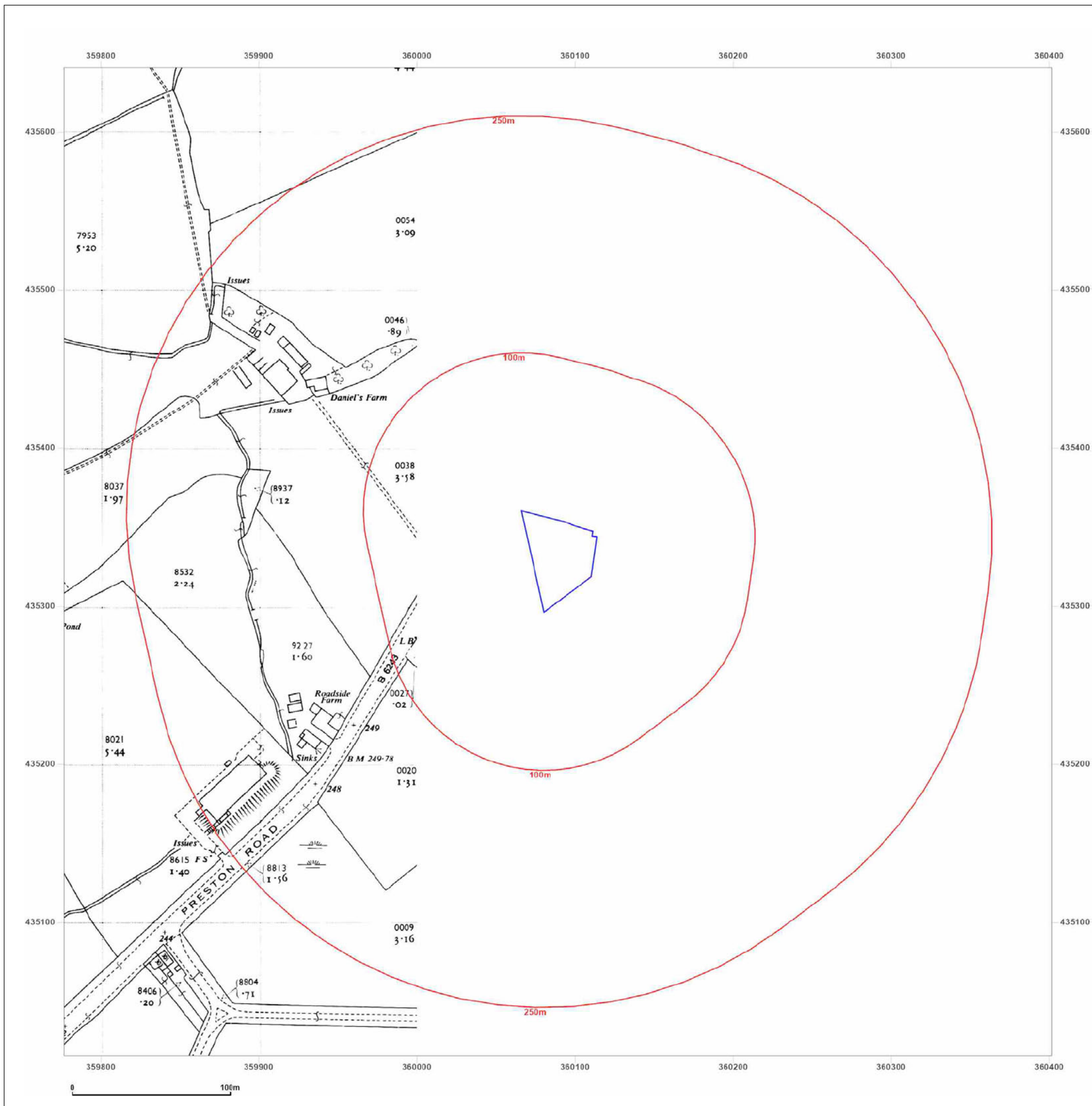


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

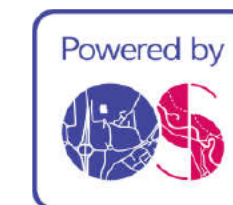
Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



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

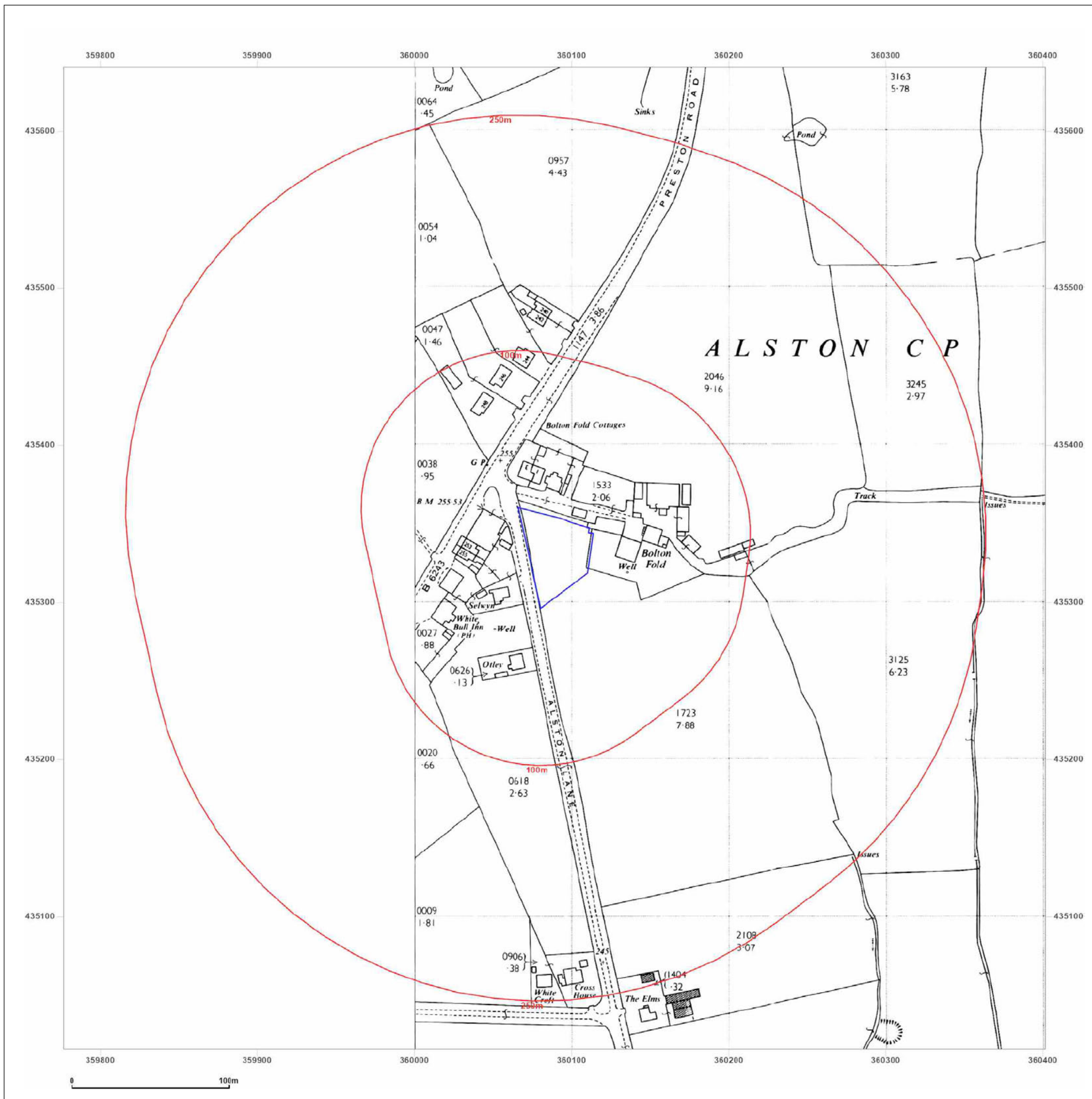


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

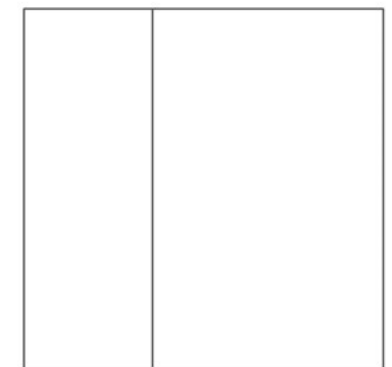
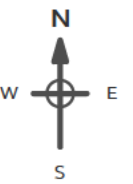
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright 1967
 Levelled 1961

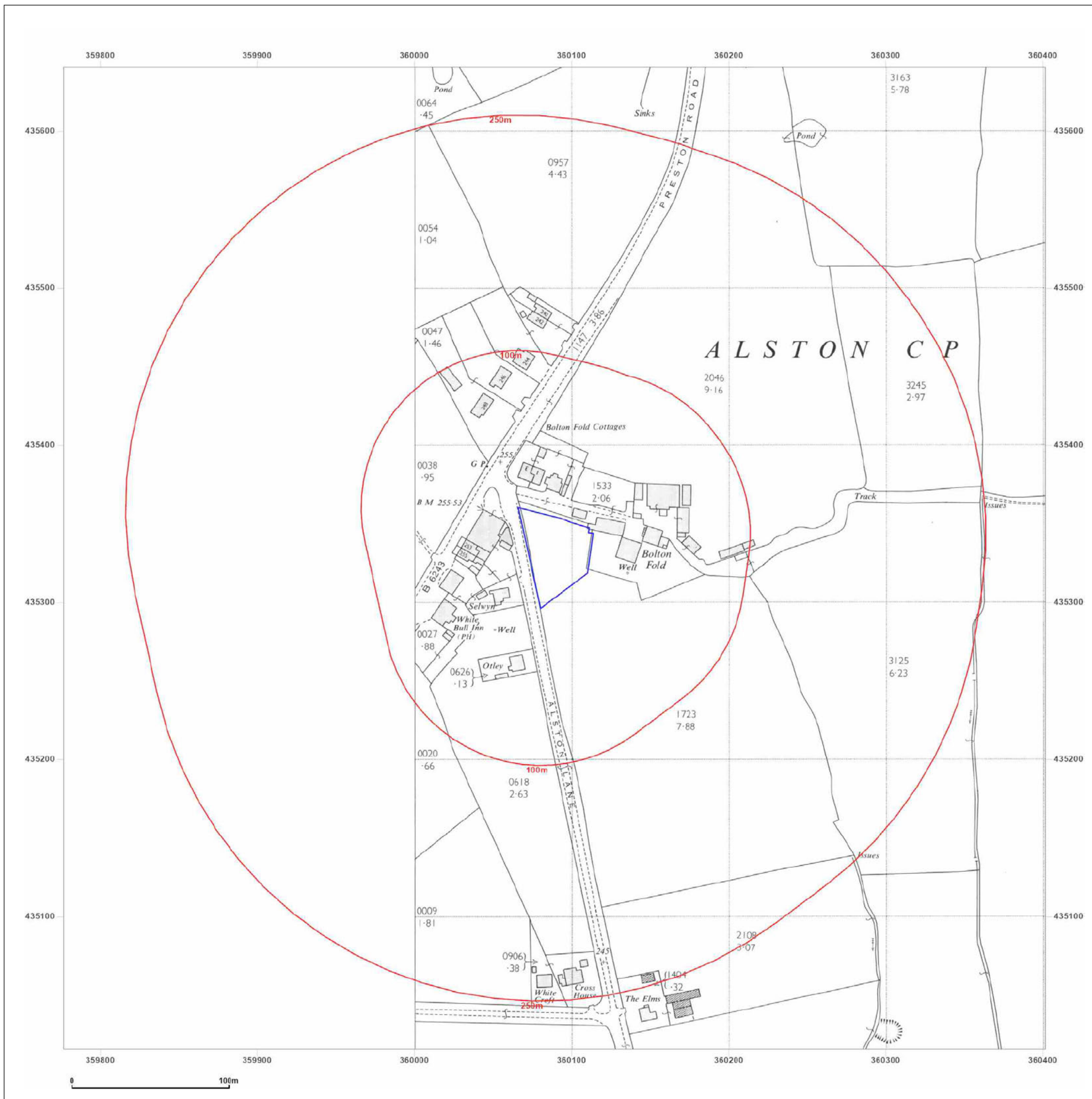


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

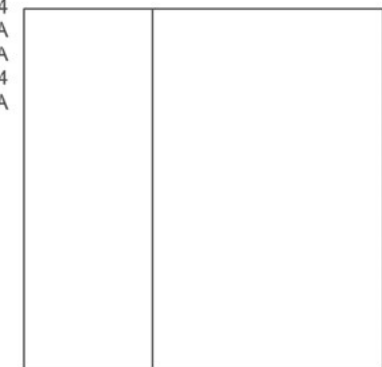
Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



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



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

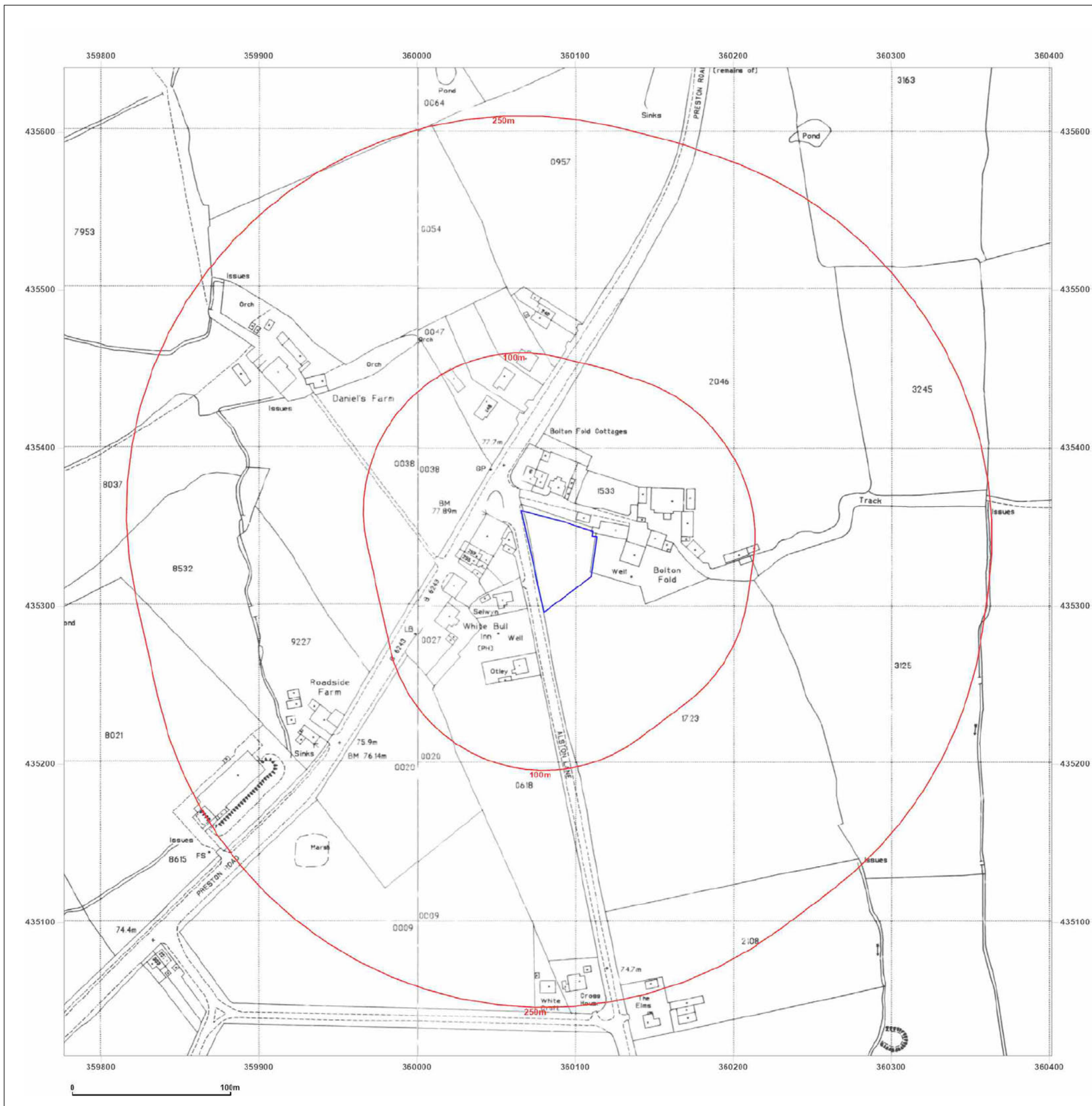


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

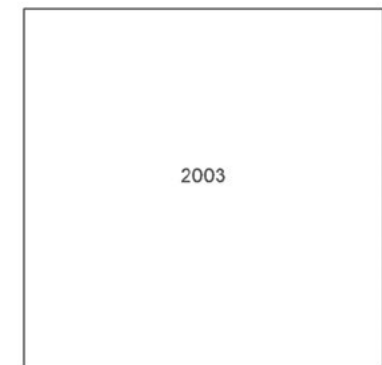
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

Map date: 1846-1847

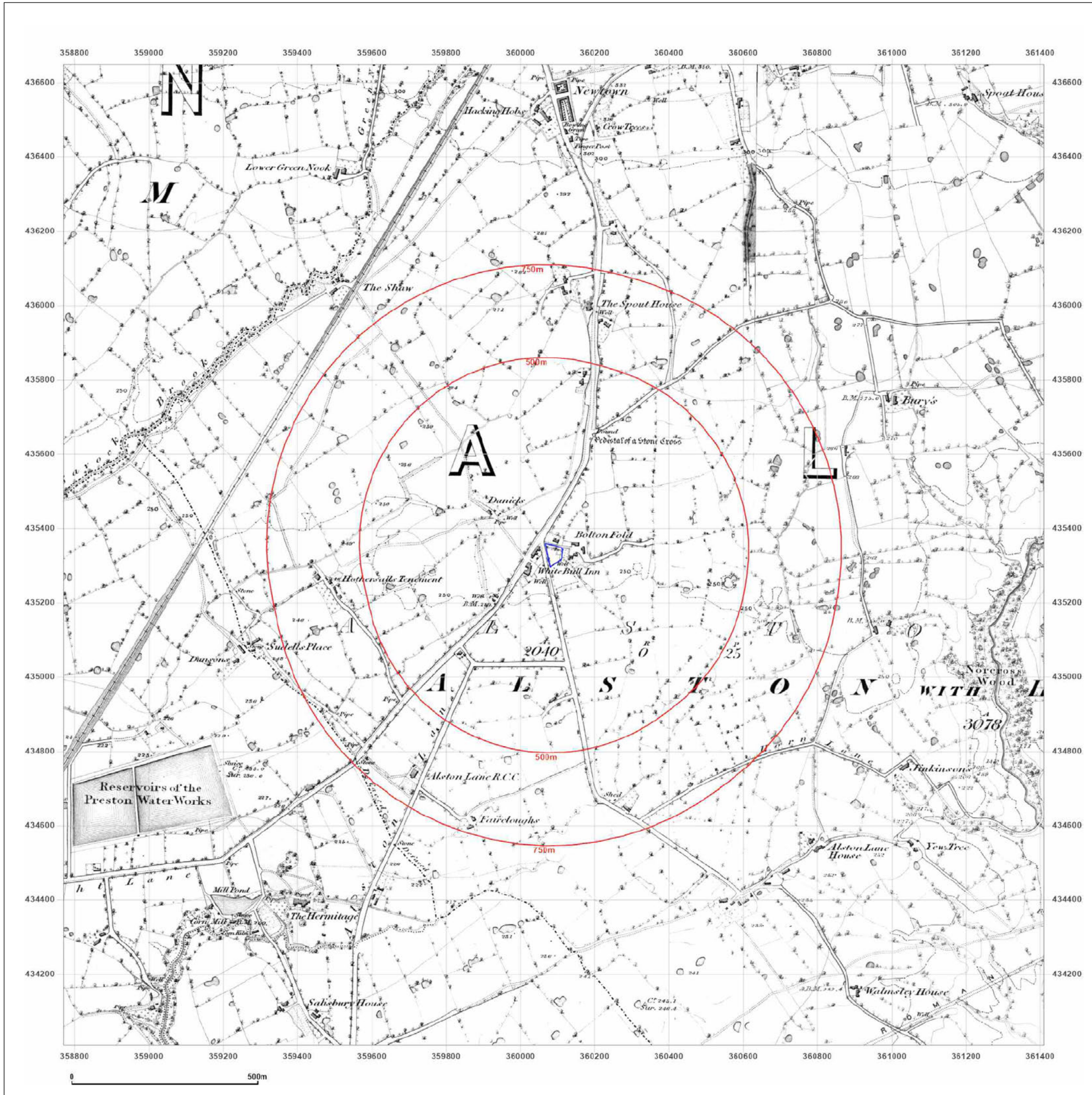
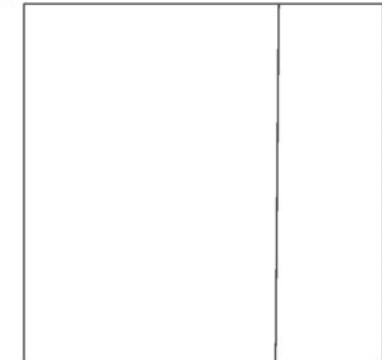
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
 Revised N/A
 Edition 1846
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised N/A
 Edition 1847
 Copyright N/A
 Levelled N/A



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: 07 November 2023

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

Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

Map date: 1892

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1892
 Revised 1892
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1892
 Revised 1892
 Edition N/A
 Copyright N/A
 Levelled N/A

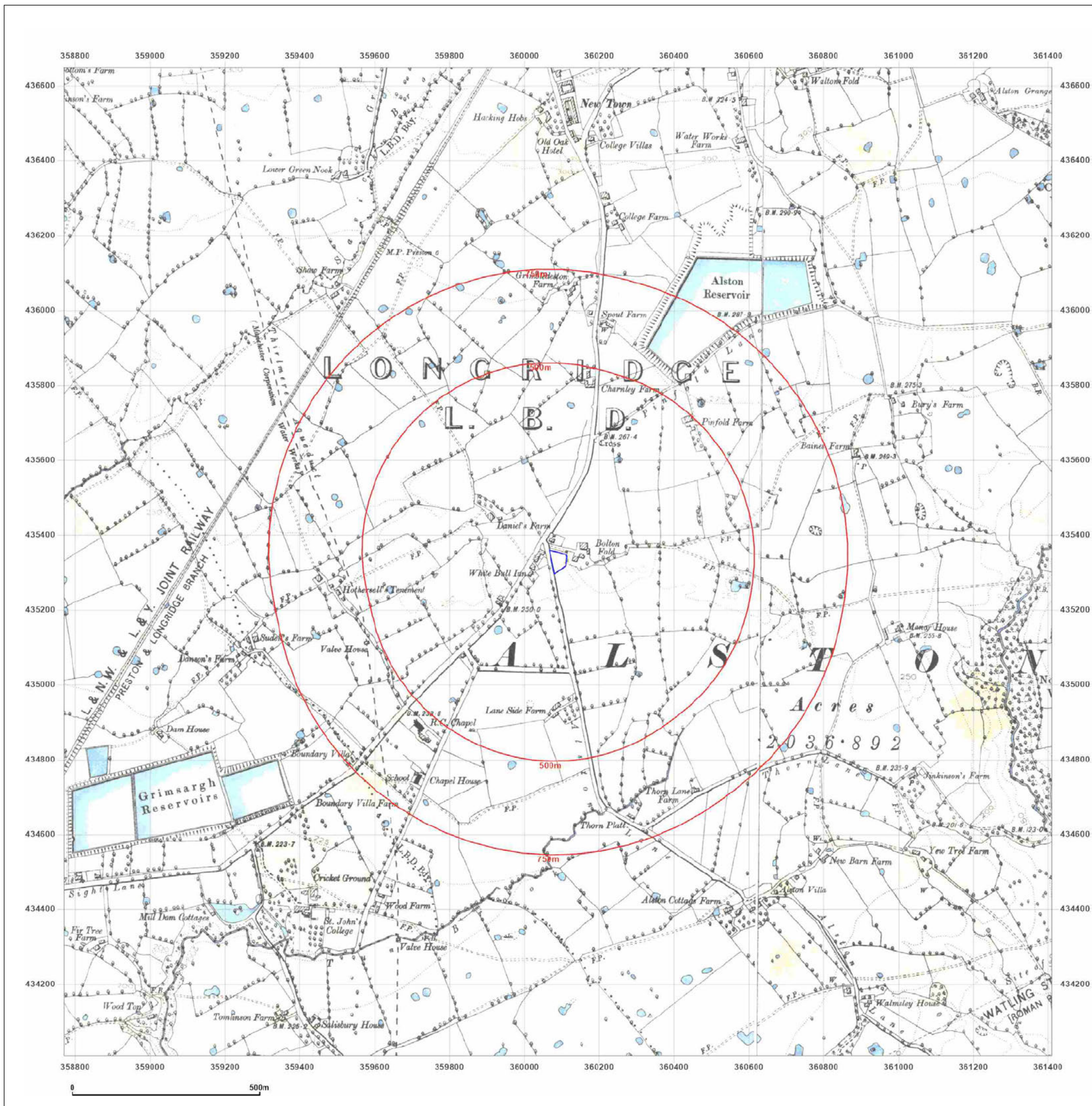


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

Map date: 1910

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

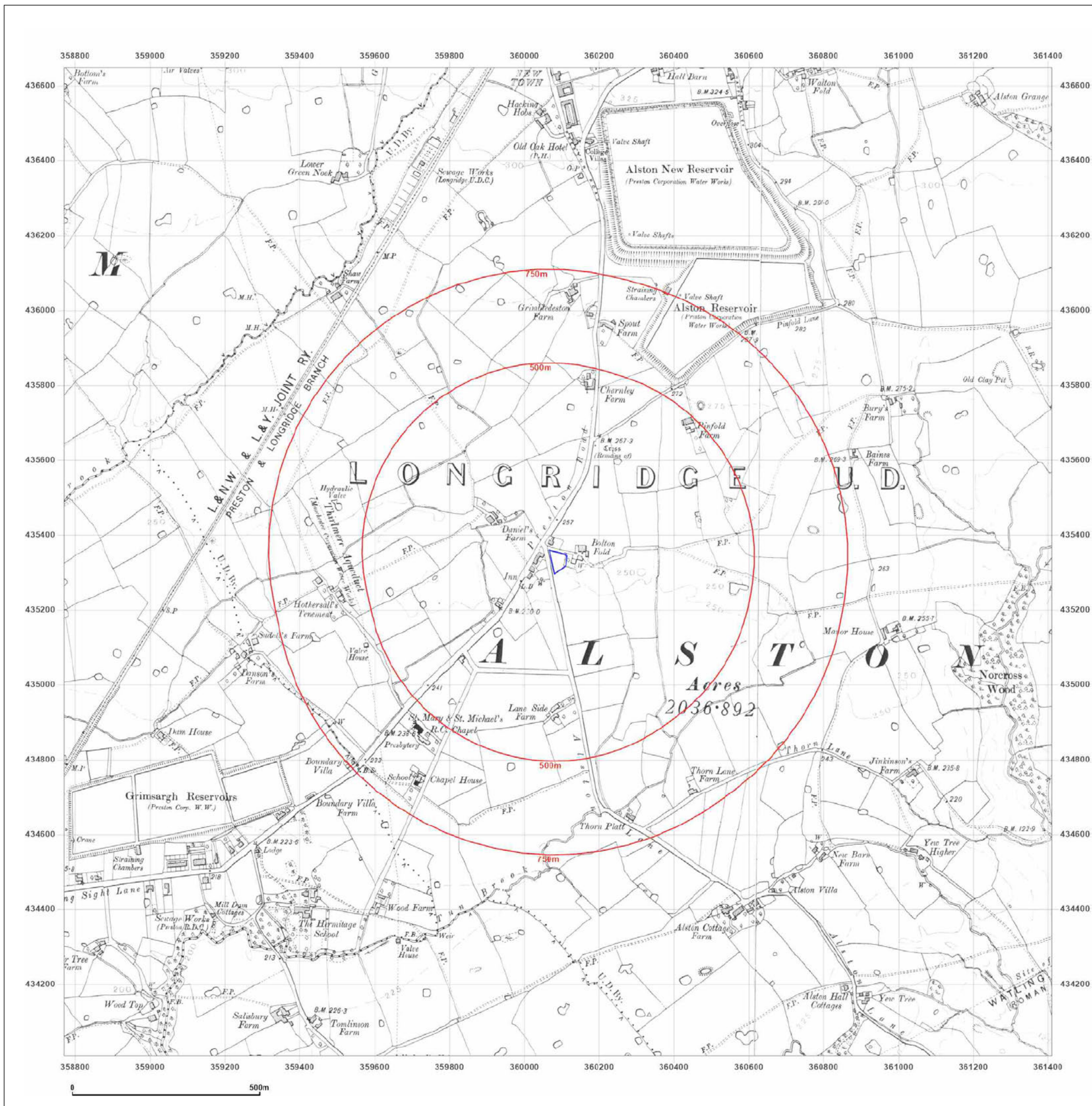


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: County Series

Map date: 1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A

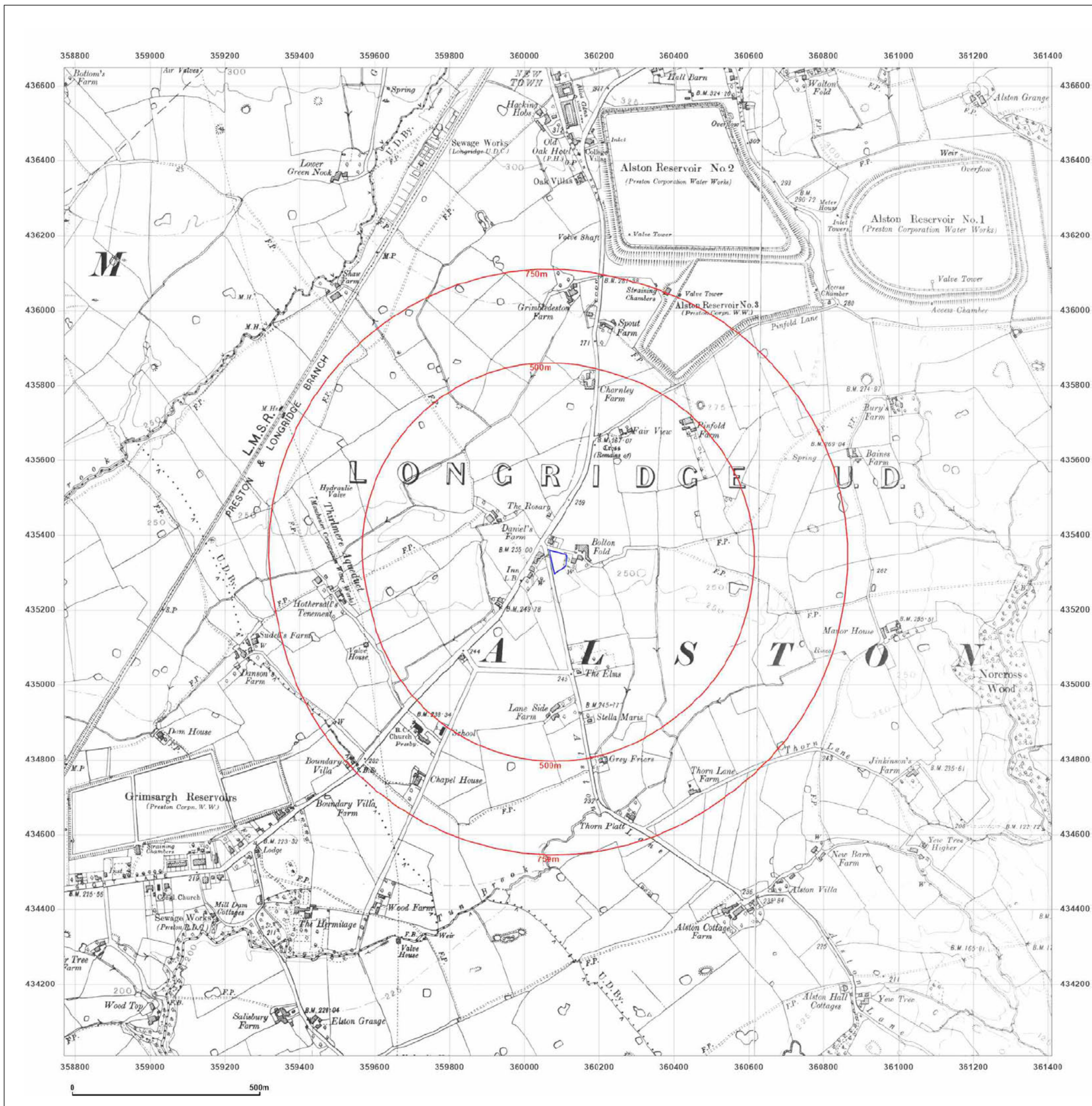


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: Provisional

Map date: 1951

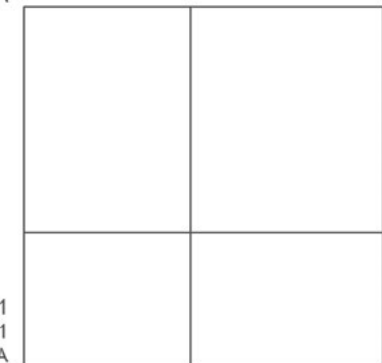
Scale: 1:10,560

Printed at: 1:10,560



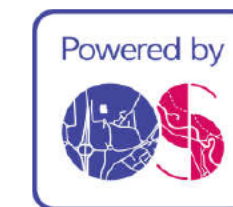
Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A

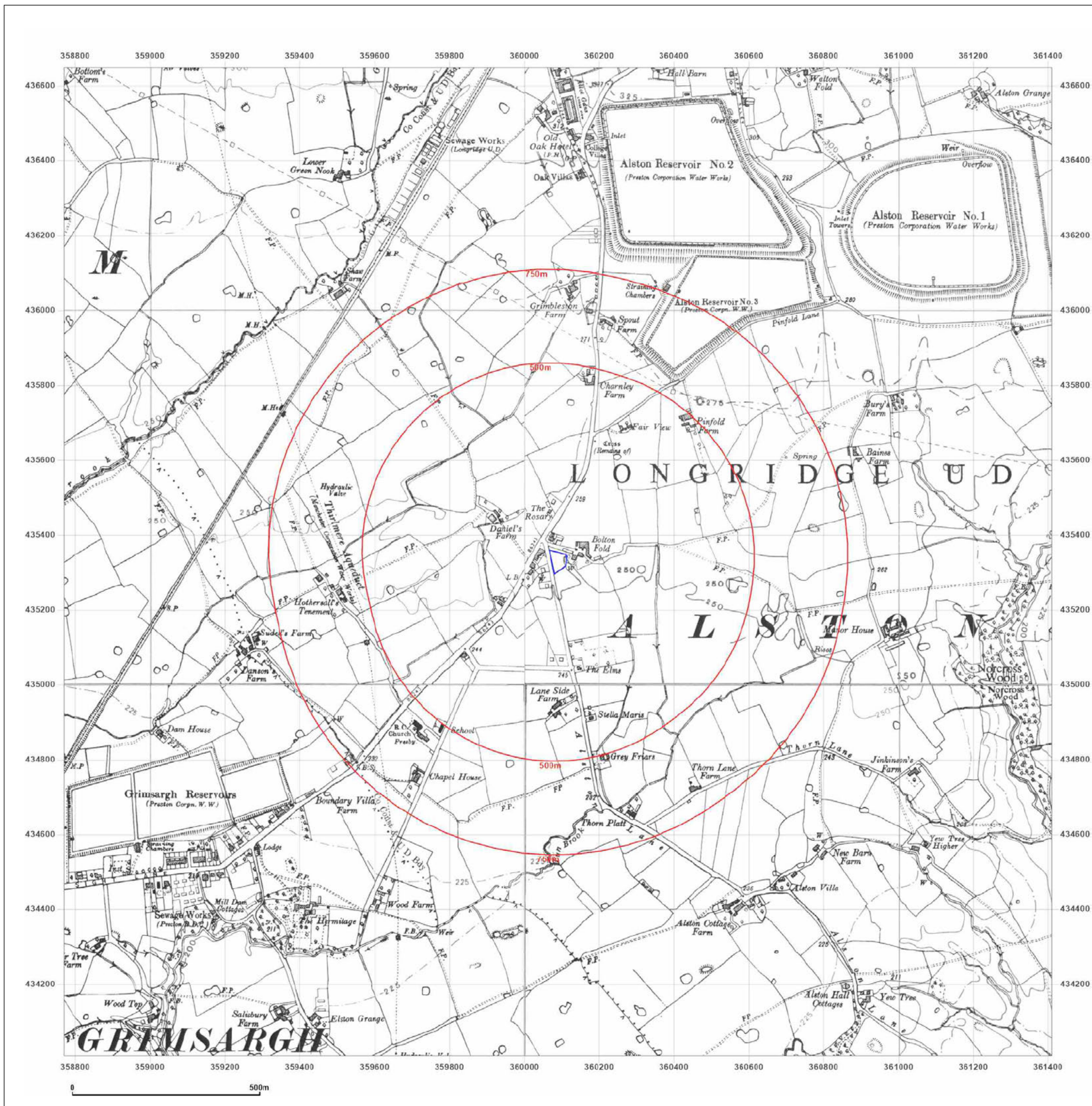


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: Provisional

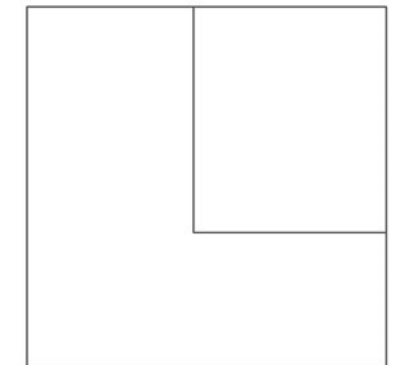
Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled N/A

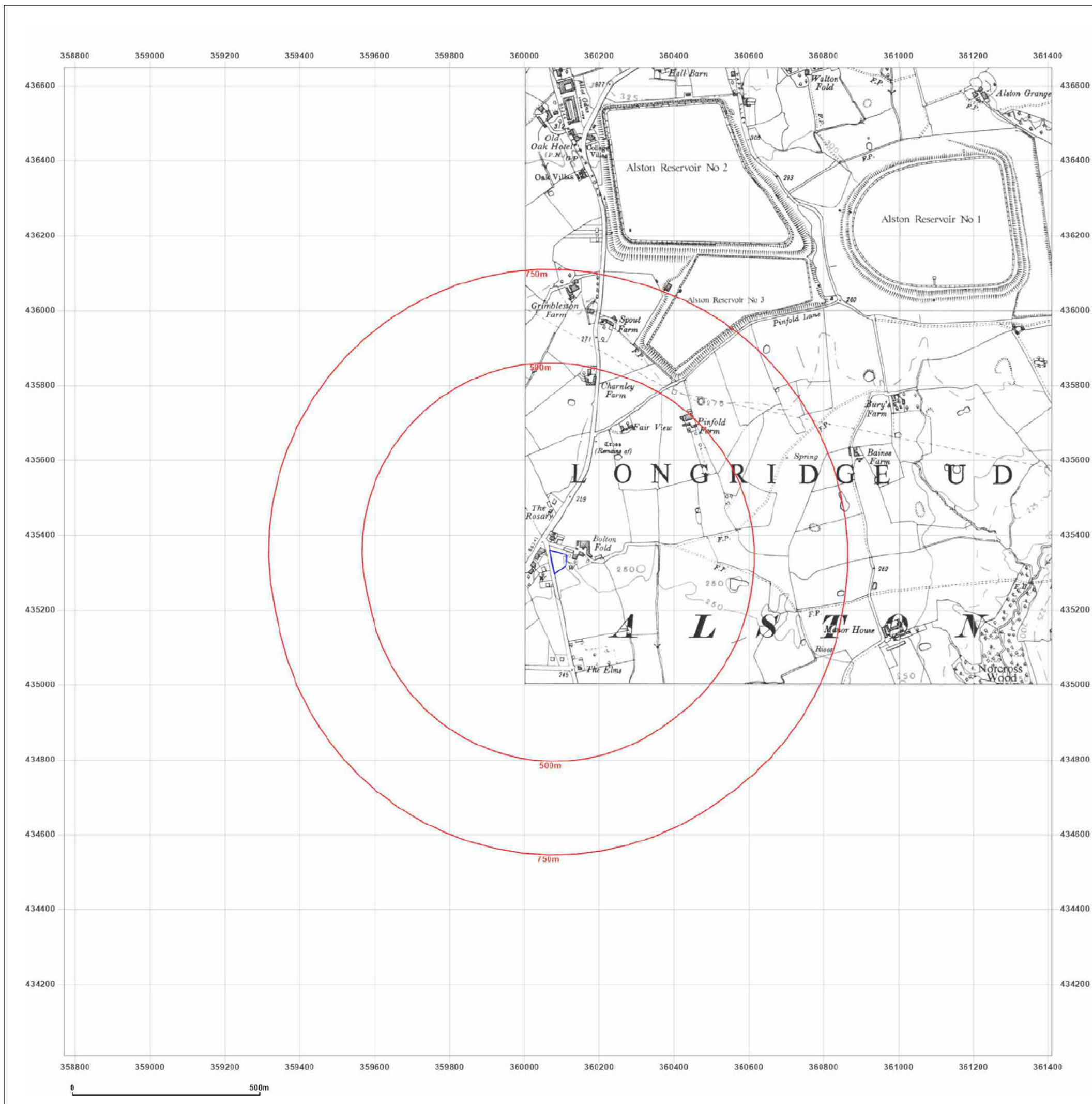


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

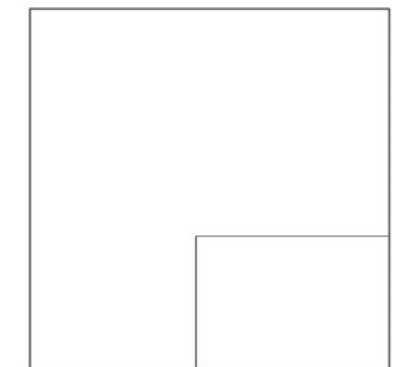
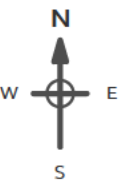
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 1969

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1967
 Revised 1969
 Edition N/A
 Copyright N/A
 Levelled N/A

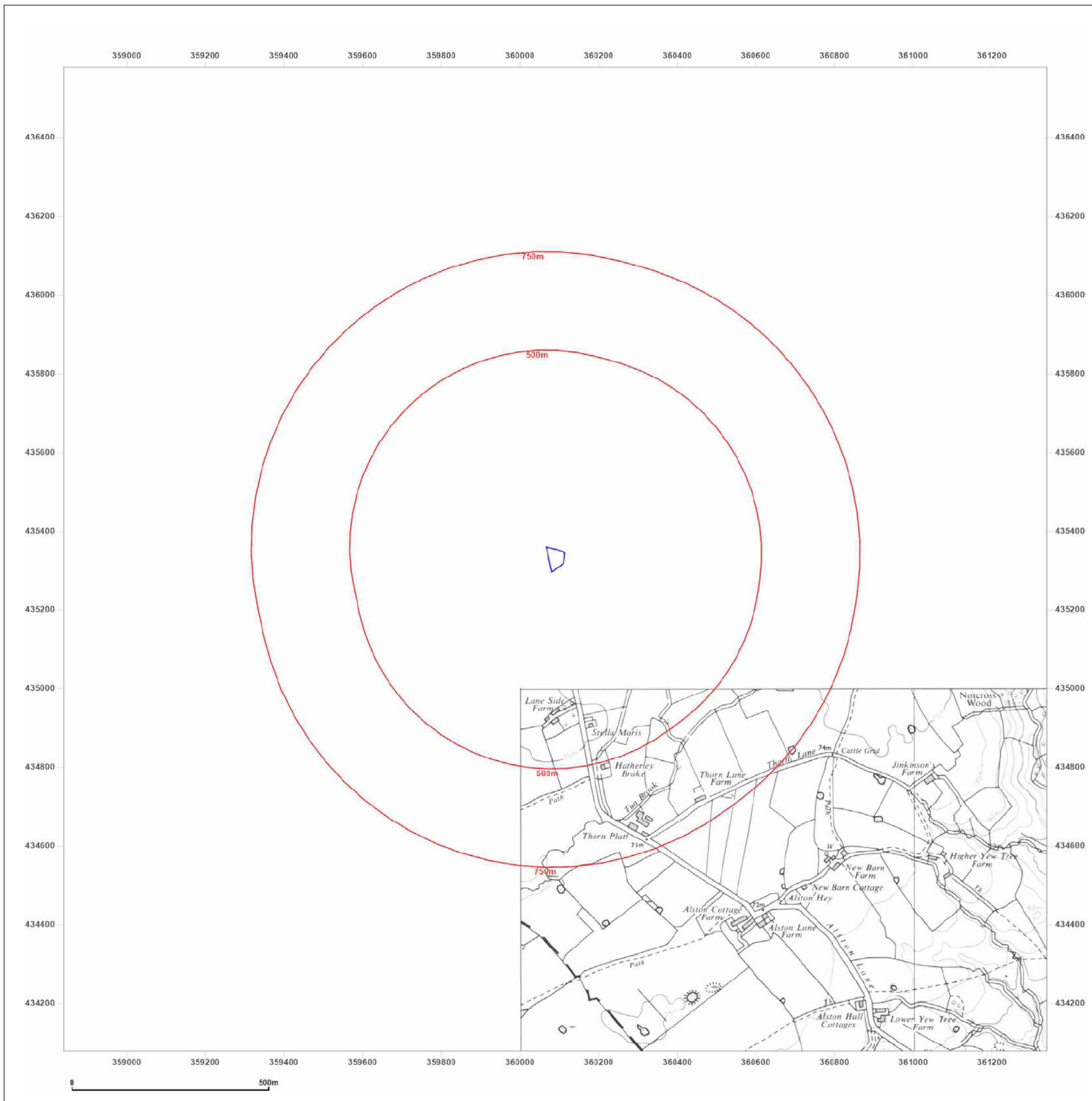


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: Provisional

Map date: 1965-1969

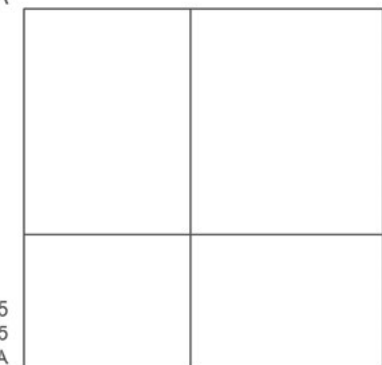
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1968
 Revised 1968
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1969
 Revised 1969
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1969
 Revised 1969
 Edition N/A
 Copyright N/A
 Levelled N/A

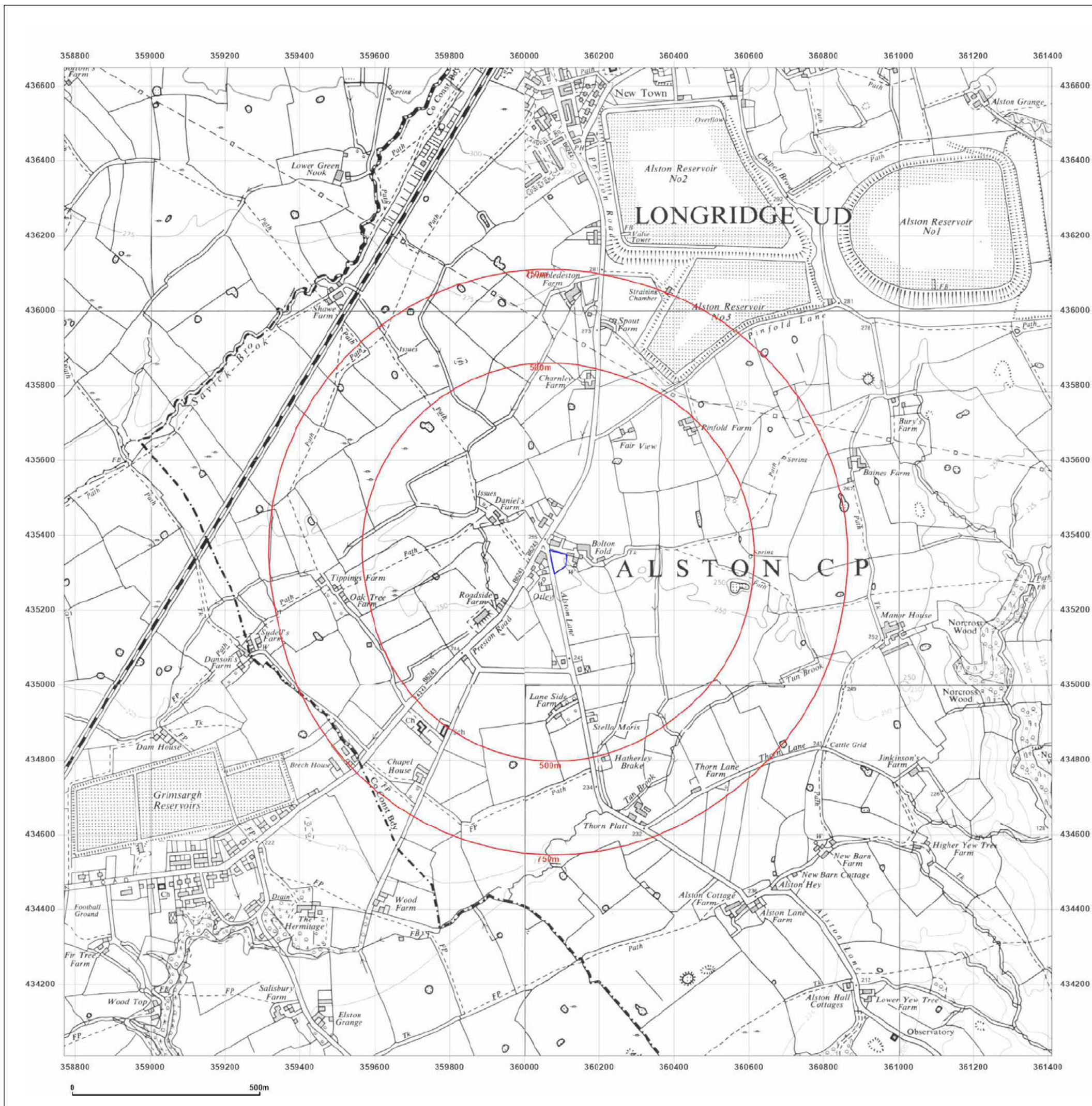


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 1978

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1974
 Revised 1978
 Edition N/A
 Copyright N/A
 Levelled N/A

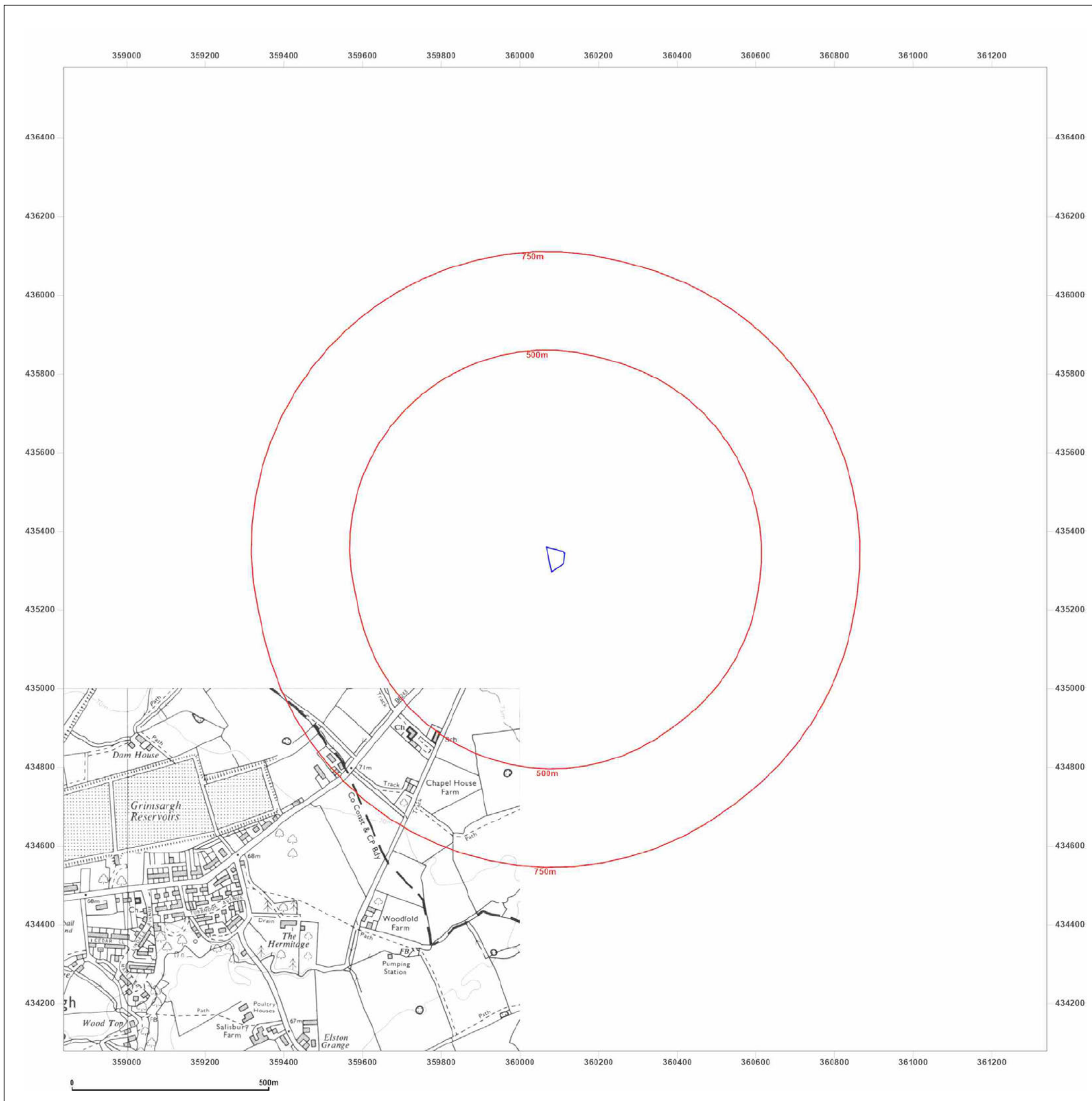


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 1992-1994

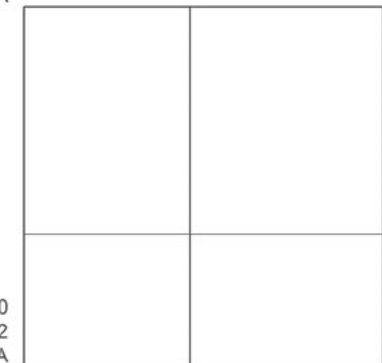
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1960
 Revised 1994
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1967
 Revised 1994
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1990
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

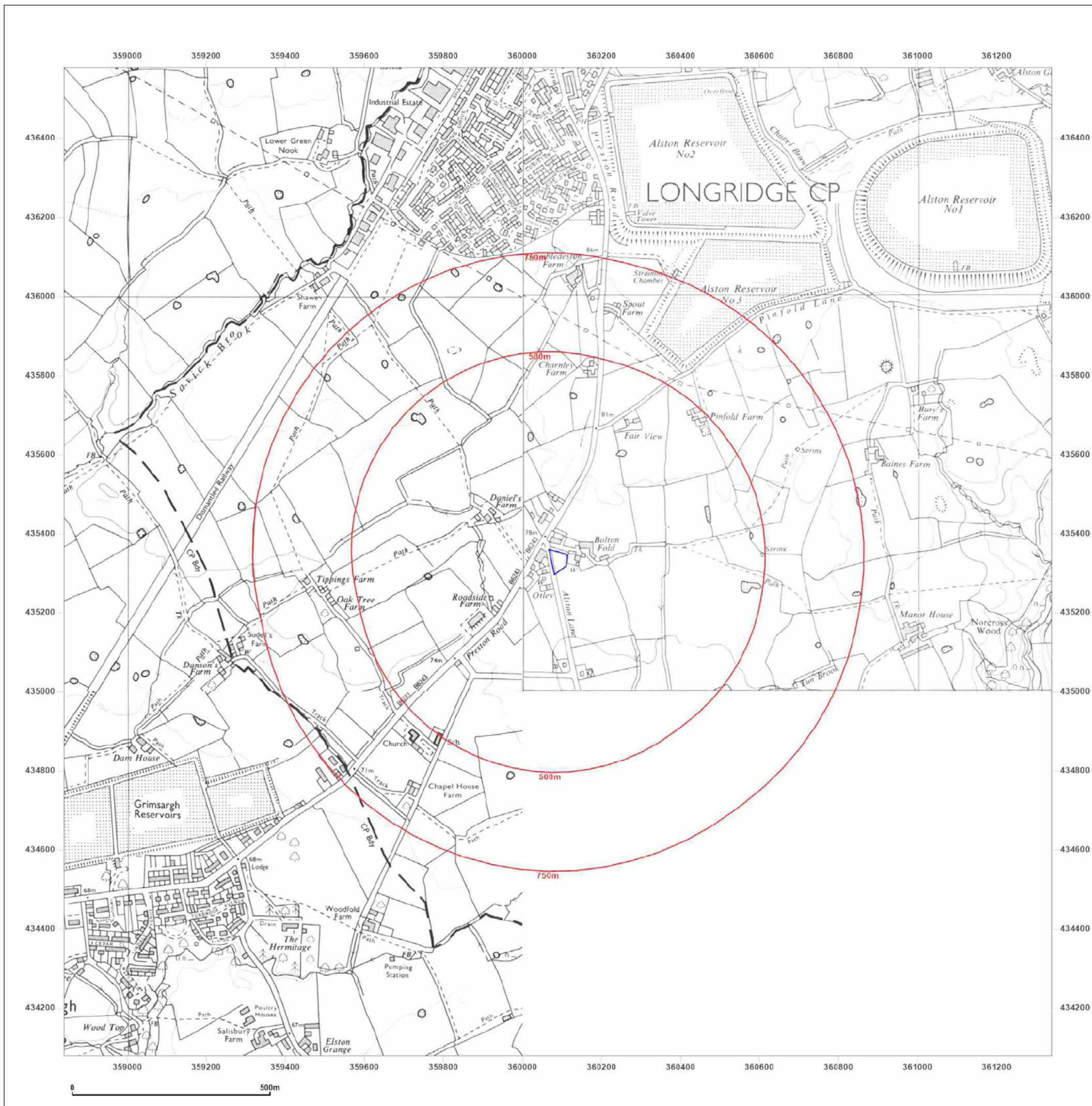


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

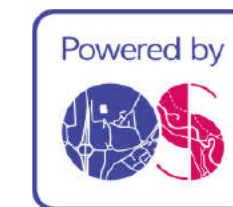
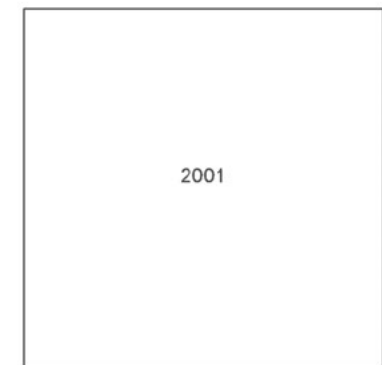
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

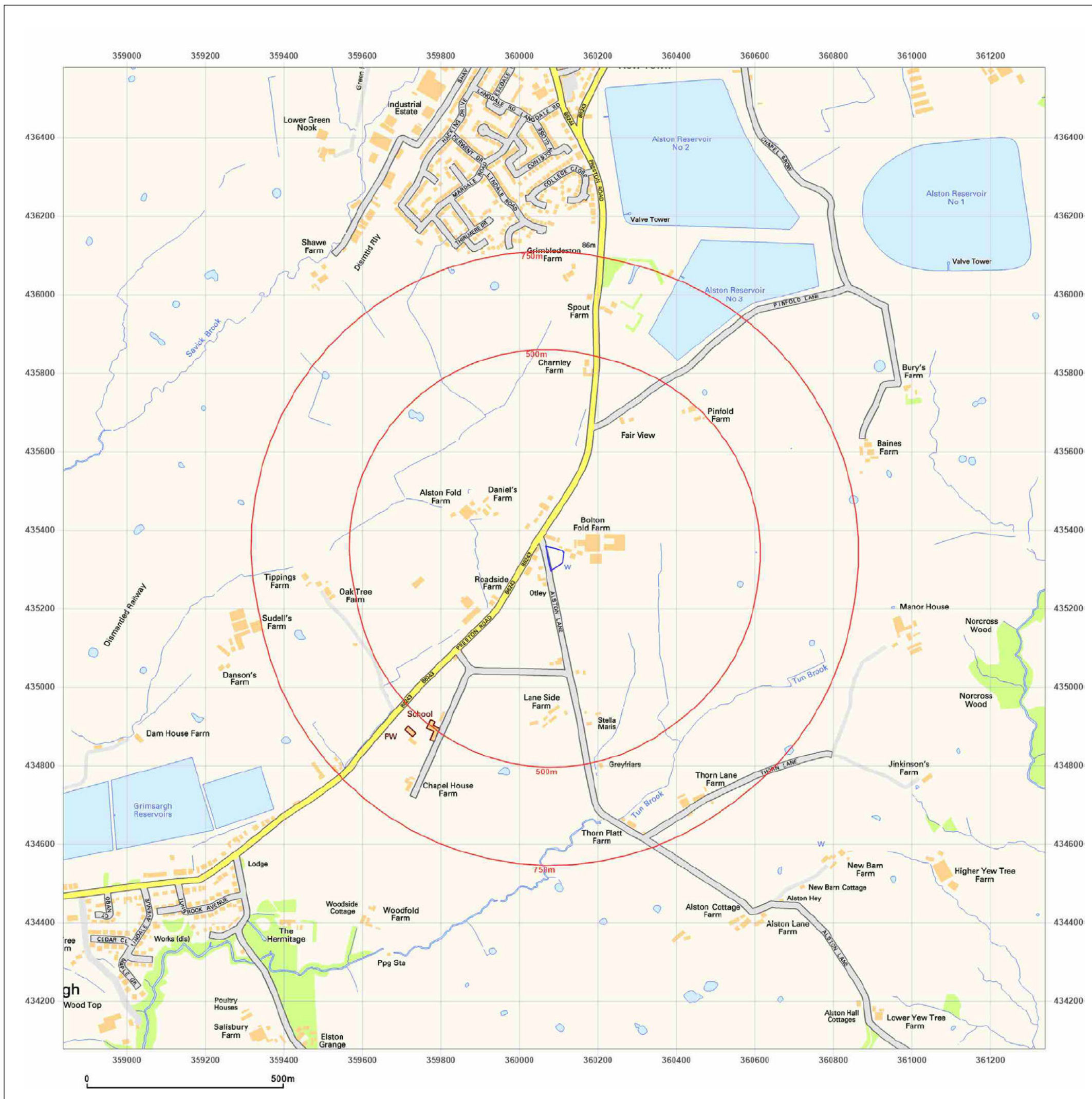


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

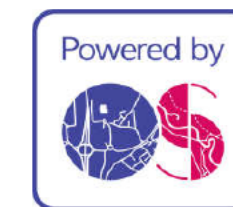
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

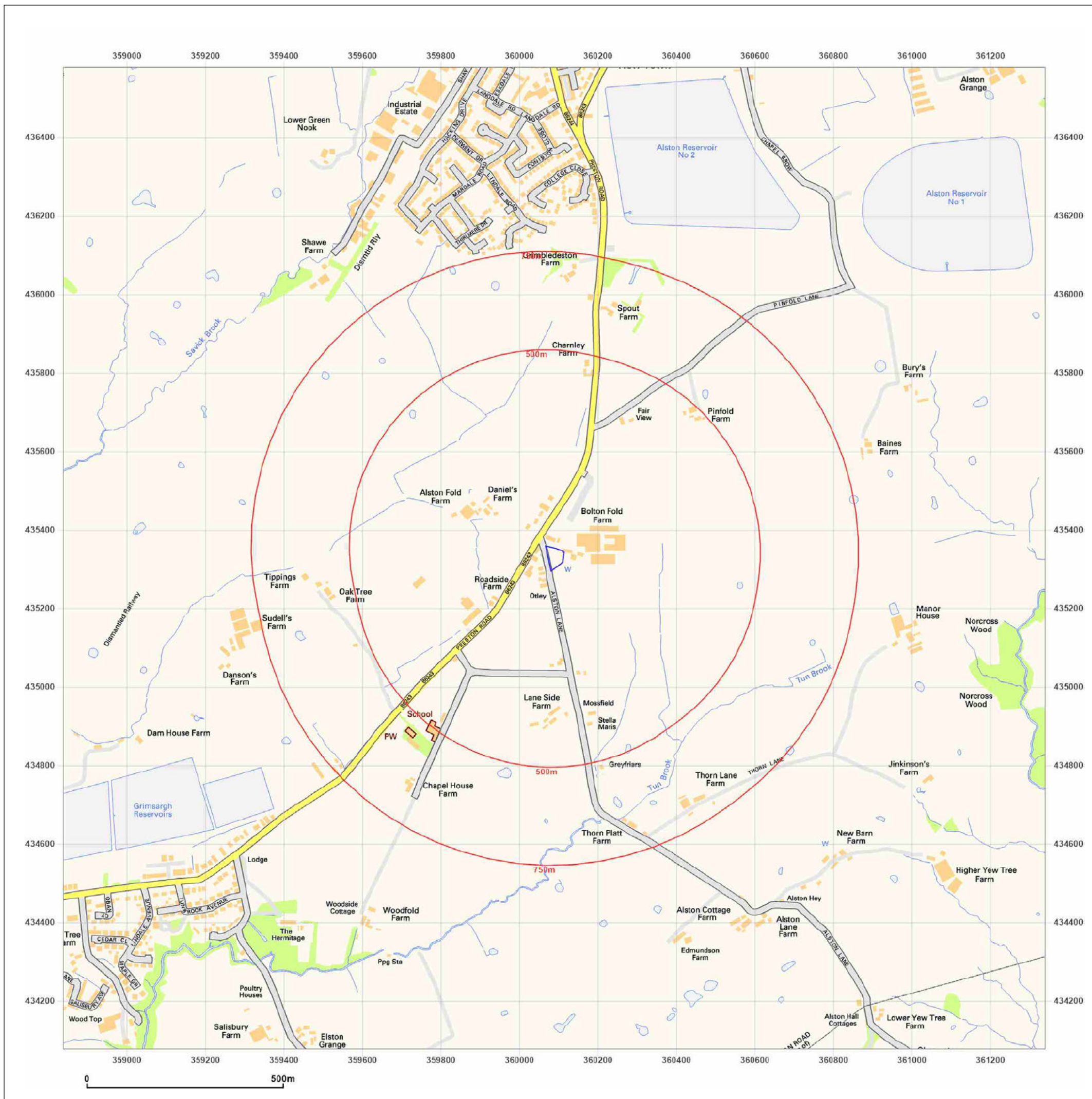


Produced by
 Groundsure Insights
 T: 08444 159000
 E: info@groundsure.com
 W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 07 November 2023

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



Site Details:

BOLTON FOLD FARM, ALSTON LANE, LONGRIDGE, PR3 3BN

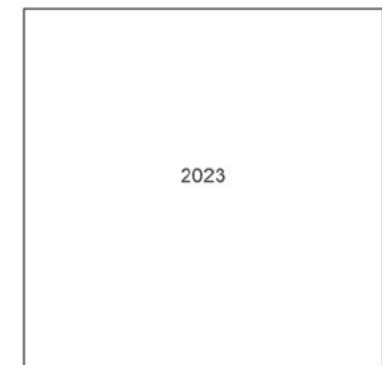
Client Ref: 006694
Report Ref: GS-NIS-N1E-A4V-QFX
Grid Ref: 360089, 435328

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

Printed at: 1:10,000



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: 07 November 2023

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

