PATRICKPARSONS



PHASE I SITE APPRAISAL
CHARLES RANSFORD AND SONS, BISHOPS CASTLE
for
CHARLES RANSFORD AND SONS LTD C/O DAVENPORT ARCHITECTURE LTD

FEBRUARY 2017

Phase I Site Appraisal

Charles Ransford, Bishops Castle

for

Charles Ransford and Sons Ltd

c/o Davenport Architecture Ltd

B16410	Phase I Site Appraisal, Charles Ransford, Bishops Castle

Revision	Date of issue	Comments	Prepared by	Checked by
0	15/02/2017	1st issue	HA / AJC	CRS

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Contents

1.0 Introduction

1.1 Commission

1.1.1 Patrick Parsons (PP) has been appointed by Davenport Architecture Ltd (client) on behalf of Charles Ransford and Sons Ltd to produce a Phase I Site Appraisal for a proposed residential development at the site known as "Charles Ransford and Sons, Bishops Castle".

1.2 Proposed Development

1.2.1 The site is being evaluated for a proposed commercial development. It is proposed to construct a large timber treatment warehouse with associated yard and hardstanding. A site location plan and proposed development plan are included in Appendix A.

1.3 Limitations

1.3.1 This report has been prepared for the client and their appointed agents only and should not be relied upon by any third party without the written permission of Patrick Parsons. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors do not owe them any Duty of Care or Skill. It is based on and limited to an assessment of the information and ground conditions identified here. Patrick Parsons is not responsible for ground conditions not revealed during investigations undertaken by third parties and have reviewed the information presented in good faith.

1.4 Aim of Phase I Site Appraisal

1.4.1 The client's specific requirements were to undertake a desk based Phase I Site Appraisal. The principal objectives are as follows:

- Obtain information about the likely soil and groundwater conditions within the area of the site.
- Determine the possible ground related geotechnical and contamination hazards within the site boundaries that may affect the proposed development.
- Provide preliminary development recommendations.
- Provide advice on further works required for the cost-effective reduction of risks to the development and procedures likely to satisfy regulators.

1.5 Information Sources

This Phase I Site Appraisal is based on published geological and environmental information supplemented by an environmental data report.

2.0 Phase I Desk Study

2.1 Site Description

2.1.1 The site is located 1km east of Bishop's Castle town centre. The approximate grid reference for the site is SO 32641 88561 and nearest postcode is SY9 5DH. A site location plan is presented in Appendix A.

2.1.2 The site comprises a roughly rectangular shaped plot of land to the south of Charles Ransford and Sons timber treatment works, covering an area of approximately 0.79ha in total. The main site area is currently unoccupied with a recent demolition of the onsite buildings and the reduction of the onsite level by approximately 1.0m along the western boundary. Crushed demolition rubble has been spread across the site with a mounded area in the centre and the west of the site raising the level in this area by approximately 1.0m. Mature and semi mature trees are present to the south and western site boundaries, and a culverted river runs along the southern site boundary. The area to the west of the site is an area of unoccupied over-grown land.

2.1.3 The site is bound to the east by Metal Malarkey Engineering, with a residential housing estate including gardens to the south of the site. The western boundary is bounded by an area of unoccupied land and the northern boundary is adjacent to commercial / light industrial buildings associated with Charles Ransford and Sons existing premises.

2.2 Site History

2.2.1 The earliest historical mapping reviewed (1883) shows the site to be unoccupied agricultural land. The site remains unchanged until the 1986 edition by which time a single large building has been constructed associated with the development of Love Lane Industrial Estate. In the west of the site a small earth works was recorded between 1986 and 1989 likely to be associated with the development of Love Lane Industrial Estate. The onsite buildings remain intact and unchanged until the latest 2014 mapping.

2.2.2 In the wider vicinity, the site was historically recorded to be set within an area characterised by agricultural land. A railway station and line was noted to run approximately 80m to the northwest of the site and was present from 1883 to 1938 when the station and line were removed and replaced with a track, this track remained unchanged up until 1949. In 1949 commercial buildings associated with Love Lane Industrial Estate were built over the former railway station and subsequent track. A gas works was recorded approximately 110m to the west of the site in 1883, this gas works remained unchanged up to 1949 where the works were replaced by a depot and other small commercial buildings. A factory was also noted 80m to the northwest of the site in 1975, this remained unchanged up to the most recent 2014 mapping. A electrical substation was recorded 20m to the northwest of the site in 1975 and remained unchanged up to the most recent 2014 mapping. To the south of the site a large residential development bordering the site was constructed by 2010 and remained unchanged up to the most recent 2014 mapping.

2.2.3 The historical maps reviewed are presented in Appendix B.

2.3 Geology

2.4 The site is recorded to be underlain by the Bailey Hills Formation described as interbedded sandstones and siltstone. Superficial deposits are recorded to be present on site and are recorded to be comprise glaciofluvial sheet deposits consisting of unlithified sand and gravel and hummocky glacial deposits of diamicton. No made ground is recorded on the mapping however limited thicknesses are anticipated to be present associated with the demolition of any pre-existing development.

2.5 Mining and Quarrying

2.5.1 There are no records of historical coal mining activity within 1000m of the site and the site is not recorded to be within a coal mining affected area as designated by the coal authority.

2.5.2 There are two records of non-coal mining activities within 1000m of the site. One 54m to the southeast of the site and the other recorded to be on site. Both relate to the extraction of vein minerals (presumed to be lead and barytes deposits).

2.5.3 There are three records of quarrying activities from the historical mapping off site the closest at 24m west of the site noted in 1883 the remaining two were 34m to the west and were noted in 1903 and 1949. One current ground working was noted 575m to the north of the site, this was noted to be extracting sandstone but has ceased operation.

2.6 Hydrogeology and Hydrology

2.6.1 The Bailey Hill Formation recorded to underlie the site is classified as a Secondary B Aquifer and the superficial deposits on site are classified as a Secondary A Aquifer. The site does not lie within a Source Protection Zone. However it is recorded that a source protection zone 3 – total catchment area lies 292m to the east of the site.

2.6.2 There are no groundwater abstraction licences within 500m of the site boundaries.

2.6.3 There are no potable water abstraction licenses within 2000m of the site boundary.

2.6.4 There are 10no. recorded surface water feature within 250m of the site boundary of which the nearest is 6m to the southwest followed by another recorded 16m to the southeast. The remaining 8no. are further than 50m from the site boundary.

2.6.5 The site is not within 250m of Environment Agency Zone 2 and Zone 3 flood zones. The site is recorded as having a very low Risk of Flooding from Rivers and the Sea (RoFRaS) flood rating.

2.7 Environmental Data

2.7.1 There are no active Environment Agency registered landfill sites within 500m of the site.

2.7.2 There is one historic Environment Agency registered landfill site recorded within 500m of the site, located approximately 497m west of the site and is recorded to have accepted household waste.

There are no records of when this landfill was operational. There are no other records relating to waste facilities within 500m of the site.

2.7.3 There are nineteen records of current potentially contaminative industrial land usage within 250m of the site. The closest record is an electricity substation 7m south of the site.

2.7.4 There are forty-one records of historic contaminative land usage within 250m of the site of which fourteen are recorded to be onsite. The closest off site record is 1m west of the site and relates to a railway building.

2.7.5 There are eighteen records of potentially infilled land within 250m of the site. The closest is 24m west of the site and relates to an unspecified quarry.

2.7.6 There is one current petrol and fuel site recorded within 500m of the site approximately 224m to the west. There is one historical record of a petrol or fuel site 341m west of the site which is recorded as obsolete.

2.7.7 There are three recorded licensed discharge consent within 250m of the site. These relate to sewage discharges recorded at 96m to the southwest of the site, 137m to the southwest and 195m to the southwest.

2.7.8 There are two records on the historical tank database. The closest is 403m to the southeast of the site and relates to a settlement tank noted on the 1975-1989 mapping.

2.7.9 There is one Environment Agency recorded pollution incident within 250m of the site recorded 76m to the southeast of the site in 2003, the pollutant was not identified and had minor / no impact to the land , air and water.

2.7.10 The environmental data report obtained for the site is presented in Appendix C. The report does not highlight any additional significant features other than those discussed in other sections of this report.

2.8 Radon

2.8.1 The site is within a Radon affected area as defined by the Health Protection Agency (HPA) as between 10% and 30% of homes are recorded to be above the action level. However, as the proposed development is a to be a well ventilated commercial premise without a basement or below ground structures, it is considered that radon protection measures are unlikely to be required.

2.9 Contaminants of Concern

2.9.1 It is considered that there is the potential for limited extents and thicknesses of made ground to be present associated with the former buildings and historical site usage. Due to the close proximity to the neighbouring timber treatment works to the northwest, the contaminants of concern are likely to include asbestos, heavy metals, PAHs, hydrocarbons and VOC /SVOCs.

3.0 Phase I Conceptual Model

3.1.1 The preceding information has been assessed and a conceptual model produced following current relevant guidance.

3.1.2 It is considered that there is the potential for limited extent and thicknesses of made ground to be present associated with historic on site buildings. Based on the historical use of the site and locality adjacent to the treatment works the risk of significant soil contamination being present is moderate. It is considered that the former quarry and ground workings recorded within 250m of the site do not represent a significant ground gas source.

3.1.3 In terms of human health, the primary receptors are end-users of the proposed commercial development and construction workers. The pathways include direct contact with contaminated soil and soil dust, ingestion of contaminated soil and dust, and the indoor/outdoor inhalation of ground gas and soil vapour. Given the site history and the features noted it is considered that the site poses a low risk to end users and a very low risk to construction workers (due to their shorter expose time).

3.1.4 In terms of controlled waters, the primary receptors are the Secondary A Aquifer (superficial deposits), Secondary B Aquifer (bedrock strata) underlying the site and the onsite culvert / river network. The primary pathway would be through leaching and groundwater transport. It is considered that any made ground present across the site may represent a potential but limited contamination source. Therefore, it is considered that the risk to controlled waters will be low.

3.1.5 The Phase I conceptual model is illustrated below.

Human Health		
Source	**Pathway**	**Receptor**
Made ground. Contaminants of concern include heavy metals, PAH's, hydrocarbons, VOC / SVOCs and asbestos.	Indoor and outdoor inhalation of soil vapours, the ingestion of contaminated soil and soil dust and direct contact with contaminated soil and soil dust should any soft landscaping be present.	End users of completed commercial development
Made ground. Contaminants of concern include heavy metals, PAH's, hydrocarbons, VOC / SVOCs and asbestos.	Indoor and outdoor inhalation of ground gas and soil vapours, the ingestion of contaminated soil and soil dust and direct contact with contaminated soil and soil dust	Construction workers.
No significant source identified.	Inhalation. (Limited pathway due to the open nature of the proposed unit).	End users of completed commercial development.
Controlled Waters		
Made Ground. Contaminants of concern include heavy metals and PAH's and hydrocarbons and VOC / SVOCs.	Groundwater transport, infiltration and leaching	Secondary A Aquifer (superficial deposits) Secondary B Aquifer (bedrock geology) River / Culvert

4.0 Preliminary Recommendations

4.1 Contamination and Remediation

4.1.1 The risk of significant contamination being present at the site is considered moderate and as such the risk posed to human health (end users) and controlled waters has been asessed as low. However, a ground investsigation will be required to confirm this assessment, the scope of which is outlined in Section 5.

4.1.2 It should be noted that the following comments are based on the findings of this desk study and should be confirmed by intrusive investigation and chemical analysis:

- Capping may be locally required in areas of soft landscaping.
- Gas protection measures unlikely to be required due to nature of proposed building and lack of significant sources.

4.2 Geotechnical Considerations

4.2.1 It should be noted that the following comments and recommendations are based on the findings of this desk study, which may not give a true indication of actual engineering properties (i.e. stability, mass structure etc). Prior to development a ground investigation will be required to confirm the initial recommendations outlined below, the scope of which is outlined in Section 5. However, at this stage based on the desk-based information available it is considered:

- Variable thicknesses of made ground may be present at the site associated with its previous use.
- The ground conditions are likely to comprise superficial deposits over predominantly granular interbedded sandstones and siltstone strata of the Bailey Hill Formation.
- It is proposed to construct a commercial timber treatment works with hardstanding. The site is likely to be suitable for the use of traditional trench or strip foundations dependant on the loadings required. However, ground improvement/piling may be required if extensive loose or soft natural strata or significant thicknesses of made ground are encountered.
- The site is likely to be underlain by granular residual soils. If significant thicknesses of granular residual soils are recorded, then there is the potential that the site may be suitable for use of soakaway drainage, subject to confirmatory testing.

5.0 Further Work and Conclusions

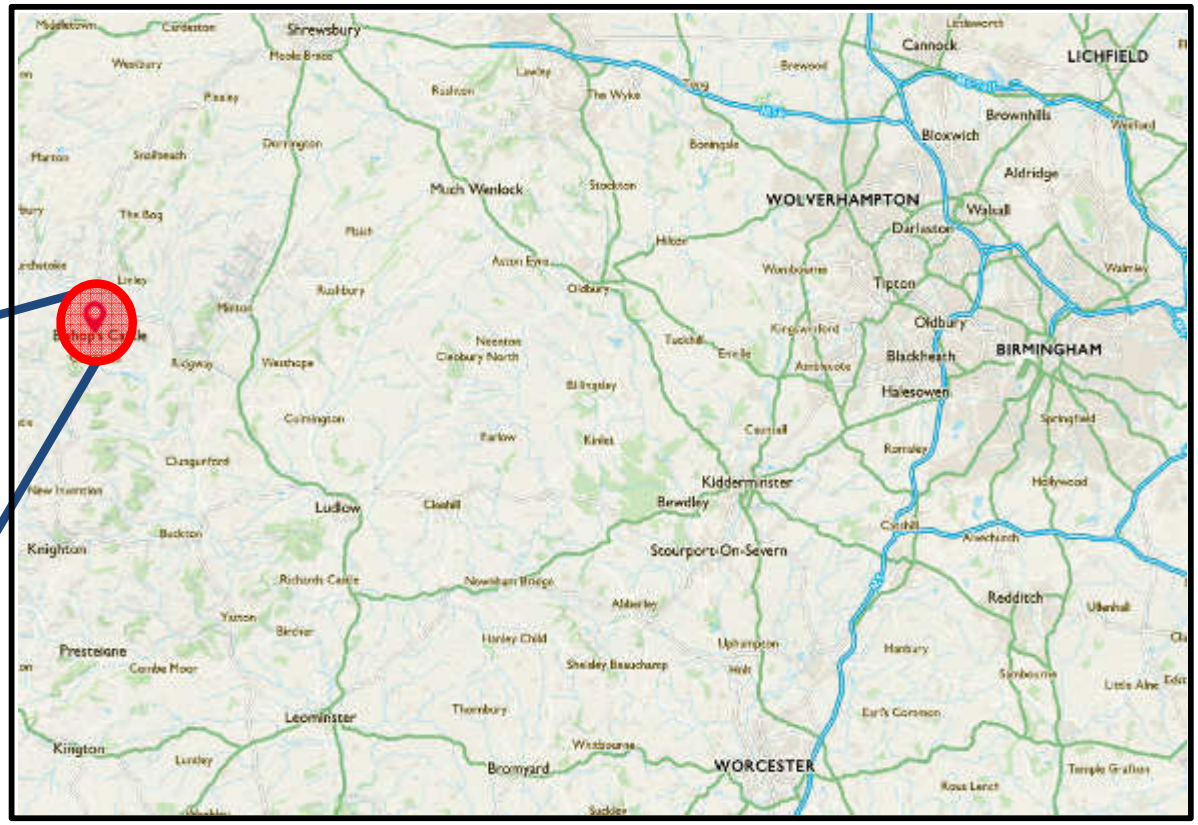
5.1 A Phase II ground investigation is recommended to confirm the initial recommendations outlined in this report. This should include:

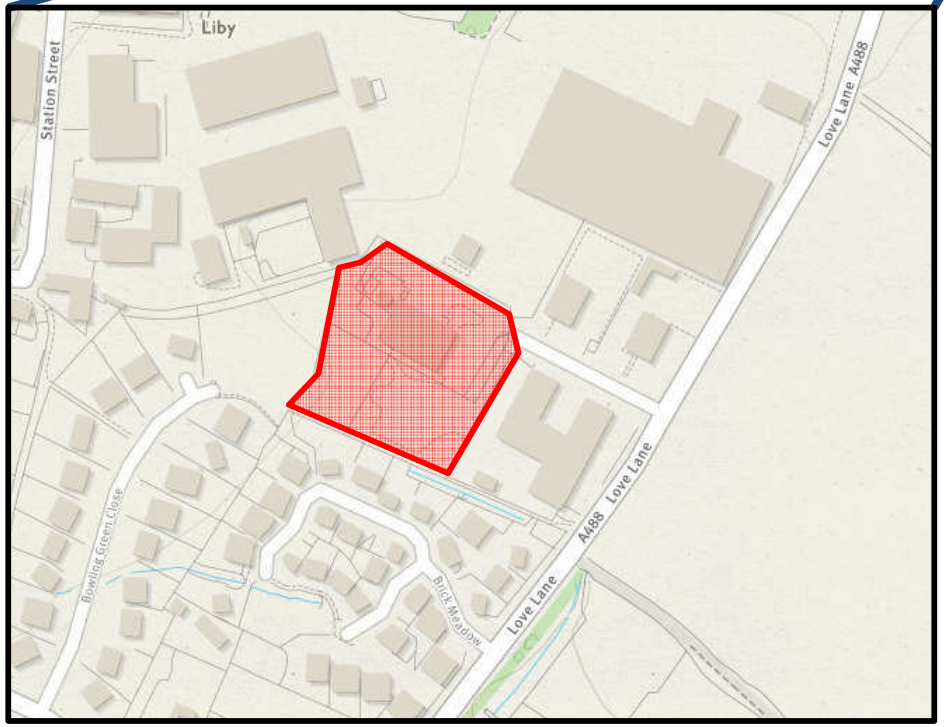
- A window sampling borehole investigation to confirm ground conditions, collect samples for analysis and install gas and ground water monitoring installations;
- Chemical analysis of soils followed by risk assessment so that the risk to human health and controlled waters can be determined;
- Geotechnical and geochemical soils testing of the founding strata to assess strength and suitable grade(s) of buried concrete;

5.2 This document should be submitted to the Planning Department of the Local Authority for comment and approval.

Appendix A

Figures





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Approximate site boundary

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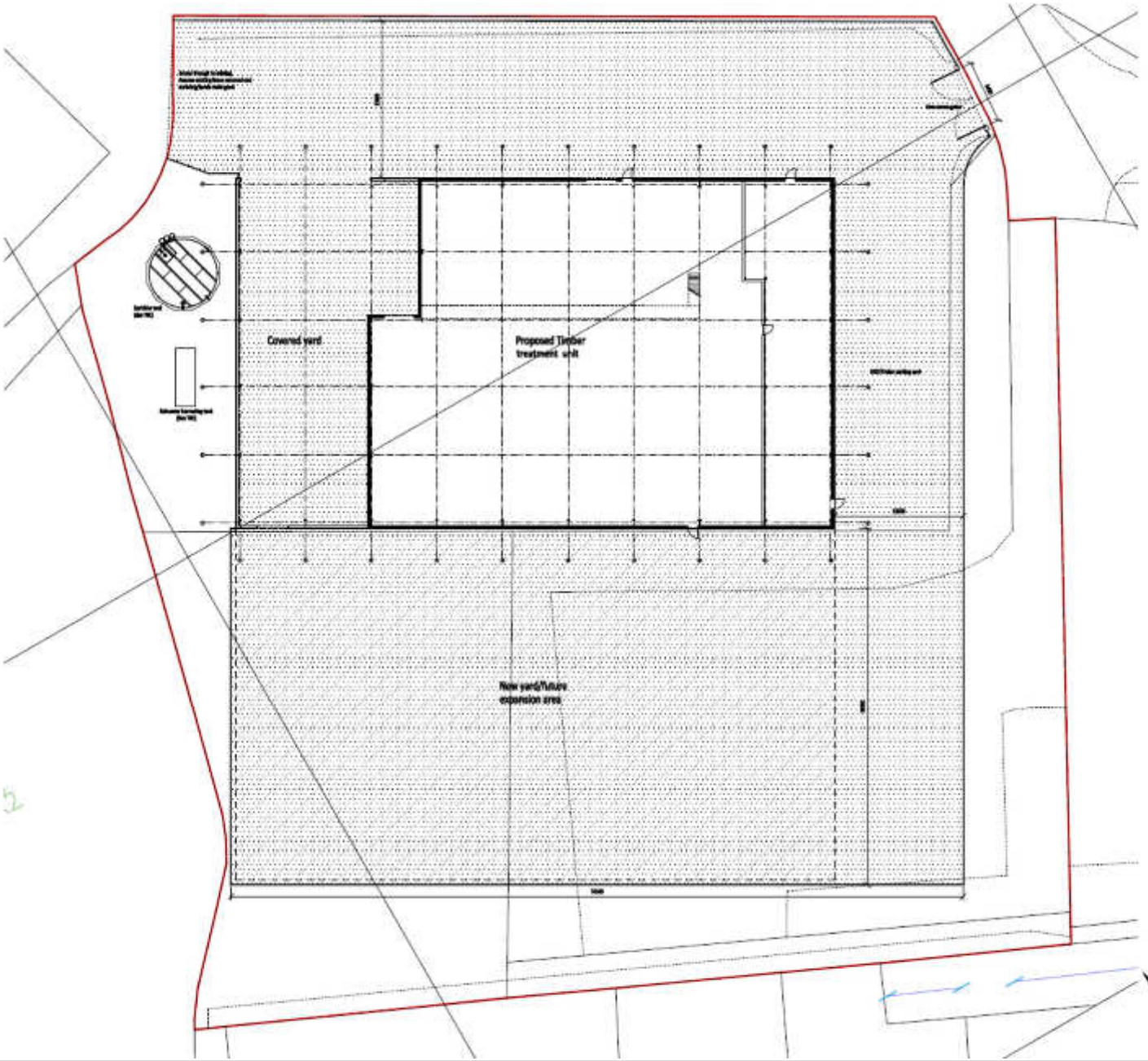
Project: Bishop's Castle	Title: Site Location Plan	Design/drawn: HA	Checked: AJC
		Drawing no: B16410-701	Rev. 0



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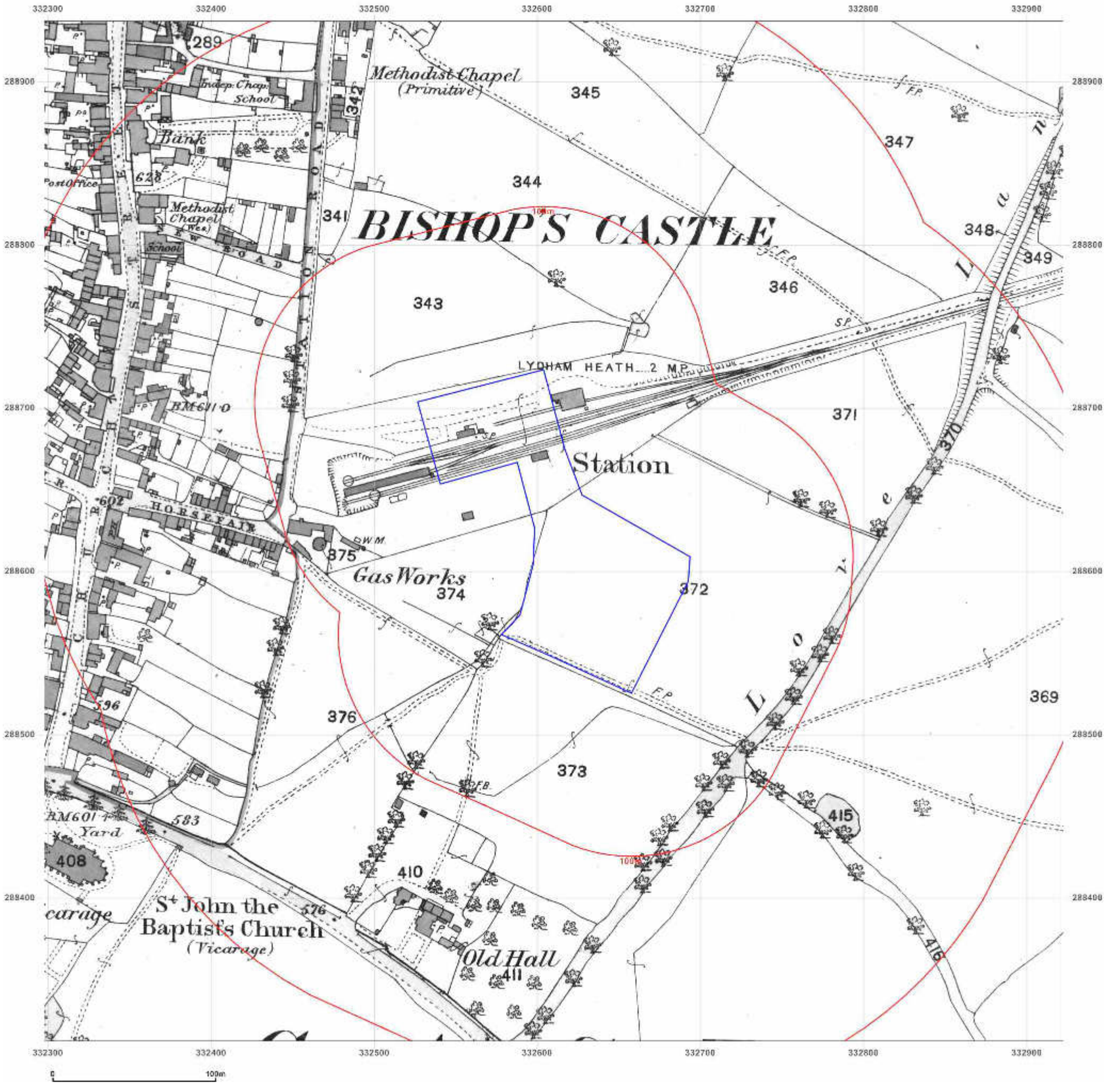
Appendix B

Historical Maps



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STATION STREET, BISHOPS CASTLE, SY9 5AQ

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Grid Ref: 332610, 288625

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

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Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
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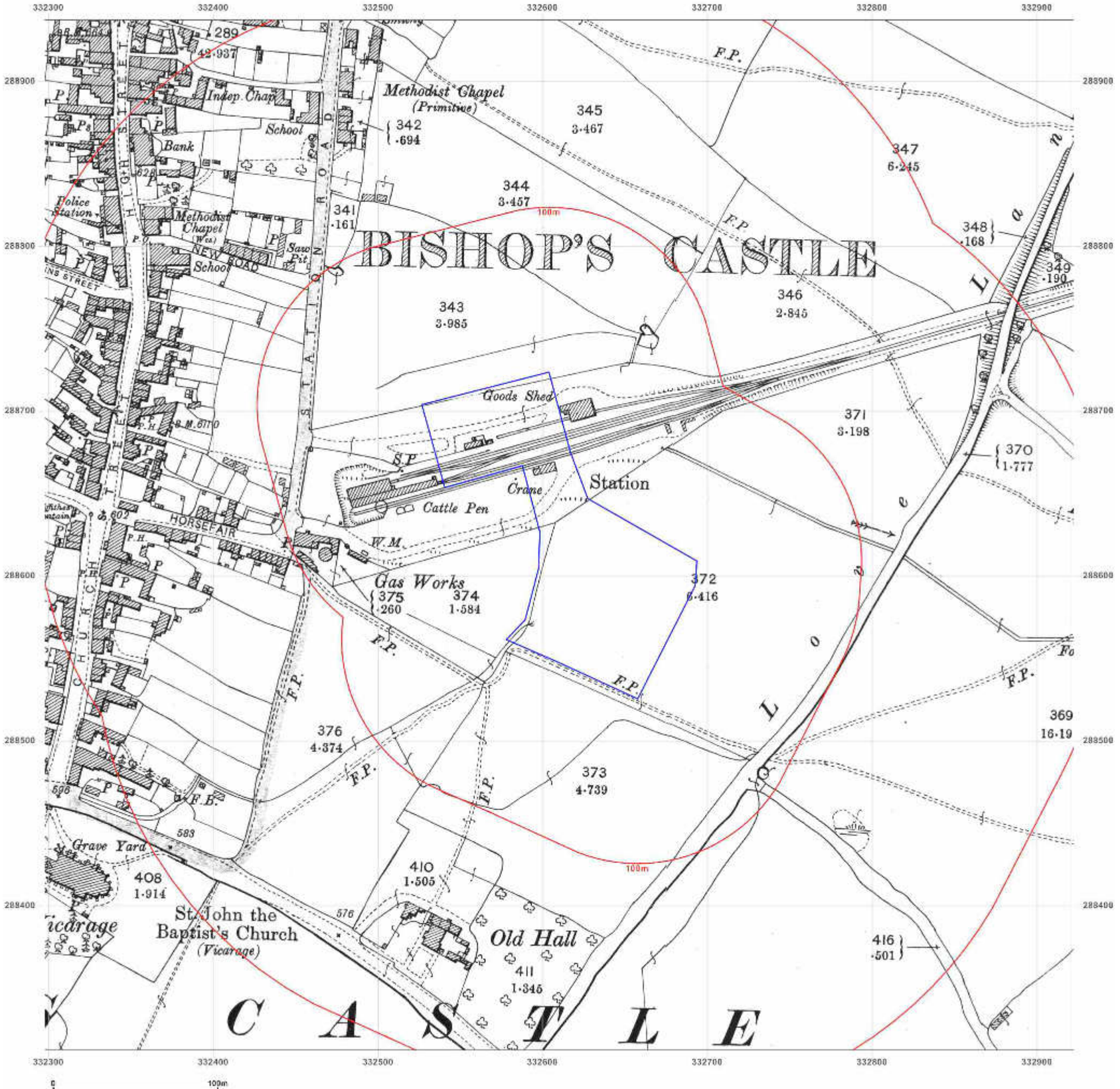

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Surveyed 1903
Revised 1903
Edition N/A
Copyright N/A
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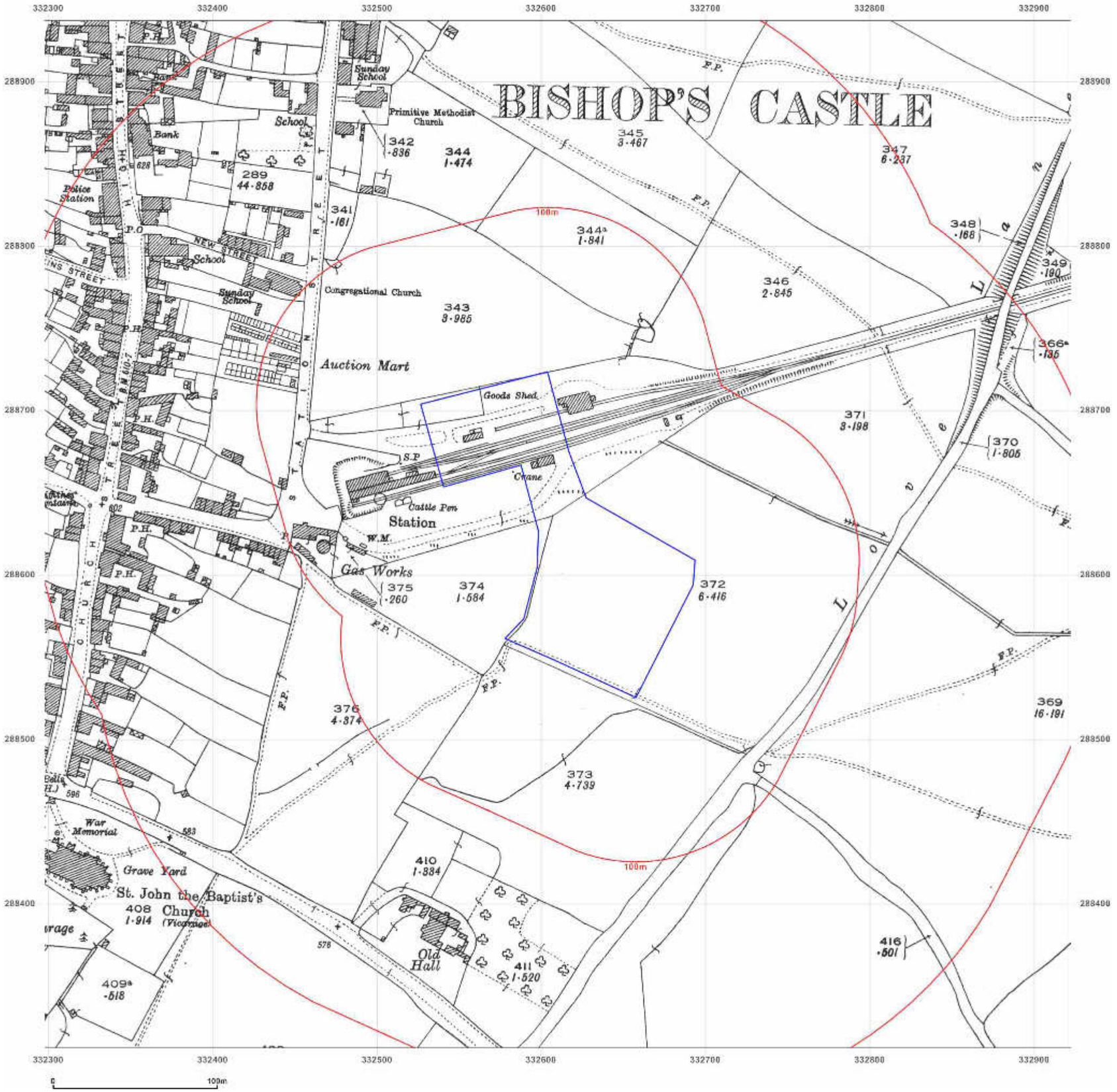

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Map Name: County Series

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Surveyed 1926
Revised 1926
Edition N/A
Copyright N/A
Levelled N/A

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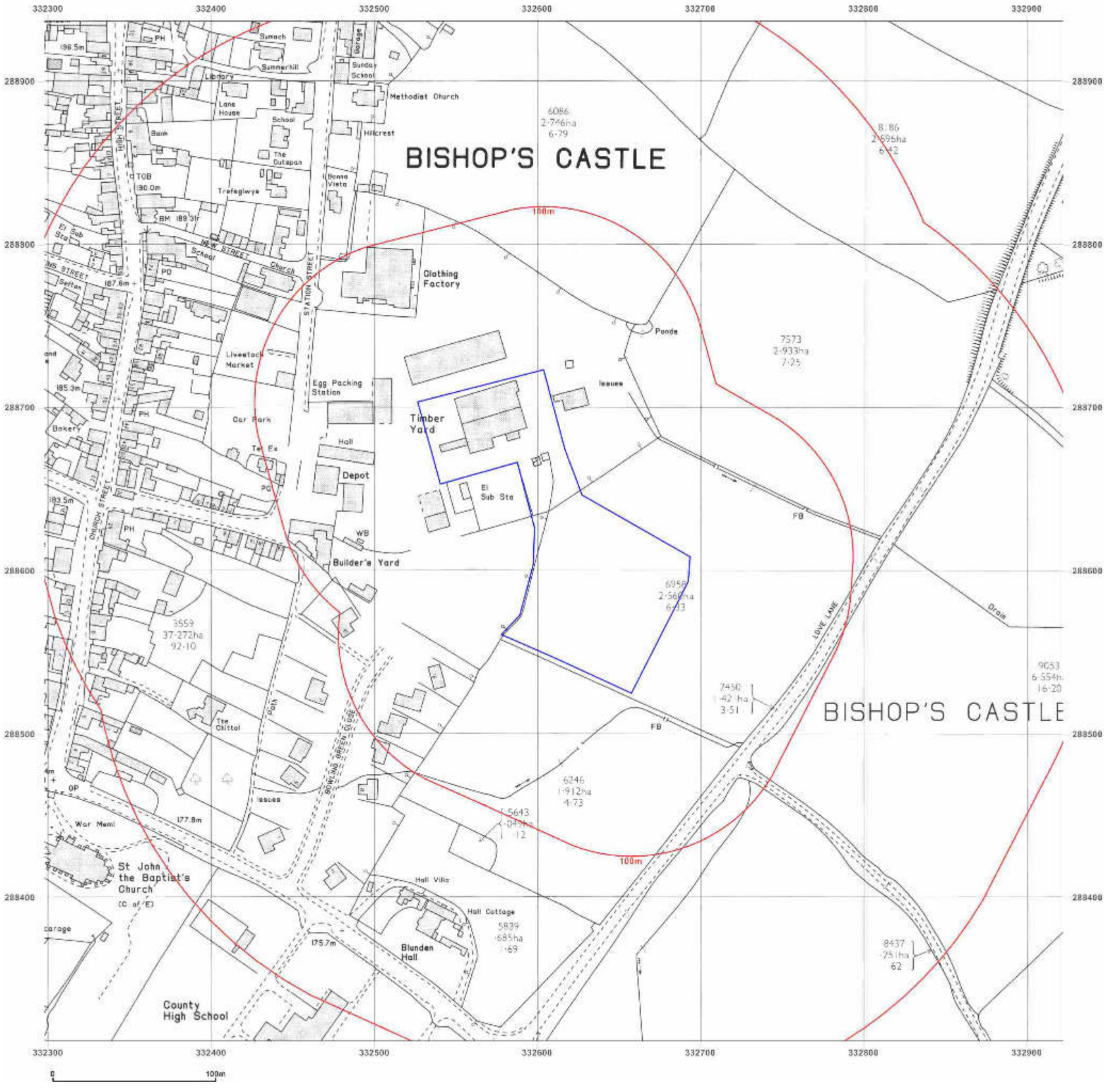

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Map Name: National Grid

Map date: **1975**

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Printed at: 1:2,500

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Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
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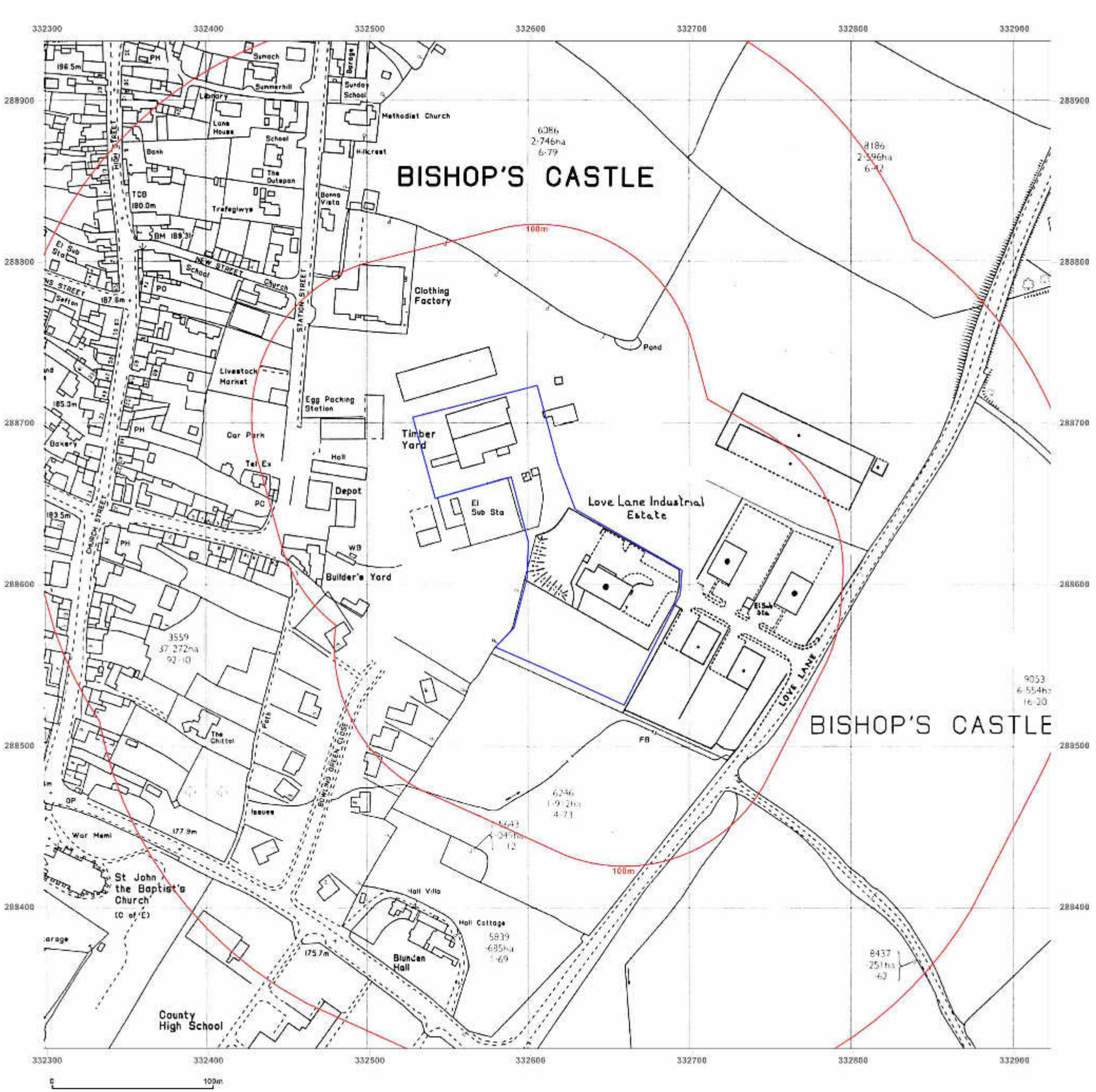

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STATION STREET, BISHOPS CASTLE, SY9 5AQ

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Surveyed 1975
Revised 1986
Edition N/A
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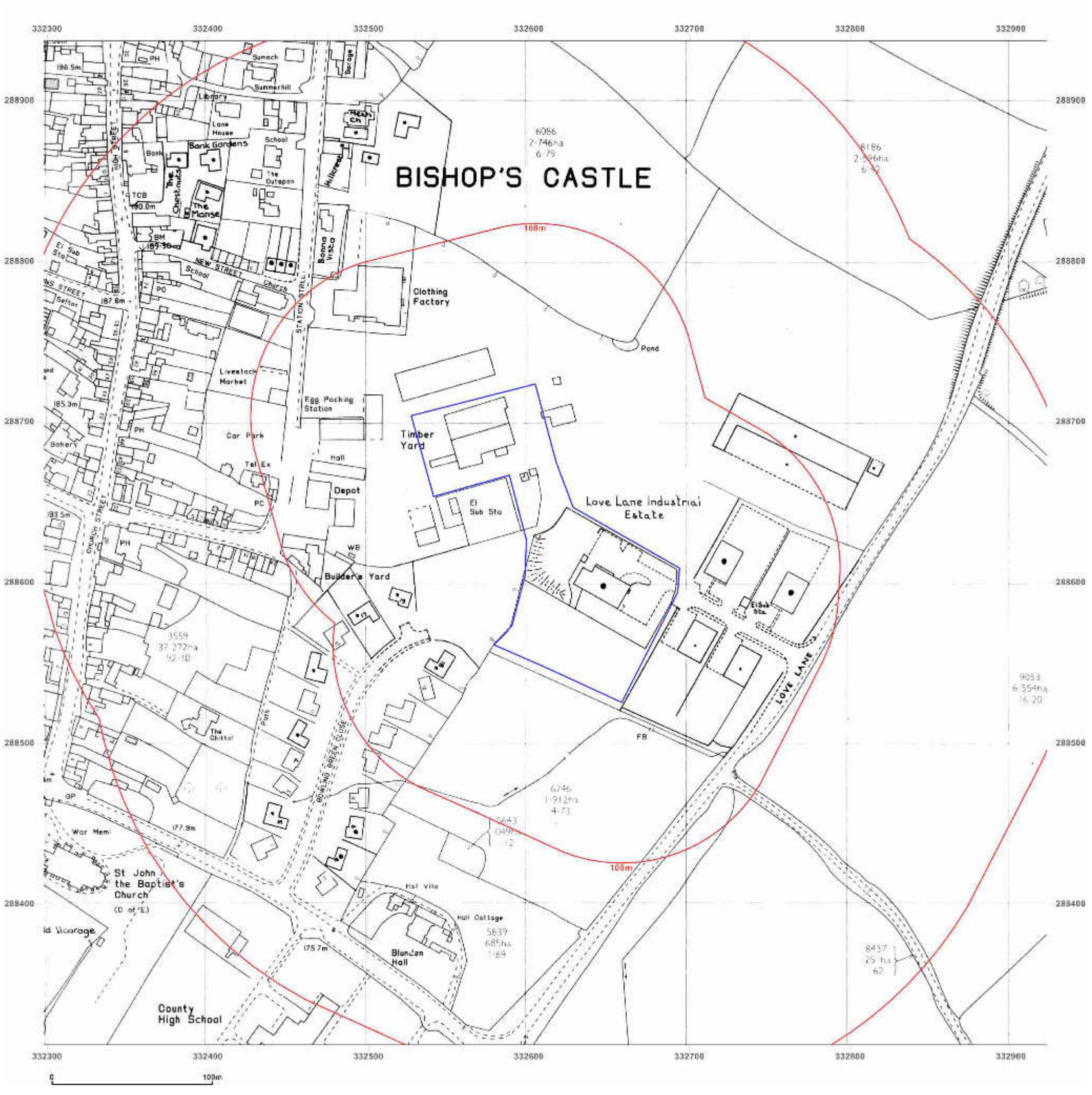

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Revised 1983
Edition N/A
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Levelled 1975

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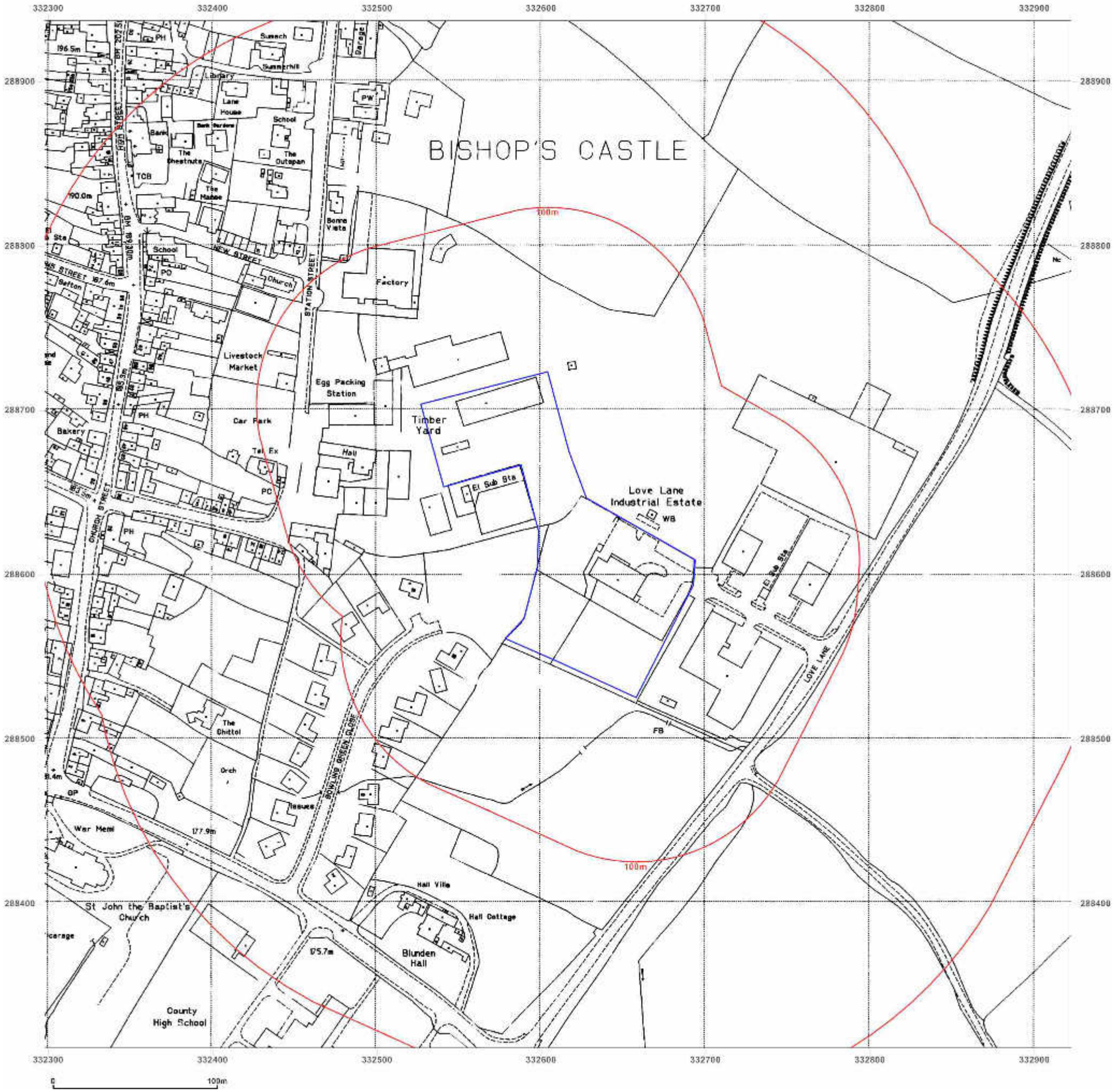

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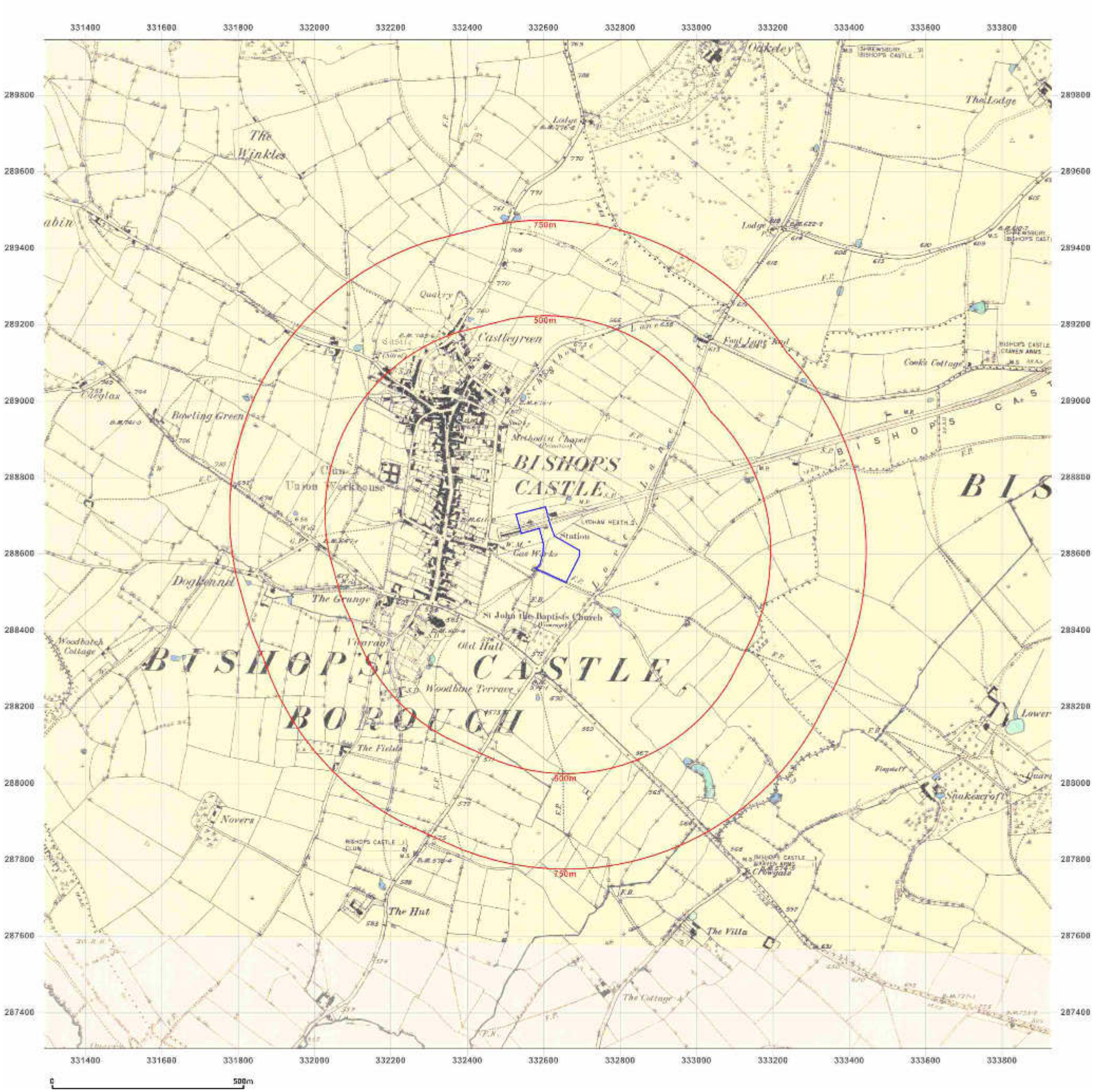

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Map Name: County Series

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Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1883
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Edition N/A
Copyright N/A
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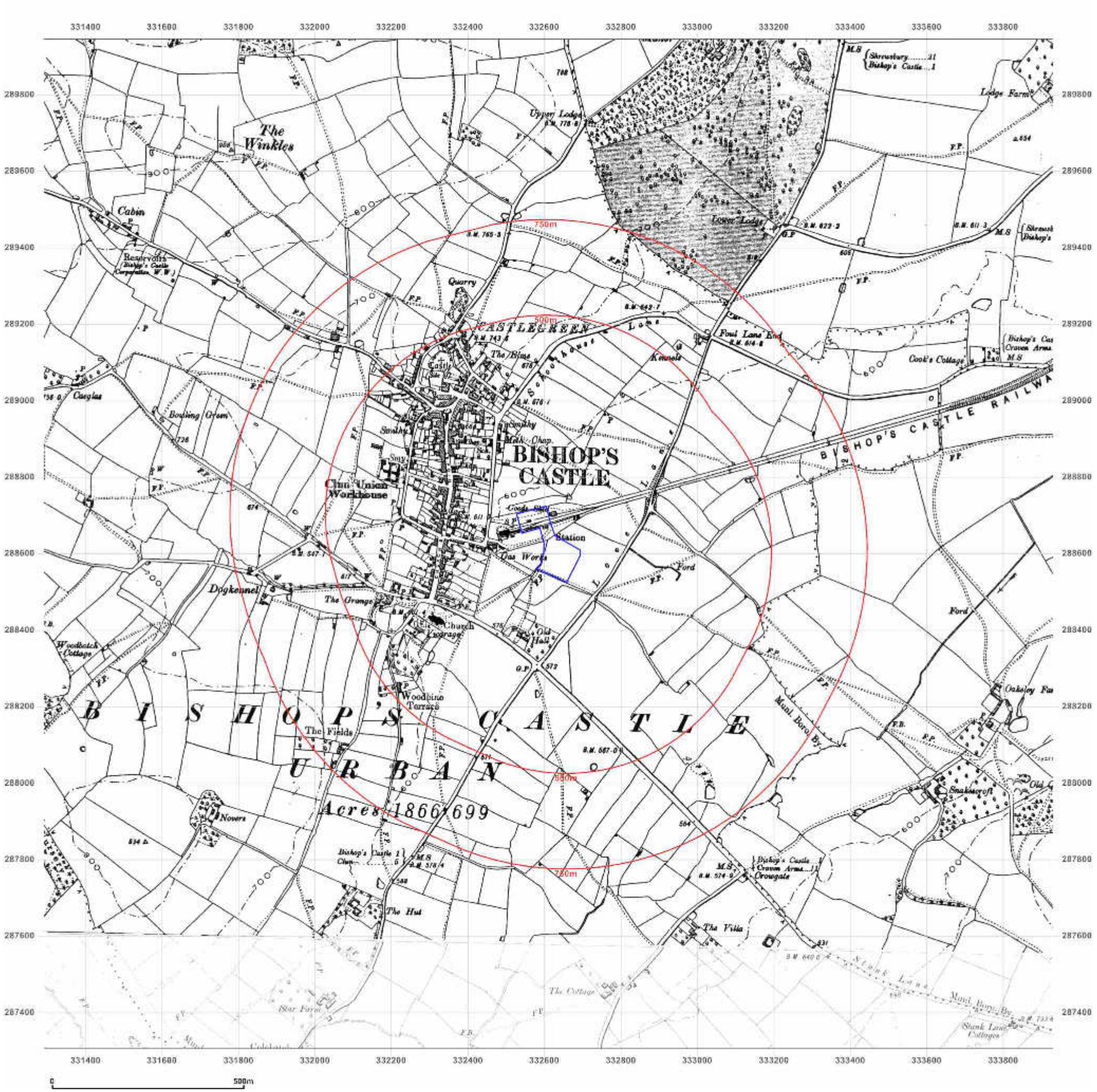

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Map Name: County Series

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Levelled N/A

Surveyed 1883
~~Revised 1901~~
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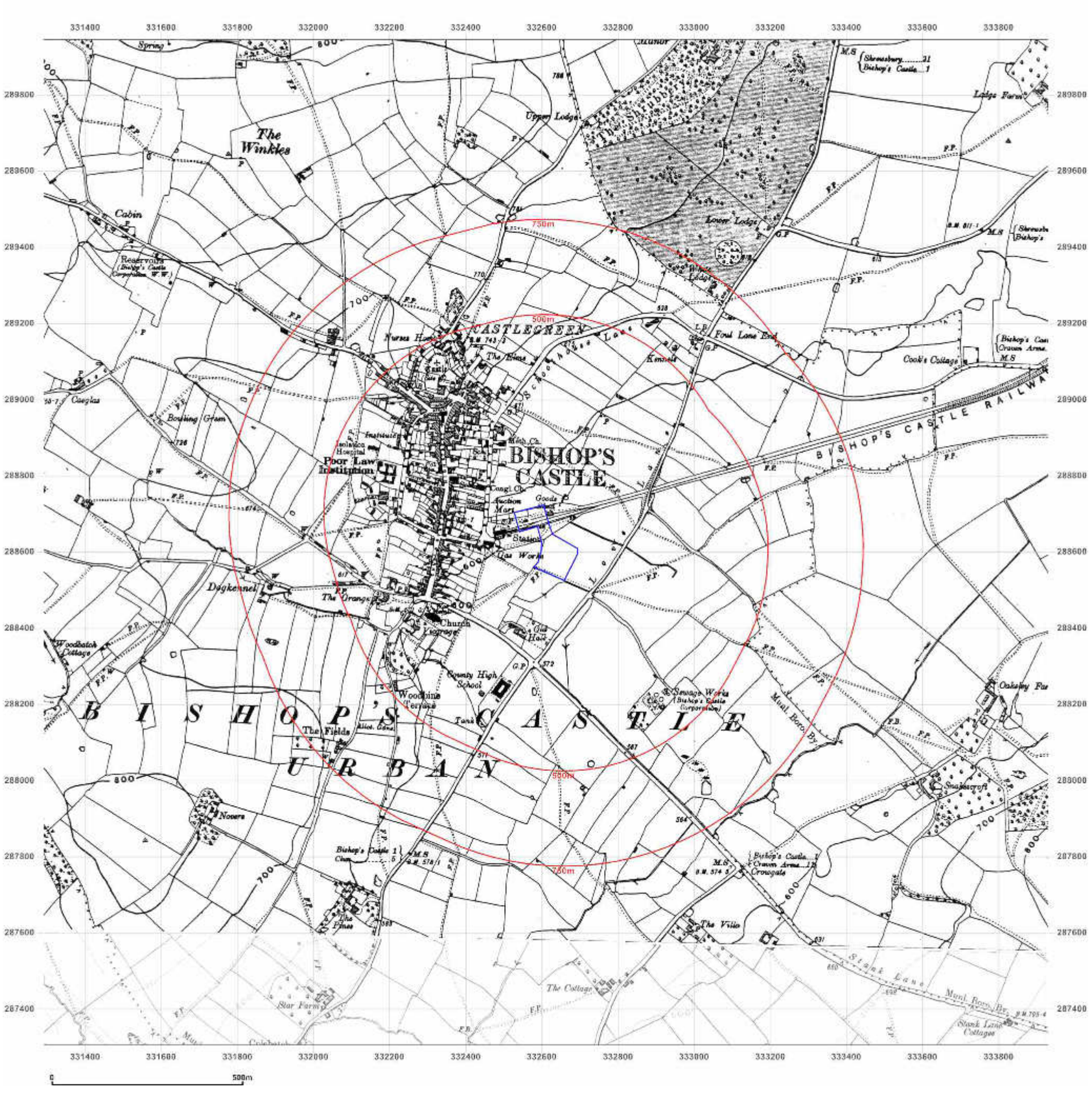

Groundsure INSIGHTS

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Map Name: County Series

Map date: **1924-1928**

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Surveyed 1888
Revised 1924
Edition 1928
Copyright N/A
Levelled N/A

Surveyed 1883
Revised 1924
Edition N/A
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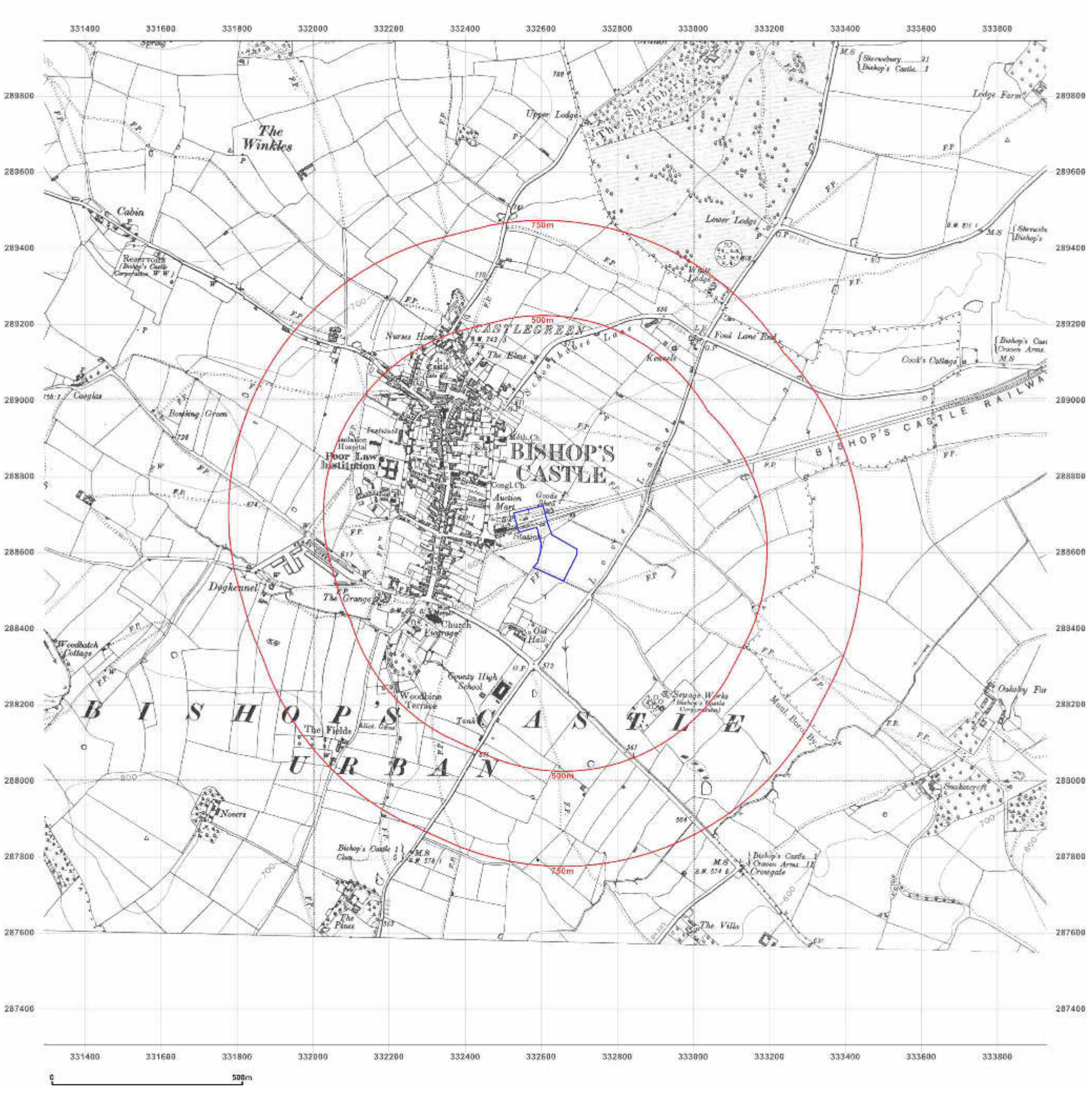

Groundsure INSIGHTS

Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

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Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1882
Revised 1938
Edition 1938
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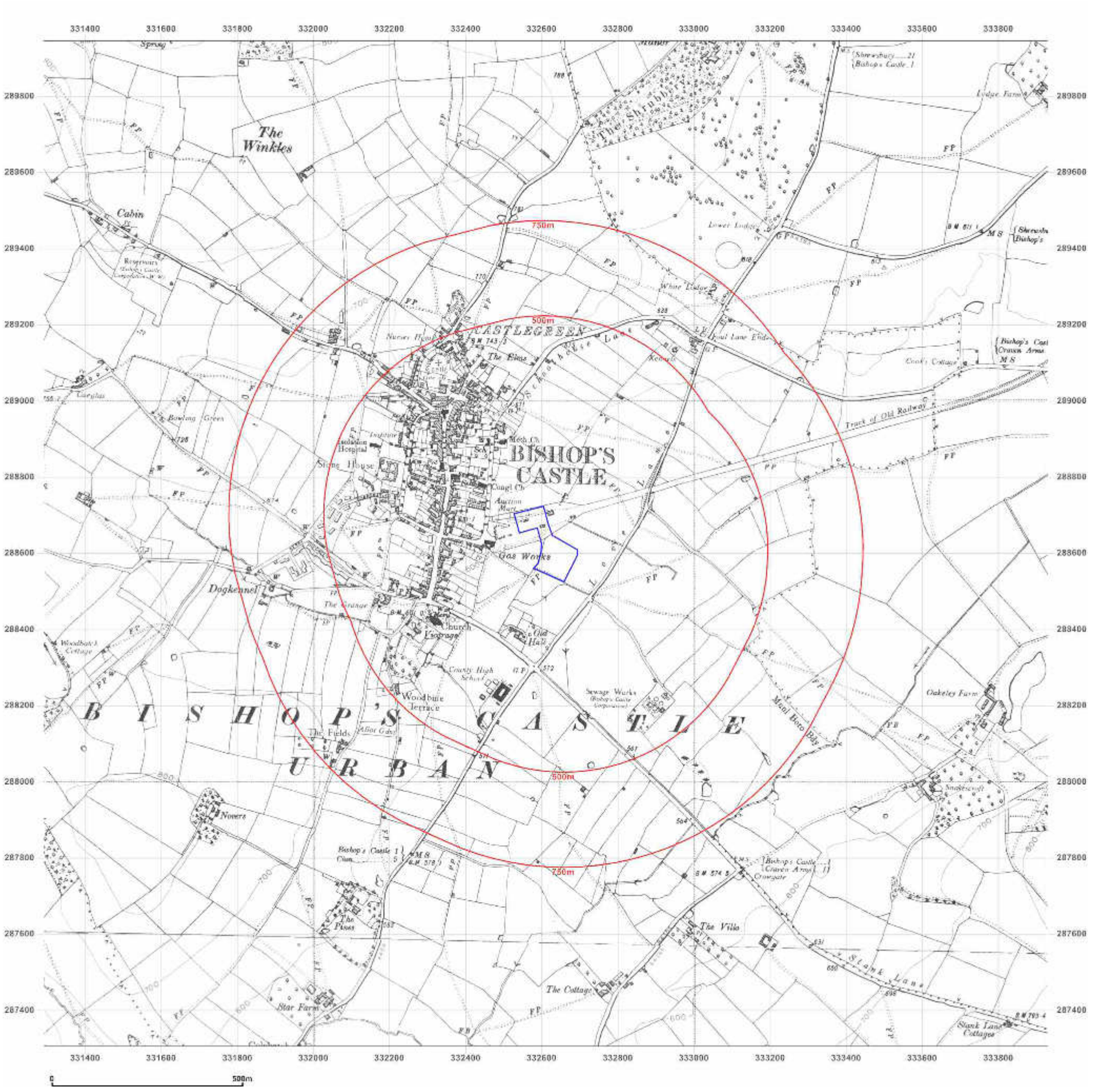
Production date: 21 November 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

Client Ref: Treatment_Site
Report Ref: GS-3473548
Grid Ref: 332610, 288625

Map Name: County Series

Map date: **1949**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1882
Revised 1949
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1883
~~Revised 1948~~
Edition N/A
Copyright N/A
Levelled N/A

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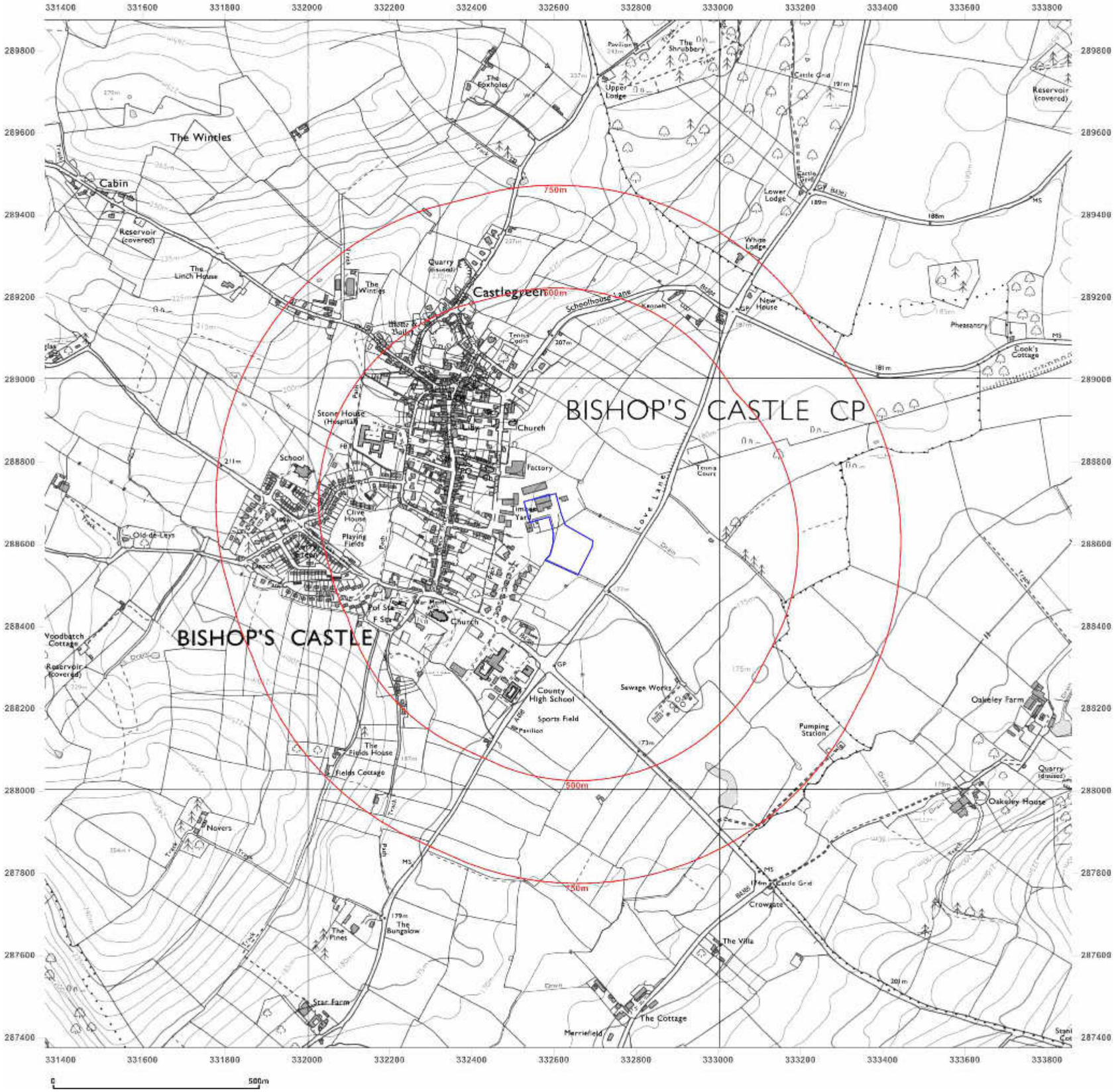
Production date: 21 November 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

Client Ref: Treatment_Site
Report Ref: GS-3473548
Grid Ref: 332610, 288625

Map Name: National Grid

Map date: **1978**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1975
Revised 1978
Edition N/A
Copyright 1978
Levelled 1973

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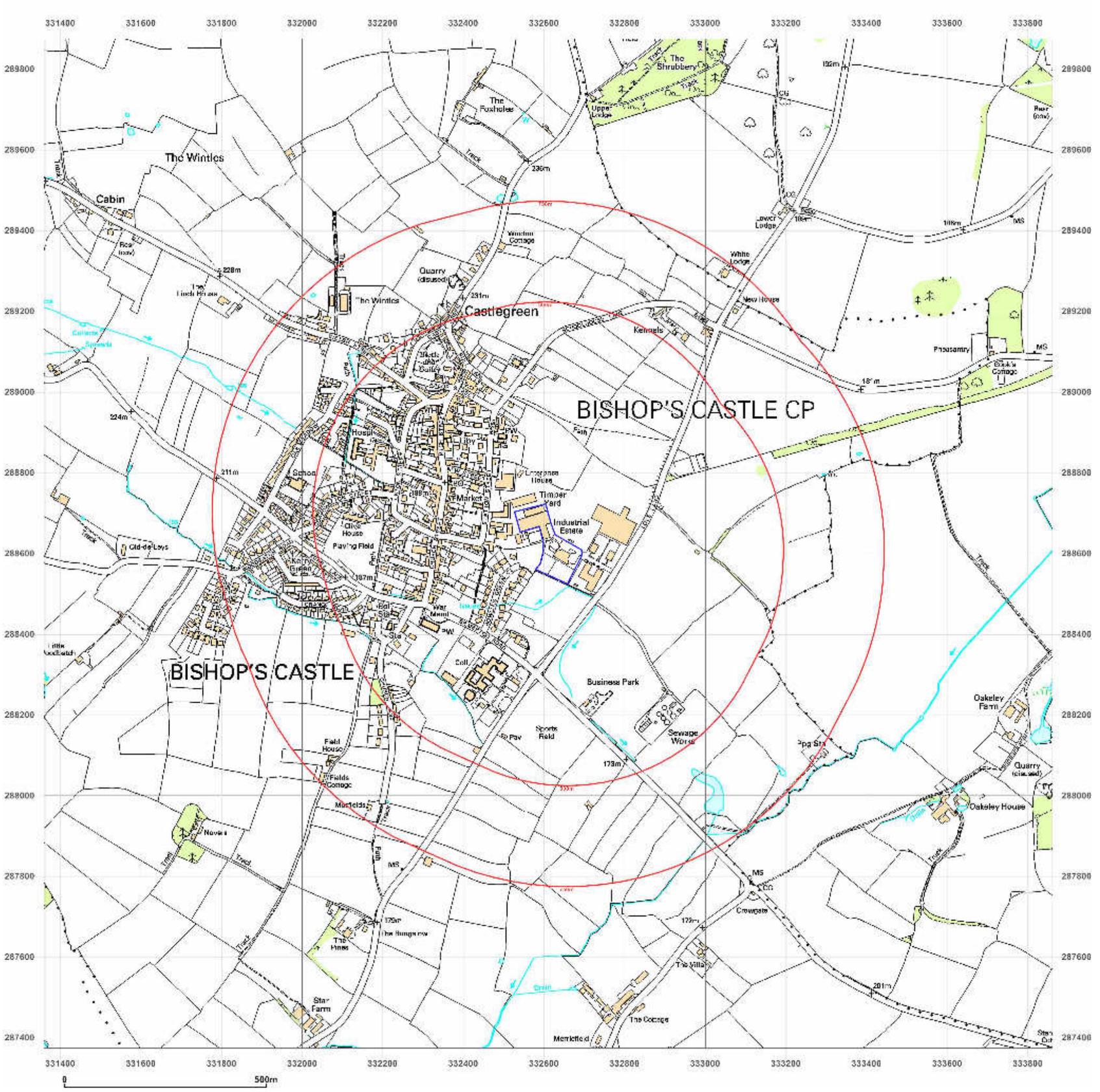
Production date: 21 November 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

Client Ref: Treatment_Site
Report Ref: GS-3473548
Grid Ref: 332610, 288625

Map Name: 1:10,000 Raster
Map date: **2002**
Scale: 1:10,000
Printed at: 1:10,000

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2002

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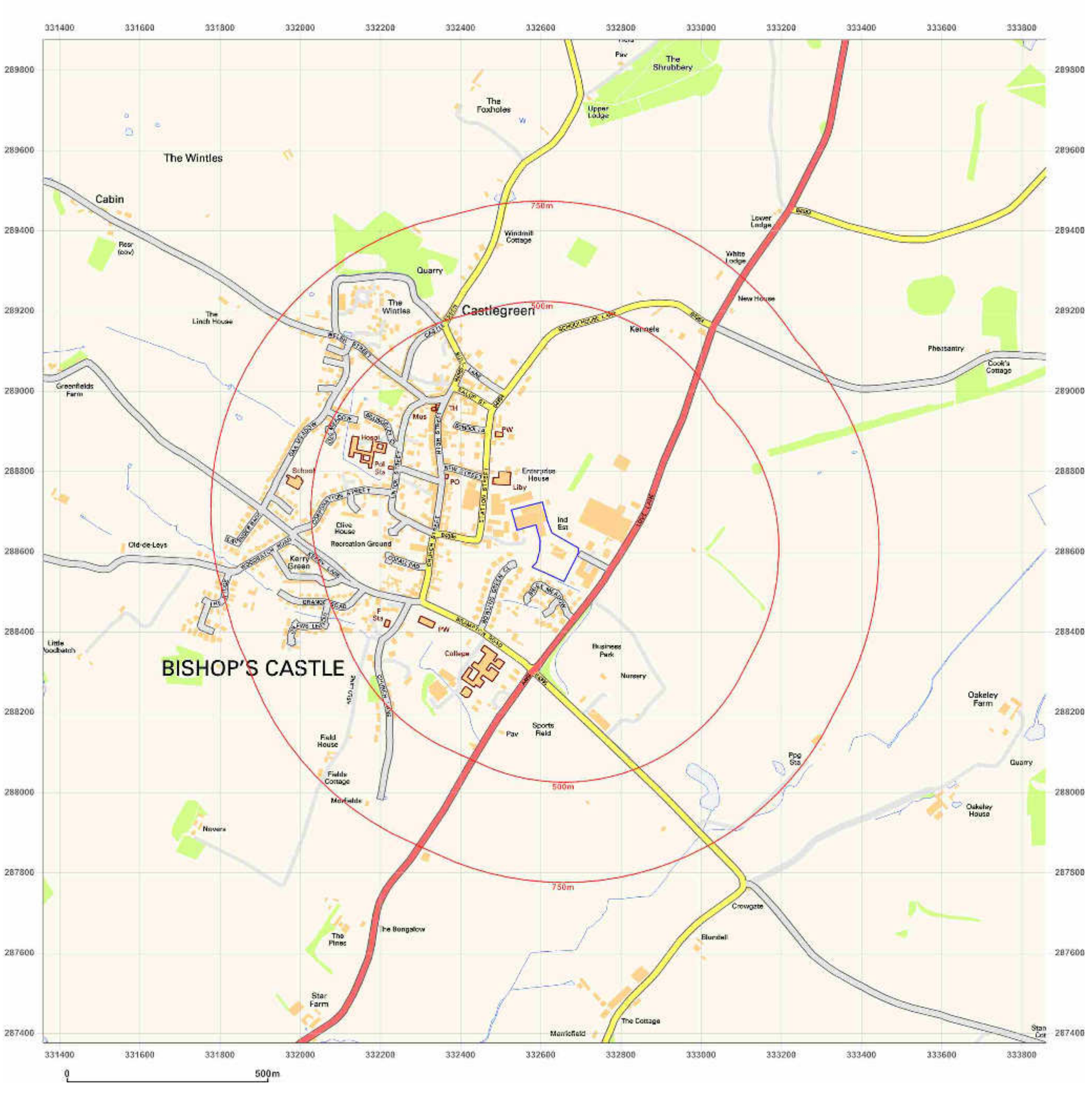
Production date: 21 November 2016

To view map legend click here *Legend*



Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

Client Ref: Treatment_Site
Report Ref: GS-3473548
Grid Ref: 332610, 288625

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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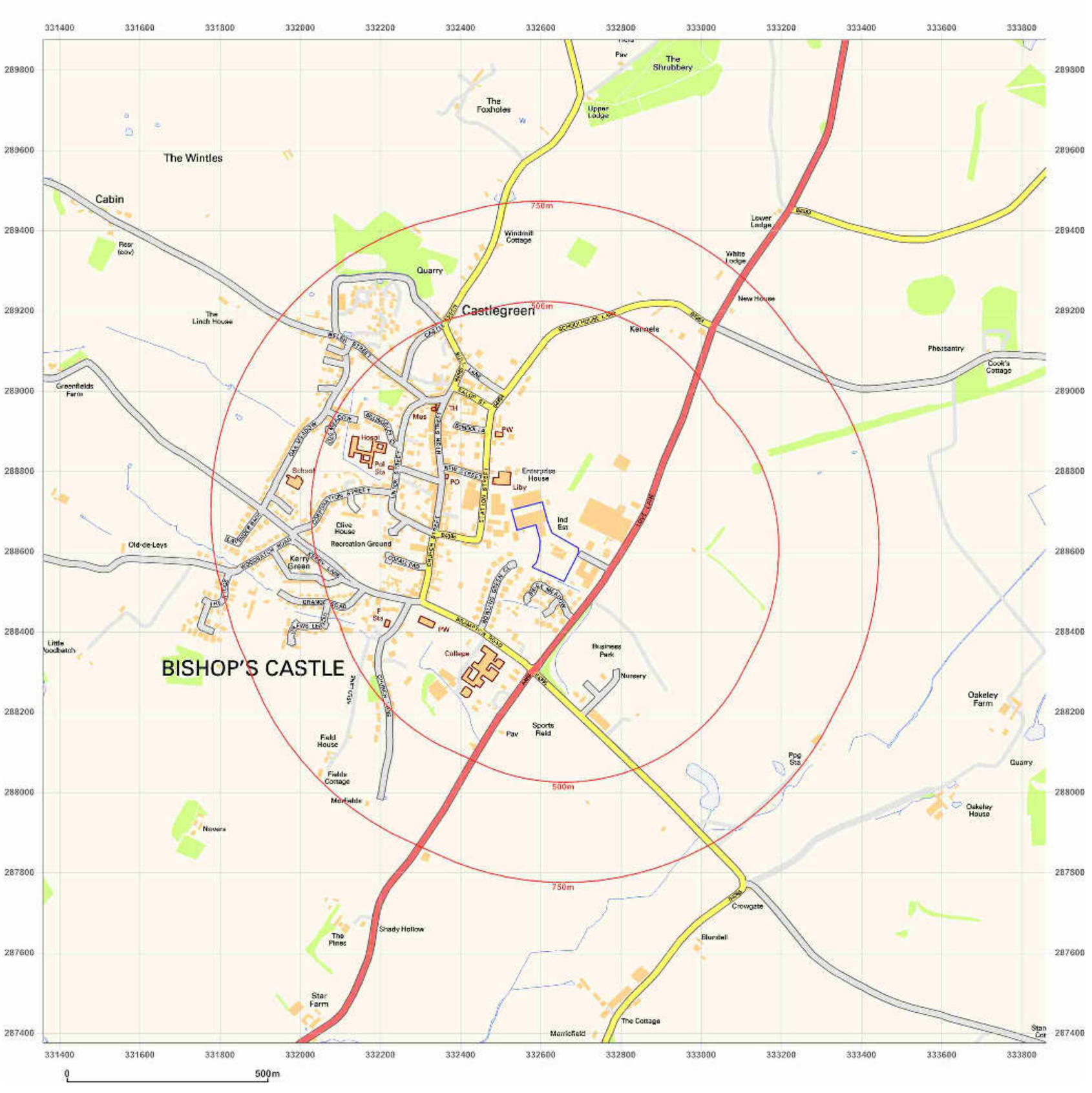
W: www.groundsure.com

Production date: 21 November 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

RANSFORD SAWMILLS,
STATION STREET, BISHOPS CASTLE, SY9 5AQ

Client Ref: Treatment_Site
Report Ref: GS-3473548
Grid Ref: 332610, 288625

Map Name: National Grid
Map date: **2014**
Scale: 1:10,000
Printed at: 1:10,000

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2014

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W: www.groundsure.com

Production date: 21 November 2016

To view map legend click here *Legend*

Appendix C

Environmental Data Report

Charles Ransford and Son Ltd

RANSFORD SAWMILLS, STATION STREET,
BISHOPS CASTLE, SY9 5AQ

Groundsure Reference:	GS-3473545
Your Reference:	Treatment_Site
Report Date	21 Nov 2016
Report Delivery Method:	Email - pdf

Groundsure Enviro Insight

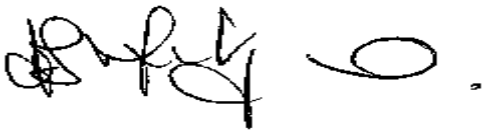
Address: RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address:	**RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ**
Date:	**21 Nov 2016**
Reference:	**GS-3473545**
Client:	**Charles Ransford and Son Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	16-Apr-2014
Grid Reference:	332619,288629
Site Size:	1.36ha

Report Reference: GS-3473545
Client Reference: Treatment_Site

Contents Page

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	14	11	16	25
1.2 Additional Information – Historical Tank Database	0	0	0	6
1.3 Additional Information – Historical Energy Features Database	1	4	3	9
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	6	3
1.6 Potentially Infilled Land	0	5	0	13

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	4	0
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	1	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	1	2
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	0	1	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	1	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	0

Section 4: Current Land Use

	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	7	12	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology

5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology

	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	2	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	0	0	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology

	0-500m					
6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
6.10 Detailed River Network entries within 500m of the site	1	4	1	11	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	3
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	1
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	1	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	1	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	Full radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use

Site Outline

250
500
Search Buffers (m)

Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Tanks

Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 66

ID	Distance [m]	Direction	Use	Date
1D	0	On Site	Railway Station	1938
2A	0	On Site	Railway Building	1903
3A	0	On Site	Railway Building	1883
4A	0	On Site	Railway Building	1938
5B	0	On Site	Railway Building	1903
6B	0	On Site	Railway Station	1883
7B	0	On Site	Railway Building	1938
8C	0	On Site	Railway Sidings	1903
9B	0	On Site	Railway Sidings	1883
10E	0	On Site	Railway Sidings	1938
11A	0	On Site	Timber Yard	1977
12B	0	On Site	Railway Sidings	1903
13B	0	On Site	Railway Station	1903
14C	0	On Site	Unspecified Commercial/Industrial	1903
15D	1	W	Railway Building	1883
16E	1	E	Goods Shed	1903
17E	1	E	Goods Shed	1903
18E	1	E	Goods Shed	1938
19E	2	E	Railway Building	1883
20D	2	W	Railway Station	1903
21D	24	W	Unspecified Quarry	1883
22D	33	W	Cuttings	1938
23D	34	W	Unspecified Ground Workings	1903
24D	34	W	Unspecified Pit	1949
25D	34	W	Unspecified Ground Workings	1903
26	52	N	Unspecified Factory	1977
27G	58	SW	Gas Works	1903
28F	59	E	Railway Building	1903
29F	60	E	Railway Buildings	1938
30G	67	W	Gas Works	1949
31G	68	SW	Gas Works	1883
32F	68	NE	Railway Building	1903

33G	69	W	Gas Works	1903
34G	75	SW	Gasometer	1949
35G	75	SW	Gasometer	1903
36G	77	SW	Gasometer	1883
37H	192	N	Smithy	1883
38H	211	N	Smithy	1903
39I	217	NW	Police Station	1949
40I	219	NW	Police Station	1938
41H	224	N	Smithy	1903
42L	297	NW	Smithy	1903
43J	301	W	Unspecified Workhouse	1883
44K	301	W	Union Workhouse	1903
45J	303	W	Unspecified Workhouse	1903
46K	311	NW	Hospital	1977
47L	314	NW	Smithy	1903
48	323	W	Police Station	1977
49	340	NW	Smithy	1903
50M	356	SE	Sewage Works	1977
51M	359	SE	Sewage Works	1938
52M	359	SE	Sewage Works	1938
53M	361	SE	Sewage Works	1949
54M	373	SE	Unspecified Ground Workings	1938
55M	373	SE	Unspecified Ground Workings	1938
56U	378	W	Fire Station	1977
57N	379	W	Isolation Hospital	1949
58N	380	W	Isolation Hospital	1938
59O	382	SE	Unspecified Tank	1977
60O	384	SE	Unspecified Tanks	1938
61O	385	SE	Unspecified Tank	1977
62O	388	SE	Unspecified Tanks	1949
63	398	NW	Smithy	1903
64O	400	SE	Unspecified Tank	1977
65M	400	SE	Unspecified Tank	1977
66	429	SW	Unspecified Tank	1938

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 6

ID	Distance (m)	Direction	Use	Date
67M	403	SE	Humus Tanks	1975
68M	403	SE	Humus Tanks	1986
69M	403	SE	Humus Tanks	1989
70P	406	SE	Sedimentation Tanks	1975
71P	407	SE	Sedimentation Tanks	1986
72P	407	SE	Sedimentation Tanks	1989

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 17

ID	Distance (m)	Direction	Use	Date
73Q	0	On Site	Electricity Substation	1975
74Q	4	S	Electricity Substation	1986
75Q	4	S	Electricity Substation	1989
76R	40	E	Electricity Substation	1986
77R	40	E	Electricity Substation	1989
78S	228	NW	Electricity Substation	1975
79S	229	NW	Electricity Substation	1986
80S	229	NW	Electricity Substation	1989
81T	318	W	Electricity Substation	1986
82T	318	W	Electricity Substation	1989
83T	329	W	Electricity Substation	1975
84U	355	W	Electricity Substation	1975
85V	355	W	Electricity Substation	1986
86V	355	W	Electricity Substation	1989
87W	462	W	Electricity Substation	1975
88W	463	W	Electricity Substation	1986
89W	463	W	Electricity Substation	1989

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 9

ID	Distance (m)	Direction	Use	Date
90H	210	N	Garage	1986
91H	210	N	Garage	1989
92H	212	N	Garage	1975
93X	225	W	Garage	1975
94X	226	W	Garage	1986
95X	227	W	Garage	1989
96L	265	NW	Garage	1975
97L	266	NW	Garage	1986
98L	266	NW	Garage	1989

1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 18

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
99D	24	W	Unspecified Quarry	1883
100D	33	W	Cuttings	1938
101D	34	W	Unspecified Ground Workings	1903
102D	34	W	Unspecified Pit	1949
103D	34	W	Unspecified Ground Workings	1903
104	300	S	Pond	1903
105Y	349	SW	Ponds	1938
106Y	350	SW	Pond	1883
107Y	350	SW	Pond	1949
108Y	351	SW	Pond	1903
109M	356	SE	Sewage Works	1977
110M	359	SE	Sewage Works	1938
111M	359	SE	Sewage Works	1938

112M	361	SE	Sewage Works	1949
113M	373	SE	Unspecified Ground Workings	1938
114M	373	SE	Unspecified Ground Workings	1938
115	468	NE	Pond	1903
116	480	S	Pond	1903

2. Environmental Permits, Incidents and Registers Map

Site Outline

Search Buffers (m)

Recorded Pollution Incident

Dangerous Substances (List 1)

Dangerous Substances (List 2)

Water Industry Referrals

Licenced Discharge Consents

Red List Discharge Consents

RAS 3 & 4 Authorisations

Part A(1) Authorised Processes and Historic IPC Authorisations

Part A(2) and Part B Authorised Processes

COMAH / NIHHS Sites

Sites Determined as Contaminated Land

Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

3

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
8	87	N	332539 288797	Address: Charles Ransford & Sons Ltd, Ransford Sawmills, Station Street, Bishops Castle, Shropshire, SY9 5AQ Process: YGA manf timber & wood products Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
9B	256	W	332288 288606	Address: Harry Tuffins Ltd, Church Street, Bishops Castle, Shropshire, SY9 5AA Process: YBB unloading petrol at service stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
10B	256	W	332288 288606	Address: A & J Hemmings Ltd, Church Street, SY9 5AA Process: Petrol Vapour Recovery Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

4

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
4	96	SW	332570 288460	Address: A488 BISHOPS CASTLE STORM OVERFLOW, A488 BISHOPS CASTLE, SHROPSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/09/21721/O Permit Version: 1	Receiving Water: TRIB OF SNAKESCROFT BROOK Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 29/07/1992 Effective Date: 29-Jul-1992 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details	
5	137	SW	332600 288400	Address: BLUNDELL HALL STW, BLUNDELL HALL, BISHOPS CASTLE, SHROPSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/09/12814/RG Permit Version: 1	Receiving Water: UNDERGROUND STRATA Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 10/11/1986 Effective Date: 10-Nov-1986 Revocation Date: 16/03/2004
6A	195	SW	332570 288350	Address: BLUNDELL HALL STW, BLUNDELL HALL, BISHOPS CASTLE, SHROPSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/09/55638/RG Permit Version: 1	Receiving Water: UNDERGROUND STRATA Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 17/03/2004 Effective Date: 17-Mar-2004 Revocation Date: 03/12/2015
7A	195	SW	332570 288350	Address: BLUNDELL HALL STW, BLUNDELL HALL, BISHOPS CASTLE, SHROPSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/09/55638/RG Permit Version: 2	Receiving Water: GW VIA INFILTRATION SYSTEM Status: VARIED UNDER EPR 2010 Issue date: 04/12/2015 Effective Date: 04-Dec-2015 Revocation Date: -

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Company	Address	Operational Status	Tier
11	0	On Site	Charles Ransford & Son Ltd	Charles Ransford And Son Ltd, Station Street, Bishops Castle, SY9 5AQ	Historical COMAH Site	-

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

3

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	76	SE	332743 288526	Incident Date: 09-Jul-2003 Incident Identification: 172321 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	279	S	332720 288253	Incident Date: 05-Mar-2003 Incident Identification: 141144 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
3	282	S	332668 288243	Incident Date: 19-Oct-2005 Incident Identification: 354477 Pollutant: Contaminated Water Pollutant Description: Chemically Contaminated Run-Off	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

3. Landfill and Other Waste Sites Map

Site Outline

250
500
Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

E.A. Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
2	497	W	331900 288500	Site Address: Kerry Green, Bishops Castle Waste Licence: - Site Reference: - Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	604	NW	332000.0 289000.0	Address: King Grove, Bishops Castle, Salop BGS Number: 2374.0	Risk: No risk to aquifer Waste Type: N/A

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

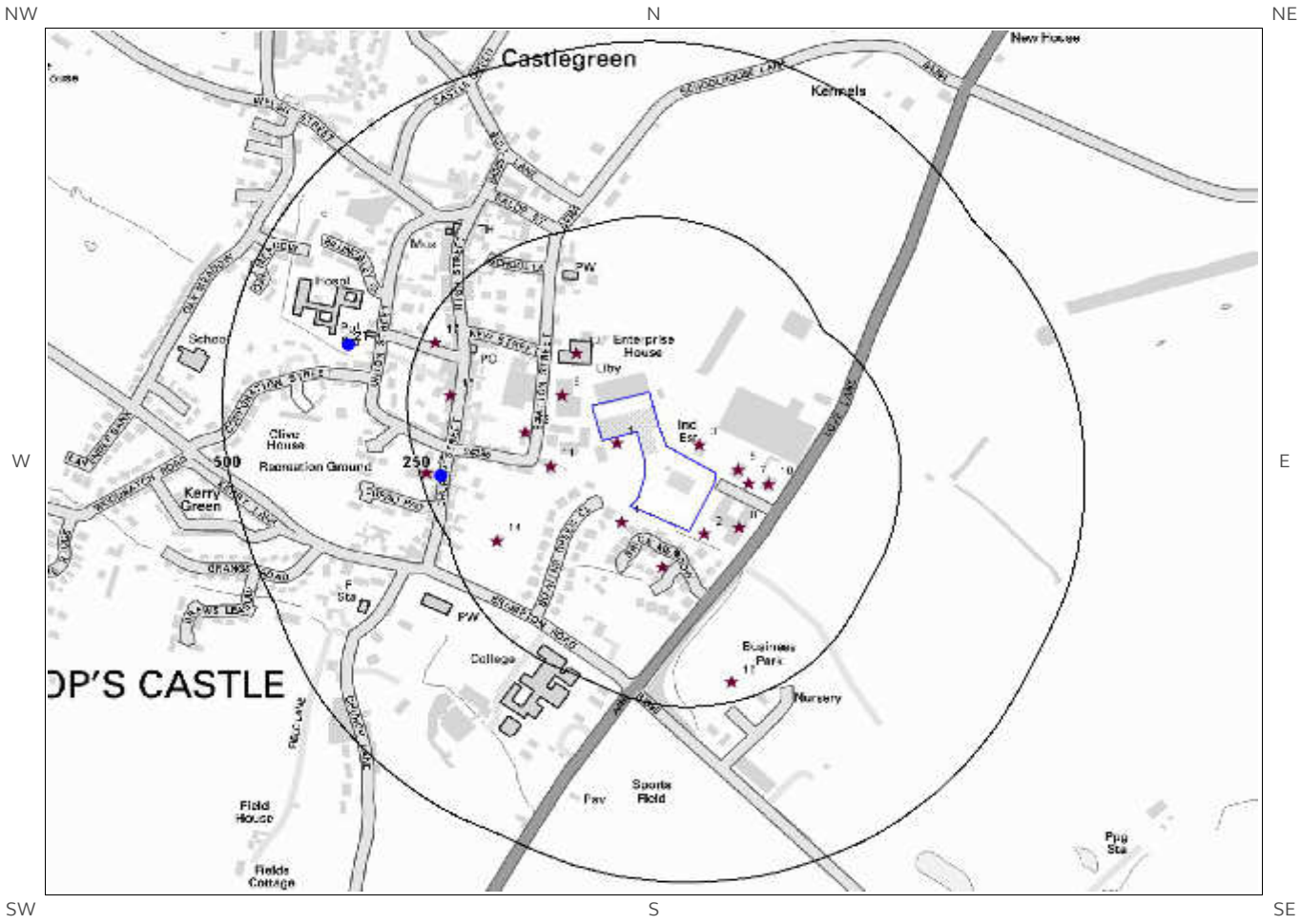
Database searched and no data found.

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

0

Database searched and no data found.

4. Current Land Use Map



Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 19

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	7	S	Electricity Sub Station	332560 288652	SY9	Electrical Features	Infrastructure and Facilities
2	20	SE	Malarkey Engineering	332677 288522	Unit 6 Challenge Court, Love Lane Industrial Estate, Bishops Castle, SY9 5DW	Metals Manufacturers, Fabricators and Stockholders	Industrial Products
3	25	NE	Love Lane Industrial Estate	332671 288650	SY9	Business Parks and Industrial Estates	Industrial Features
4	25	SW	Electricity Sub Station	332566 288539	SY9	Electrical Features	Infrastructure and Facilities
5	31	E	Pathway Intermediates Ltd	332723 288613	Love Lane Industrial Estate, Bishops Castle, SY9 5DW	Animal Feeds, Pet Foods, Hay and Straw	Foodstuffs
6	43	W	A Evans & Son Egg Packing Ltd	332485 288720	Station Street, Bishops Castle, SY9 5AQ	Fish, Meat and Poultry Products	Foodstuffs
7	45	E	Electricity Sub Station	332737 288594	SY9	Electrical Features	Infrastructure and Facilities
8	58	SE	Jesmonite	332724 288531	Unit 2 Challenge Court, Love Lane Industrial Estate, Bishops Castle, SY9 5DW	Concrete Products	Industrial Products
9	60	SW	Bullseye	332621 288475	22, Brick Meadow, Bishops Castle, SY9 5DH	Pest and Vermin Control	Contract Services
10	72	E	G Bryan Jones Ltd	332764 288593	Love Lane Industrial Estate, Bishops Castle, SY9 5DW	Agricultural Contractors	Contract Services
11	78	SW	Castle Cars	332470 288618	Station Street, Bishops Castle, SY9 5AQ	Secondhand Vehicles	Motoring
12	79	N	Three Tuns Brewery	332505 288780	Office 8 Enterprise House, Station Street, Bishops Castle, Shropshire, SY9 5AQ	Alcoholic Drinks	Foodstuffs
13	98	W	Telephone Exchange	332435 288667	SY9	Telecommunications Features	Infrastructure and Facilities
14	188	W	Owen E C O	332396 288512	Chittol, Church Street, Bishops Castle, SY9 5AA	Livestock Farming	Farming
15	193	W	Bishops Castle Livestock Market	332333 288719	43, Church Street, Bishops Castle, SY9 5AD	Livestock Markets	Food, Drink and Multi Item Retail

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
16	222	S	Business Park	332715 288311	SY9	Business Parks and Industrial Estates	Industrial Features
17	231	NW	Electricity Sub Station	332314 288796	SY9	Electrical Features	Infrastructure and Facilities
18A	241	W	Texaco	332302 288610	Station Road, Bishops Castle, Bishops Castle, Shropshire, SY9 5AA	Petrol and Fuel Stations	Road and Rail
19A	241	W	Tuffins Bishops Castle Service Station	332302 288610	Church Street, Bishops Castle, Shropshire, SY9 5AA	Petrol and Fuel Stations	Road and Rail

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 2

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
20A	224	W	332321 288605	Texaco	Spar Bishops Castle, Church Street, Bishops Castle, Shropshire, SY9 5AA	No	Open
21	341	W	332196 288791	Obsolete	Union Street Garage, Union Street, Bishops Castle, Shropshire, SY9 5AJ	Not Applicable	Obsolete

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
GFSDD	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
HMGDD	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

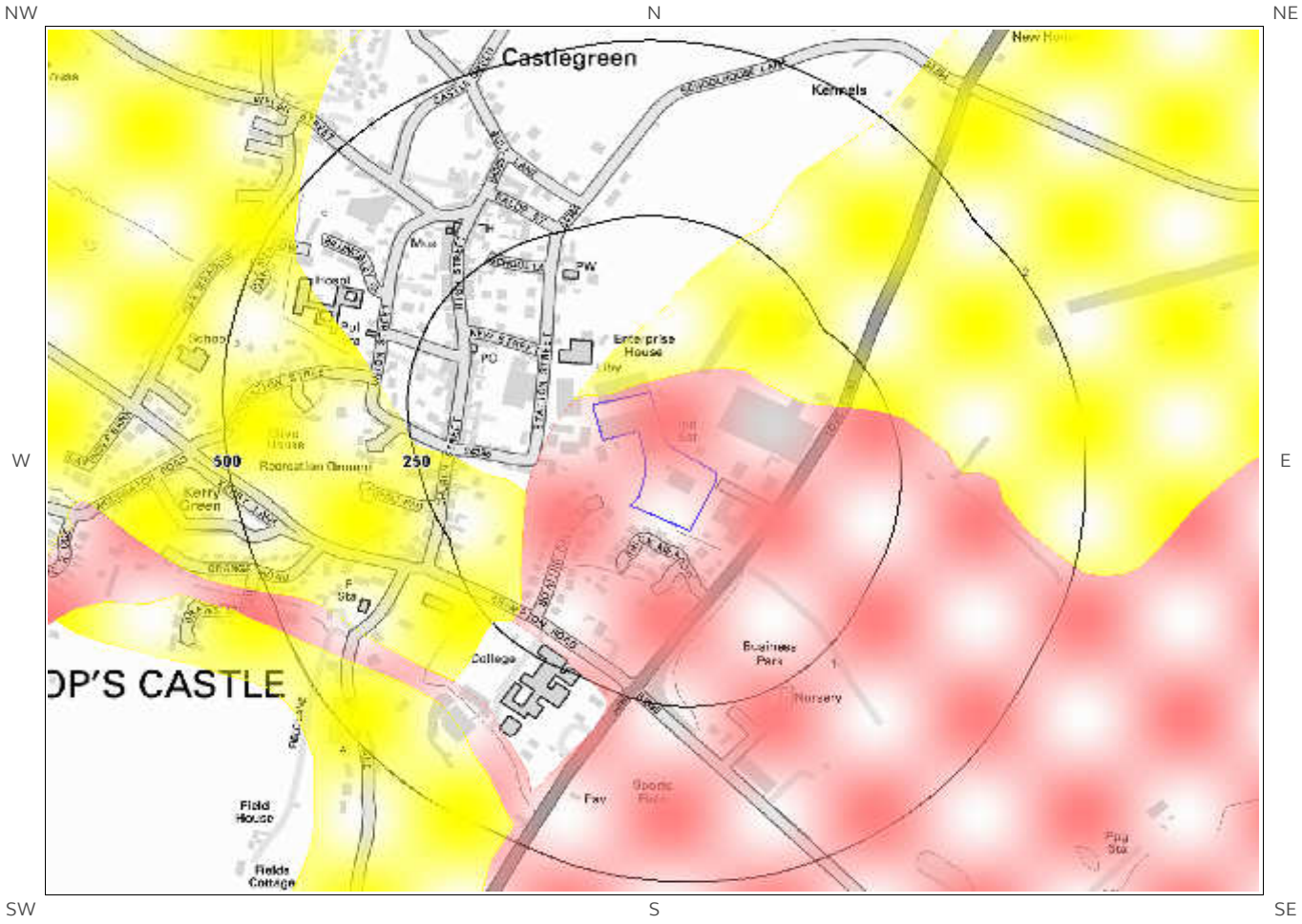
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
BAI-SDSL	BAILEY HILL FORMATION	SANDSTONE AND SILTSTONE, INTERBEDDED

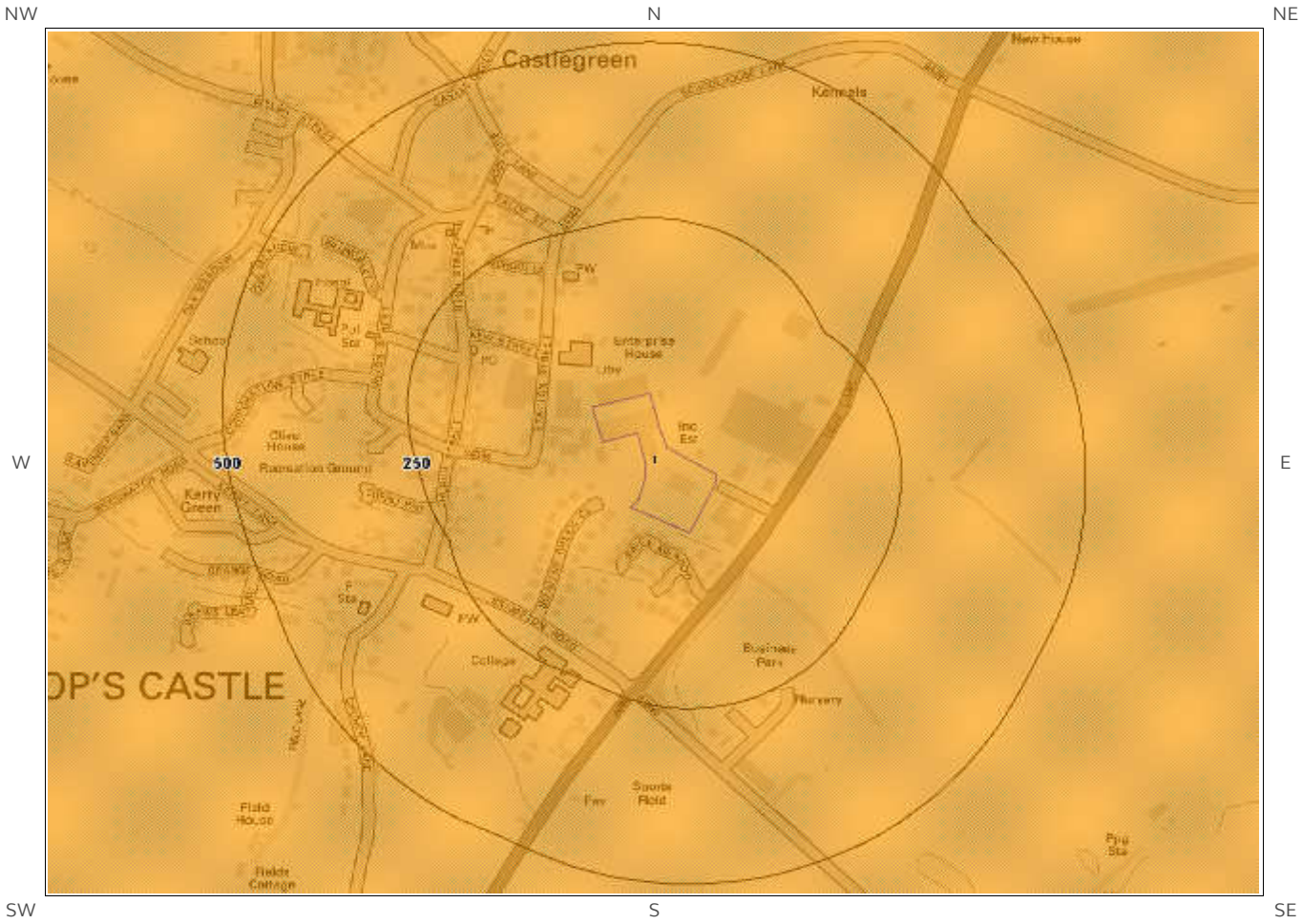
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

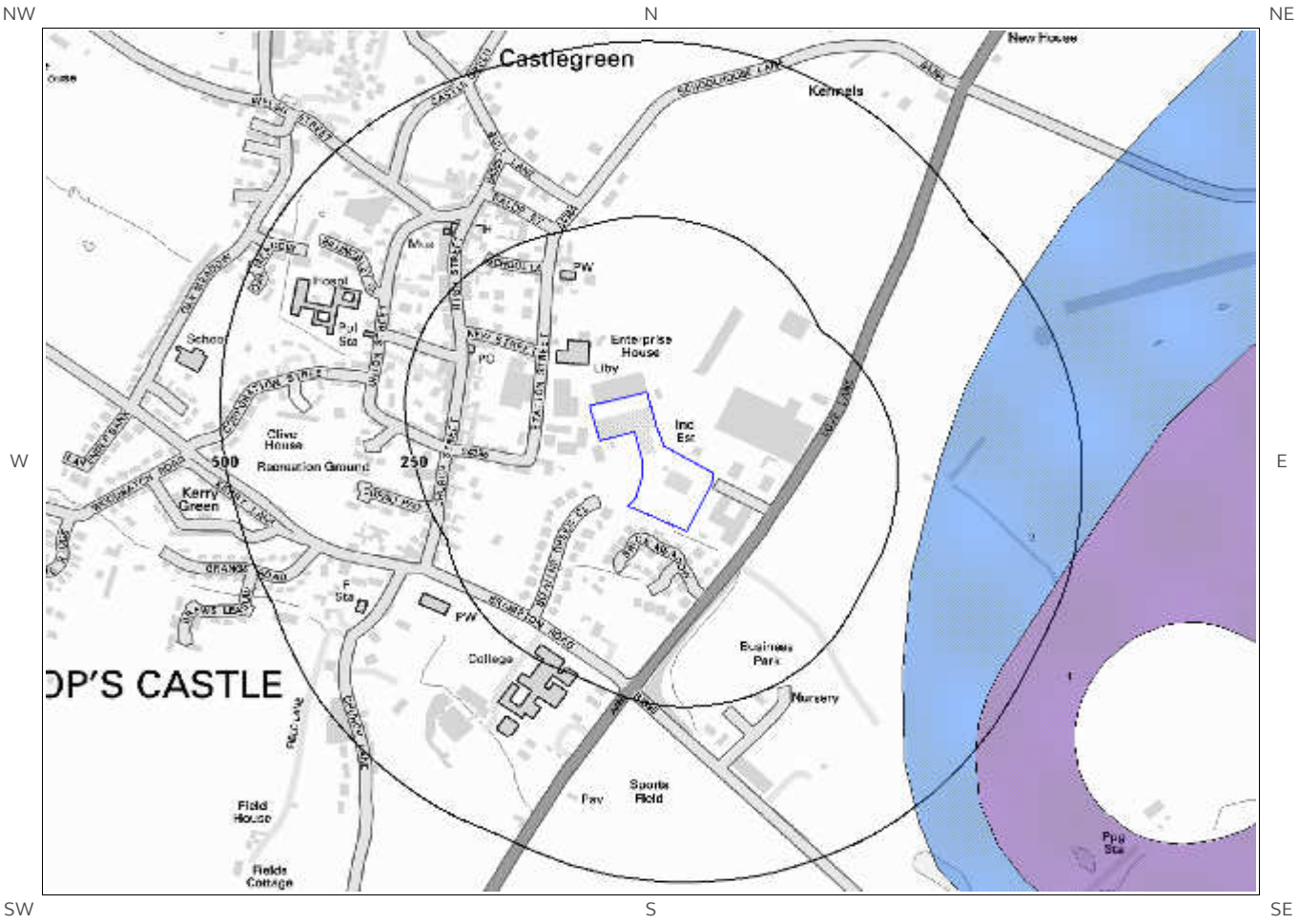
6a. Aquifer Within Superficial Geology

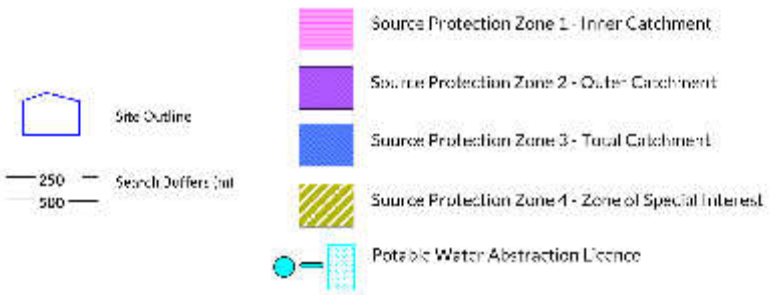


6b. Aquifer Within Bedrock Geology and Abstraction Licenses



6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



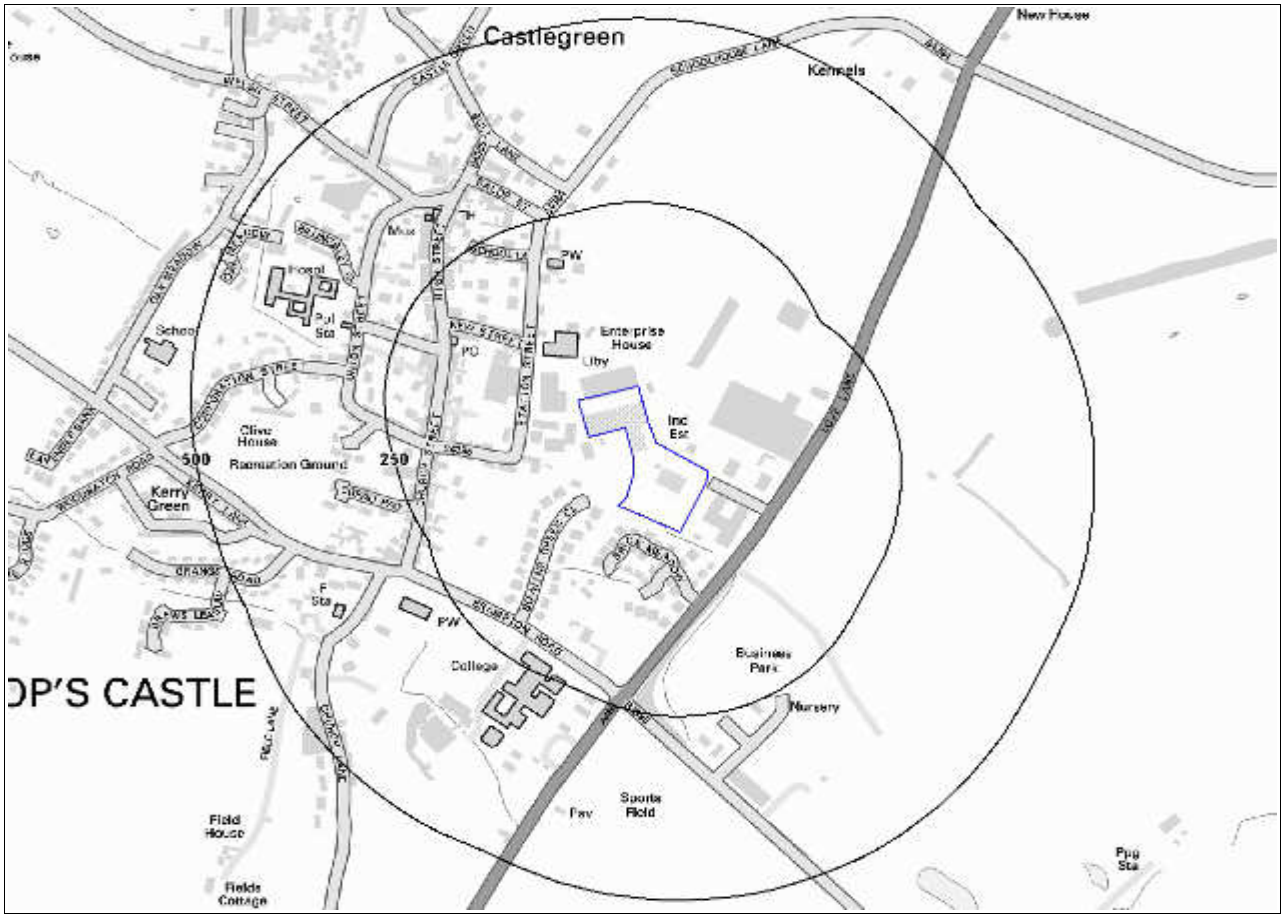


6d. Hydrogeology – Source Protection Zones within confined aquifer

NW N NE

W E

SW S SE



Site Outline

250 / 500 Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

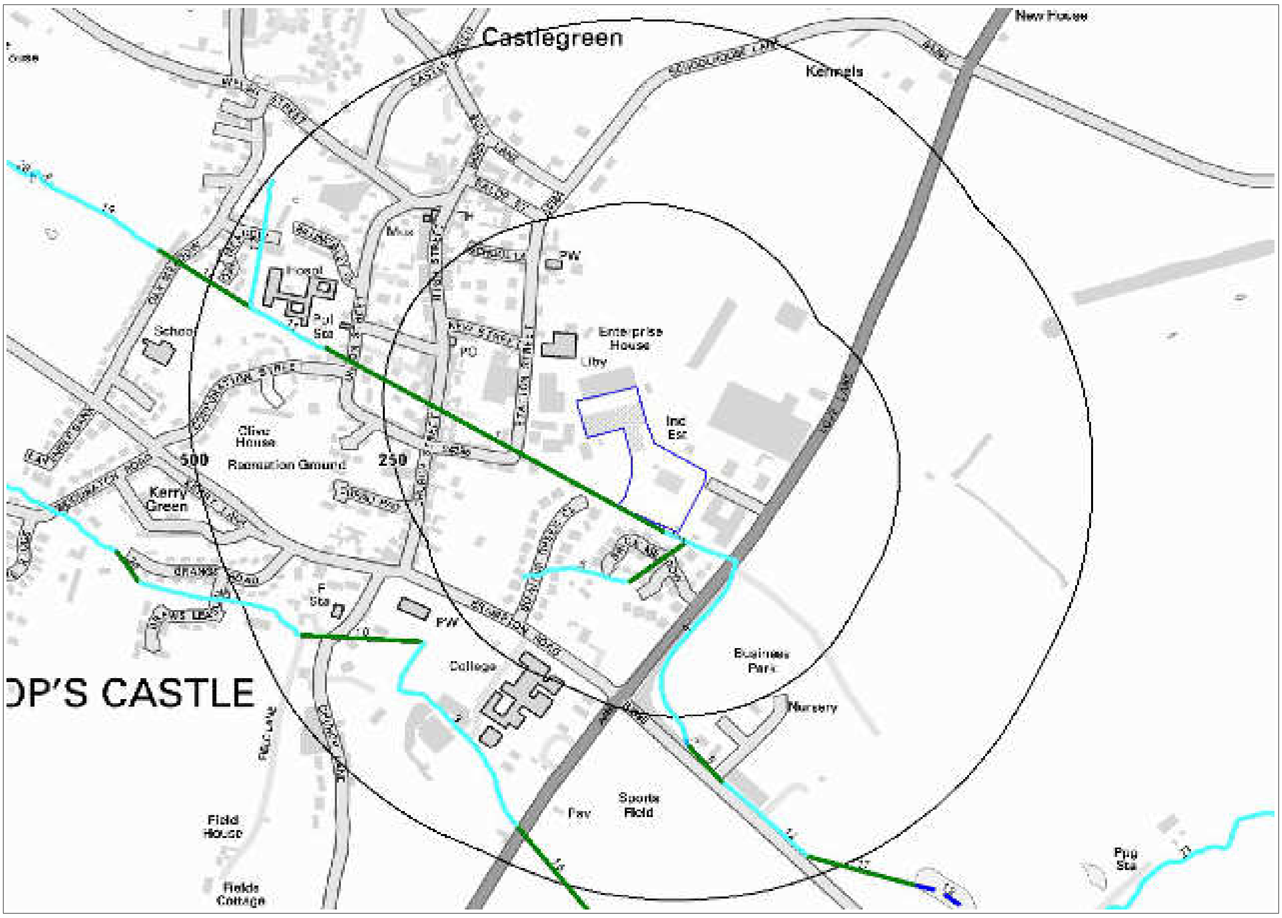
Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

6e. Hydrology – Detailed River Network and River Quality

NW N NE

W E



SW S SE

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	10	N	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
3	128	SW	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	382	SW	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
2	292	E	3	Total catchment
1	468	SE	2	Outer catchment

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
0	On Site	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1350	S	332400 287200	River Name: Kemp Reach: Bishops Moat To Snakescroft Bk. End/Start of Stretch: End of Stretch NGR	B	B	B	A	A
Not shown	1350	S	332400 287200	River Name: Kemp Reach: Snakescroft Bk. To Acton Bank Bk. End/Start of Stretch: Start of Stretch NGR	B	B	B	B	B

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

					Chemical Quality Grade				
ID	Distance (m)	Direction	NGR	River Quality Grade	2005	2006	2007	2008	2009
Not shown	837	S	332800 287700	River Name: Snakescroft Bk Reach: Fb At The Villa To Bishops Castle Stw End/Start of Stretch: End of Stretch NGR	C	C	C	B	B
Not shown	837	S	332800 287700	River Name: Snakescroft Bk Reach: Fb At The Villa To Bishops Castle Stw End/Start of Stretch: Sample Point NGR	C	C	C	B	B
Not shown	1007	E	333700 288600	River Name: Snakescroft Bk Reach: Fb At The Villa To Bishops Castle Stw End/Start of Stretch: Start of Stretch NGR	C	C	C	B	B
Not shown	1342	SW	332000 287350	River Name: Kemp R Reach: Bishops Moat To Snakescroft Bk End/Start of Stretch: Sample Point NGR	A	A	A	A	A
Not shown	1350	S	332400 287200	River Name: Kemp R Reach: Snakescroft Bk To Acton Bank Bk End/Start of Stretch: Start of Stretch NGR	B	A	A	A	A
Not shown	1350	S	332400 287200	River Name: Kemp R Reach: Bishops Moat To Snakescroft Bk End/Start of Stretch: End of Stretch NGR	A	A	A	A	A

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details	
1	0	On Site	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
2	6	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
3	16	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
4	16	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
5	16	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
6	88	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
7	281	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
8	290	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
9	311	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
10	311	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
11	334	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
12	345	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
13	437	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
14	437	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
15	445	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
16	449	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
17	471	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined

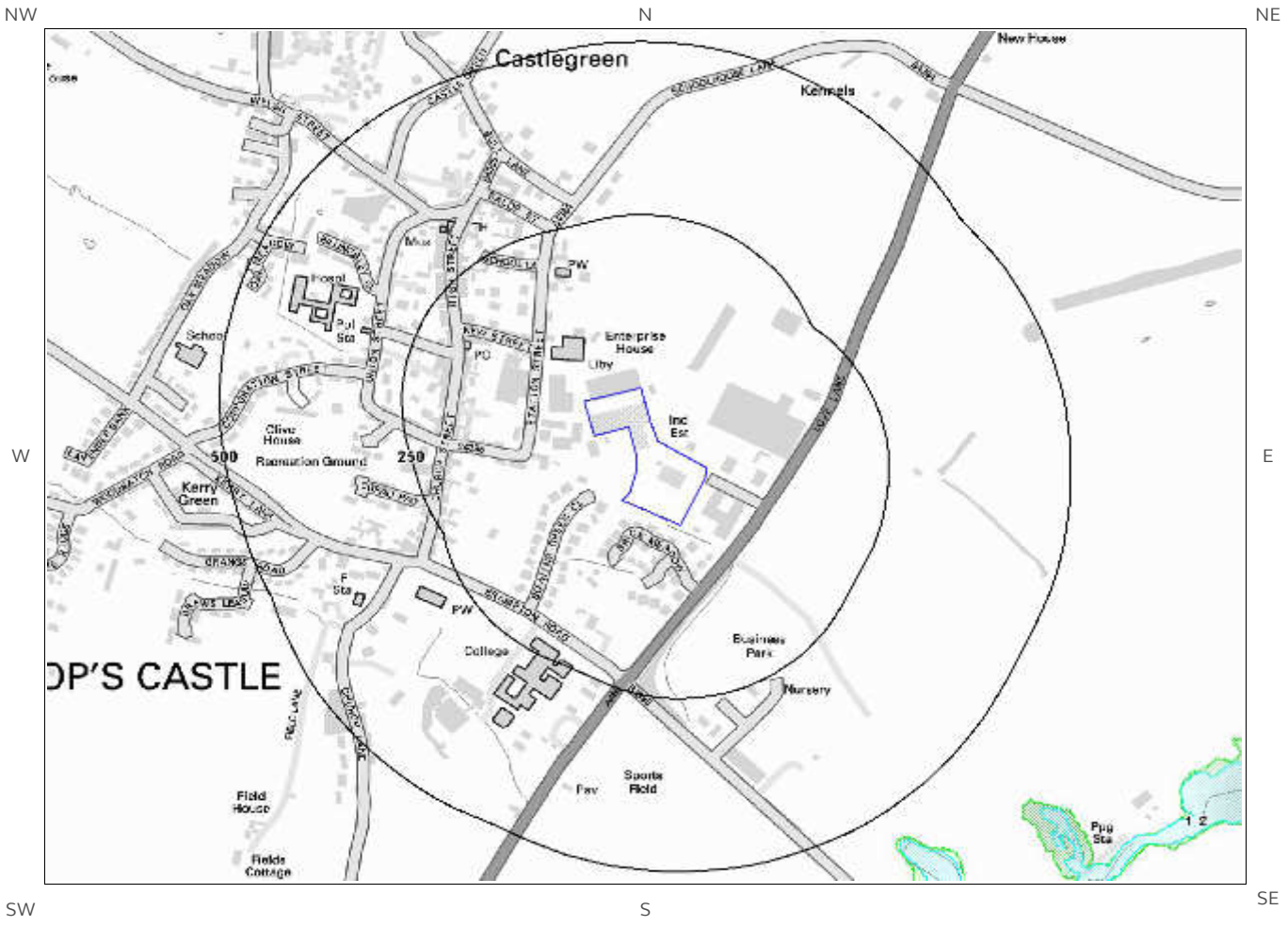
6.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
6	SW
16	SE
88	SW
93	SE
94	SW
99	SE
124	SW
129	S
145	SW
198	S

7a. Environment Agency Flood Map for Planning (from rivers and the sea)



Site Outline

Search Buffers (m)

Zone 2 Floodplain

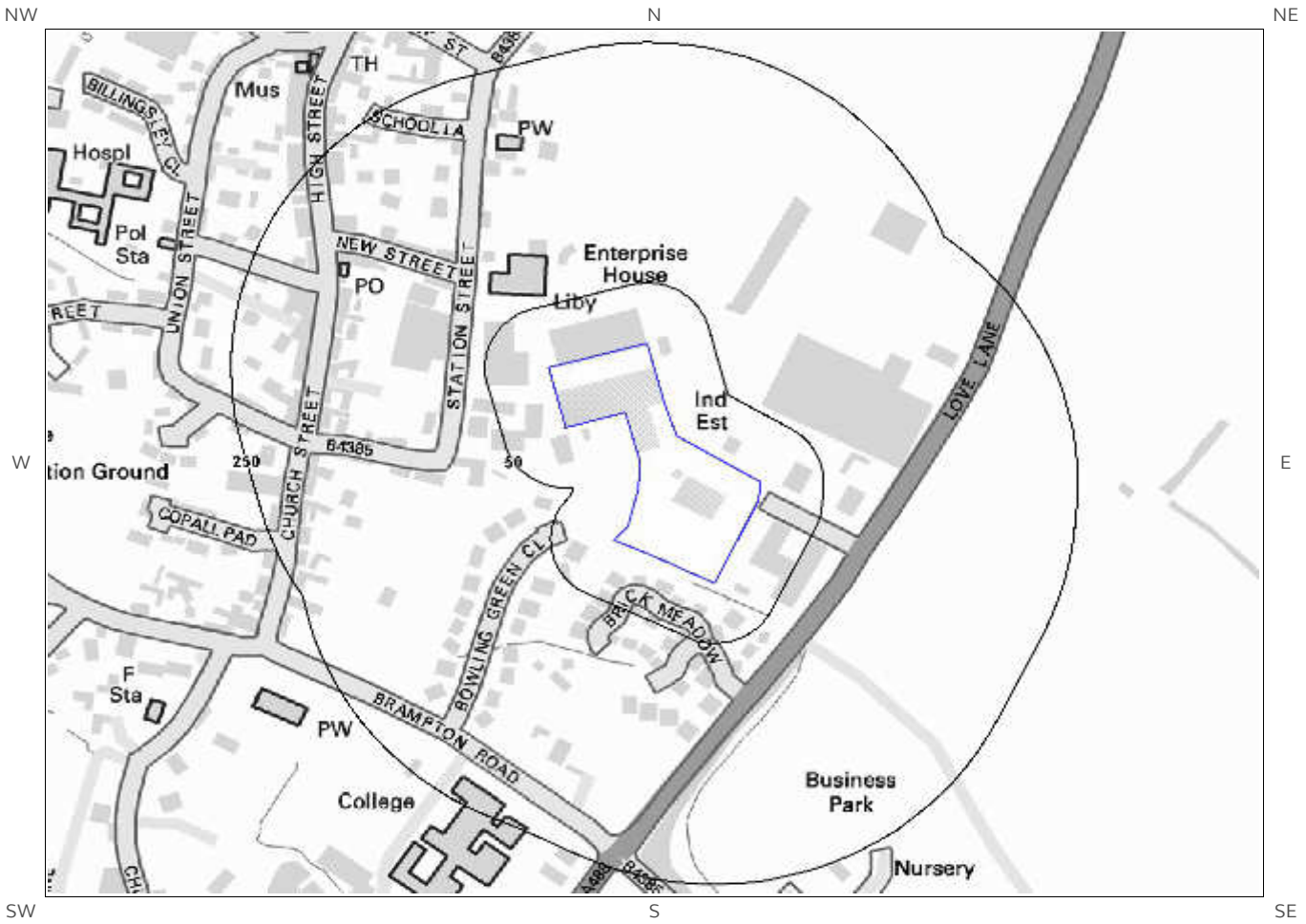
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



Site Outline

Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

---

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

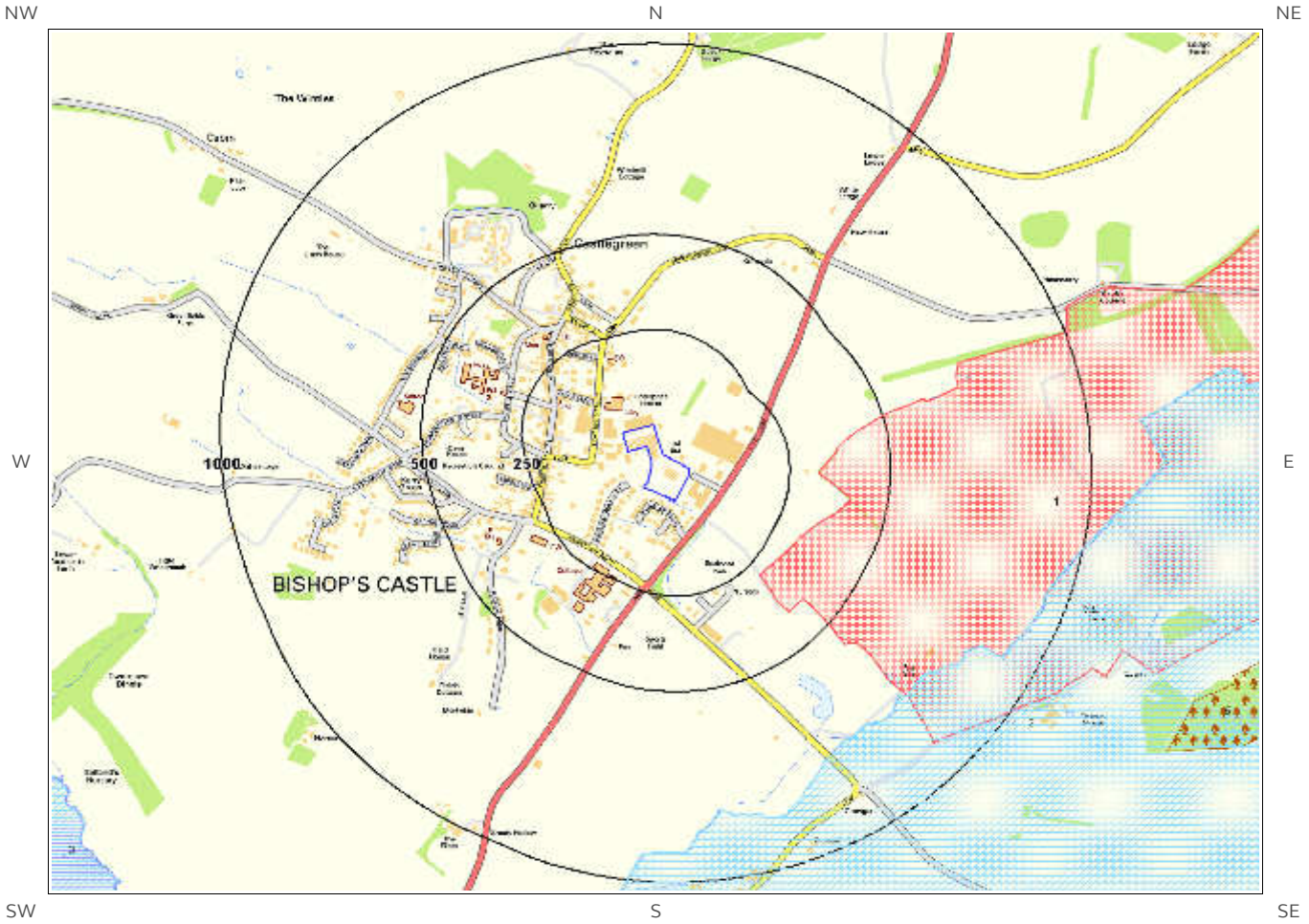
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Moderate

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



Site Outline
Search Buffers (m)
AONB
National Park
SSSI
Special Protection Areas
Nitrate Vulnerable Zones
Green Belt
Environmentally Sensitive Areas
Special Areas of Conservation
World Heritage Sites
Nitrate Sensitive Areas
Ancient Woodland
National Nature Reserve
Local Nature Reserves
Ramsar Sites

8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?	Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

3

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
Not shown	1328	NW	UNKNOWN	Ancient and Semi-Natural Woodland
5	1389	SE	UNKNOWN	Ancient Replanted Woodland
Not shown	1626	NW	UNKNOWN	Ancient Replanted Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

1

The following Environmentally Sensitive Area records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	ESA Name	Data Source
3	1411	SW	Clun	Natural England

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

1

The following Area of Outstanding Natural Beauty (AONB) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	AONB/NSA Name	Data Source
2	753	SE	Shropshire Hills	Natural England

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

1

The following Nitrate Sensitive Area records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NSA Name	Data Source
1	288	SE	Oakely Farm	Natural England

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell*[*] hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand*[*] hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing
ones as described in publication BR211 by the Building Research Establishment? Full radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Berwyn Hills	Vein Mineral	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web:**www.environment-agency.gov.uk**
Email:**enquiries@environment-agency.gov.uk**

Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

The Coal Authority
200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority
Authority: Shropshire Council - Unitary
Phone: 0345 678 9000
Web: http://www.shropshire.gov.uk/
Address: Shropshire Council, Shirehall, Abbey Foregate, Shrewsbury,

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-sept-2016

Charles Ransford and Son Ltd

RANSFORD SAWMILLS, STATION STREET,
BISHOPS CASTLE, SY9 5AQ

Groundsure Reference:	GS-3473546
Client Reference:	Treatment_Site
Report Date	21 Nov 2016
Report Delivery Method:	xml
Client Email:	c.leitch@ransfords.co.uk

Groundsure Flood Insight

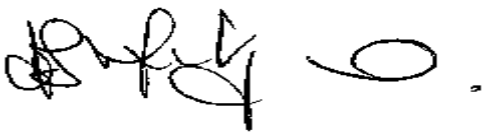
Address: RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Flood Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Floodinsight

Groundsure Flood Insight

Address:	**RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ**
Date:	**21 Nov 2016**
Reference:	**GS-3473546**
Client:	**Charles Ransford and Son Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	16-Apr-2014
Grid Reference:	332619,288629
Site Size:	1.36ha

Contents Page

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed.

Section 1: Environment Agency Flood Zones	
1.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	No
1.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
1.3 Are there any Flood Defences within 250m of the study site?	No
1.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
1.5 Are there any Proposed Flood Defences within 250m of the study site?	No
1.6 Are there any areas used for Flood Storage within 250m of the study site?	No

Section 2: Risk of Flooding from Rivers and the Sea (RoFRaS)	
2.1 What is the Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating for the study site?	Very Low

Section 3: Historic Flood Events	
3.1 Has the site been subject to past flooding as recorded by the Environment Agency?	No

Section 4: JBA Surface Water (Pluvial) Flood	
4.1 Is the site or any area within 50m at risk of Surface Water (Pluvial) Flooding?	Yes

Section 5: Surface Water Features	
5.1 Are there any surface water features within 250m of the study site?	Yes

Section 6: Groundwater Flooding	
6.1 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
6.2 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 7: BGS Geological Indicators of historic flooding	
7.1 Are there any geological indicators of historic flooding within 250m of the study site?	No

Section 8: JBA Reservoir and Canal Data	
8.1 Is the property located in an area identified as being at potential risk in the event of a reservoir failure?	No
8.2 Is the property located in an area identified as being at potential risk in the event of a canal break?	No

Additional Matters

Riparian ownership

If your land abuts a river, stream or ditch, you may have responsibility to maintain this watercourse, even if Title Deeds show the property boundary to be adjacent to the watercourse. This includes the responsibility for clearing debris and obstructions which may impede the free passage of water and fish, and also includes the responsibilities to accept flood flows through your land, even if these are caused by inadequate capacity downstream. There is no duty in common law for a landowner to improve the drainage capacity of a watercourse. Please contact Groundsure if you need further advice on riparian ownership issues relating to this property.

Sewerage Flooding

Extreme rainfall events may overwhelm sewerage systems and cause local flooding. The water and sewerage companies within the UK are required to maintain 'DG5 – At Risk Registers' which record properties that have flooded from sewers and/or are considered to be at risk of flooding from sewers in the future. If your property is on the 'At Risk' Register, this may be recorded within a standard CON29 Drainage and Water search.

Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client.

Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

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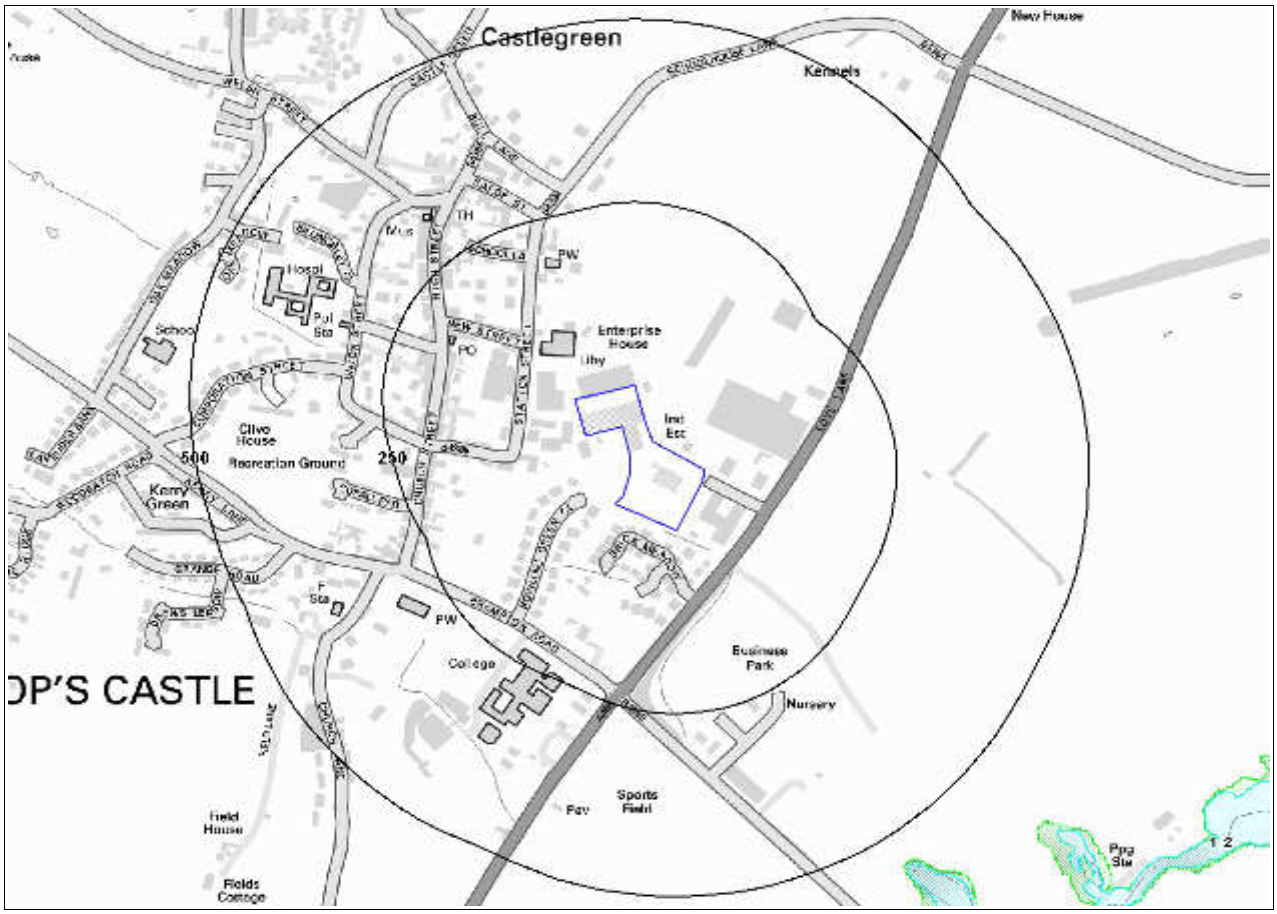
1. Environment Agency Flood Map for Planning (from rivers and the sea)

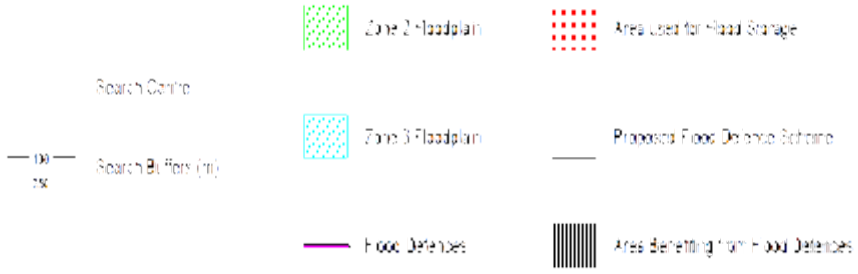
NW N NE



W E

SW S SE

Environment Agency Flood Map for Planning Legend



1. Environment Agency Flood Zones

1.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Flood Map for Planning:

Database searched and no data found.

1.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Flood Map for Planning.

Database searched and no data found.

1.3 River and Coastal Flood Defences

Are there any Flood Defences within 250m of the study site ? No

This search consists only of flood defences present in the dataset provided by the Environment Agency. Any relevant data is represented on Map 1 – Flood Map for Planning.

Database searched and no data found.

1.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

Any relevant data is represented on Map 1 – Flood Map for Planning.

1.5 Areas of Proposed Flood Defences

Are there any Proposed Flood Defences within 250m of the study site? No

* This illustrates the number of households that move from 'very significant' or 'significant' to 'moderate' or 'low' probability of flood risk bands if the proposed flood scheme is to be implemented.

Any relevant data is represented on Map 1 – Flood Map for Planning.

Guidance: This search consists only of proposed flood defences present in the dataset provided by the Environment Agency. Please note that proposed flood defence schemes will not influence the current RoFRaS ratings for the site.

1.6 Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

Flood Storage Areas are considered part of the functional floodplain, and are areas where water has to flow or be stored in times of flood. Technical Guidance to the National Planning Policy Framework states that only water-compatible development and essential infrastructure should be permitted within flood storage areas, and existing development within this area should be relocated to an area with a lower risk of flooding. Any relevant data is represented on Map 1 – Flood Map for Planning.

Notes on Flood Zone Data:

This data relates solely to flooding from rivers or the sea. The Environment Agency estimate that over 2.5 million properties are at risk of flooding within England and Wales. River flooding occurs when a watercourse cannot cope with the water draining into it from the surrounding land. This can happen, for example, when heavy rain falls on an already waterlogged catchment. Coastal flooding results from a combination of high tides and stormy conditions. If low atmospheric pressure coincides with a high tide, a tidal surge may happen which can cause serious flooding.

The Groundsure Flood Insight Report comments upon whether a property lies in proximity to Environment Agency Zone 2 and Zone 3 floodplains. The Government's Technical Guidance to the National Planning Policy Framework explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property and potential loss of life. The Government looks to planning authorities to ensure that flood risk is properly taken into account in the planning of developments to reduce the risk of flooding and the damage which floods cause.

Flood Zones enable planning authorities to apply the sequential test (see Technical Guidance to the National Planning Policy Framework) for development proposals and prevent inappropriate development.

Technical Guidance to the National Planning Policy Framework defines the flood zones as: -

Zone 1 – little or no risk with an annual probability of flooding from rivers and the sea of less than 0.1%

Zone 2 – low to medium risk with an annual probability of flooding of 0.1-1.0% from rivers and 0.1-0.5% from the sea.

Zone 3 – high risk with an annual probability of flooding of 1.0% or greater from rivers, and 0.5% or greater from the sea.

Flood Zone 3b/Flood Storage Areas - very high risk with the site being used as part of the functional flood plain or as a Flood Storage Area.

The flood zones are the main constraint map underpinning decisions on development and flood risk.

Existing Flood Defences

Flood defences seek to reduce the risk of flooding and to safeguard life, protect property, sustain economic activity and the natural environment. Flood defences are designed to protect against flood events of a particular magnitude, expressed as risk in any one year. For example, defences in urban areas may be built to provide protection against flood events of a size which might occur on average once in one hundred years or less.

Proposed Flood Defences

This information is taken from the Environment Agency's database of Areas to Benefit from New and Reconditioned Flood Defences under the Medium Term Plan (MTP). The dataset contains funding allocation for the first financial year (from April). Funding for the following four financial years is not guaranteed, being only indicative, and will be reviewed annually. Projects within the Medium Term Plan qualify for inclusion in this dataset if:

- the investment leads to a change in the current standard of protection (change projects);
- the investment is a replacement or refurbishment in order to sustain the current standard of protection (sustain projects);
- the project has an initial construction budget of £100,000 or more; and
- the project is included within the first five years of the MTP

The data includes all the Environment Agency's projects over £100K that will change or sustain the standards of flood defence in England and Wales over the next 5 years. It also includes the equivalent schemes for all Local Authority and Internal Drainage Boards. The number of households and areas of land contributing to DEFRA's Outcome Measures (OM) are also attributed i.e. could benefit from major work on flood defences.

These data also contain Intermittence Flood Maintenance Programme that show the annual maintenance programme of work scheduled to be carried by the Environment Agency, Local Authority or Internal Drainage Board on flood defences. Data details routine maintenance as well as intermittent work that has been funded for the coming year. The data contains a start and end coordinate defining the relevant river section where work is planned.

Information Warning

Please note that the maps show the areas where investment is being made to reduce the flood and coastal erosion risk and are not detailed enough to account for individual addresses. Individual properties may not always face the same risk of flooding as the areas that surround them. Also, note that funding figures are indicative and any use or interpretation should account for future updates where annual values may change.

Every possible care is taken to ensure that the maps reflect all the data possessed by the Environment Agency and that they have applied their expert knowledge to create conclusions that are as reliable as possible. The Environment Agency consider that they have created the maps as well as they can and so should not be liable if the maps by their nature are not as accurate as might be desired or are misused or misunderstood, despite their warnings. For this reason, they are not able to promise that the maps will always be accurate or completely up to date.

This site includes mapping data licensed from Ordnance Survey used for setting the Environment Agency's data in its geographical context. Ordnance Survey retains the copyright of this material and it can not be used for any other purpose.

Flood Storage Areas

Flood Storage Areas may also act as flood defences. A flood storage area may also be referred to as a balancing reservoir, storage basin or balancing pond. Its purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval.

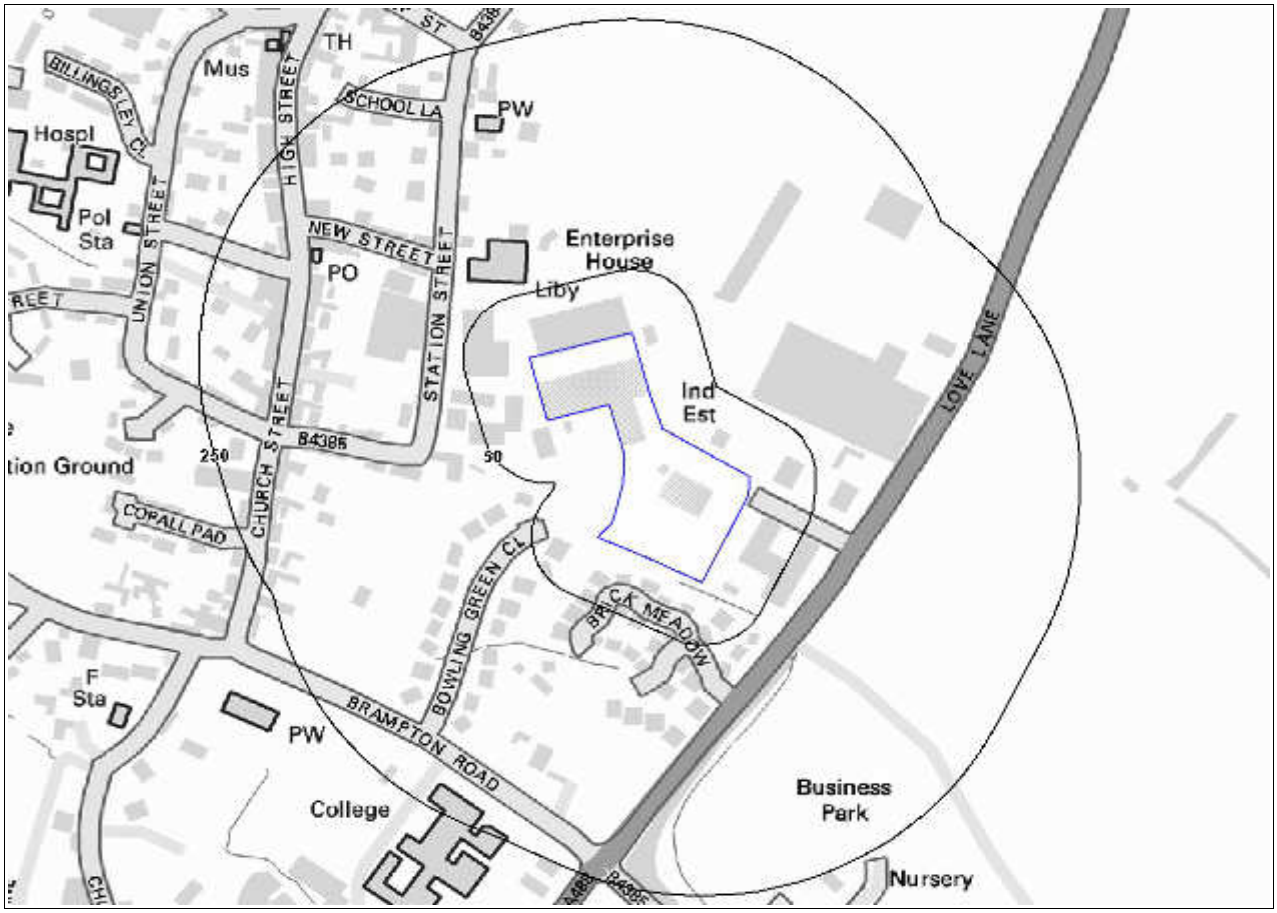
A flood storage area may take the form of a wet or dry reservoir. A wet reservoir is a water storage facility in which storage can be effected by allowing water levels to rise during flood times. A dry reservoir is typically adjacent to a river and comprises an enclosed area that accepts water only at peak times. These areas are also referred to as Zone 3b or 'the functional floodplain' and has a 5% or greater chance of flooding in any given year, or is designed to flood in the event of an extreme (0.1%) flood or another probability which may be agreed between the Local Planning Authority and the Environment Agency, including water conveyance routes. Development within Flood Storage Areas is severely restricted.

2. Environment Agency RoFRaS Flooding Map

NW N NE

W E

SW S SE



Environment Agency RoFRaS Flooding legend

Site Outline

Search Buffers (m)

RoFRaS Rating

Very Low

Low

Medium

High

2. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS)

2.1 Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating (River and Coastal)

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

Notes on RoFRaS data:

This information is based on the very latest Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) data. This data has been created by dividing the flood plain into 50m squares, or smaller areas where a square if intersected by a river or coastline. These are called impact cells. The method then calculates the likelihood that the centre of each impact cell will start to flood using a number of different flood scenarios.

A number of insurance companies providing cover for flood risk use this data as the basis of their risk model, although they may also utilise additional information such as claims histories, which may further influence their decision. Where a high risk of flooding is identified flood risk insurance may be difficult to obtain without further work being undertaken. Property owners of sites within Low and Medium risk areas are still considered to be at risk of flooding and insurance premiums may be increased as a result. Owners of properties within Low, Medium and High risk areas are advised to sign up to the Environment Agency's Flood Warning scheme. The probability estimates for RoFRaS risk bands are as follows:

Very Low – the chance of flooding from rivers or the sea is considered to be less than 1 in 1000 (0.1%) in any given year.

Low – the chance of flooding from rivers or the sea is considered to be less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) in any given year.

Medium – the chance of flooding from rivers or the sea is considered to be less than 1 in 30 (3.3%) but greater than 1 in 100 (1%) in any given year.

High – the chance of flooding from rivers or the sea is considered to be greater than or equal to 1 in 30 (3.3%) in any given year.

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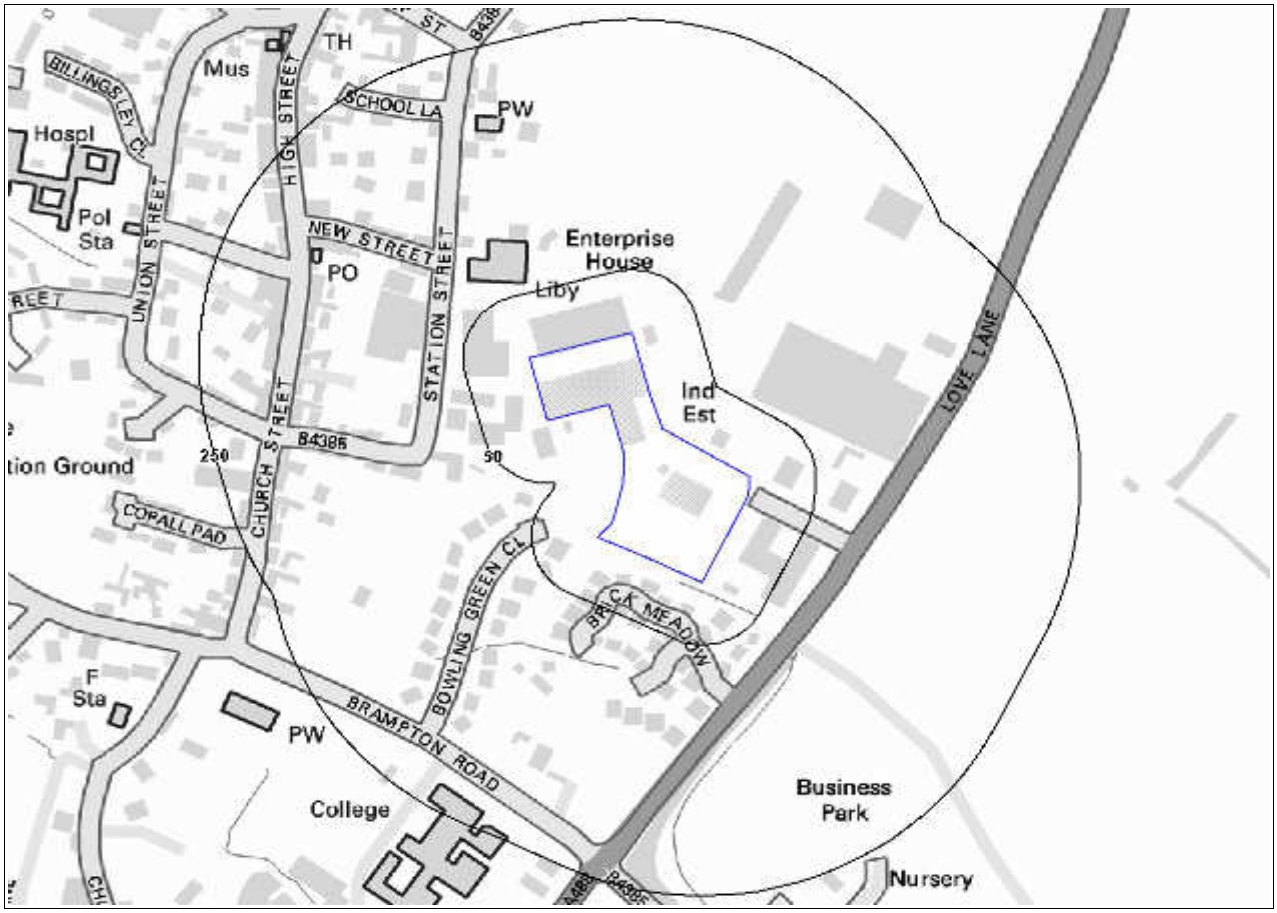
3. Environment Agency Historic Flooding Events Map

NW N NE

W E

SW S SE



Environment Agency Historic Flooding Events legend

Site Outline

125
250
Search Buffers (m)

Historic Flood Events

3. Environment Agency Historic Flooding Events

3.1 Historic Flood Outlines

Has the site or any area within 250m been subject to historic flooding as recorded by the Environment Agency? No

This database shows the individual footprint of every flood event recorded by the Environment Agency and previous bodies.

Any records found within the search radius are displayed on Map 3 – Historic Flooding Events.

Notes on Historic Flooding data:

Over 21,000 separate events are recorded within this database, dating back to 1947. This data is used to understand where flooding has occurred in the past and provides details as available. Absence of a historic flood event for an area does not mean that the area has never flooded, but only that the Environment Agency do not currently have records of flooding within the area. Equally, a record of a flood footprint in previous years does not mean that an area will flood again, and this information does not take account of flood management schemes and improved flood defences.

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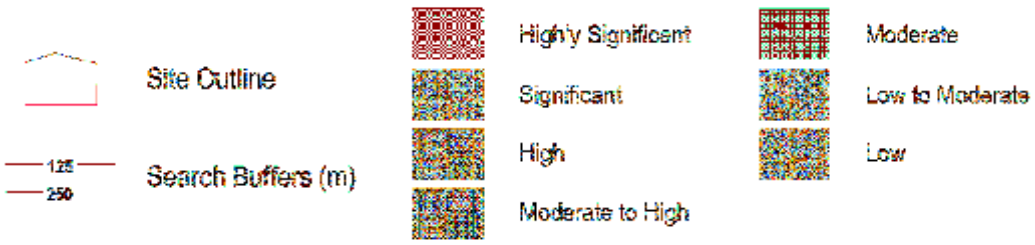
4. JBA Surface Water (Pluvial) Flood Map

NW N NE

W E

SW S SE

JBA Surface Water (Pluvial) Flood Legend



4. JBA Surface Water (Pluvial) Flooding

Surface Water (pluvial) flooding is defined as flooding caused by rainfall-generated overland flow before the runoff enters a watercourse or sewer. In such events, sewerage and drainage systems and surface watercourses may be entirely overwhelmed.

Surface Water (pluvial) flooding will usually be a result of extreme rainfall events, though may also occur when lesser amounts of rain falls on land which has low permeability and/or is already saturated, frozen or developed. In such cases overland flow and 'ponding' in topographical depressions may occur.

What is the risk of pluvial flooding at the study site? Negligible

Guidance: The site or an area in close proximity has been assessed to be at Negligible Risk of surface water (pluvial) flooding. This indicates that this area would be expected to be affected by surface water flooding in a 1 in 1000 year rainfall event to a depth of less than 0.1m.

The following pluvial (surface water) flood risk records within 50m of the study site are shown on the JBA Surface Water Flooding Map:

Distance	Direction	Risk
16.0	NW	Low

Notes on Surface water (Pluvial) Flooding data:

JBA Consulting surface water flood map identifies areas likely to flood following extreme rainfall events, i.e. land naturally vulnerable to surface water or "pluvial" flooding. This data set was produced by simulating 1 in 75 year, 1 in 200 year and 1 in 1000 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 older ones may even flood in a 1 in 5 year rainstorm event.

The model provides the maximum depth of flooding in each 5m "cell" of topographical mapping coverage. The maps include 7 bands indicating areas of increasing natural vulnerability to surface water flooding. These are:-

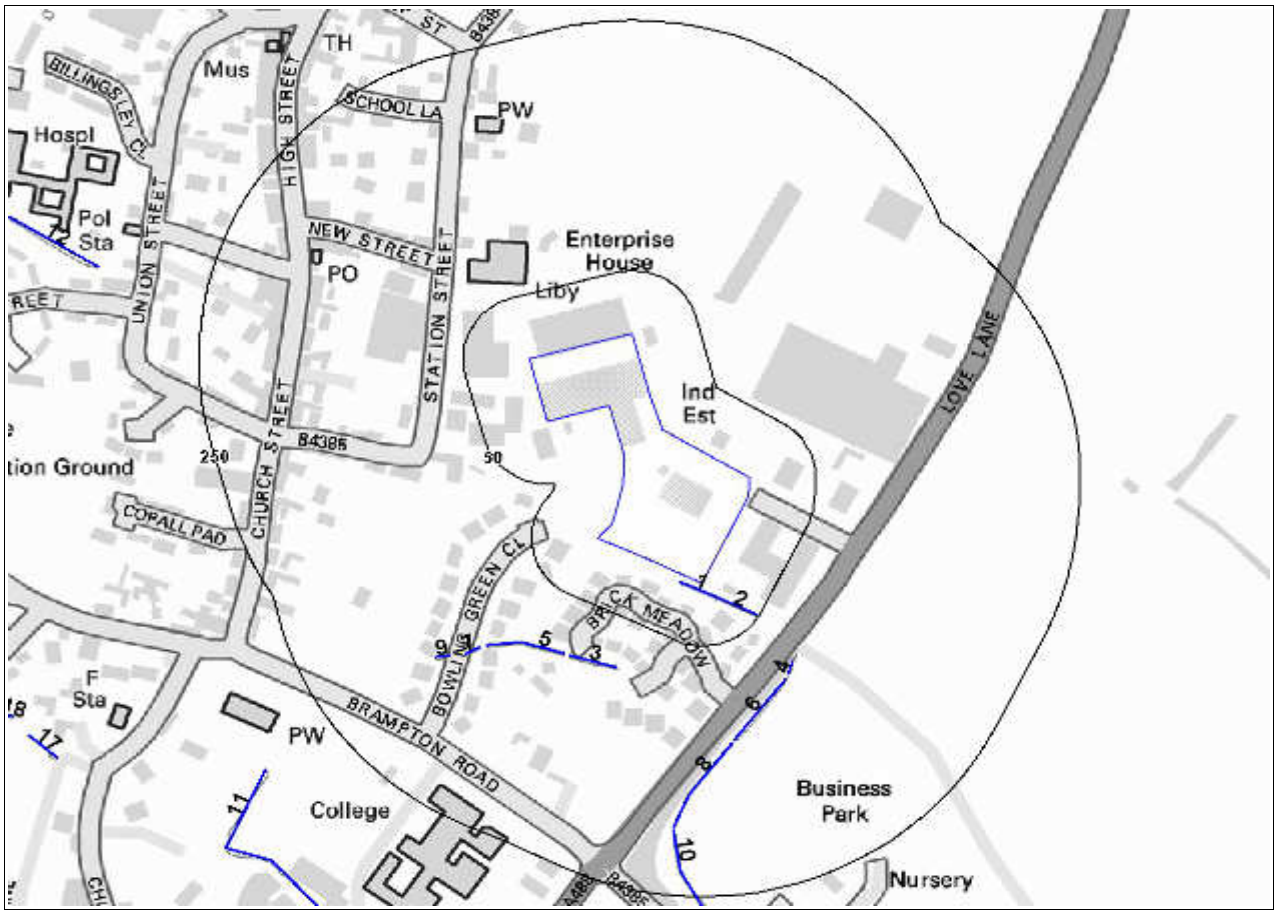
- **Less than 0.1m in a 1 in 1000 year rainfall event** - Negligible
- **Greater than 0.1m in a 1 in 1000 year rainfall event** - Low
- **Between 0.1m and 0.3m in a 1 in 200 year rainfall event** – Low to Moderate
- **Between 0.3m and 1m in a 1 in 200 year rainfall event –** Moderate
- **Greater than 1m in a 1 in 200 year rainfall event** – Moderate to High
- **Between 0.1m and 0.3m in a 1 in 75 year rainfall event** – High
- **Between 0.3m to 1m in a 1 in 75 year rainfall event** - Significant
- **Greater than 1m in a 1 in 75 year rainfall event** – Highly Significant

5. Surface Water Features map

NW N NE

W E

SW S SE



Surface Water Features legend

Site Outline

Search Buffers (m)
50
250

Surface Water Feature (wider than 5m)

Surface Water Feature (narrower than 5m)

5. Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are represented on mapping:

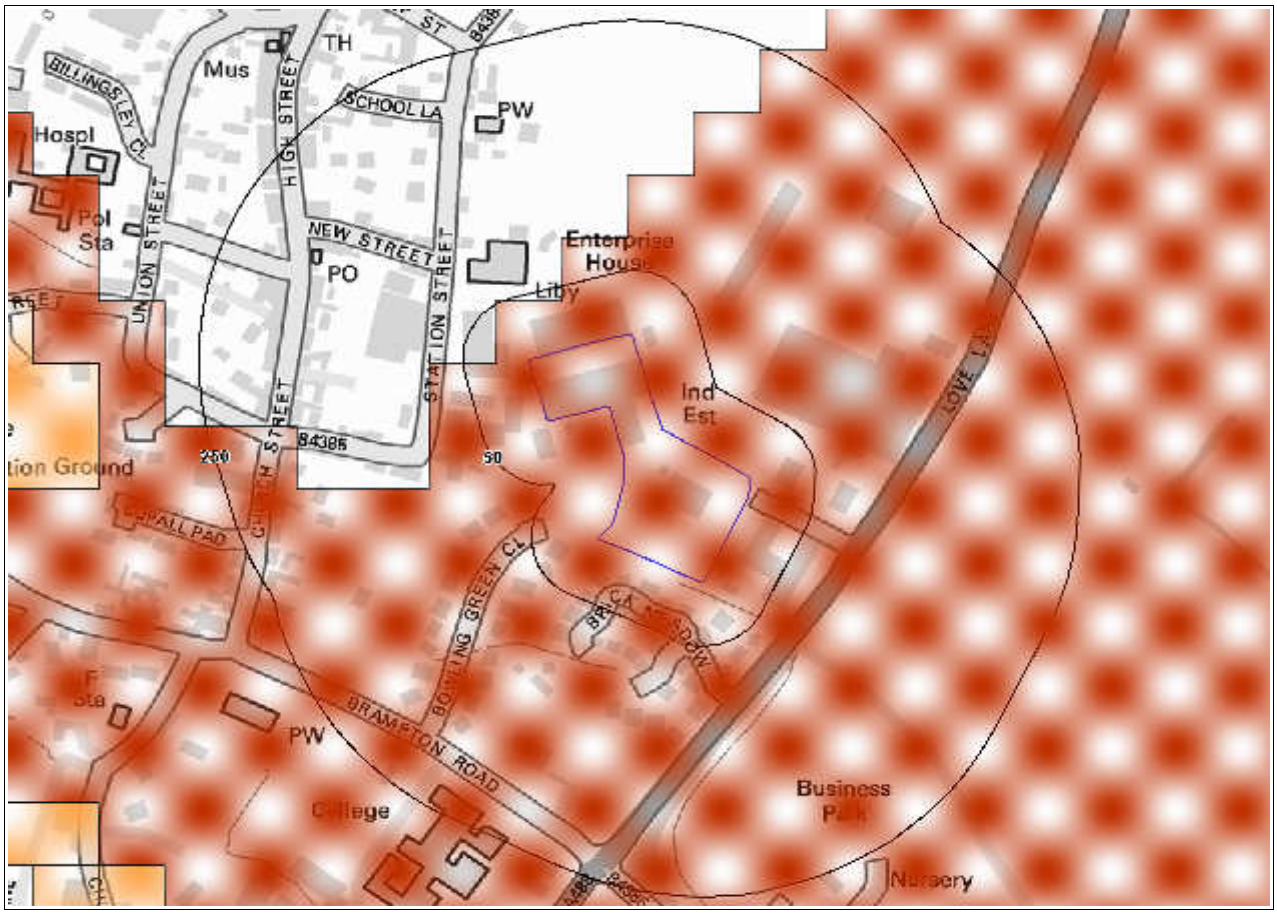
ID	Distance (m)	Direction
1	6.0	SW
2	16.0	SE
3	88.0	SW
4	93.0	SE
5	94.0	SW
6	99.0	SE
7	124.0	SW
8	129.0	S
9	145.0	SW
10	198.0	S

6. BGS Groundwater Flooding Map

NW N NE

W E

SW S SE



BGS Groundwater Flooding legend

Site Outline

50

250

Search Buffers (m)

Limited potential for groundwater flooding to occur

Potential for groundwater flooding of property below ground level

Potential for groundwater flooding to occur at surface

6. Groundwater Flooding

6.1 Groundwater Flooding Susceptibility Areas

Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the boundary of the study site? Yes

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? Potential for groundwater flooding at surface

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

6.2 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Moderate

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

Notes on Groundwater Flooding data:

The BGS Susceptibility to Groundwater Flooding hazard dataset identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface.

Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

The susceptibility data is suitable for use for regional or national planning purposes where the groundwater flooding information will be used along with a range of other relevant information to inform land-use planning decisions. It might also be used in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information, to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. The susceptibility data should not be used on its own to make planning decisions at any scale, and, in particular, should not be used to inform planning decisions at the site scale. The susceptibility data cannot be used on its own to indicate risk of groundwater flooding.

7. BGS Geological Indicators of Flooding

Are there any geological indicators of flooding within 250m of the study site? No

This dataset identifies the presence of superficial geological deposits which indicate that the site may be, or have been in the past, vulnerable to inland and/or coastal flooding. This assessment does not take account of any man-made factors such as flood protection schemes, and the data behind the report are purely geological.

Notes on BGS Geological Indicators of Flooding data:

The BGS Geological Indicators of Flooding (GIF) data set is a digital map based on the BGS Digital Geological Map of Great Britain at the 1:50,000 scale (DiGMapGB-50). It was produced by characterising Superficial (Drift) Deposits on DiGMapGB-50 in terms of their likely vulnerability to flooding, either from coastal or inland water flow. These Superficial Deposits are considered 'recent' in geological terms, most having been formed in the later parts of the Quaternary geological period (i.e. within the last few tens of thousands of years). Observations made during recent major inland and coastal flooding events have demonstrated that the erosion and deposition of these recent geological sediments have produced subtle topographical variations, resulting in landforms such as fluvial and coastal floodplains. The mapping of these landforms, in conjunction with the fluvial and/or coastal deposits that underlie them, has in turn determined the extent of previous coastal and inland flooding.

On this basis, the floodplains which are at greatest risk from flooding can be both visualised and defined by Superficial Deposits as depicted on geological maps. These include deposits such as river alluvium and lacustrine (lake) alluvium, as well as the First River Terrace or 'Floodplain terrace' (raised flat areas adjacent to or within floodplains, which represent the level of the floodplain prior to the most recent episode of down-cutting). Older and higher river terraces have been excluded as they lie outside the geologically defined floodplain. Areas at risk from coastal inundation are similarly characterised by a range of estuarine or marine deposits that include, for example, tidal flats.

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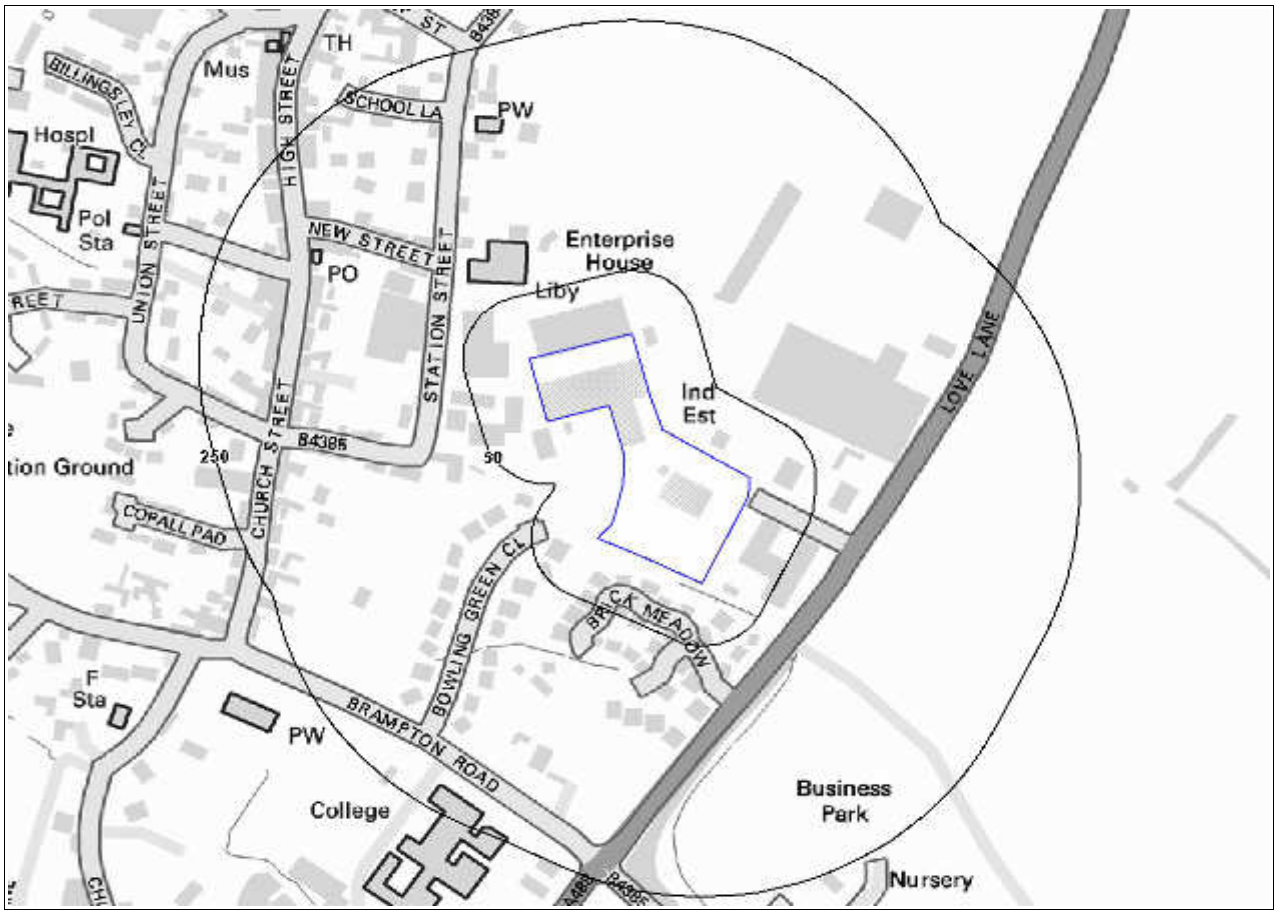
8. JBA Canal Break map

NW N NE

W E

SW S SE



JBA Canal Break legend

Site Outline

50
250 Search Buffers (m)

Areas at risk from Canal Breech

8. JBA Reservoir and Canal Data

8.1 JBA Reservoir Failure Impact Modelling

Is the property located in an area identified as being at potential risk in the event of a reservoir failure? No

JBA consulting have modelled the flooding impact from 1,700 reservoirs in England and Wales, should there be a catastrophic failure of a reservoir wall or embankment. This data is not displayed on mapping.

Guidance: None required

Notes on Reservoir Failure Impact data:

This dataset identified areas that are most likely to flood following the sudden catastrophic failure of a reservoir and is provided by JBA Consulting. JBA has identified over 1,700 reservoirs that pose a risk to people and property. These maps identify properties that would flood in the unlikely event of the failure of the reservoir's dam or embankment. Empirical methods were used to predict the flow that would result from the failure which was then modelled onto high resolution Digital Terrain Models (DTM) using JBA's advanced 2D hydraulic modelling techniques. The model provides the maximum depth of flooding in each cell of the DTM.

8.2 JBA Canal Break Modelling

Is the property located within 500m of an area identified as being at potential risk in the event of a canal break? No

Database searched and no data found.

Notes on Canal Break modelling data

Canal failure mapping includes two types of failure:

- Breach of raised canal embankments - failure of the embankment due to weaknesses; these are typically caused by erosion or animal burrowing but can also arise from poor maintenance.
- Aqueduct failure - an aqueduct is where the canal passes over infrastructure such as roads, railways and subways, or over other canals and rivers. Failures of these are typically caused by the collapse of the underlying culvert.

A length of over 1,700km of canal covering England, Wales and Scotland was modelled. The canal modelling is restricted to the areas where LIDAR is available as the raised embankments are more defined in the LIDAR than in the Photogrammetry data. Each canal is categorised as part of the Merchant Shipping Notice (MSN 1776 (M)). The majority of the modelled canals are categorised as A, with a few exceptions, which fell under category B.

- Category A: narrow rivers and canals where the depth of water is generally less than 1.5m.
- Category B: wider rivers and canals where the depth of water is generally 1.5m or more and where the significant wave height could not be expected to exceed 0.6m at any time.
- Category C: tidal rivers and estuaries and large, deep lakes and lochs where the significant wave height could not be expected to exceed 1.2m at any time.
- Category D: tidal rivers and estuaries where the significant wave height could not be expected to exceed 2m at any time.

The canal map provides flood extent data only and show flooded areas with a depth greater than 0.1m.

Contact Details

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info@groundsure.com

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Fax: 0115 936 3276.
Email:**enquiries@bgs.ac.uk**
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries

Environment Agency

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General enquiry tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk

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Ordnance Survey

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Website: http://www.ordnancesurvey.co.uk/

Local Authority

Authority: Shropshire Council - Unitary
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Web: http://www.shropshire.gov.uk/
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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-sept-2016/

Charles Ransford and Son Ltd

RANSFORD SAWMILLS, STATION STREET,
BISHOPS CASTLE, SY9 5AQ

Groundsure Reference:	GS-3473547
Your Reference:	Treatment_Site
Report Date	21 Nov 2016
Report Delivery Method:	Email - pdf

Groundsure Geo Insight

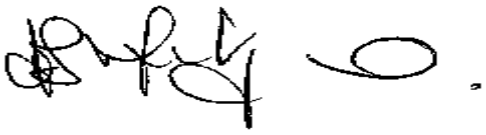
Address: RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Geoinsight

Groundsure Geo Insight

Address:	**RANSFORD SAWMILLS, STATION STREET, BISHOPS CASTLE, SY9 5AQ**
Date:	**21 Nov 2016**
Reference:	**GS-3473547**
Client:	**Charles Ransford and Son Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	16-Apr-2014
Grid Reference:	332619,288629
Site Size:	1.36ha

Contents Page

Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology		
1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	Full radon protective measures are necessary

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	3	0	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	1

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	1	0	0	3	5
3.4 Non-Coal Mining	1	0	1	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Very Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	0	0

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	1	5	9

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	4	0	0	Not Searched
7.3 Historical Railways	1	0	0	Not Searched
7.4 Active Railways	0	0	0	Not Searched

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