



Founthill Ltd

Acorn Lodge, Flamstead

Interpretative Desk Study

September 2022

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Report Title	Acorn Lodge, Flamstead - Interpretative Desk Study	Site Address	London Road, Flamstead, AL3 8HB
Author	G&J Geoenvironmental Consultants Ltd	Contamination / Geotechnical	Contamination
Work Stage	Interpretive Desk Study	Report Date	September 2022
Brief Description of the Report Contents	Review of desk top information to develop a conceptual model in order to establish the geo-environmental site setting, identify any potential Source-Pathway-Receptor pollutant linkages and associated environmental issues, and to provide recommendations for any further works (as required).		



## Document Control

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## Contents Page

1.0	Introduction .....	1
1.1	Terms and Conditions .....	1
1.2	Sources of information .....	1
1.3	Policy Context – Land Contamination .....	2
2.0	Site Setting .....	4
2.1	Site Location .....	4
2.2	Site Description .....	4
2.3	Potential Sources of Contamination .....	6
2.4	Surrounding Land Use .....	7
2.5	Environmental Designations .....	7
2.6	Proposed Development .....	7
3.0	Ground Conditions .....	8
3.1	Geology .....	8
3.2	Mining and Extraction .....	8
3.3	Radon .....	8
3.4	Ground Stability .....	8
3.5	Made Ground and Landfills .....	9
3.6	Hydrogeology .....	9
4.0	Hydrology .....	10
4.1	Watercourses .....	10
4.2	Flood Risk .....	10
4.3	Water Quality .....	10
4.4	Site Drainage .....	10
5.0	Site History .....	11
5.1	Historical Mapping .....	11
5.2	Summary of Site History .....	12
5.3	Previous Investigations .....	12
6.0	Conceptual Site Model .....	13
6.1	Introduction .....	13





6.2	Hazard Identification .....	14
6.3	Preliminary Risk Assessment .....	15
7.0	Conclusions and Recommendations .....	18
7.1	Preliminary Risk Assessment .....	18
7.2	Future Work Requirements.....	18

## APPENDIX CONTENTS

Appendix A	Site Photographs
Appendix B	Groundsure Report
Appendix C	Historical Maps

## 1.0 Introduction

G&J Geoenvironmental Consultants Ltd (G&J) was commissioned by Founthill Ltd to carry out an Interpretative Desk Study for Acorn Lodge, London Road, Flamstead, Hertfordshire, in support of a proposed residential development.

The purpose of this report is to collate and interpret information pertaining to the site from a desk-based review of available data. The scope of the study is as follows:

- To determine the environmental setting of the site and its surroundings in terms of location, topography, ground conditions and land use;
- To discuss the geology, hydrogeology and hydrology at, and in the vicinity of, the site;
- To determine the site history and that of the surrounding area;
- To assess potential contamination issues pertaining to the site with consideration of the site's current and historic use;
- To develop an initial Conceptual Site Model (CSM) linking sources of potential contamination with pathways and receptors;
- To produce a Preliminary Risk Assessment for contamination in accordance with *the Environment Agency's Land Contamination Risk Management (LCRM)* framework;
- To provide recommendations for further work and / or mitigation measures; and
- To support any planning applications for development of the site.

### 1.1 Terms and Conditions

This report has been prepared for Founthill Ltd in consideration of the current use of the site and a future residential development. Much of the environmental information relates to the site in its present state and should not be used in a different context without reference to G&J.

### 1.2 Sources of information

The following sections describe the environmental setting of the site, the site history and the anticipated ground conditions based on information taken from a variety of sources, including;

Site Inspection;

Current maps and plans;

Site photographs (Appendix A);

Geological maps and records;

Environmental data (Groundsure) reports (Appendix B);

Historical maps (Appendix C);

Websites of relevant authorities and organisations such as The British Geological Survey, the Environment Agency, Natural England and Historic England

Much of the information reviewed as part of this assessment is contained within the historical maps and data reports obtained from Groundsure. Only where information is considered significant and relevant in the context of the objectives of the survey has it been included in our assessment. The full Groundsure reports are referenced below:

9<sup>th</sup> September 2022, Groundsure Enviro+Geo insight (GS-9045153);

9<sup>th</sup> September 2022, Groundsure Mapinsight (GS-9045152\_largescale);

9<sup>th</sup> September 2022, Groundsure Mapinsight (GS-9045152\_smallscale).

Although every effort has been made to ensure the accuracy of the information contained herein, no checks have been carried out to ensure the accuracy of information obtained from third parties and no liability can be accepted for any errors or misinterpretation of the third party information where it has been incorporated into this report.

### 1.3 Policy Context – Land Contamination

The primary legal and policy mechanisms for managing contaminated land are Part IIA of the Environmental Protection Act 1990 and the National Planning Policy Framework.

Part IIA provides a statutory definition of Contaminated Land and supporting guidance which defines how to decide whether or not land meets this definition. For land to be determined as contaminated land, the onus is on demonstrating with sufficient certainty that land is in such condition, by reasons of substances in, on or under the ground that;

- a) Significant harm is being caused or there is a significant possibility of such harm being caused; or

- b) Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused.

Significant harm and how to determine if a significant possibility of such harm exists is defined in the statutory guidance which accompanies Part IIA. The guidance also defines four categories of land with respect to the risks to human health and the water environment and how the degree of risk relates to the statutory definition of contaminated land, as summarised in the following figure:

Figure 1.1 Part IIA Categories

Land Category	Human Health	Water	
1	Unacceptably high probability that Significant Harm would occur if no action taken	Strong case that a Significant Possibility of Significant Pollution exists	Part IIA Contaminated Land
2	The risks are sufficient that a Significant Possibility of Significant Harm exists	Of sufficient concern to present a Significant Possibility of Significant Pollution	
3	Not low risk but does not pose a Significant Possibility of Significant Harm	The risks are not sufficient to constitute Significant Possibility of Significant Pollution	Not Part IIA Contaminated Land
4	Low risk to human health and no possibility of meeting the statutory definition	No/low risk to controlled waters and would not meet the statutory definition	

In terms of planning policy, a precautionary approach is adopted whereby it is necessary to demonstrate with sufficient confidence that the site cannot meet the statutory definition of contaminated land. Although the above categorisation is not explicitly applicable to planning decisions, a site classed as Category 4 should be considered suitable for development in accordance with planning policy. While a Category 3 site could be considered suitable, the reduced level of confidence associated with such a site means this is less likely.

## 2.0 Site Setting

### 2.1 Site Location

The site is located to the south of London Road, Flamstead, approximately 0.4km west of Junction 9 of the M1. The site is approximately centred on National Grid Reference 508710, 214880 and the site location and layout are shown in Figure 2.1.

Figure 2.1 Site Location and Layout



Contains Ordnance Survey data, © Crown copyright 2022

### 2.2 Site Description

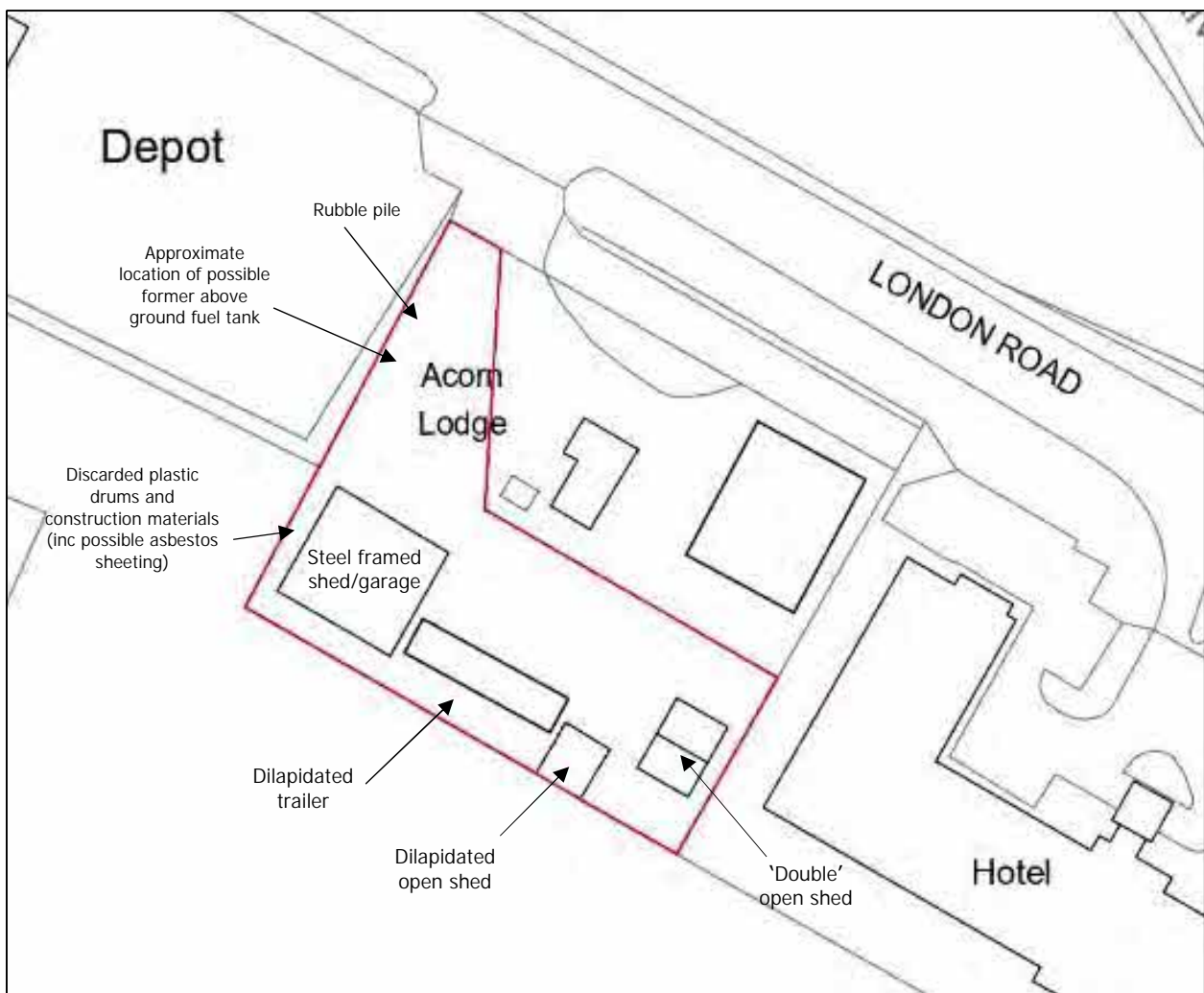
Access to the site is from the north via London Road. The site comprises part of Acorn Lodge, which overall is a rectangular site covering an area of approximately 0.3ha. The subject site is L-shaped, covering approximately 0.2ha, and comprises a series sheds / garages and outhouses with external surfacing of hardcore, broken tarmac and areas of grass. The site was formerly a haulage yard. To the north-east is the rest of Acorn Lodge which comprises a single storey residence and a large modern commercial shed

building. The main part of the subject site in the south is approximately 1 to 1.5m above the rest of the Acorn Lodge site.

The site is bound by London Road to the north, with fields beyond, a transport depot to the west, a hotel to the east and fields to the south.

The main site features are shown in Figure 2.2, while site photographs are presented in Appendix A.

Figure 2.2 Main Site Features



The main feature of the site is a large steel framed shed/garage located in the south-west of the site. The building is single-story with a pitched roof, which is formed of assumed asbestos sheeting, as are some of the walls. Inside is a degraded concrete floor with evidence of minor oil staining. An old wooden trailer and some metal spoked wheels (from traction engines or similar) were stored inside. On the eastern side of the shed is a timber framed lean-to with corrugated metal roof and walls, which is open to the east and was



housing a small amount of equipment and materials. On the outside of the lean-to is an Intermediate Bulk Container (IBC) which appears to be used to collect rainwater from the building.

In the south-east of the site are two open sheds/garages. One is located on the southern site boundary and has a metal frame with wooden panels and a tarpaulin partially forming the walls. This shed is in a very poor state of repair, and contained discarded wood and tyres.

On the eastern boundary is a 'double' open shed with a wooden frame, corrugated metal walls and roofing and a concrete floor. Some evidence of oil staining was noted. One side of this structure was used to house a caravan. IBCs were present to collect rainwater from the roof drainage.

As well as these structures, a dilapidated trailer was present on the southern boundary, while a small shed, a shipping container and a portable cabin were noted on the eastern site boundary. At the time of the site visit, a traction engine on the back of a low-loader was present parked outside the double shed. In the south-east corner appeared to be an old towed generator.

Around the site were discarded materials, including tyres, which were noted to the rear of the main shed / garage building, and in the south-east corner of the site. Down the side of the main shed to the west were discarded drums and building materials (drainpipes, probable asbestos sheets and corrugated metal).

Evidence of burning was noted close to the southern boundary, while a pile of demolition rubble was noted close to site entrance on the western boundary. The site owner indicated that an above ground fuel tank was formerly present on the western site boundary.

The main site features are shown in Figure 2.2.

### 2.3 Potential Sources of Contamination

Specific point sources of potential contamination were generally limited to the former location of an above ground fuel tank, which is understood to have been present on the western boundary, although the precise location is unclear and no evidence of a tank remains.

Otherwise, there was general evidence of oil staining within the sheds / garage, which given the site use as a haulage yard is to be expected. Asbestos was also noted in the buildings and potentially in discarded materials, and given the state and age of the buildings, some impact on the soil is to be expected.

The ongoing use of vehicles and machinery on the site may also be a source of minor leaks and spills of substances such as fuels and oils.



## 2.4 Surrounding Land Use

The surrounding land use is predominantly agricultural and commercial, with residential properties in Flamstead to the south-west. A truck stop and fuelling station is located approximately 175m to the north-west.

## 2.5 Environmental Designations

The site is located within the London Green Belt.

## 2.6 Proposed Development

It is understood that the current proposed development will involve the demolition of the existing structures and the construction of 4 detached residential dwellings, as shown in Figure 2.3.

Figure 2.3 Proposed Development



## 3.0 Ground Conditions

### 3.1 Geology

The geological map of the area shows the site to be underlain by superficial deposits comprising Alluvium (clay, silt, sand and gravel). The bedrock geology is formed of the Holywell Nodular Chalk Formation and New Pit Chalk Formation.

### 3.2 Mining and Extraction

The site is not in an area that may be affected by coal mining. There are no records of significant surface extraction or ground workings within 250m of the site. The site is in an area where limited sporadic underground chalk mining may have occurred.

### 3.3 Radon

The site is not located in a Radon Affected Area as defined by the Health Protection Agency (HPA), as less than 1% of properties are above the Action Level. Radon protective measures are not a requirement in new buildings in such areas.

### 3.4 Ground Stability

British Geological Survey (BGS) data presented in table 3.1 below identifies the following potential ground instability hazards on the site:

Table 3.1 Summary of Potential Ground Instability

Potential Instability Factor	Maximum Hazard Potential
Collapsible Ground	Negligible
Compressible Ground	Moderate
Ground Dissolution	Very Low
Landslide Risk	Very Low
Running Sand	Low
Shrinking or Swelling Clay	Very Low

The BGS data suggests the most significant hazard that is likely to affect the site is a moderate risk of Compressible Ground, associated with the anticipated Alluvium, which also has a low Running Sands risk. All other hazards are rated as very low to negligible.

### 3.5 Made Ground and Landfills

There are no records suggesting the presence of significant thicknesses of fill or Made Ground on the site, while there are no landfills recorded within 250m of the site. The nearest recorded landfill is an inert landfill approximately 350m to the south-east.

### 3.6 Hydrogeology

The Alluvium is classed as a Secondary (A) aquifers, while the Chalk is classed as a Principal Aquifer.

The site is located within Zone 1 (inner Catchment) of a Groundwater Source Protection Zone, meaning it is within the catchment of a groundwater source from which water is abstracted for public potable supply and the travel time to the source from a point in the groundwater beneath the site is less than 50 days.

#### 3.6.1 Groundwater Abstractions

The nearest active groundwater abstraction is for potable supply approximately 250m to the east of the site.

## 4.0 Hydrology

### 4.1 Watercourses

The nearest surface watercourse is the River Ver, located approximately 60m to the north of the site.

### 4.2 Flood Risk

The majority of the site is shown to be located in Flood Zone 1, meaning it is outside the predicted extent of extreme flooding from rivers and the sea. The exception is the front of the site close to the access from London Road, which is in Flood Zone 3 (land with 1% annual probability of flooding).

The Groundsure Report indicates a potential for groundwater and surface flooding, most significantly in the same area at the front of the which is in Flood Zone 3..

### 4.3 Water Quality

According to the Environment Agency, the ecological quality of the River Ver was rated as Moderate in 2019, while the chemical quality was rated as a Fail.

### 4.4 Site Drainage

There was little evidence of drainage infrastructure on the site. Drainage is likely to be dominated by run-off to adjacent soft ground from impermeable surfaces, and by infiltration in areas of soft ground. Rainwater from the buildings appears to be collected in IBCs for use on the site.

## 5.0 Site History

### 5.1 Historical Mapping

The following is a summary of the relevant history of the site and its immediate surroundings, based on a review of historical Ordnance Survey (OS) maps and plans, and aerial photographs (included in the Groundsure report). Available mapping dates from 1878. Table 5.1 presents a summary of the significant developments and activities that have taken place on, or in the vicinity of, the site, based on a selection of the available maps (presented in Appendix C).

Table 5.1 Summary of Site History

Date	On-Site Features	Surrounding Area
1878	The site is shown to be undeveloped, forming part of a field.	A road (Watling Street) forms the northern boundary of the site. A large pond and a Inn are shown just over 100m west of the site.
1998	No significant changes.	No significant changes.
1924	No significant changes.	No significant changes.
1946	No significant changes.	Buildings are shown approximately 175m to the north-west, which are understood to be Watling St Filling Station.
1960	No significant changes.	No significant changes.
1975	A building is shown in the south-west of the site, on the same footprint as the current main shed / garage.	A depot is shown immediately west of the site.
1993	A further building is shown in the south-east, on the same footprint as the derelict shed currently located on the southern boundary.	A building is shown immediately north of the site on the footprint of the existing residential property.
2003	No significant changes.	A hotel is shown immediately to the east.
2015 (aerial photo)	The 'double' shed on the south-eastern boundary is now shown.	No significant changes.



## 5.2 Summary of Site History

Mapping from the late 19<sup>th</sup> century shows the site to be undeveloped at this time. No development is shown until the 1970s, when the main garage / shed in the south-east of the site is shown, with other structures added afterwards. The 'double' shed on the south-eastern boundary appears to have been added after 2006.

Recent aerial photos show several trucks and / or caravans on the site.

## 5.3 Previous Investigations

We are not aware of any previous ground investigations having been undertaken on the site.

## 6.0 Conceptual Site Model

### 6.1 Introduction

The information obtained from the desk-based study has been collated and evaluated to develop a Conceptual Model for the site.

The site has been assessed in line with current UK guidelines, namely the Contaminated Land (England) Regulations 2000 and Part IIA of the Environmental Protection Act 1990, and follows the procedures set out in the Environmental Agency 'Land Contamination Risk Management' (LCRM) framework.

LCRM provides the technical framework for structured decision making about land contamination and replaces 'Model Procedures for the Management of Land Contamination – Contaminated Land Report (CLR) 11', which built on previous work carried out under the Contaminated Land Research Programme of the former Department of the Environment. LCRM has adopted and refined the methodology and terminology that has been used in contaminated land risk assessment for a number of years.

LCRM defines the three essential elements to any risk:

A contaminant source - a substance that is in, on or under land and has the potential to cause harm or to cause pollution of controlled waters.

A receptor – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property or a water body.

A pathway - a route or means by which a receptor can be exposed to, or affected by a contaminant.

Each of these elements can exist independently, and create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of source-pathway-receptor is described as a contaminant linkage or pollutant linkage.

The following describes a Preliminary Risk Assessment and presents a Stage 1 Conceptual Model for the site, based on the proposed residential use.



## 6.2 Hazard Identification

### 6.2.1 Potential Contamination Sources

There is potential for contamination to be present associated with the past site use. Localised contamination could potentially be associated with point sources, specifically the location of a former above ground fuel tank which is understood to have been present on the western site boundary. Asbestos cement was noted to be a component of several of the buildings, and possibly discarded with other construction materials on the western side of the main garage / shed. Otherwise, some surface oil staining was noted, and minor contamination is likely as a result of leaks and spills of fuels, oils and other substances used in the maintenance and servicing of vehicles associated with the past use. Other potential sources of contamination include any Made Ground present on the site and the burning of materials at the surface.

Potential contaminants include fuels, oils, solvents, asbestos, PAHs and metals.

Despite a filling station and depot located to the north-west / west, the potential for contamination originating off-site to have significantly affected the site appears to be low, although cannot be discounted. The most likely potential impact would be an off-site fuel leak creating a groundwater plume which flows towards the site (although it is anticipated that shallow groundwater will probably flow towards the River Ver to the north).

Table 6.1 Summary of Potential Contaminant Sources

Structure / Process	Potential Contaminants
Former Fuel Tank (S1) Asbestos in buildings and at surface locations on the site (S2) Contamination from substances associated with past haulage usage (S3)	Petroleum Hydrocarbons PAHs Asbestos Metals Solvents

### 6.2.2 Potential Receptors

The following are considered the potential receptors assuming a future residential use of the site.

Future site users – Residents of the proposed development;

Buildings (including foundations) and below ground services / infrastructure – Concrete foundations, drinking water supply pipes and other service infrastructure.

Groundwater – The underlying Secondary and Principal Aquifers.

Surface Water – The River Ver

Flora – Any vegetation within current or proposed site landscaping.

### 6.2.3 Potential Contamination Pathways

The following are considered potential contamination pathways given the nature of the site and the potential contaminative sources identified, and assuming a future residential end use with gardens.

Ingestion and dermal absorption through direct contact with contaminated soils and soil-derived dusts;

Consumption of homegrown produce grown in contaminated soils;

Inhalation of airborne soil-derived dust/particulate matter;

Migration and inhalation of gases and vapour;

Contamination of drinking water pipes by contaminated material leading to the ingestion of contaminated drinking water;

Attack on concrete foundations by aggressive soil conditions;

Leaching of contaminants by percolating rainwater and dissolution, followed by horizontal and vertical migration through the unsaturated zone to shallow groundwater;

Migration via the saturated zone to surface water receptors.

## 6.3 Preliminary Risk Assessment

Risks from land contamination in the UK are assessed on the 'suitability for use' principle, whereby pollutant linkages are considered with regard to the intended end use of the site, and the specific exposure pathways and receptors associated with that use.

The CSM forms the basis for the design of subsequent stages of investigation, which should aim to confirm (or otherwise) the presence and significance of the potential pollutant linkages highlighted by the CSM. The risk assessment has been carried out assuming a future residential land use with gardens.

For the purpose of this report, the environmental risks associated with each potential pollutant linkage have been initially assessed based on the available information using the following scale;

Table 6.2 Risk Levels

Risk Level	Description
Very Low / Negligible	The contaminant linkage may not be complete or is otherwise very unlikely to result in significant effects*, and further investigation should not be necessary
Low	Significant effects* are unlikely and further investigation may not be necessary, but should be considered
Medium	Significant effects* are a possibility and further investigation is recommended
High	Significant effects* are likely and further investigation is required
Very High	There is evidence that significant effects* are currently occurring, or are likely to occur, and immediate action is required.

\*Significant effects are considered to be any of the following:

Exposure of site users to levels of contamination that may constitute significant harm as defined by Part IIA of the Environmental Protection Act

An impact on controlled waters from contamination in contradiction of the aims of the Water Framework Directive, which may constitute Part IIA significant harm

Exposure of an ecological system, or part thereof, to levels of contamination that may constitute Part IIA significant harm

Exposure of crops, domesticated animals and animals subject to hunting / fishing rights to levels of contamination that may constitute Part IIA significant harm

Exposure of construction and underground service materials to levels of contamination which may cause damage or exceed industry thresholds

In accordance with LCRM, professional judgement has been employed to evaluate the risk on a qualitative basis using available information.

Based on the potential sources, pathways and receptors associated with the proposed residential development, an initial Conceptual Site Model has been developed, and is summarised in Table 6.3.

## Acorn Lodge - Interpretative Desk Study

Table 6.3 Conceptual Site Model

Area / Structure	Contaminants (Chemicals of Concern)	Pathway		Risk	Comment / Recommended Actions
Former Fuel Tank (S1)  Asbestos in buildings and at surface locations on the site (S2)  Contamination from substances associated with past haulage usage (S3)	Petroleum hydrocarbons, PAHs, asbestos, metals, solvents.	Ingestion and dermal adsorption through direct contact	Humans (Future site users)	Medium	There is potential for localised sources, such as hydrocarbons associated with the former tank, while there is potential for asbestos, hydrocarbons and other minor contamination across much of the site. Further investigation works are recommended.
		Consumption of homegrown produce		Medium	
		Inhalation of dust / particulates		Medium	
		Inhalation of gases / vapours		Low	
		Direct contact	Buildings / Foundations / Services	Low / Medium	Further investigation would provide information regarding any potential issues for new structures or services.
		Leaching and migration through unsaturated zone	Groundwater	Medium	There is potential for localised sources that could impact groundwater, which has high sensitivity given the Principal Aquifer status of the underlying chalk and proximity of a potable abstraction.
		Migration through saturated zone	River Ver	Low / Medium	Further investigation would determine if there is a viable pollutant linkage to the River Ver.
		Plant uptake	Flora	Low	Further investigation would provide information on soil quality for any future planting / landscaping.

## 7.0 Conclusions and Recommendations

### 7.1 Preliminary Risk Assessment

Based on the information reviewed during this survey, the risks from land contamination (except those to construction workers) are generally considered to be medium. The risks reflect the potential for some localised sources and for minor contamination to be present across the site, given the past haulage use and observations made during the site walkover, and the general high sensitivity of the development.

The risks would have to be reassessed should the intended site use be changed.

#### 7.1.1 Construction Workers

Given the unique exposure scenario for any construction, investigation or maintenance worker involved in groundworks or excavations, the risks are considered separately from those to other receptors which are described above.

There is always a risk of exposure to contamination for those involved in ground disturbance, particularly in Made Ground and near surface soils where materials such as asbestos can be present. Measures should be taken to minimise exposure of such workers to these risks, in accordance with common good practice.

### 7.2 Future Work Requirements

It is recommended that investigation works are undertaken to address the potential sources and pollutant linkages associated with the proposed development. A ground investigation would also most likely be required by the Local Planning Authority.

The investigation should include trial pits and / or boreholes in the vicinity of the former above ground tank, and at locations across the site to characterise the near surface soils, particularly where gardens or soft landscaping are proposed. The use of boreholes would facilitate the installation of standpipes to allow the collection of groundwater samples (if present) to determine the risks to the water environment. The investigation could also include geotechnical testing to inform the development design (foundations etc), as it is usually more cost effective to combine environmental and geotechnical elements into a single investigation.



## Appendices



## Appendix A – Site Photographs





General view from the site entrance.



Front of the main shed / garage



Inside the main shed / garage



Lean-to on eastern side of the main shed / garage





Site of burning on southern site boundary



Discarded items to the west of the main shed / garage

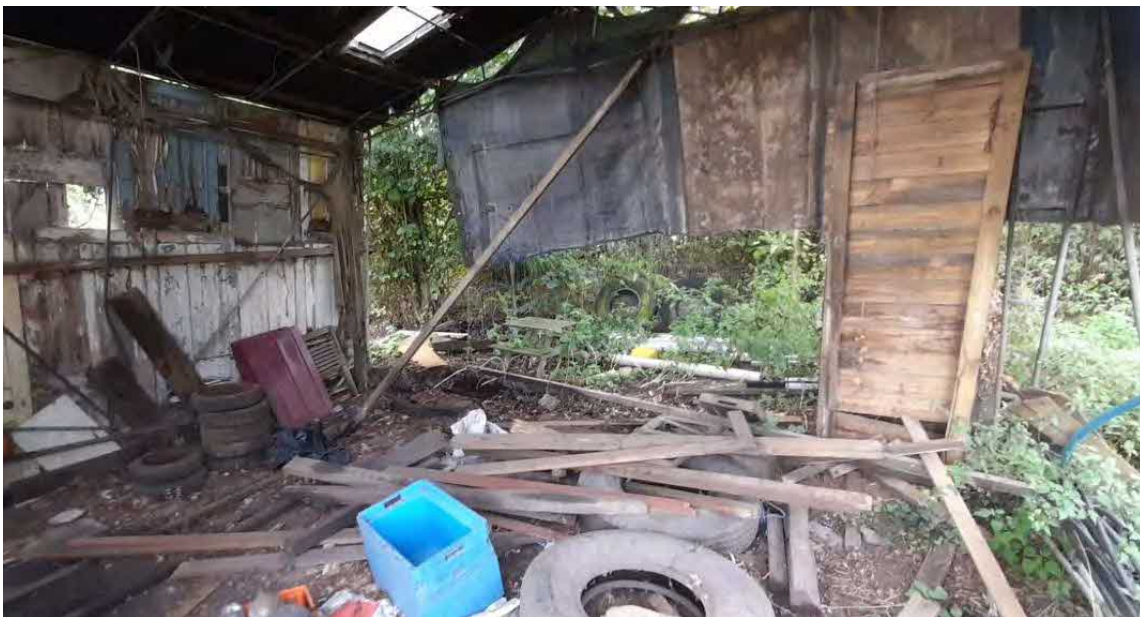


Tyres to the rear of the main shed / garage





Dilapidated trailer on southern site boundary



Within the old shed in a very poor state of disrepair





'Double' shed on south-eastern site boundary



Old generator and tyres in the south-eastern corner of the site





Inside 'double' shed



Looking east along the boundary with the rest of Acorn Lodge. Traction engine on low loader shown to the right



Looking towards the site entrance, with the assumed location of the former tank to the left





## Appendix B – Groundsure Report

ACORN LODGE, LONDON ROAD, FLAMSTEAD, AL3 8HB

## Order Details

Date: 09/09/2022  
Your ref: GJ273  
Our Ref: GS-9045153

## Site Details

Location: 508727 214871  
Area: 0.19 ha  
Authority: [Dacorum Council](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

[groundsure.com/insightuserguide](https://groundsure.com/insightuserguide)

Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>14</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	0	1	1	5	-
<b>15</b>	<b>1.2</b>	<b><u>Historical tanks</u></b>	0	1	4	0	-
15	1.3	Historical energy features	0	0	0	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
<b>16</b>	<b>1.5</b>	<b><u>Historical garages</u></b>	0	0	1	0	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<b>17</b>	<b>2.1</b>	<b><u>Historical industrial land uses</u></b>	0	1	1	6	-
<b>18</b>	<b>2.2</b>	<b><u>Historical tanks</u></b>	0	1	4	0	-
18	2.3	Historical energy features	0	0	0	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
<b>19</b>	<b>2.5</b>	<b><u>Historical garages</u></b>	0	0	1	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
<b>21</b>	<b>3.4</b>	<b><u>Historical landfill (EA/NRW records)</u></b>	0	0	0	1	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
<b>22</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	1	1	6	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>23</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	0	0	3	-	-
<b>24</b>	<b>4.2</b>	<b><u>Current or recent petrol stations</u></b>	0	0	1	1	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



25	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
<b>26</b>	<b>4.11</b>	<b><u>Licensed pollutant release (Part A(2)/B)</u></b>	0	0	0	1	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>26</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	0	0	3	2	-
27	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
28	4.17	List 2 Dangerous Substances	0	0	0	0	-
<b>28</b>	<b>4.18</b>	<b><u>Pollution Incidents (EA/NRW)</u></b>	0	0	0	1	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
29	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
<b>30</b>	<b>5.1</b>	<b><u>Superficial aquifer</u></b>	Identified (within 500m)				
<b>32</b>	<b>5.2</b>	<b><u>Bedrock aquifer</u></b>	Identified (within 500m)				
<b>34</b>	<b>5.3</b>	<b><u>Groundwater vulnerability</u></b>	Identified (within 50m)				
<b>35</b>	<b>5.4</b>	<b><u>Groundwater vulnerability- soluble rock risk</u></b>	Identified (within 0m)				
35	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>36</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	1	2	4
38	5.7	Surface water abstractions	0	0	0	0	0
<b>38</b>	<b>5.8</b>	<b><u>Potable abstractions</u></b>	0	0	1	2	2
<b>40</b>	<b>5.9</b>	<b><u>Source Protection Zones</u></b>	1	0	0	2	-
40	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
<b>41</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	0	0	3	-	-



42	<u>6.2</u>	<u>Surface water features</u>	0	0	3	-	-
42	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
43	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	0	1	-	-
43	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
44	<u>7.1</u>	<u>Risk of flooding from rivers and the sea</u>	High (within 50m)				
45	7.2	Historical Flood Events	0	0	0	-	-
45	7.3	Flood Defences	0	0	0	-	-
45	<u>7.4</u>	<u>Areas Benefiting from Flood Defences</u>	0	1	5	-	-
46	7.5	Flood Storage Areas	0	0	0	-	-
47	<u>7.6</u>	<u>Flood Zone 2</u>	Identified (within 50m)				
48	<u>7.7</u>	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
49	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
51	<u>9.1</u>	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
52	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
53	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
53	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
53	10.4	Special Protection Areas (SPA)	0	0	0	0	0
53	10.5	National Nature Reserves (NNR)	0	0	0	0	0
54	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
54	<u>10.7</u>	<u>Designated Ancient Woodland</u>	0	0	0	0	4
54	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
55	10.10	Marine Conservation Zones	0	0	0	0	0
55	<u>10.11</u>	<u>Green Belt</u>	1	0	0	1	0
55	10.12	Proposed Ramsar sites	0	0	0	0	0



56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
56	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
56	10.15	Nitrate Sensitive Areas	0	0	0	0	0
56	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
<b>57</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>1</b>	-	-	-	-
58	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
60	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
60	11.3	National Parks	0	0	0	-	-
<b>60</b>	<b>11.4</b>	<b><u>Listed Buildings</u></b>	0	0	<b>1</b>	-	-
61	11.5	Conservation Areas	0	0	0	-	-
61	11.6	Scheduled Ancient Monuments	0	0	0	-	-
61	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>62</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	Grade 3 (within 250m)				
<b>63</b>	<b>12.2</b>	<b><u>Open Access Land</u></b>	0	0	<b>1</b>	-	-
<b>63</b>	<b>12.3</b>	<b><u>Tree Felling Licences</u></b>	0	<b>1</b>	<b>2</b>	-	-
63	12.4	Environmental Stewardship Schemes	0	0	0	-	-
64	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
65	13.1	Priority Habitat Inventory	0	0	0	-	-
65	13.2	Habitat Networks	0	0	0	-	-
65	13.3	Open Mosaic Habitat	0	0	0	-	-
65	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>66</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	Identified (within 500m)				
67	14.2	Artificial and made ground (10k)	0	0	0	0	-
68	14.3	Superficial geology (10k)	0	0	0	0	-

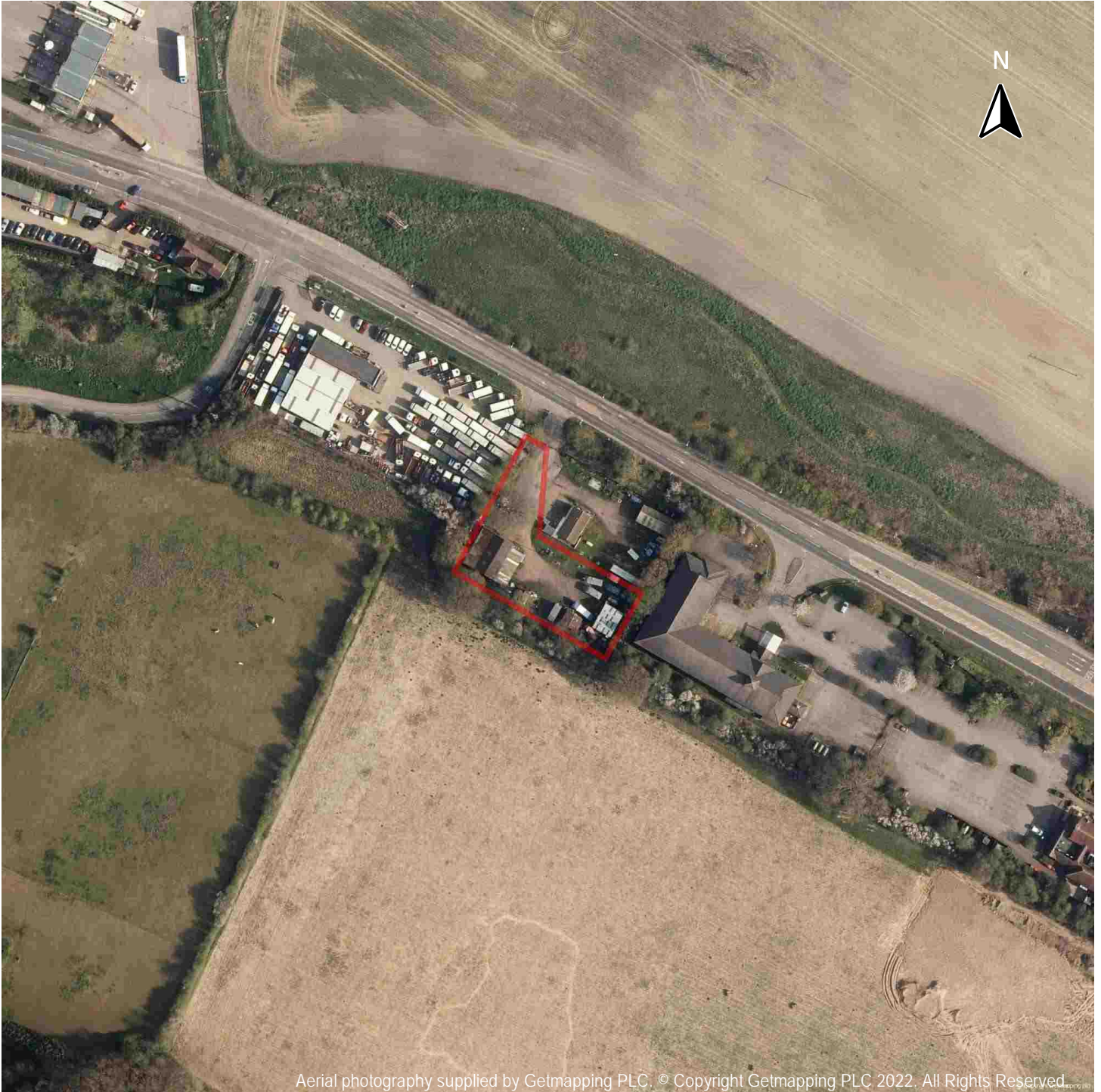
68	14.4	Landslip (10k)	0	0	0	0	-
69	14.5	Bedrock geology (10k)	0	0	0	0	-
69	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>70</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
71	15.2	Artificial and made ground (50k)	0	0	0	0	-
71	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<b>72</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	1	0	0	3	-
<b>73</b>	<b>15.5</b>	<b><u>Superficial permeability (50k)</u></b>	Identified (within 50m)				
73	15.6	Landslip (50k)	0	0	0	0	-
73	15.7	Landslip permeability (50k)	None (within 50m)				
<b>74</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	1	0	2	0	-
<b>75</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
75	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
<b>76</b>	<b>16.1</b>	<b><u>BGS Boreholes</u></b>	0	0	3	-	-
Page	Section	Natural ground subsidence					
<b>78</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Very low (within 50m)				
<b>79</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Low (within 50m)				
<b>81</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Moderate (within 50m)				
<b>83</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Very low (within 50m)				
<b>84</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Very low (within 50m)				
<b>86</b>	<b>17.6</b>	<b><u>Ground dissolution of soluble rocks</u></b>	Very low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
<b>88</b>	<b>18.1</b>	<b><u>Natural cavities</u></b>	0	0	0	1	-
89	18.2	BritPits	0	0	0	0	-
<b>89</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	0	0	4	-	-
89	18.4	Underground workings	0	0	0	0	0
90	18.5	Historical Mineral Planning Areas	0	0	0	0	-

<b>90</b>	<b>18.6</b>	<b><u>Non-coal mining</u></b>	0	1	2	0	0
90	18.7	Mining cavities	0	0	0	0	0
91	18.8	JPB mining areas	None (within 0m)				
91	18.9	Coal mining	None (within 0m)				
91	18.10	Brine areas	None (within 0m)				
91	18.11	Gypsum areas	None (within 0m)				
91	18.12	Tin mining	None (within 0m)				
92	18.13	Clay mining	None (within 0m)				
<b>Page</b>	<b>Section</b>	<b>Radon</b>					
<b>93</b>	<b>19.1</b>	<b><u>Radon</u></b>	Less than 1% (within 0m)				
<b>Page</b>	<b>Section</b>	<b>Soil chemistry</b>	<b>On site</b>	<b>0-50m</b>	<b>50-250m</b>	<b>250-500m</b>	<b>500-2000m</b>
<b>94</b>	<b>20.1</b>	<b><u>BGS Estimated Background Soil Chemistry</u></b>	1	1	-	-	-
94	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
94	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
<b>Page</b>	<b>Section</b>	<b>Railway infrastructure and projects</b>	<b>On site</b>	<b>0-50m</b>	<b>50-250m</b>	<b>250-500m</b>	<b>500-2000m</b>
95	21.1	Underground railways (London)	0	0	0	-	-
95	21.2	Underground railways (Non-London)	0	0	0	-	-
95	21.3	Railway tunnels	0	0	0	-	-
95	21.4	Historical railway and tunnel features	0	0	0	-	-
95	21.5	Royal Mail tunnels	0	0	0	-	-
96	21.6	Historical railways	0	0	0	-	-
96	21.7	Railways	0	0	0	-	-
96	21.8	Crossrail 1	0	0	0	0	-
96	21.9	Crossrail 2	0	0	0	0	-
96	21.10	HS2	0	0	0	0	-





## Recent aerial photograph



Capture Date: 09/04/2020

Site Area: 0.19ha



## Recent site history - 2015 aerial photograph



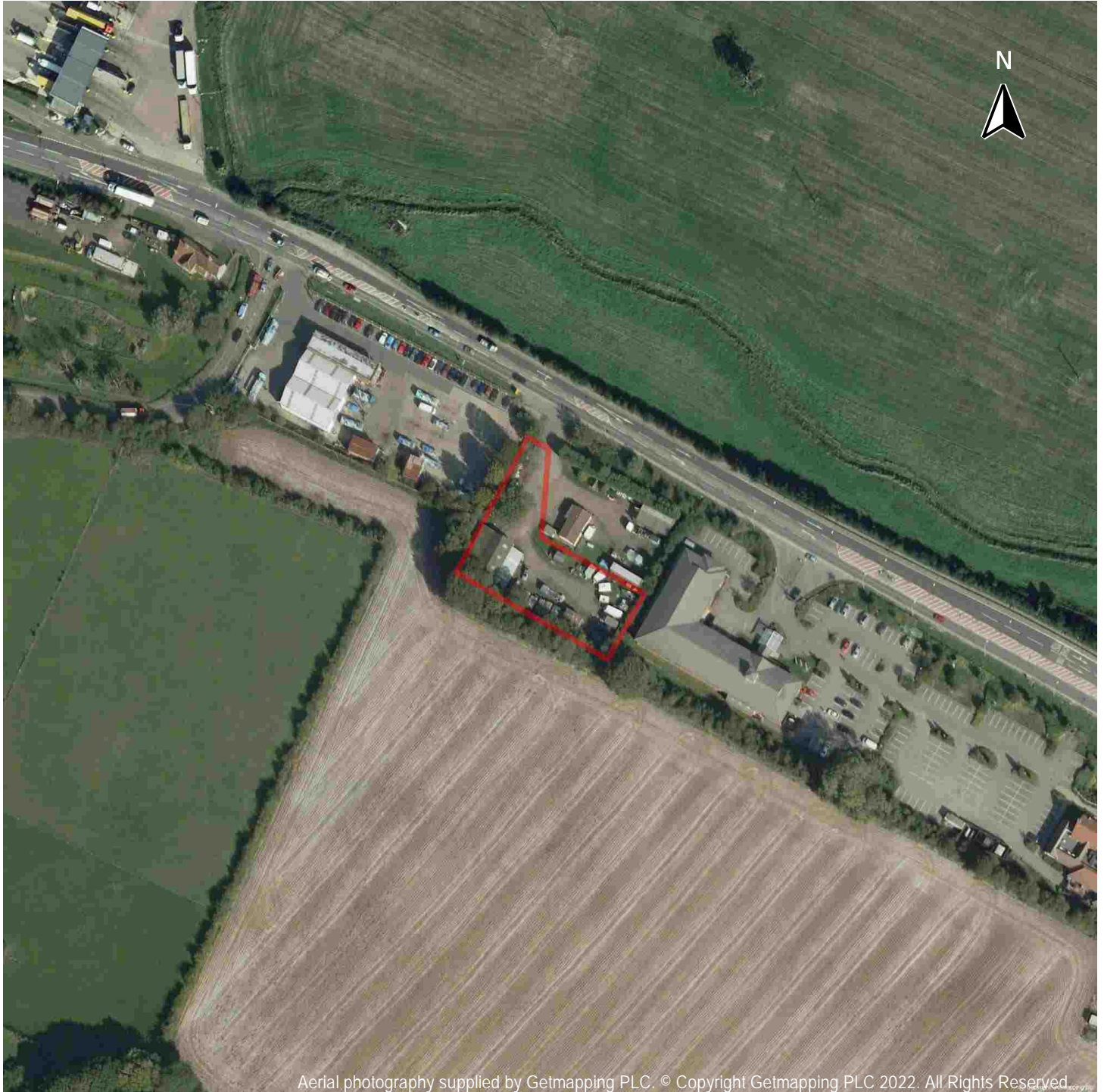
Capture Date: 07/09/2015

Site Area: 0.19ha





## Recent site history - 2006 aerial photograph



Capture Date: 21/09/2006

Site Area: 0.19ha



## Recent site history - 2000 aerial photograph



Capture Date: 10/06/2000

Site Area: 0.19ha





## Recent site history - 1999 aerial photograph

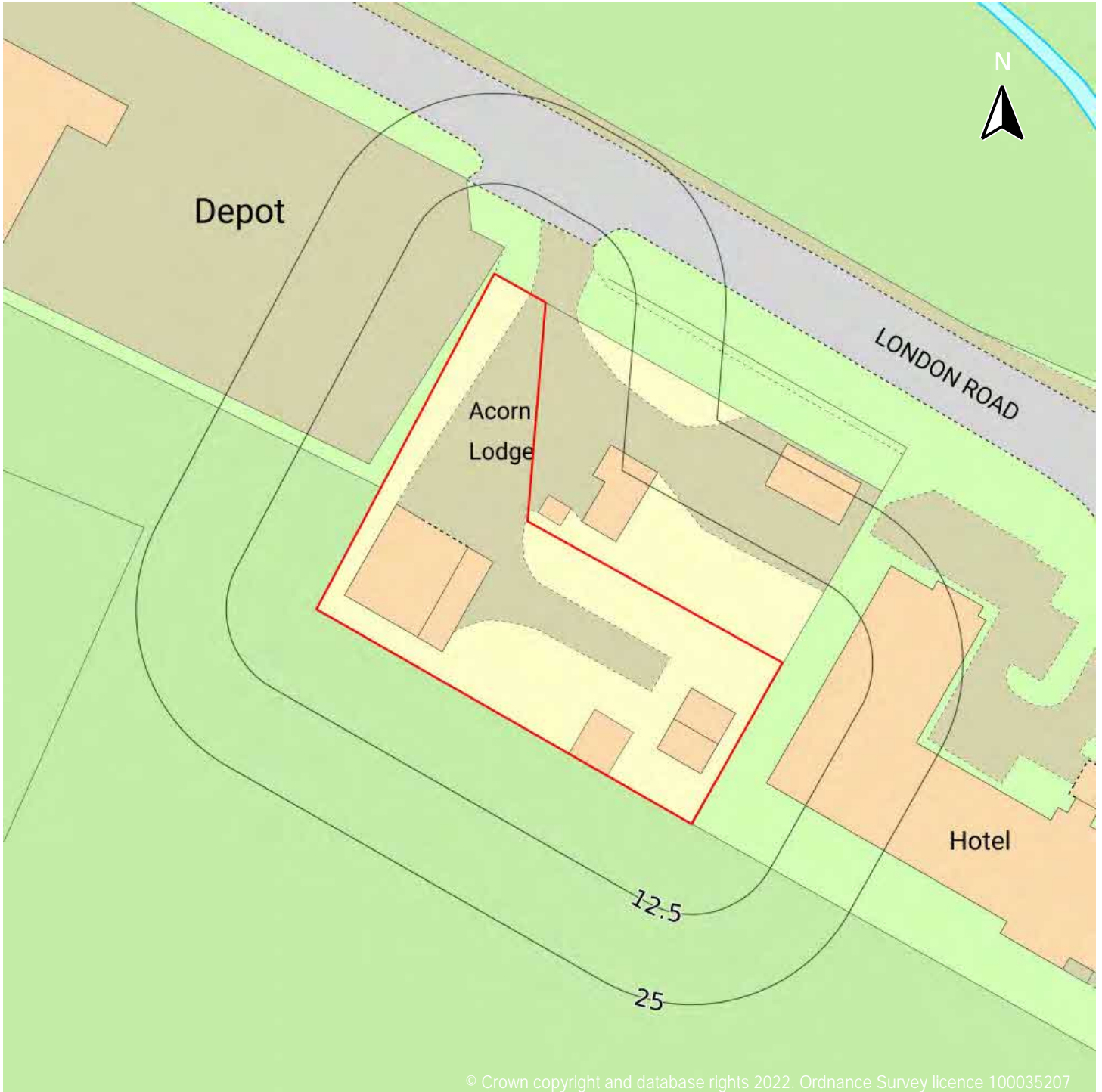


Capture Date: 27/05/1999

Site Area: 0.19ha



## OS MasterMap site plan

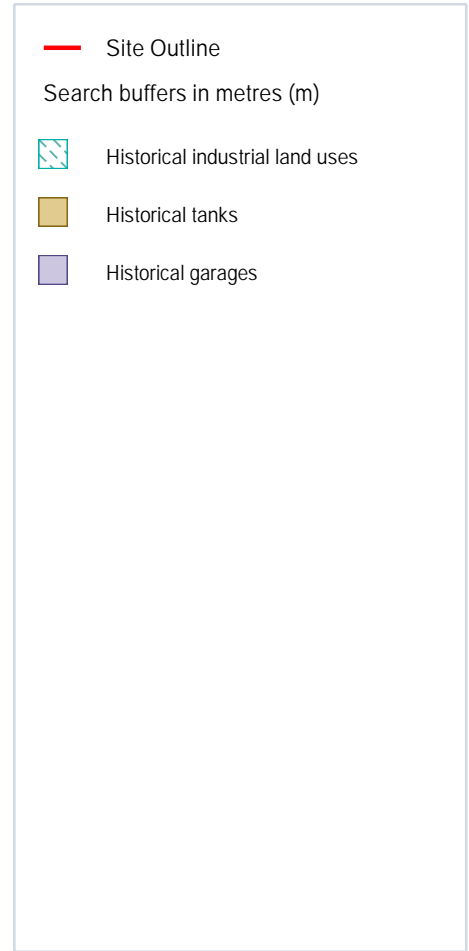


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Site Area: 0.19ha



# 1 Past land use



## 1.1 Historical industrial land uses

**Records within 500m** 7

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	5m NW	Unspecified Depot	1979	2047856



ID	Location	Land use	Dates present	Group ID
C	238m E	Pumping Station	1979	2045296
2	401m NE	Cuttings	1973	2061379
3	431m NW	Unspecified Works	1973	2046119
D	456m SW	Cemetery	1922	2118985
D	458m SW	Cemetery	1946 - 1960	2077544
D	480m SW	Nurseries	1979	2058596

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

Records within 500m

5

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	6m NW	Tanks	1993	348038
B	187m NW	Unspecified Tank	1971	343162
B	200m NW	Unspecified Tank	1971	343163
1	232m NW	Tanks	1993	348054
C	243m E	Tanks	1992	348037

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

Records within 500m

0

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





*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

Records within 500m 0

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

Records within 500m 1

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	203m NW	Garage	1971	69214

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

Records within 500m 0

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

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

## 2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical garages

### 2.1 Historical industrial land uses

**Records within 500m 8**

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

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

ID	Location	Land Use	Date	Group ID
A	5m NW	Unspecified Depot	1979	2047856
C	238m E	Pumping Station	1979	2045296
2	401m NE	Cuttings	1973	2061379

ID	Location	Land Use	Date	Group ID
3	431m NW	Unspecified Works	1973	2046119
D	456m SW	Cemetery	1922	2118985
D	458m SW	Cemetery	1946	2077544
D	461m SW	Cemetery	1960	2077544
D	480m SW	Nurseries	1979	2058596

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

Records within 500m

5

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

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

ID	Location	Land Use	Date	Group ID
A	6m NW	Tanks	1993	348038
B	187m NW	Unspecified Tank	1971	343162
B	200m NW	Unspecified Tank	1971	343163
1	232m NW	Tanks	1993	348054
C	243m E	Tanks	1992	348037

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

Records within 500m

0

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

*This data is sourced from Ordnance Survey / Groundsure.*



## 2.4 Historical petrol stations

Records within 500m

0

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

Records within 500m

1

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

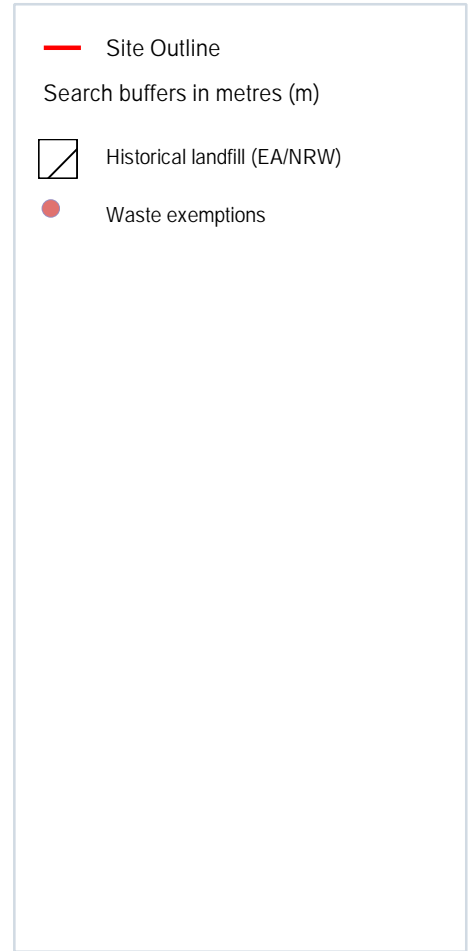
Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
B	203m NW	Garage	1971	69214

*This data is sourced from Ordnance Survey / Groundsure.*



## 3 Waste and landfill



### 3.1 Active or recent landfill

Records within 500m

0

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

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

### 3.2 Historical landfill (BGS records)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 3.3 Historical landfill (LA/mapping records)

Records within 500m	0
---------------------	---

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

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

### 3.4 Historical landfill (EA/NRW records)

Records within 500m	1
---------------------	---

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

Features are displayed on the Waste and landfill map on **page 20**

ID	Location	Details		
3	368m SE	Site Address: Flamstead, Flamstead, Hertfordshire Licence Holder Address: -	Waste Licence: - Site Reference: HCC157 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: J J Curran Limited First Recorded 27/07/1966 Last Recorded: 11/04/1972

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

### 3.5 Historical waste sites

Records within 500m	0
---------------------	---

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

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

### 3.6 Licensed waste sites

Records within 500m	0
---------------------	---

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

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

### 3.7 Waste exemptions

Records within 500m

8

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 20**

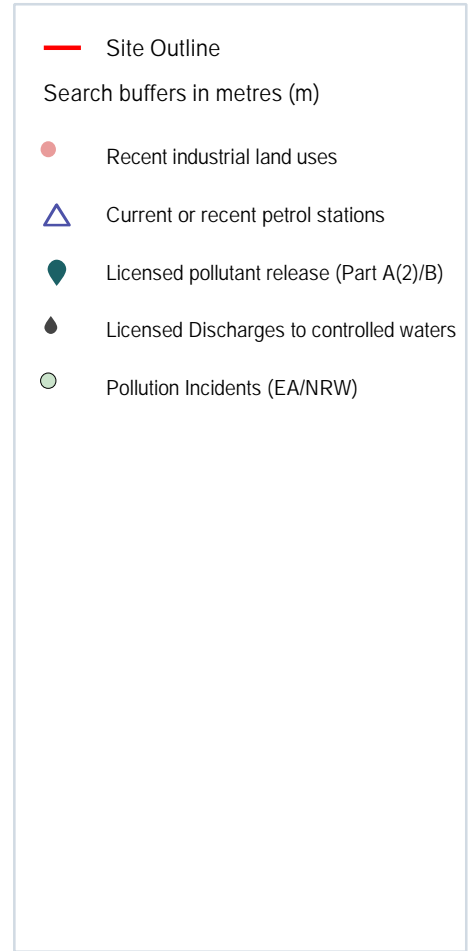
ID	Location	Site	Reference	Category	Sub-Category	Description
1	25m SE	-	WEX150187	Using waste exemption	On a Farm	Use of waste in construction
2	181m SE	the pop up farm, behind harvester restaurant, london road, flamstead, al38ht	WEX187669	Storing waste exemption	On a farm	Storage of waste in a secure place
A	254m W	Chequers Meadow, Chequers Hill, Flamstead, St Albans, Hertfordshire, AL3 8ET	WEX065218	Disposing of waste exemption	Not on a farm	Burning waste in the open
A	254m W	Chequers Meadow, Chequers Hill, Flamstead, St Albans, Hertfordshire, AL3 8ET	WEX065218	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	284m E	Affinity Water Limited, Friars Walsh, Watery Lane, St Albans, AL3 8EX	WEX253115	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	284m E	Affinity Water Limited, Friars Walsh, Watery Lane, St Albans, AL3 8EX	WEX253115	Using waste exemption	Not on a farm	Use of waste in construction
C	307m W	Majestic Group Ltd Chequers Hill Hertfordshire AL3 8ET	EPR/XE5482FT /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
C	307m W	Majestic Group Ltd Chequers Hill Hertfordshire AL3 8ET	EPR/XE5482FT /A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

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





## 4 Current industrial land use



### 4.1 Recent industrial land uses

Records within 250m

3

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Company	Address	Activity	Category
A	70m NW	Heverin	London Road, Flamstead, Hertfordshire, AL3 8HA	Distribution and Haulage	Transport, Storage and Delivery
A	72m NW	M V Commercial	Watling Street, Flamstead, St. Albans, Hertfordshire, AL3 8HB	New Vehicles	Motoring
B	245m E	Pumping Station	Hertfordshire, AL3	Water Pumping Stations	Industrial Features



*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

Records within 500m 2

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Company	Address	LPG	Status
3	175m NW	UNBRANDED	Watling Street, Flamstead, St Albans, Hertfordshire, AL3 8HS	No	Non-Retail
C	366m NW	ESSO	London Road, Old Watling Street, Flamstead, St Albans, Hertfordshire, AL3 8HS	Yes	Open

*This data is sourced from Experian.*

## 4.3 Electricity cables

Records within 500m 0

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

Records within 500m 0

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

Records within 500m 0

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

*This data is sourced from Local Authority records.*



## 4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

Records within 500m

0

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

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

## 4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Address	Details	
C	335m NW	Flamstead Filling Station, London Road, Flamstead, Hertfordshire, AL3 8HS	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

## 4.13 Licensed Discharges to controlled waters

Records within 500m

5

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Address	Details	
1	121m NW	WATLING STREET FILLING STATION, LON, WATLING STREET FILLING STATION, LONDON ROAD FLAMSTEAD HERTFORD, SHIRE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CNTW.0477 Permit Version: 1 Receiving Water: RIVER VER	Status: TRANSFERRED FROM WATER ACT 1989 Issue date: 16/05/1990 Effective Date: 16/05/1990 Revocation Date: -
2	156m SE	FRIARS WASH PUMPING STATION, FRIARS, FRIARS WASH PUMPING STATION FRI, ARS WASH WATLING STREET REDBOU, RN, HERTFO	Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: CATM.2939 Permit Version: 1 Receiving Water: RIVER VER	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 16/07/1997 Effective Date: 16/07/1997 Revocation Date: 28/05/2021



ID	Location	Address	Details	
4	194m E	FRIARS WASH PUMPING STATION, FRIARS, FRIARS WASH PUMPING STATION FRI, ARS WASH WATLING STREET REDBOU, RN, HERTFO	Effluent Type: UNSPECIFIED Permit Number: CNTW.0383 Permit Version: 1 Receiving Water: RIVER VER	Status: REVOKED - UNSPECIFIED Issue date: 20/03/1990 Effective Date: 20/03/1990 Revocation Date: 22/12/1995
B	250m E	FRIARS WASH PUMPING STATION, FRIARS, FRIARS WASH PUMPING STATION FRI, ARS WASH WATLING STREET REDBOU, RN, HERTFO	Effluent Type: UNSPECIFIED Permit Number: CTCR.1240 Permit Version: 1 Receiving Water: VER	Status: REVOKED - UNSPECIFIED Issue date: 11/10/1971 Effective Date: 11/10/1971 Revocation Date: 15/07/1997
5	494m NW	LONDON ROAD, FLAMSTEAD, HERTS, LONDON ROAD FLAMSTEAD HERTS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTCU.1943 Permit Version: 1 Receiving Water: CLAY WITH FLINTS STRATA	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 23/01/1985 Effective Date: 23/01/1985 Revocation Date: 01/10/1996

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

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

Records within 500m 0

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

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

#### 4.15 Pollutant release to public sewer

Records within 500m 0

Discharges of Special Category Effluents to the public sewer.

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

#### 4.16 List 1 Dangerous Substances

Records within 500m 0

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

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



## 4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

## 4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Details	
C	366m NW	Incident Date: 04/07/2001 Incident Identification: 13732 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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

## 4.19 Pollution inventory substances

Records within 500m

0

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

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

## 4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



## 4.21 Pollution inventory radioactive waste

Records within 500m

0

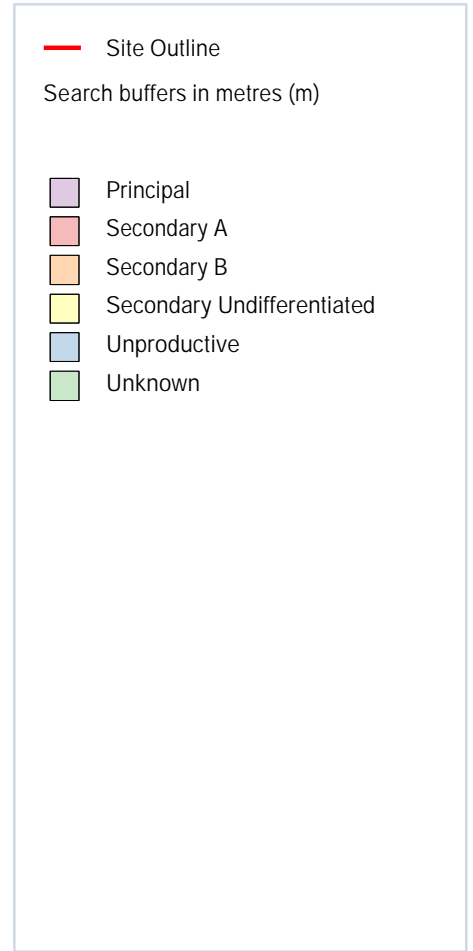
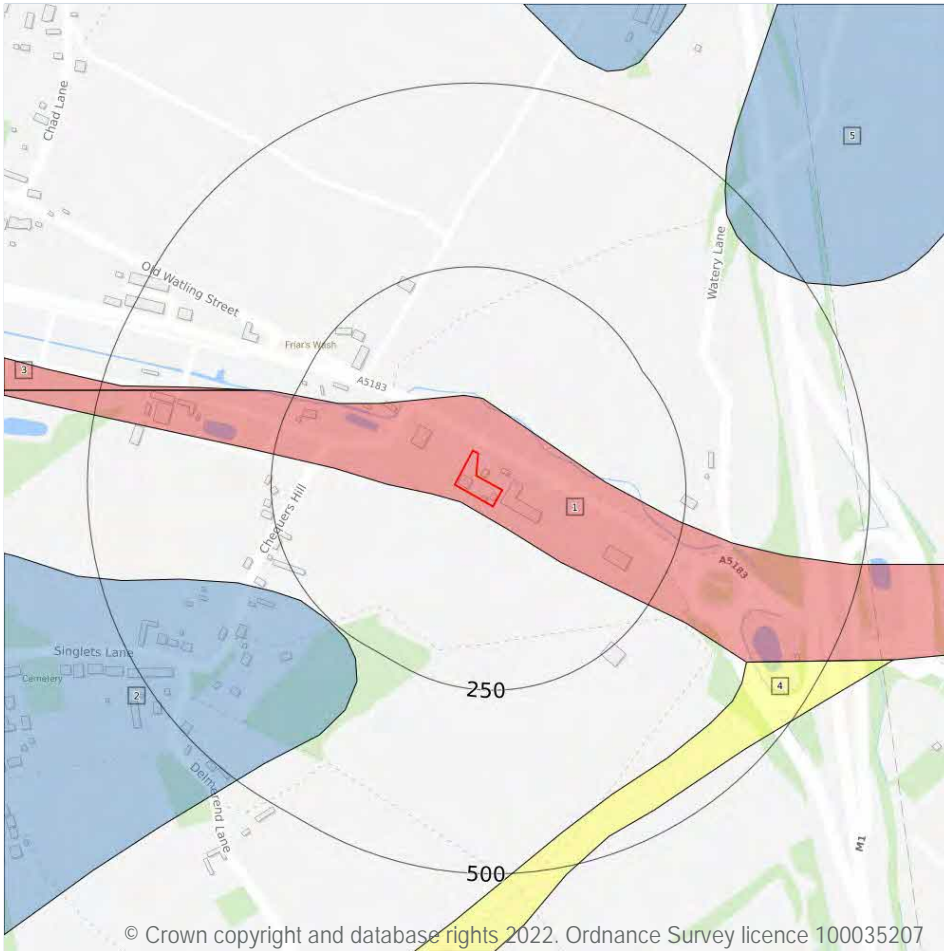
The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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





## 5 Hydrogeology - Superficial aquifer



### 5.1 Superficial aquifer

Records within 500m

5

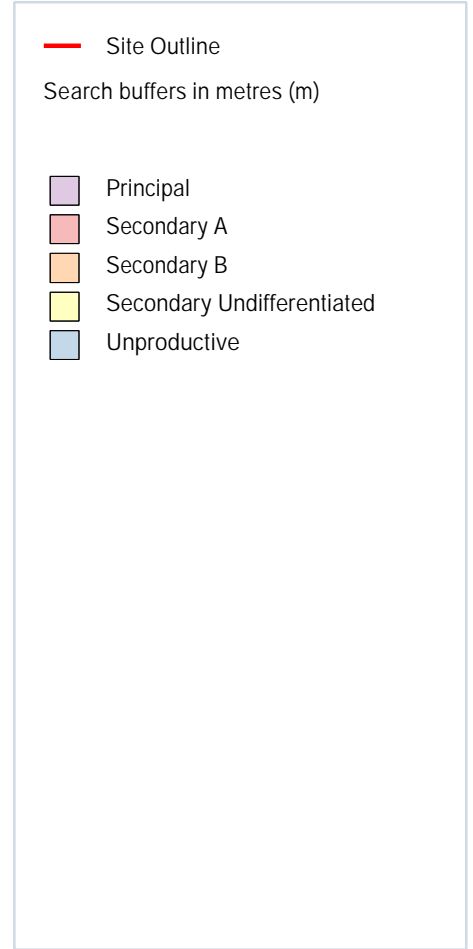
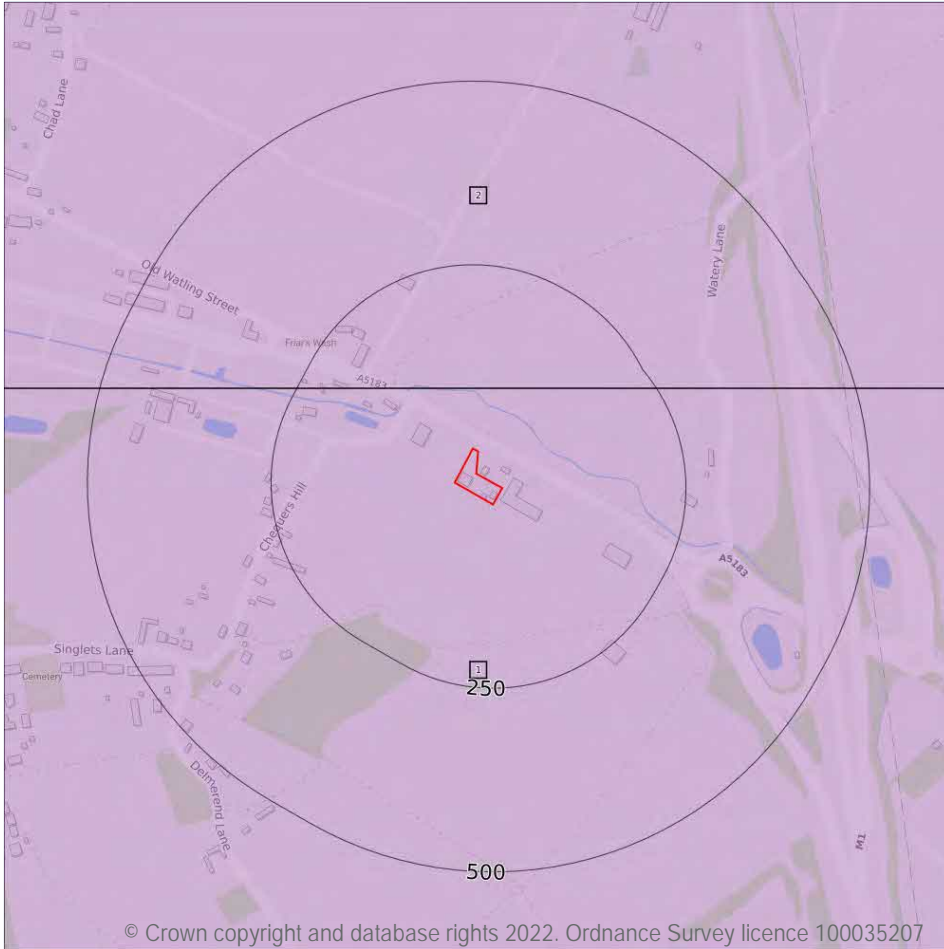
Aquifer status of groundwater held within superficial geology.  
Features are displayed on the Hydrogeology map on **page 30**

ID	Location	Designation	Description
1	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	252m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	299m NW	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
4	405m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5	460m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

## Bedrock aquifer



### 5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

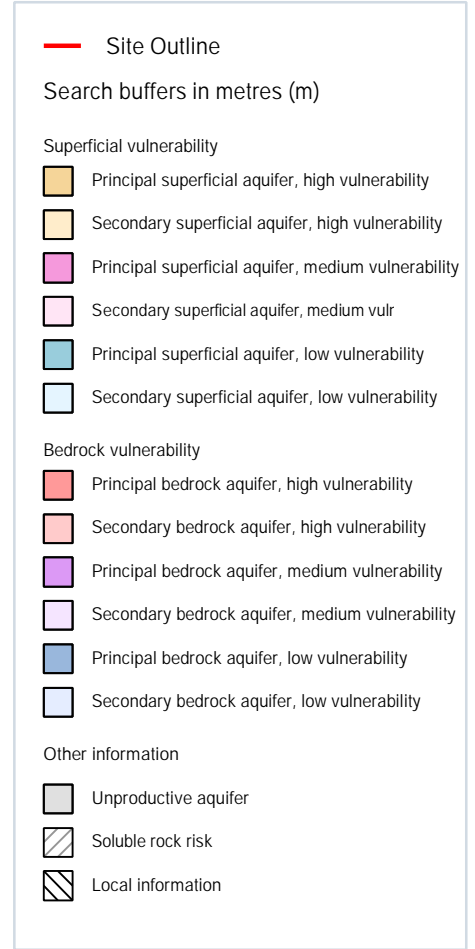
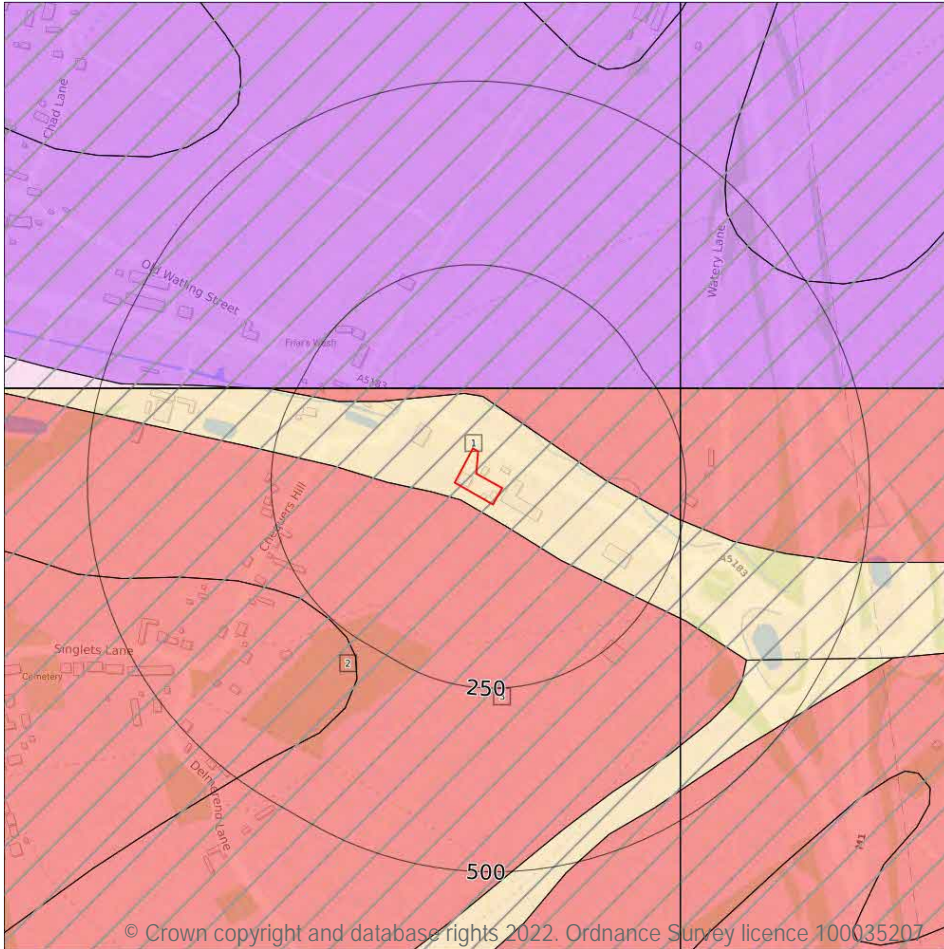
Features are displayed on the Bedrock aquifer map on [page 32](#)

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	82m N	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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



## Groundwater vulnerability



### 5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on **page 34**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	<b>Summary Classification:</b> Secondary superficial aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> High <b>Aquifer type:</b> Secondary <b>Thickness:</b> 3-10m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Principal <b>Flow mechanism:</b> Well connected fractures
3	16m SW	<b>Summary Classification:</b> Principal bedrock aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> 3-10m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Principal <b>Flow mechanism:</b> Well connected fractures

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

## 5.4 Groundwater vulnerability- soluble rock risk

Records on site	1
-----------------	---

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
2	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	21.0%

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

## 5.5 Groundwater vulnerability- local information

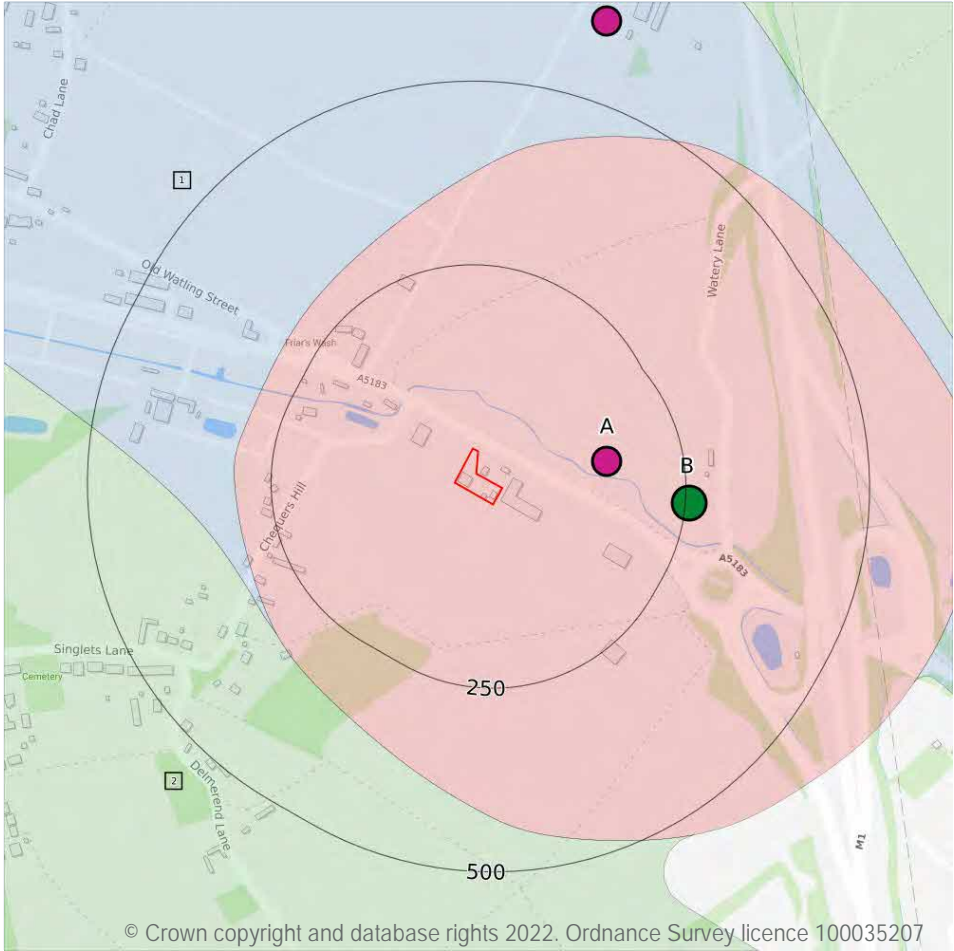
Records on site	0
-----------------	---

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

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



# Abstractions and Source Protection Zones



## 5.6 Groundwater abstractions

**Records within 2000m** 7

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 36**

ID	Location	Details	
A	146m E	Status: Historical Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION Data Type: Point Name: Affinity Water Limited Easting: 508900 Northing: 214900	Annual Volume (m <sup>3</sup> ): 6,150,403 Max Daily Volume (m <sup>3</sup> ): 36368.6 Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 102 Version Start Date: 14/11/2012 Version End Date: -
B	252m E	Status: Active Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION - B Data Type: Point Name: Affinity Water Limited Easting: 509009 Northing: 214846	Annual Volume (m <sup>3</sup> ): 3,877,819 Max Daily Volume (m <sup>3</sup> ): 25,003 Original Application No: NPS/WR/029577 Original Start Date: 08/05/1967 Expiry Date: - Issue No: 104 Version Start Date: 12/09/2018 Version End Date: -
B	255m E	Status: Active Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION - B1 Data Type: Point Name: Affinity Water Limited Easting: 509012 Northing: 214844	Annual Volume (m <sup>3</sup> ): 3,877,819 Max Daily Volume (m <sup>3</sup> ): 25,003 Original Application No: NPS/WR/029577 Original Start Date: 08/05/1967 Expiry Date: - Issue No: 104 Version Start Date: 12/09/2018 Version End Date: -
3	609m N	Status: Historical Licence No: 28/39/28/0296 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT HALL AND COLES FARM, FLAMST EAD Data Type: Point Name: PEARSE Easting: 508900 Northing: 215500	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 10/04/1967 Expiry Date: - Issue No: 100 Version Start Date: 10/04/1967 Version End Date: -
-	1639m NE	Status: Historical Licence No: 28/39/28/0173 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WELL AT LADY BRAY FARM, KINSBOURNE GRE EN Data Type: Point Name: RALPH CATTON LTD Easting: 509600 Northing: 216300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 10/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1997 Version End Date: -



ID	Location	Details	
-	1639m NE	Status: Historical Licence No: 28/39/28/0173 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: THAMES GROUNDWATER Point: WELL AT LADY BRAY FARM, KINSBOURNE GREEN Data Type: Point Name: RALPH CATTON LTD Easting: 509600 Northing: 216300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 10/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1997 Version End Date: -
-	1680m SE	Status: Active Licence No: 28/39/28/0337 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: REDBOURN PUMPING STATION Data Type: Point Name: Affinity Water Limited Easting: 510200 Northing: 214000	Annual Volume (m <sup>3</sup> ): 8,319,354 Max Daily Volume (m <sup>3</sup> ): 30,686.14 Original Application No: NPS/WR/011805 Original Start Date: 12/06/1967 Expiry Date: - Issue No: 102 Version Start Date: 14/11/2012 Version End Date: -

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

## 5.7 Surface water abstractions

Records within 2000m

0

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

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

## 5.8 Potable abstractions

Records within 2000m

5

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 36**



ID	Location	Details	
A	146m E	Status: Historical Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION Data Type: Point Name: Affinity Water Limited Easting: 508900 Northing: 214900	Annual Volume (m <sup>3</sup> ): 6,150,403 Max Daily Volume (m <sup>3</sup> ): 36368.6 Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 102 Version Start Date: 14/11/2012 Version End Date: -
B	252m E	Status: Active Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION - B Data Type: Point Name: Affinity Water Limited Easting: 509009 Northing: 214846	Annual Volume (m <sup>3</sup> ): 3,877,819 Max Daily Volume (m <sup>3</sup> ): 25,003 Original Application No: NPS/WR/029577 Original Start Date: 08/05/1967 Expiry Date: - Issue No: 104 Version Start Date: 12/09/2018 Version End Date: -
B	255m E	Status: Active Licence No: 28/39/28/0130 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FRIARS WASH PUMPING STATION - B1 Data Type: Point Name: Affinity Water Limited Easting: 509012 Northing: 214844	Annual Volume (m <sup>3</sup> ): 3,877,819 Max Daily Volume (m <sup>3</sup> ): 25,003 Original Application No: NPS/WR/029577 Original Start Date: 08/05/1967 Expiry Date: - Issue No: 104 Version Start Date: 12/09/2018 Version End Date: -
-	1639m NE	Status: Historical Licence No: 28/39/28/0173 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: THAMES GROUNDWATER Point: WELL AT LADY BRAY FARM, KINSBOURNE GRE EN Data Type: Point Name: RALPH CATTON LTD Easting: 509600 Northing: 216300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 10/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1997 Version End Date: -
-	1680m SE	Status: Active Licence No: 28/39/28/0337 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: REDBOURN PUMPING STATION Data Type: Point Name: Affinity Water Limited Easting: 510200 Northing: 214000	Annual Volume (m <sup>3</sup> ): 8,319,354 Max Daily Volume (m <sup>3</sup> ): 30,686.14 Original Application No: NPS/WR/011805 Original Start Date: 12/06/1967 Expiry Date: - Issue No: 102 Version Start Date: 14/11/2012 Version End Date: -



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

## 5.9 Source Protection Zones

Records within 500m

3

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on **page 36**

ID	Location	Type	Description
<b>A</b>	<b>On site</b>	<b>1</b>	<b>Inner catchment</b>
1	292m NW	2	Outer catchment
2	316m SW	3	Total catchment

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

## 5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

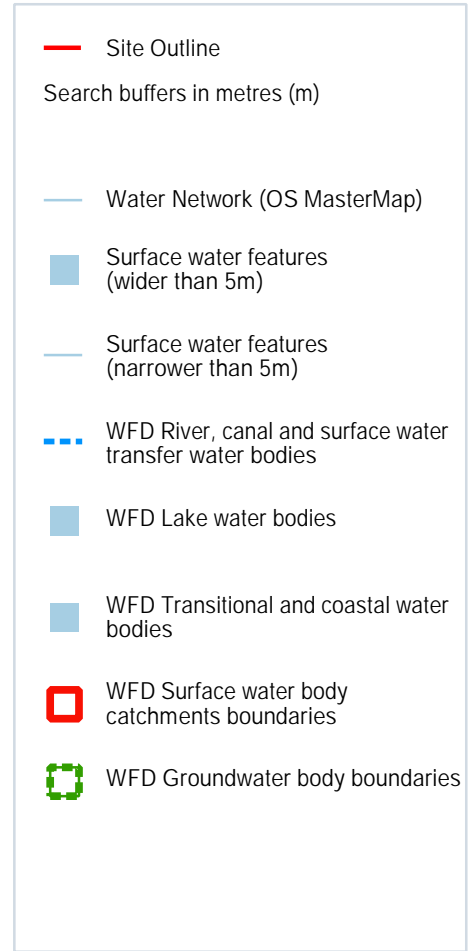
Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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





## 6 Hydrology



### 6.1 Water Network (OS MasterMap)

Records within 250m

3

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

Features are displayed on the Hydrology map on [page 41](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
B	62m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Ver

ID	Location	Type of water feature	Ground level	Permanence	Name
3	114m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Ver
4	115m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Ver

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

Records within 250m

3

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

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

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

Records on site

1

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

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Ver	GB106039029920	Colne	Colne

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



## 6.4 WFD Surface water bodies

Records identified

1

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

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

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
1	61m NE	River	Ver	<a href="#">GB106039029920</a>	Moderate	Fail	Moderate	2019

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

## 6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

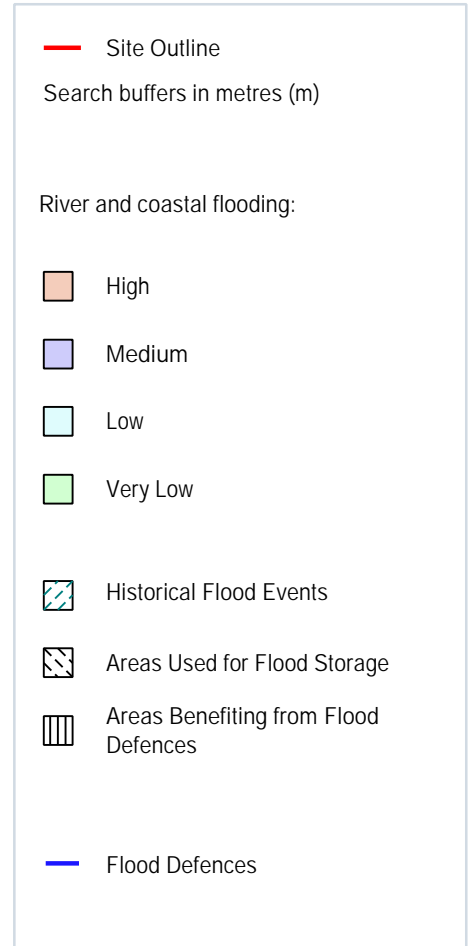
Features are displayed on the Hydrology map on **page 41**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Mid-Chilterns Chalk	<a href="#">GB40601G601200</a>	Poor	Poor	Poor	2019

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



## 7 River and coastal flooding



### 7.1 Risk of flooding from rivers and the sea

Records within 50m

7

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

Features are displayed on the River and coastal flooding map on **page 44**

Distance	Flood risk category
On site	High
0 - 50m	High

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

## 7.2 Historical Flood Events

Records within 250m	0
---------------------	---

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

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

## 7.3 Flood Defences

Records within 250m	0
---------------------	---

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

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

## 7.4 Areas Benefiting from Flood Defences

Records within 250m	6
---------------------	---

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

Features are displayed on the River and coastal flooding map on **page 44**

ID	Location	
A	49m NE	Area benefiting from flood defences
C	64m N	Area benefiting from flood defences
E	84m NE	Area benefiting from flood defences
F	114m NE	Area benefiting from flood defences
G	116m E	Area benefiting from flood defences



ID	Location	
H	194m E	Area benefiting from flood defences

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

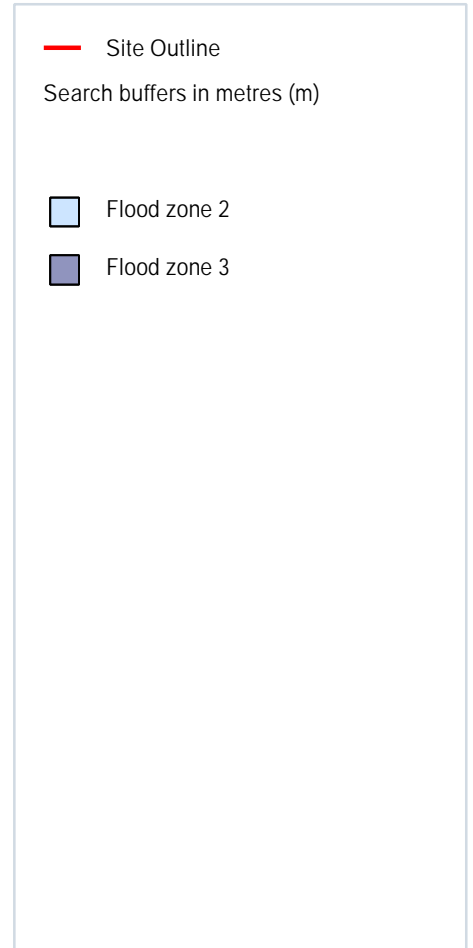
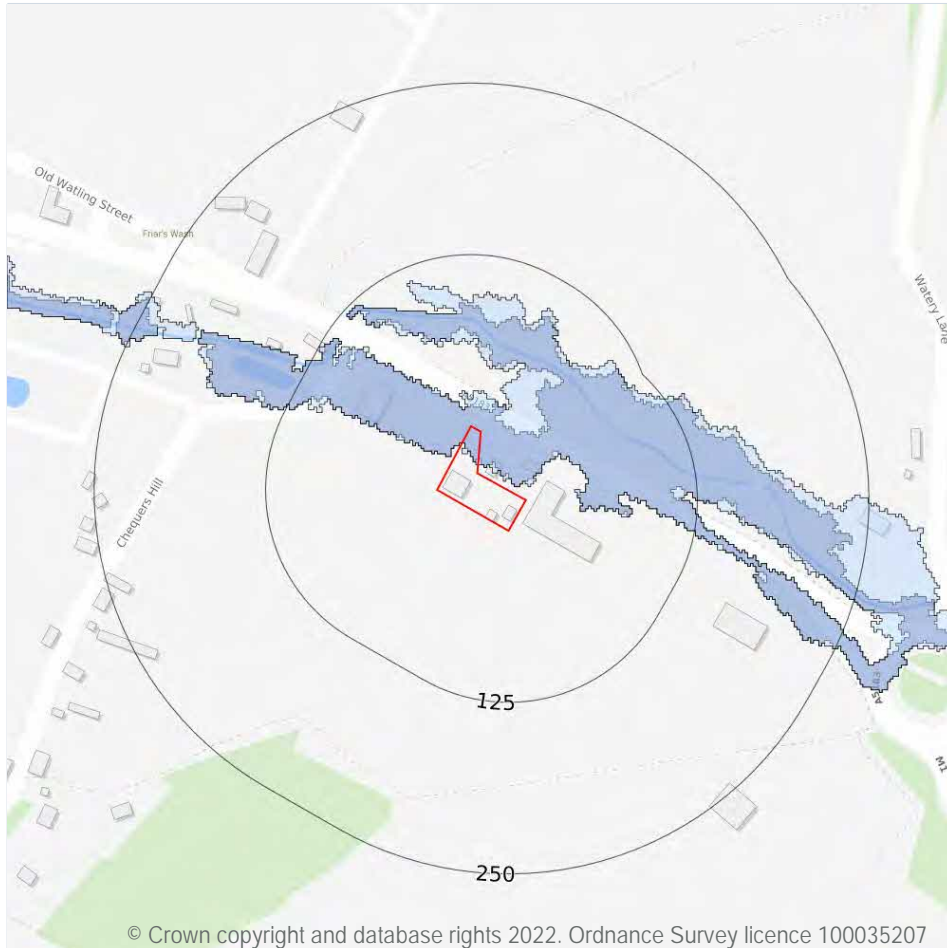
## 7.5 Flood Storage Areas

Records within 250m	0
---------------------	---

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

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

## River and coastal flooding - Flood Zones



### 7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on **page 44**

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

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

## 7.7 Flood Zone 3

Records within 50m

1

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

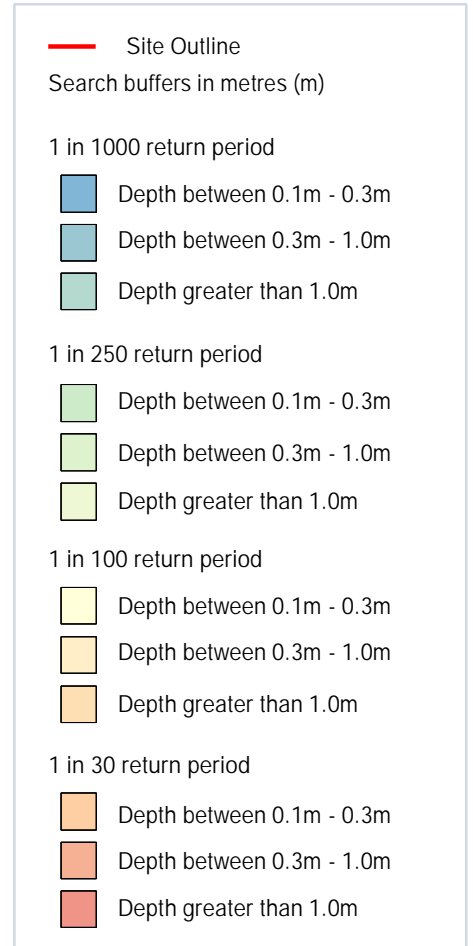
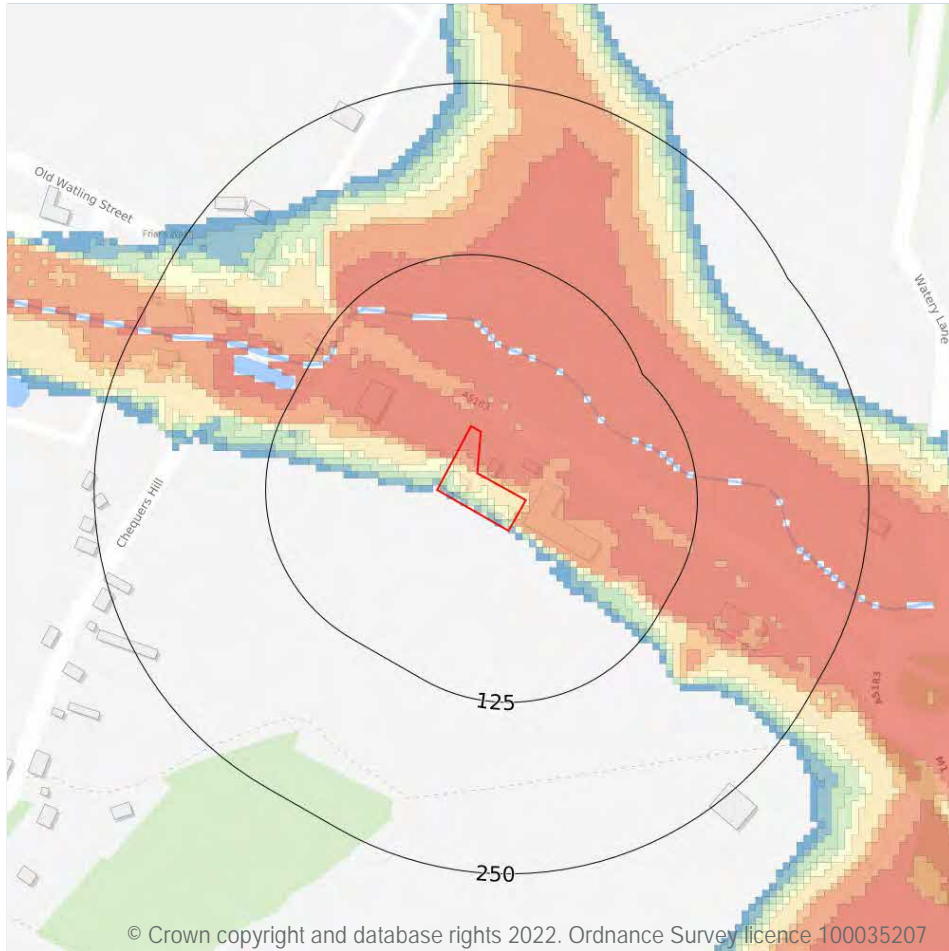
Features are displayed on the River and coastal flooding map on **page 44**

Location	Type
On site	Zone 3 - (Fluvial Models)

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



## 8 Surface water flooding



### 8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

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

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

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

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

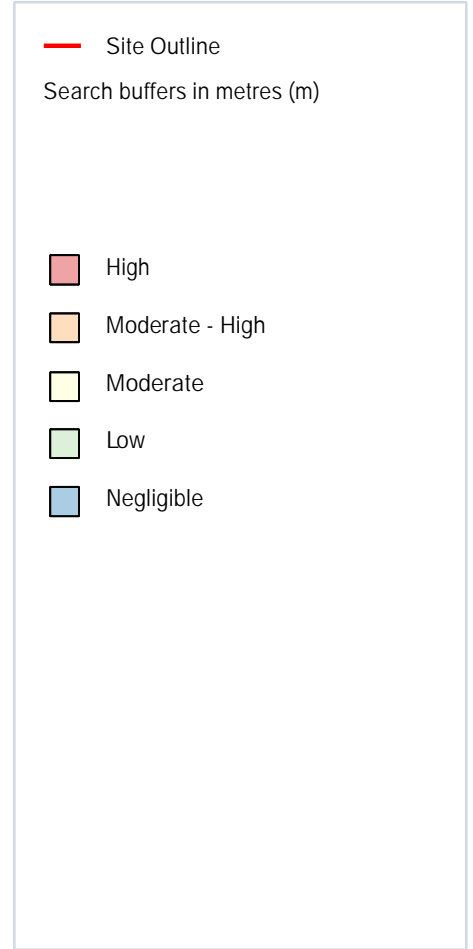
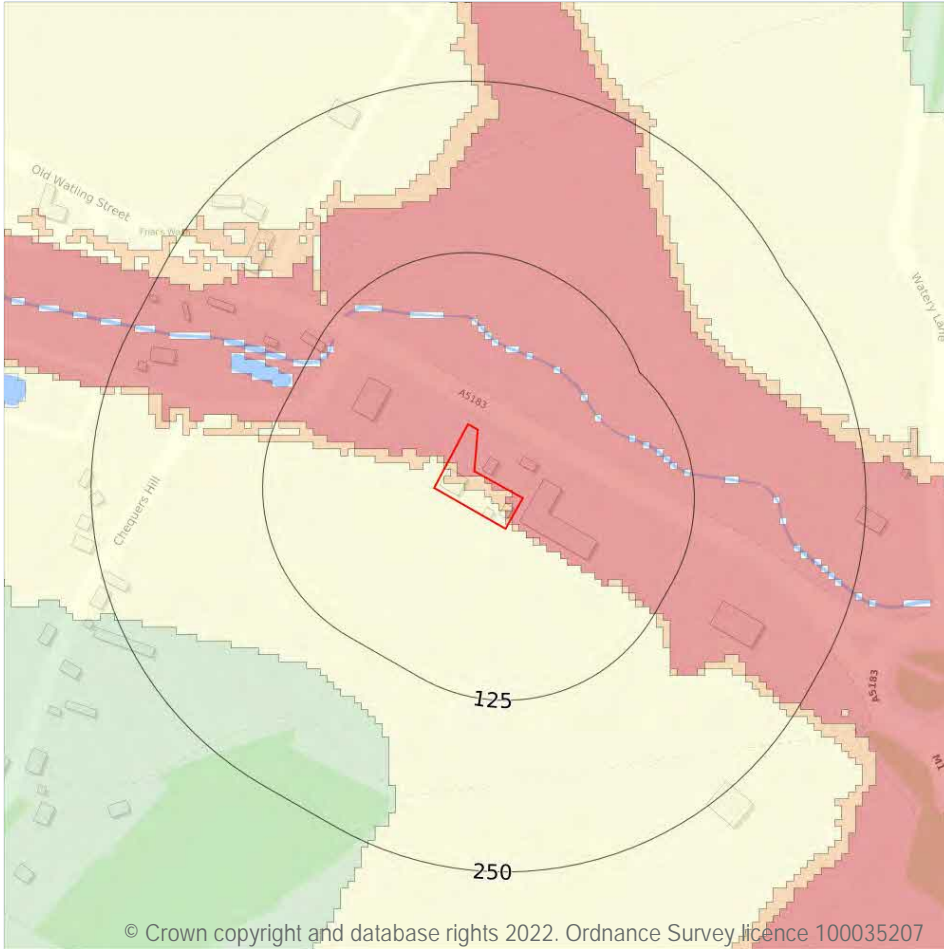
Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

*This data is sourced from Ambienta Risk Analytics.*





## 9 Groundwater flooding



### 9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

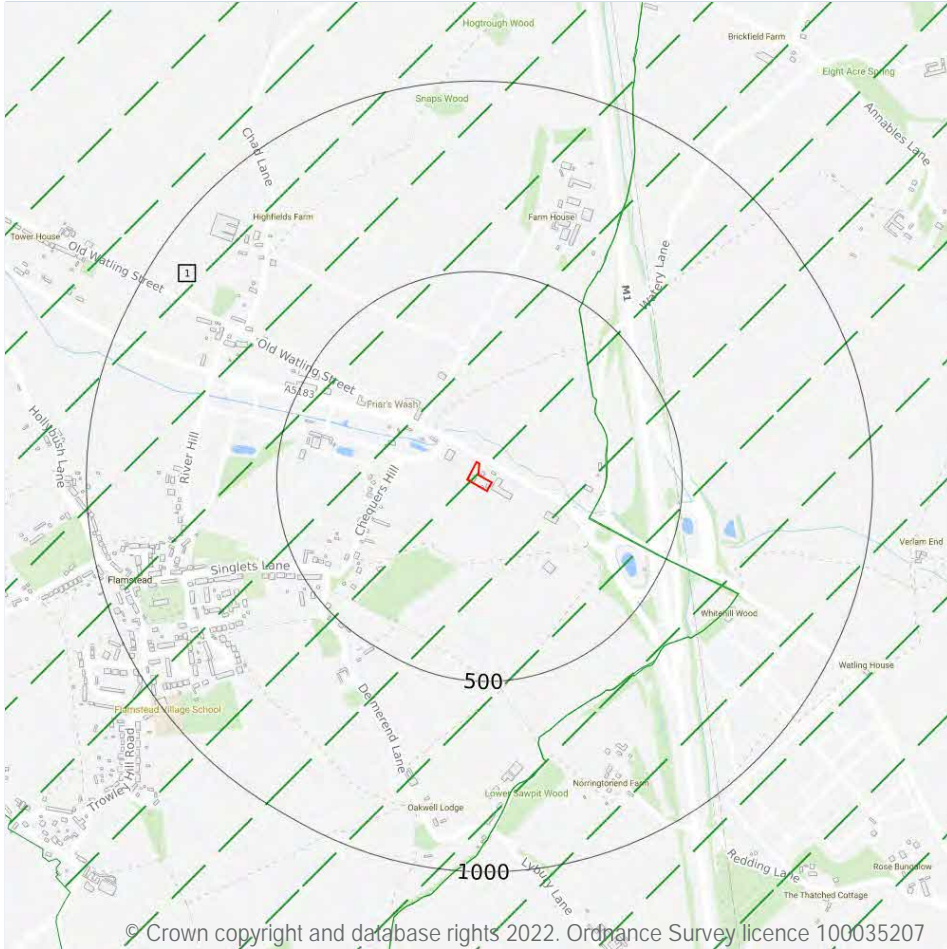
High

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

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

*This data is sourced from Ambient Risk Analytics.*

## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

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

Records within 2000m

0

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

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

## 10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

## 10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

## 10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

## 10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



## 10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

## 10.7 Designated Ancient Woodland

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 52**

ID	Location	Name	Woodland Type
-	1516m N	Unknown	Ancient & Semi-Natural Woodland
-	1612m SE	Northfield Spring	Ancient & Semi-Natural Woodland
-	1923m SW	Unknown	Ancient Replanted Woodland
-	1982m W	Friendless Wood	Ancient & Semi-Natural Woodland

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

## 10.8 Biosphere Reserves

Records within 2000m

0

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

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

## 10.9 Forest Parks

Records within 2000m 0

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

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

Records within 2000m 0

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

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

## 10.11 Green Belt

Records within 2000m 2

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

Features are displayed on the Environmental designations map on **page 52**

ID	Location	Name	Local Authority name
1	On site	London	Dacorum
2	273m E	London	St Albans

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

## 10.12 Proposed Ramsar sites

Records within 2000m 0

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

*This data is sourced from Natural England.*



### 10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

### 10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

*This data is sourced from Natural England.*

### 10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

*This data is sourced from Natural England.*

### 10.16 Nitrate Vulnerable Zones

Records within 2000m

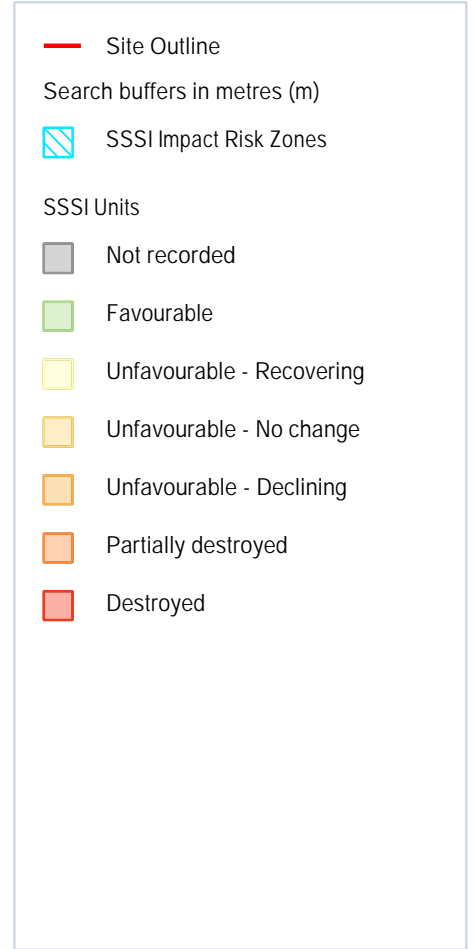
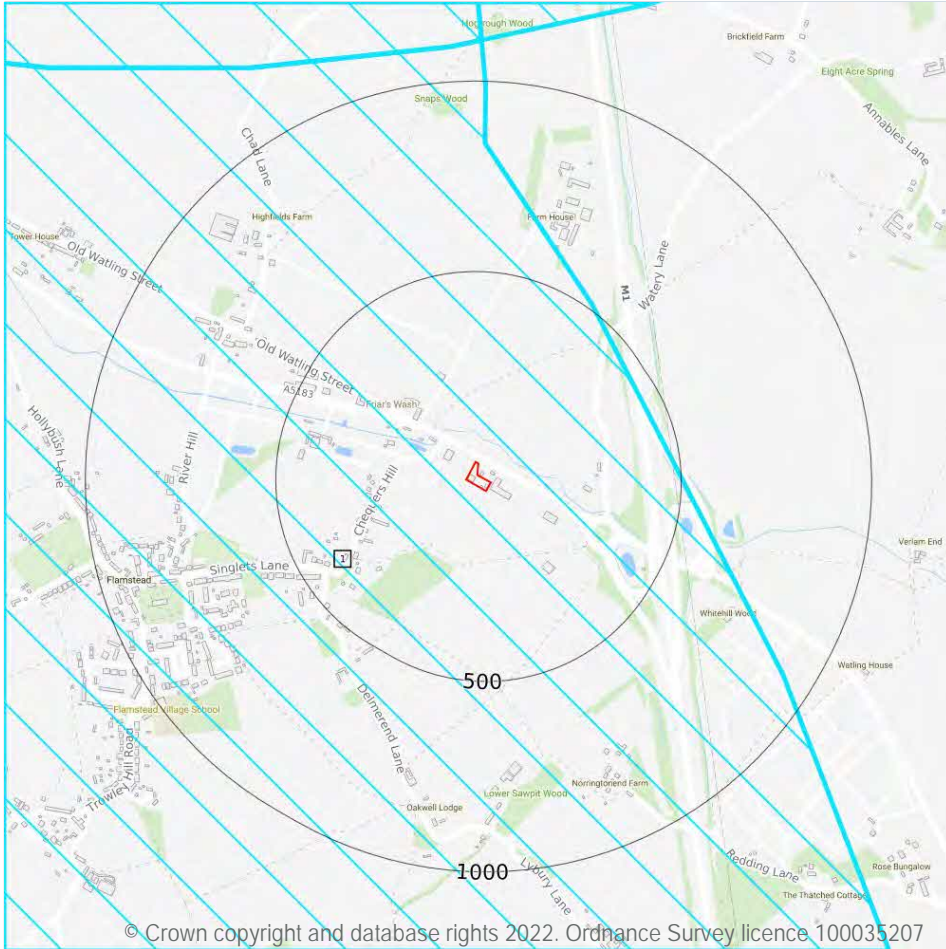
0

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

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



## SSSI Impact Zones and Units



### 10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 57](#)

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Air pollution - Livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 4000m<sup>2</sup>.</p> <p>Combustion - General combustion processes &gt;50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p>

*This data is sourced from Natural England.*

## 10.18 SSSI Units

Records within 2000m

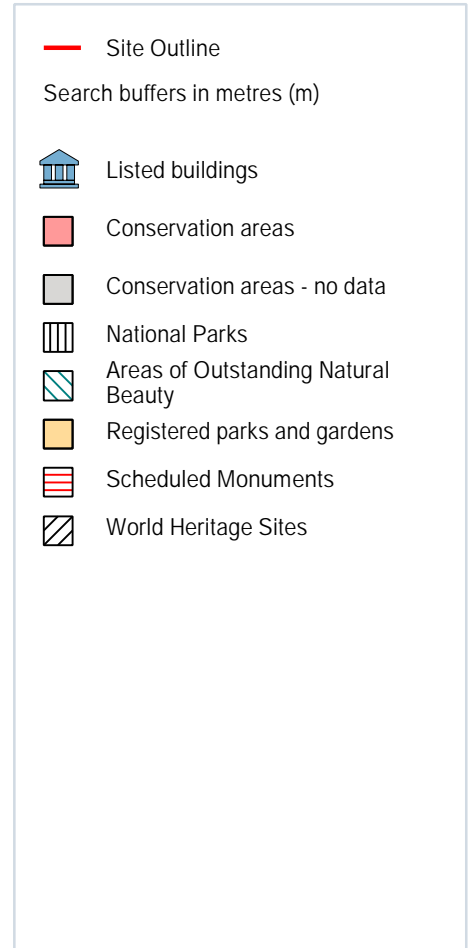
0

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

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



## 11 Visual and cultural designations



### 11.1 World Heritage Sites

Records within 250m

0

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

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

## 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

## 11.3 National Parks

Records within 250m

0

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

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

## 11.4 Listed Buildings

Records within 250m

1

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

Features are displayed on the Visual and cultural designations map on **page 59**

ID	Location	Name	Grade	Reference Number	Listed date
1	133m NW	Chequers, Flamstead, Dacorum, Hertfordshire, AL3	II	1100385	26/01/1967

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





## 11.5 Conservation Areas

Records within 250m

0

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

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

## 11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

## 11.7 Registered Parks and Gardens

Records within 250m

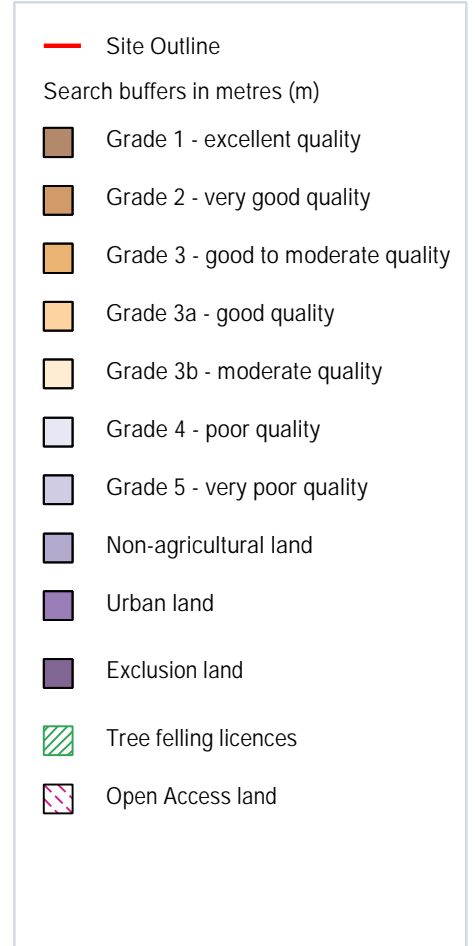
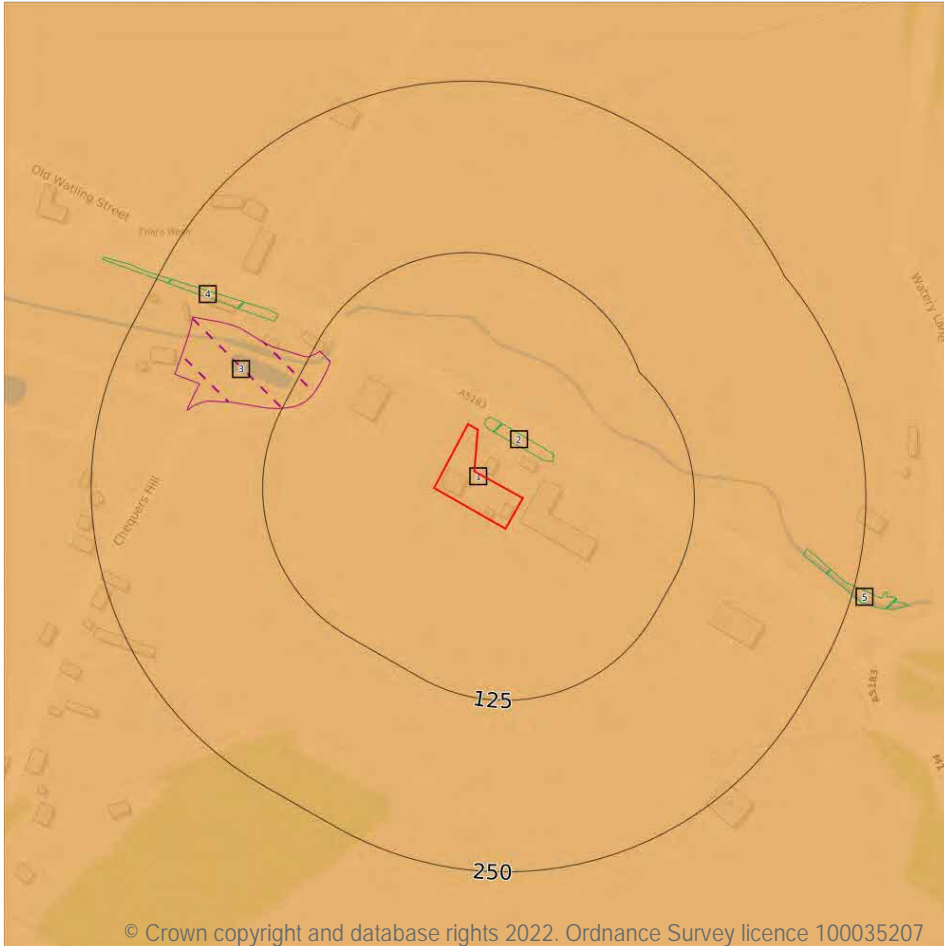
0

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

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



## 12 Agricultural designations



### 12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on **page 62**

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

*This data is sourced from Natural England.*

## 12.2 Open Access Land

Records within 250m

1

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

Features are displayed on the Agricultural designations map on [page 62](#)

ID	Location	Name	Classification	Other relevant legislation
3	109m NW	Land at the rear of the Old Chequers Public House	Section 4 Conclusive Registered Common Land	-

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

## 12.3 Tree Felling Licences

Records within 250m

3

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

Features are displayed on the Agricultural designations map on [page 62](#)

ID	Location	Description	Reference	Application date
2	6m NE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	160m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
5	208m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

*This data is sourced from Natural England.*



## 12.5 Countryside Stewardship Schemes

Records within 250m

0

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

*This data is sourced from Natural England.*



## 13 Habitat designations

### 13.1 Priority Habitat Inventory

Records within 250m	0
---------------------	---

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

*This data is sourced from Natural England.*

### 13.2 Habitat Networks

Records within 250m	0
---------------------	---

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

*This data is sourced from Natural England.*

### 13.3 Open Mosaic Habitat

Records within 250m	0
---------------------	---

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

*This data is sourced from Natural England.*

### 13.4 Limestone Pavement Orders

Records within 250m	0
---------------------	---

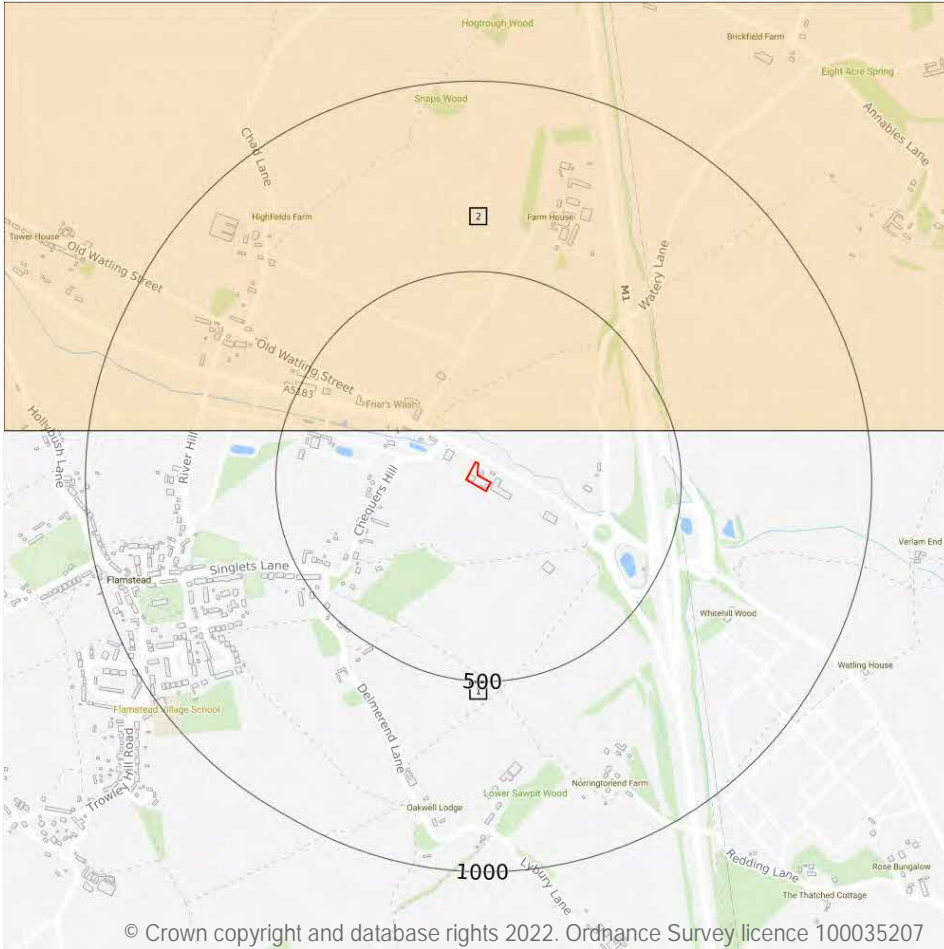
Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened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

*This data is sourced from Natural England.*





## 14 Geology 1:10,000 scale - Availability



— Site Outline  
 Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

### 14.1 10k Availability

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 66](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	No coverage	No coverage	No coverage	NoCov
2	82m N	Full	Partial	Partial	No coverage	TL01NE

*This data is sourced from the British Geological Survey.*

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

### 14.2 Artificial and made ground (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Superficial

### 14.3 Superficial geology (10k)

Records within 500m	0
---------------------	---

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

*This data is sourced from the British Geological Survey.*

### 14.4 Landslip (10k)

Records within 500m	0
---------------------	---

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

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Bedrock

### 14.5 Bedrock geology (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 14.6 Bedrock faults and other linear features (10k)

Records within 500m

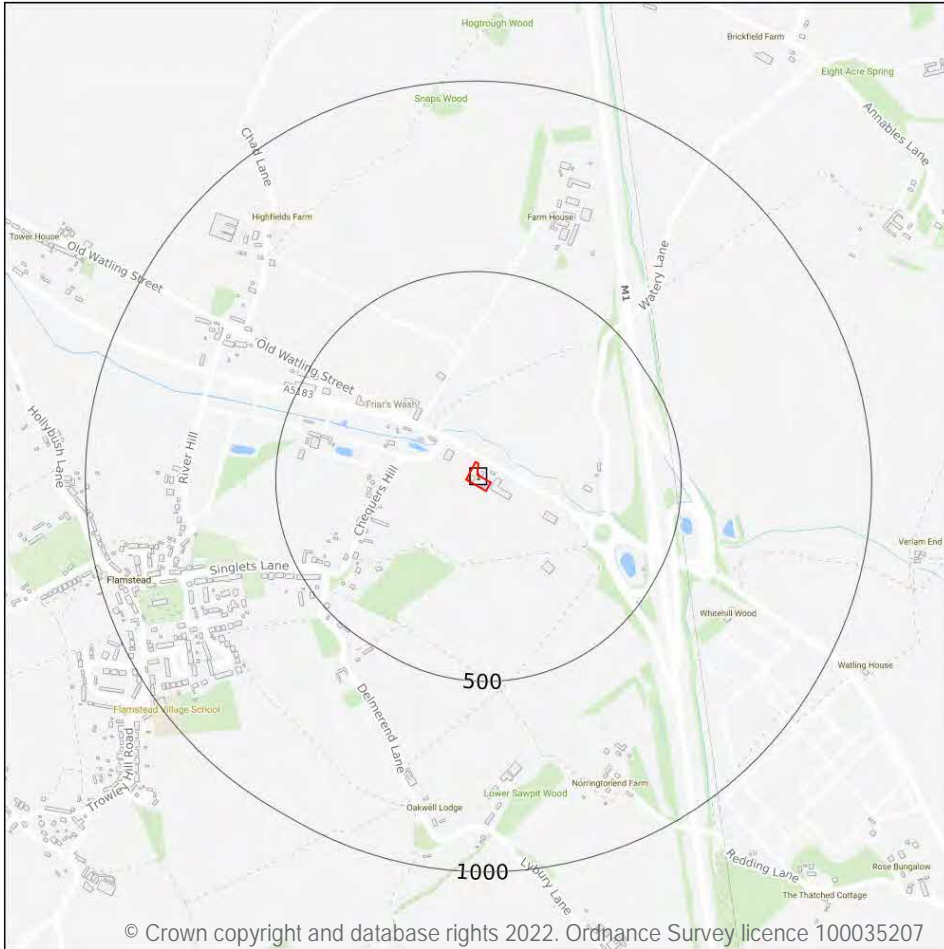
0

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

*This data is sourced from the British Geological Survey.*



## 15 Geology 1:50,000 scale - Availability



— Site Outline  
 Search buffers in metres (m)

□ Geological map tile

### 15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 70](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW238_aylesbury_v4

*This data is sourced from the British Geological Survey.*



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

### 15.2 Artificial and made ground (50k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 15.3 Artificial ground permeability (50k)

Records within 50m

0

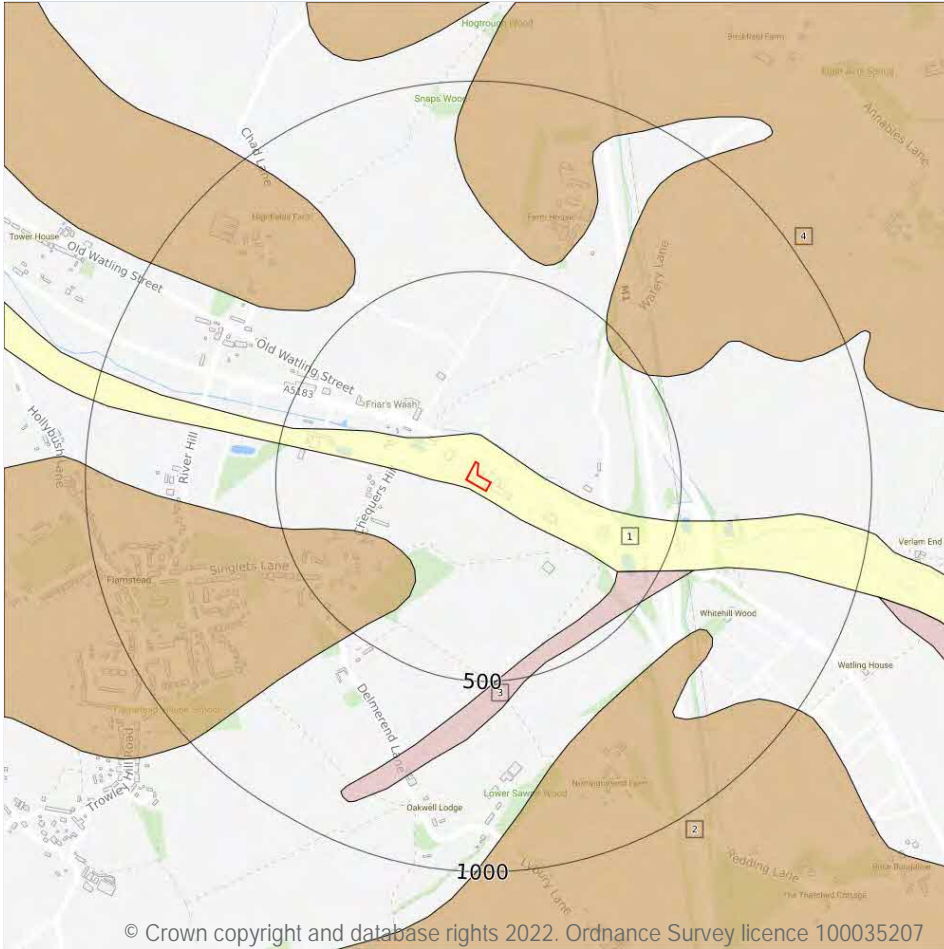
A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).


*This data is sourced from the British Geological Survey.*





## Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
-  Landslip (50k)
- Superficial geology (50k)  
Please see table for more details.

### 15.4 Superficial geology (50k)

Records within 500m

4

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 72](#)

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	252m SW	CWF-XCZSV	CLAY-WITH-FLINTS FORMATION	CLAY, SILT, SAND AND GRAVEL
3	405m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	460m NE	CWF-XCZSV	CLAY-WITH-FLINTS FORMATION	CLAY, SILT, SAND AND GRAVEL

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

Records within 50m	1
--------------------	---

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Very Low

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

Records within 500m	0
---------------------	---

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

*This data is sourced from the British Geological Survey.*

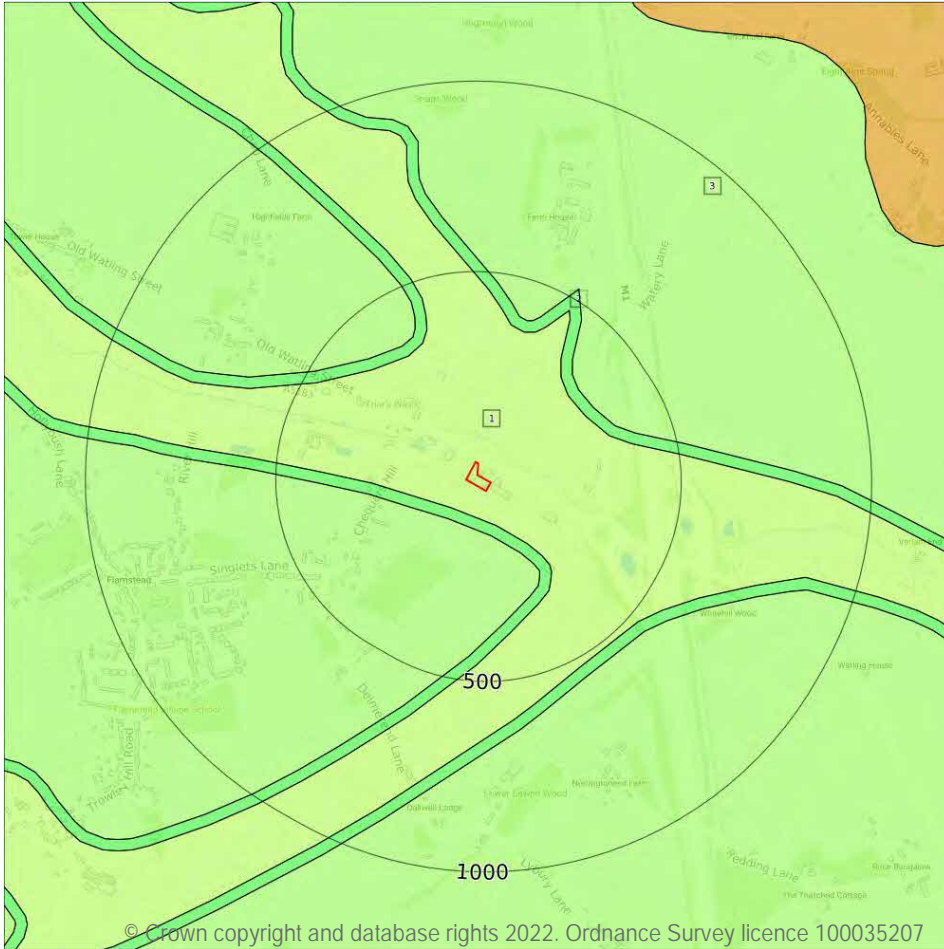
## 15.7 Landslip permeability (50k)

Records within 50m	0
--------------------	---

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

*This data is sourced from the British Geological Survey.*

## Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (50k)
- Bedrock geology (50k)  
Please see table for more details.

### 15.8 Bedrock geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 74](#)

ID	Location	LEX Code	Description	Rock age
1	On site	HNCK-CHLK	HOLYWELL NODULAR CHALK FORMATION AND NEW PIT CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CENOMANIAN
2	75m S	CKR-CHLK	CHALK ROCK MEMBER - CHALK	TURONIAN
3	104m S	LESE-CHLK	LEWES NODULAR CHALK FORMATION AND SEAFORD CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

Records within 50m 1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	Very High

*This data is sourced from the British Geological Survey.*

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

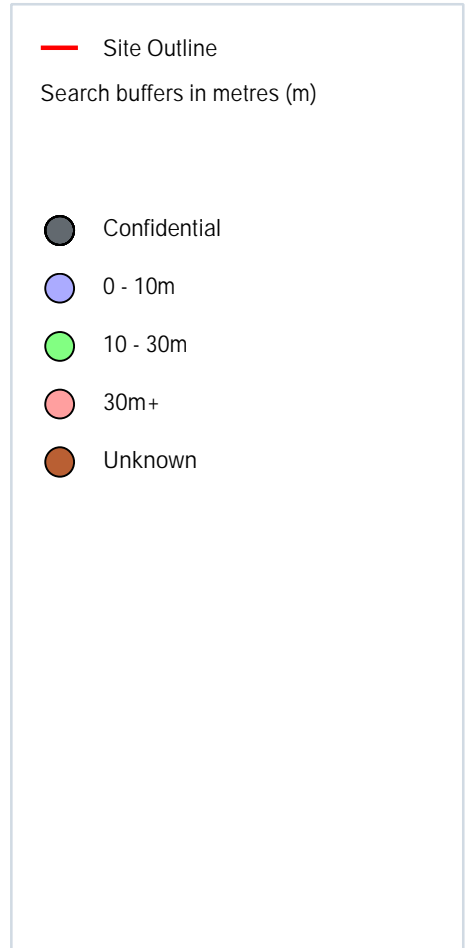
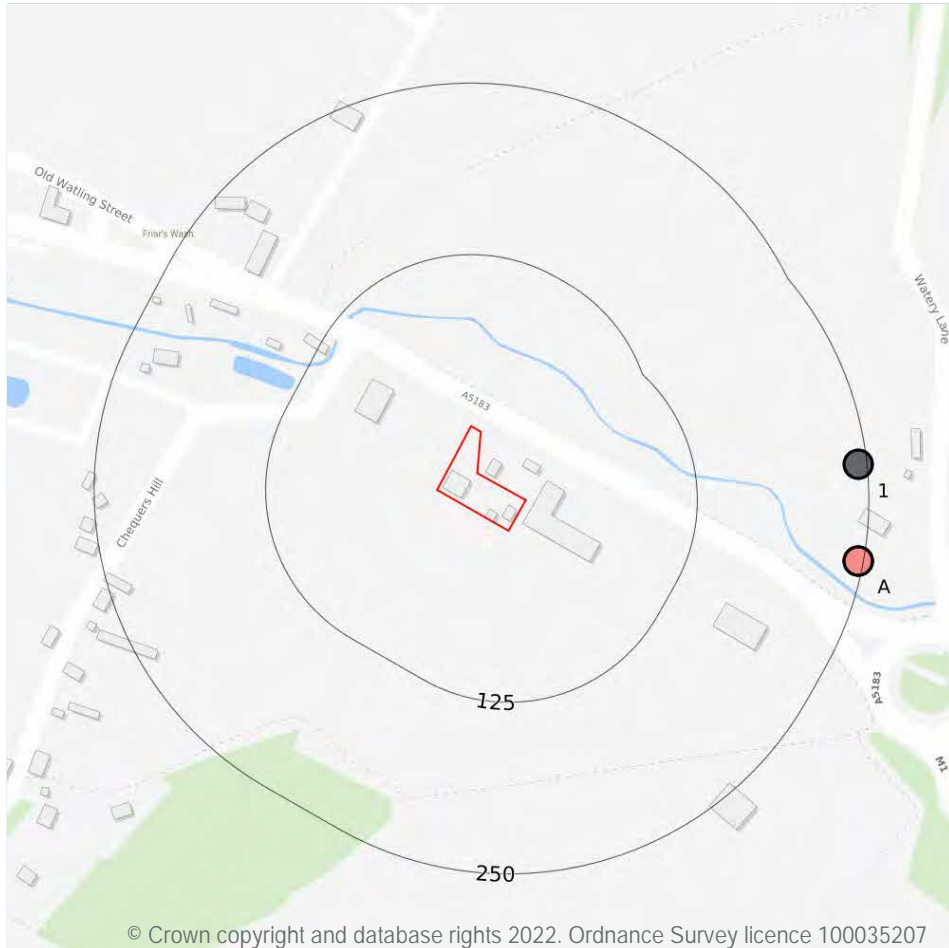
Records within 500m 0

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

*This data is sourced from the British Geological Survey.*



## 16 Boreholes



### 16.1 BGS Boreholes

Records within 250m

3

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

Features are displayed on the Boreholes map on [page 76](#)

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	244m E	509000 214890	FRIARS WASH NEAR FLAMSTEAD HERTFORDSHIRE	-	Y	N/A
A	246m E	509000 214820	FRIARS WASH NEAR FLAMSTEAD HERTFORDSHIRE	104.85	N	<a href="#">521626</a>

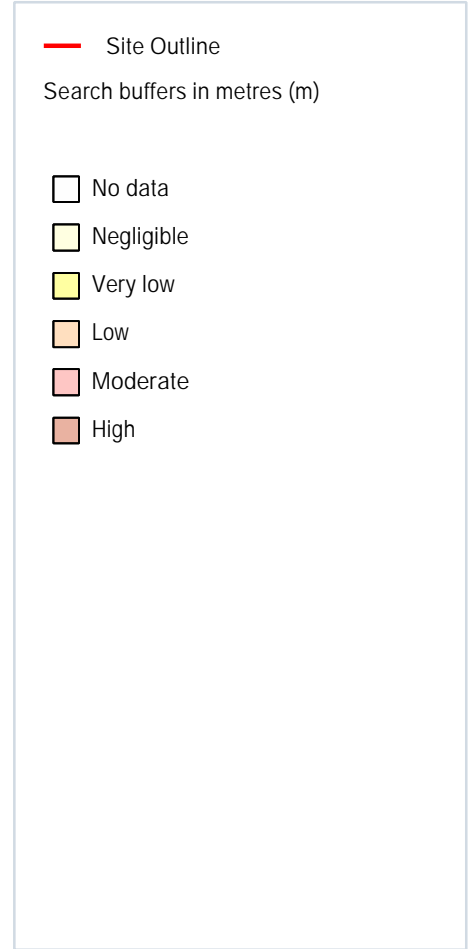
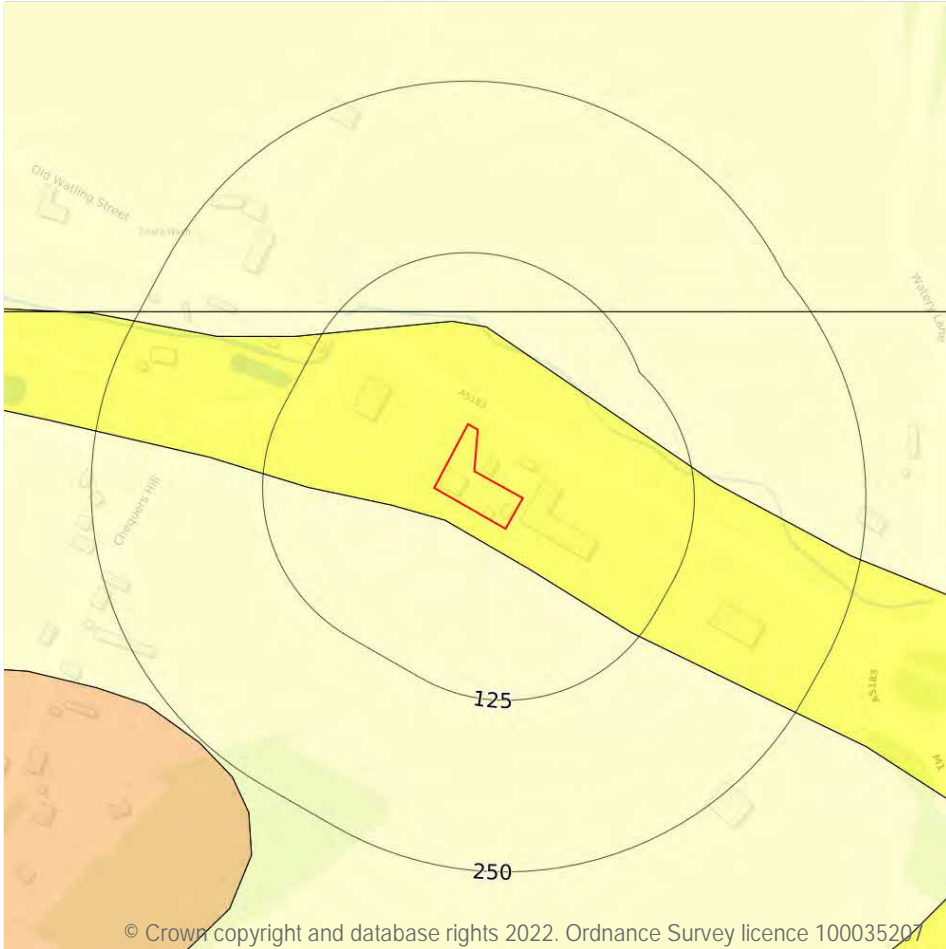
ID	Location	Grid reference	Name	Length	Confidential	Web link
A	246m E	509000 214820	FRIARS WASH NEAR FLAMSTEAD HERTFORDSHIRE	104.85	N	<a href="#">521625</a>

*This data is sourced from the British Geological Survey.*





## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

Records within 50m

2

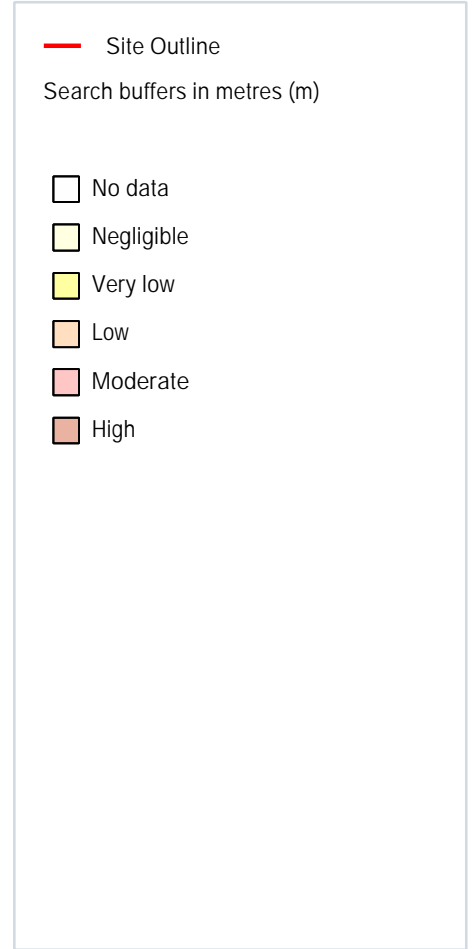
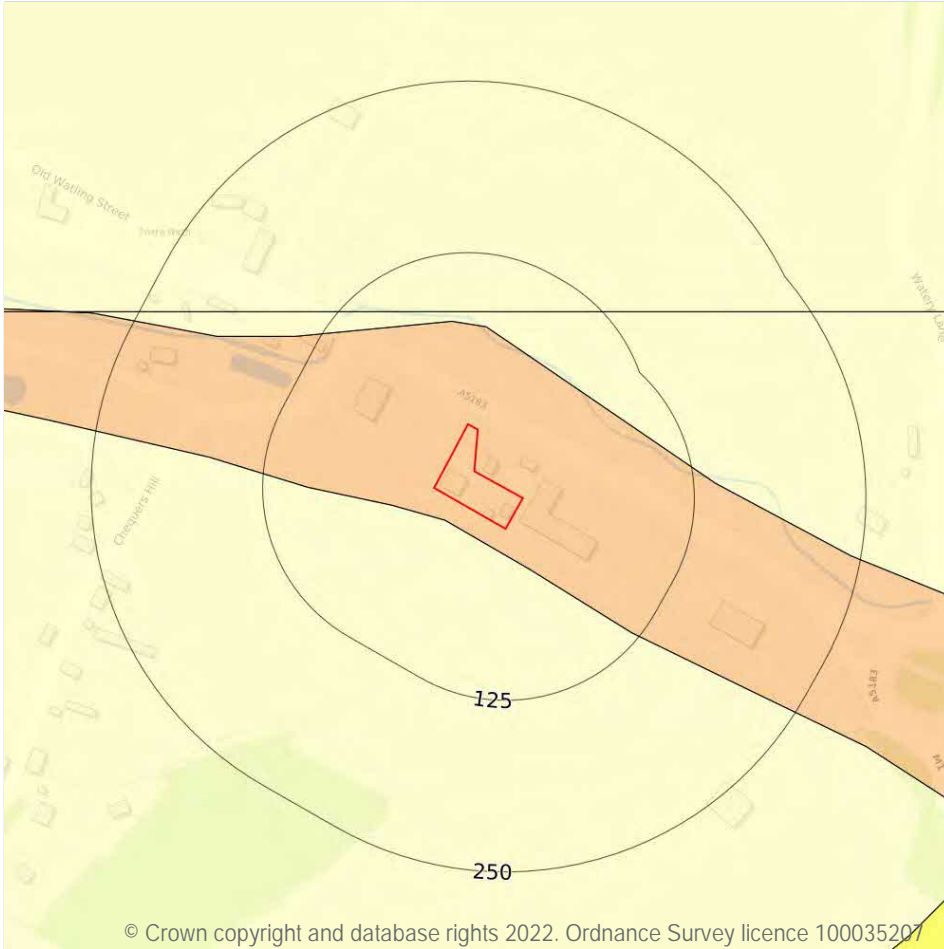
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 78**

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
17m SW	Negligible	Ground conditions predominantly non-plastic.

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Running sands



### 17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 79](#)

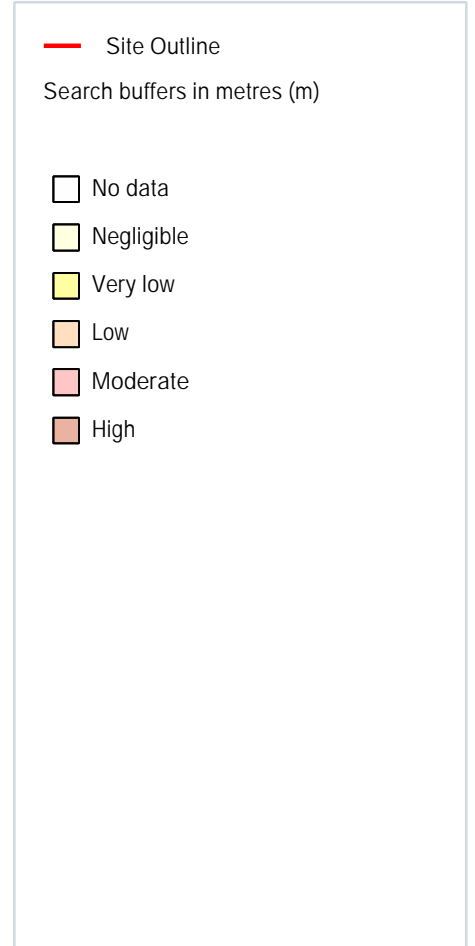
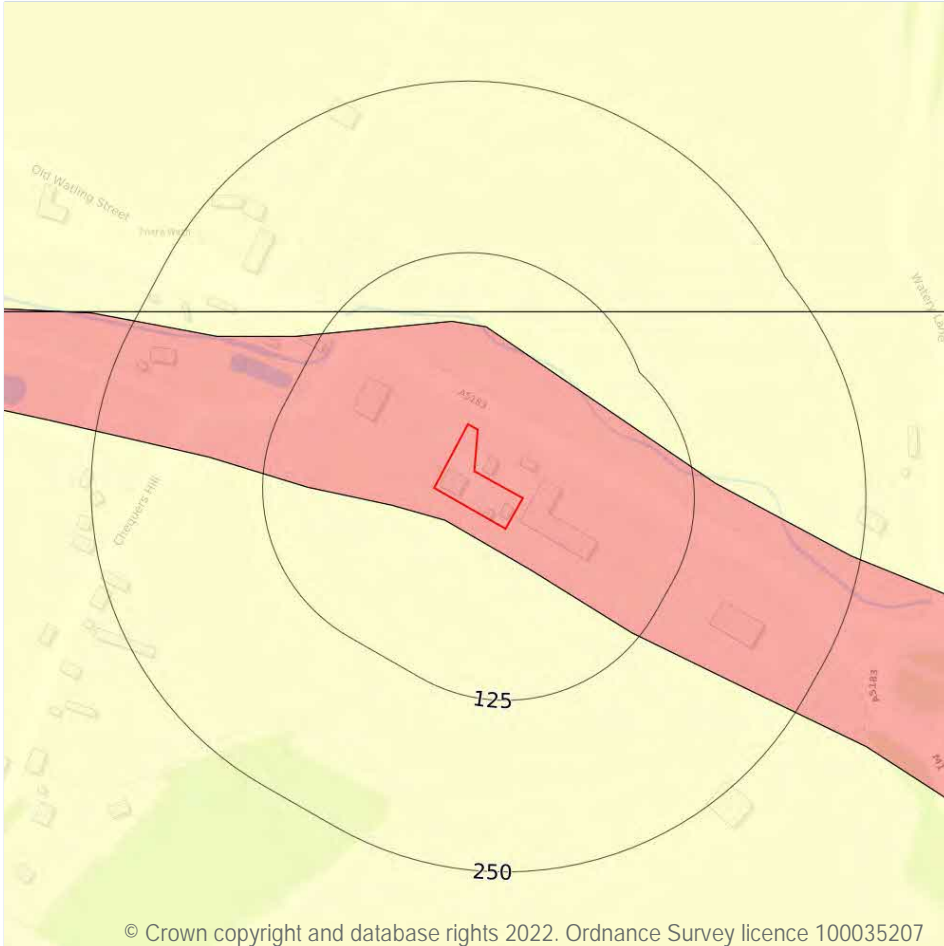
Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

Location	Hazard rating	Details
17m SW	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



### 17.3 Compressible deposits

Records within 50m

2

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

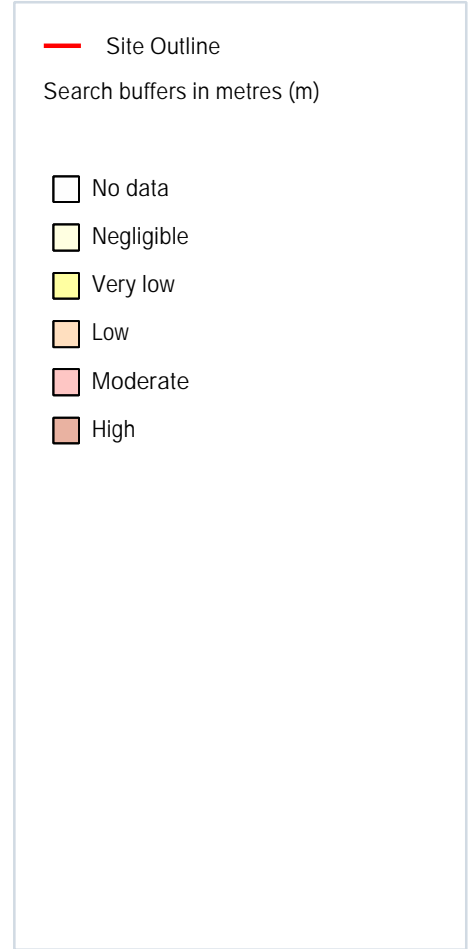
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 81**

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
17m SW	Negligible	Compressible strata are not thought to occur.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Collapsible deposits



### 17.4 Collapsible deposits

Records within 50m

2

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

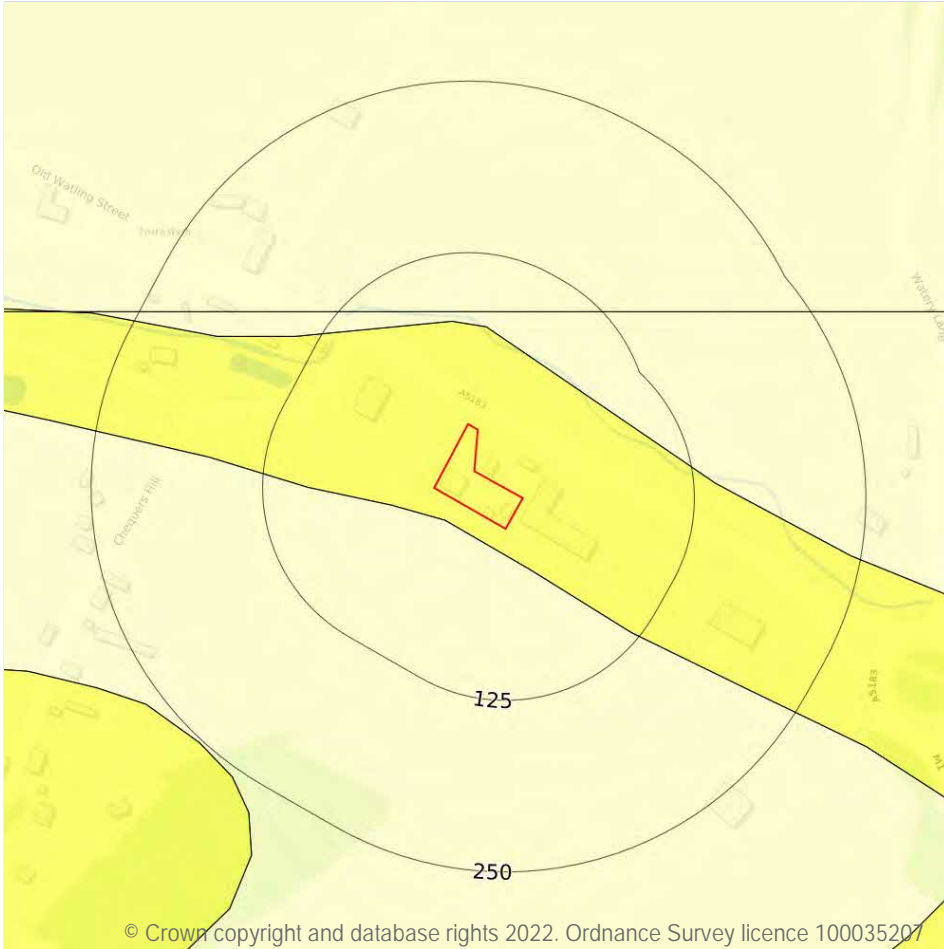
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 83](#)

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
17m SW	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Landslides



— Site Outline  
Search buffers in metres (m)

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

### 17.5 Landslides

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 84**

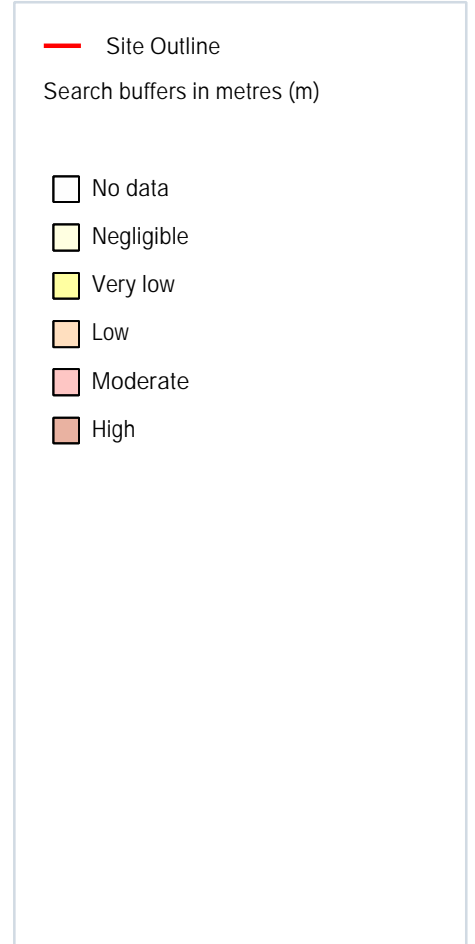
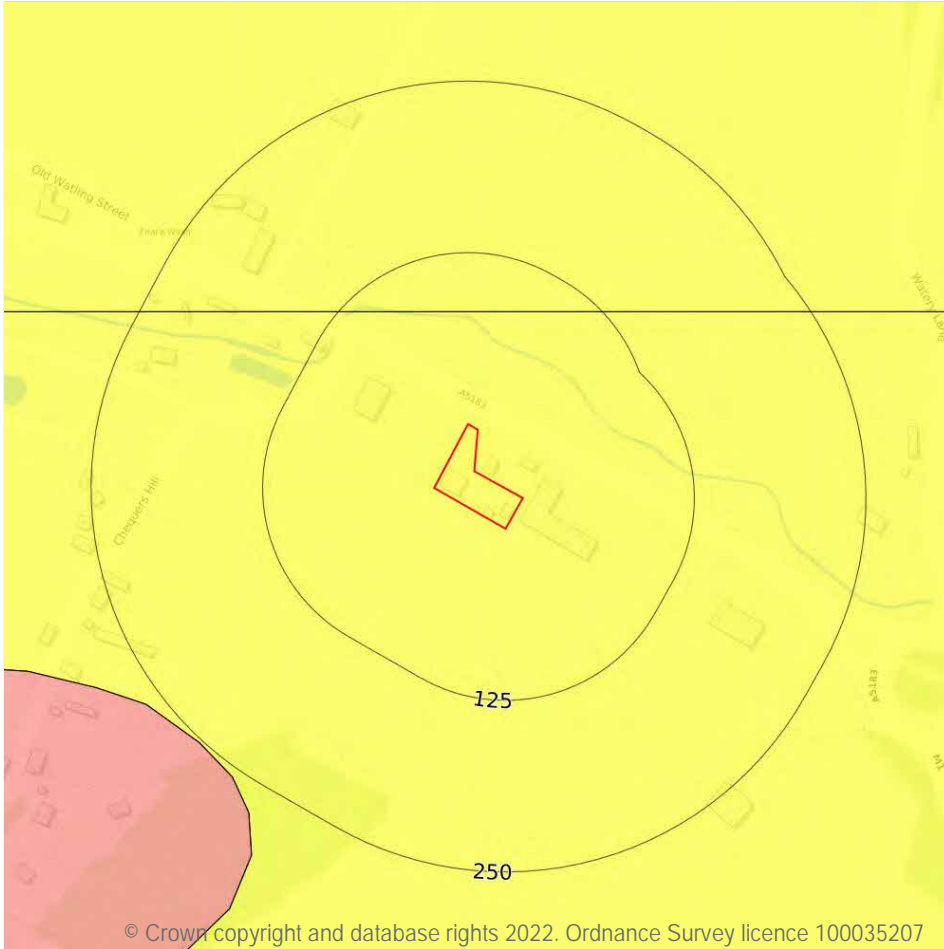
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
17m SW	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Ground dissolution of soluble rocks



### 17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

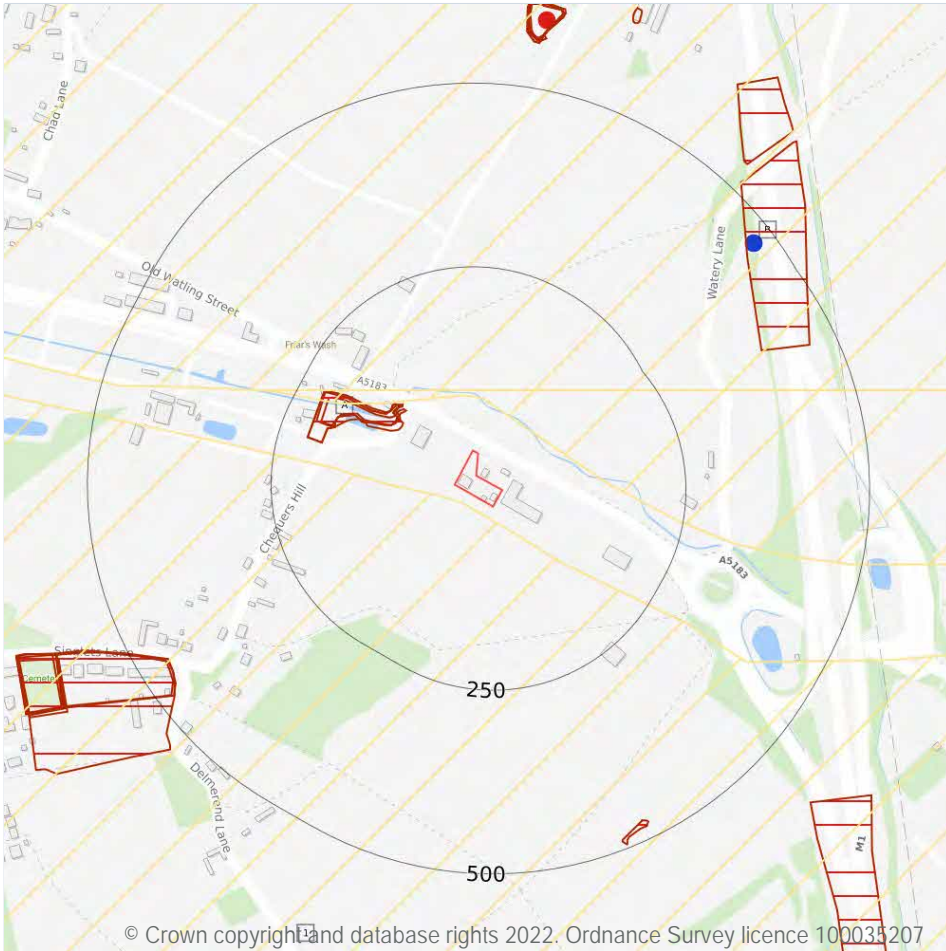
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 86](#)

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

*This data is sourced from the British Geological Survey.*



## 18 Mining, ground workings and natural cavities



### 18.1 Natural cavities

Records within 500m

1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Details	Source
B	471m NE	Type: Solution Pipe x 2 Superficial Geology: - Bedrock Geology: Chalk Group, Chalk Group	Simple Bibliography: C N EDMONDS, PBA, SNOOK HOUSE, 66 TILEHURST ROAD, READING RG30 2JH, BERKSHIRE Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely

*This data is sourced from Stantec UK Ltd.*

## 18.2 BritPits

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

## 18.3 Surface ground workings

Records within 250m

4

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
A	101m NW	Pond	1878	1:10560
A	108m NW	Pond	1899	1:10560
A	111m NW	Pond	1938	1:10560
A	111m NW	Pond	1922	1:10560

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground workings

Records within 1000m

0

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

*This is data is sourced from Ordnance Survey/Groundsure.*





## 18.5 Historical Mineral Planning Areas

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

Records within 1000m

3

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Name	Commodity	Class	Likelihood
1	17m SW	Not available	Chalk	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
2	65m NE	Not available	Chalk	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
3	82m N	Not available	Chalk	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

*This data is sourced from the British Geological Survey.*

## 18.7 Mining cavities

Records within 1000m

0

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

*This data is sourced from Stantec UK Ltd.*



## 18.8 JPB mining areas

Records on site	0
-----------------	---

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

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

Records on site	0
-----------------	---

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

Records on site	0
-----------------	---

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

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

## 18.11 Gypsum areas

Records on site	0
-----------------	---

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*



## 18.13 Clay mining

Records on site

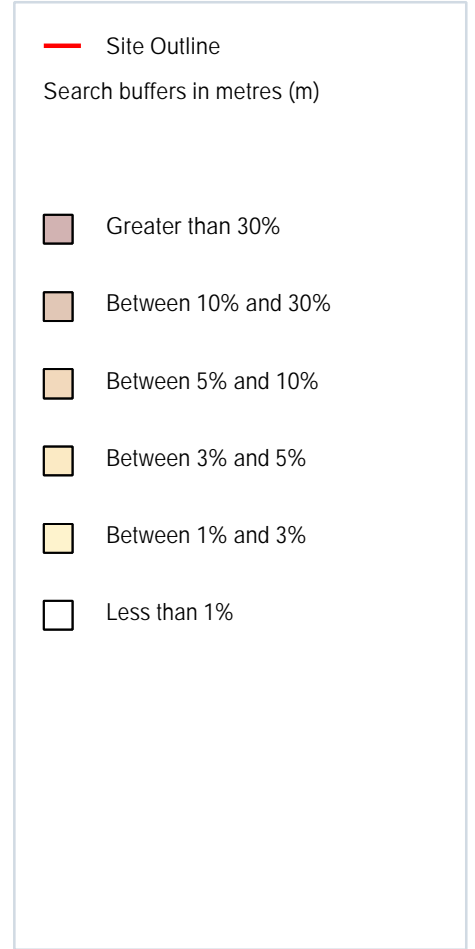
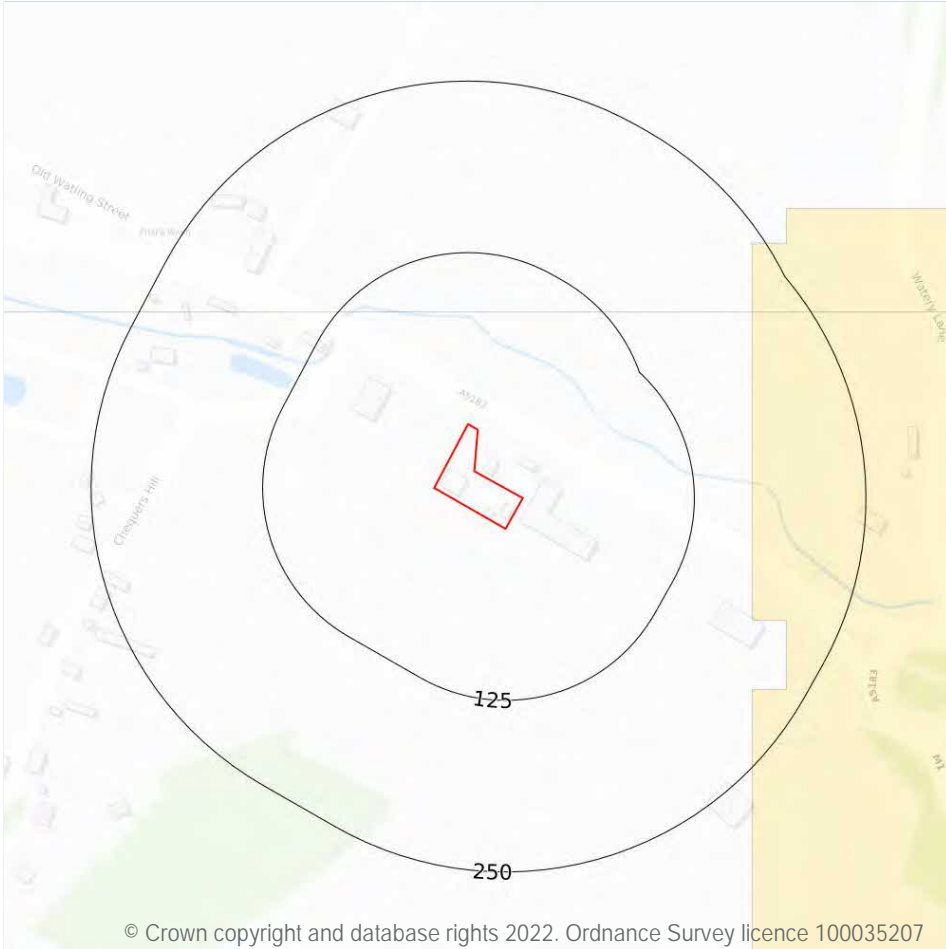
0

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

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



## 19 Radon



### 19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 93](#)

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

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

## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
17m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

*This data is sourced from the British Geological Survey.*

### 20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

*This data is sourced from the British Geological Survey.*

### 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

*This data is sourced from the British Geological Survey.*



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

Records within 250m	0
---------------------	---

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

*This data is sourced from publicly available information by Groundsure.*

### 21.2 Underground railways (Non-London)

Records within 250m	0
---------------------	---

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

*This data is sourced from publicly available information by Groundsure.*

### 21.3 Railway tunnels

Records within 250m	0
---------------------	---

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

Records within 250m	0
---------------------	---

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

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

Records within 250m	0
---------------------	---

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





*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

Records within 250m	0
---------------------	---

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

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

Records within 250m	0
---------------------	---

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

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

Records within 500m	0
---------------------	---

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

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

Records within 500m	0
---------------------	---

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

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

Records within 500m	0
---------------------	---

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

*This data is sourced from HS2 Ltd.*



---

## Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

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## Terms and conditions

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





## Appendix C – Historical Maps

Site Details

ACORN LODGE, LONDON  
ROAD, FLAMSTEAD, AL3 8HB

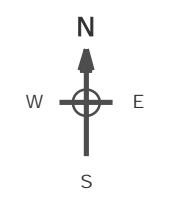
Client Ref: GJ273  
Report Ref: GS-9045152  
Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1878

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1878  
Revised 1878  
Edition N/A  
Copyright N/A  
Levelled N/A

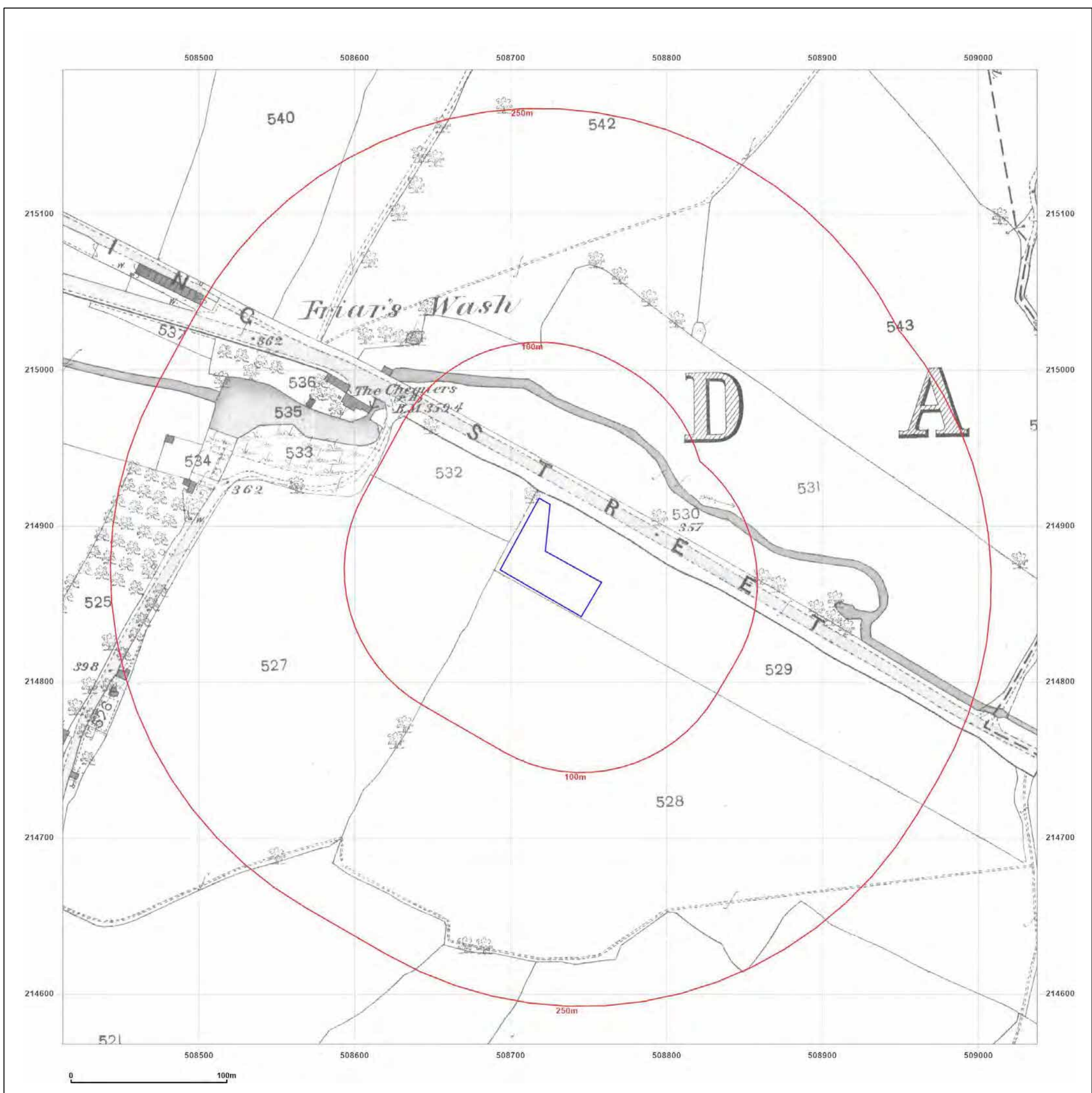


Produced by  
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W: [www.groundsure.com](http://www.groundsure.com)

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Production date: 09 September 2022

Map legend available at:  
[www.groundsure.com/sites/default/files/groundsure\\_legend.pdf](http://www.groundsure.com/sites/default/files/groundsure_legend.pdf)







Site Details

ACORN LODGE, LONDON  
ROAD, FLAMSTEAD, AL3 8HB

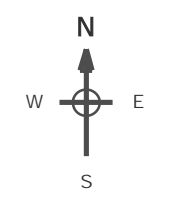
Client Ref: GJ273  
Report Ref: GS-9045152  
Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1924

Scale: 1:2,500

Printed at: 1:2,500



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

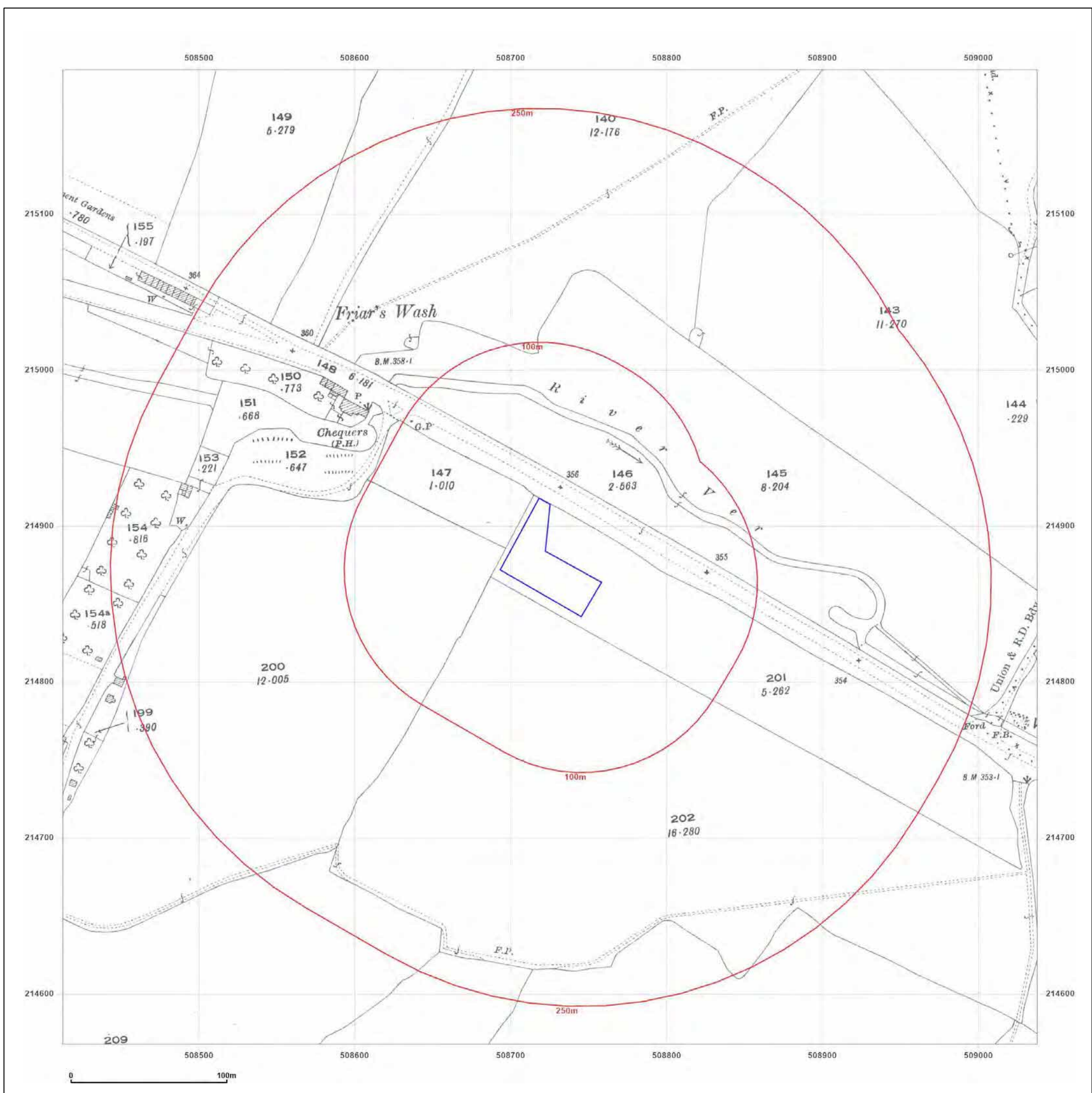


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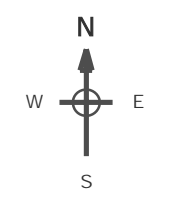


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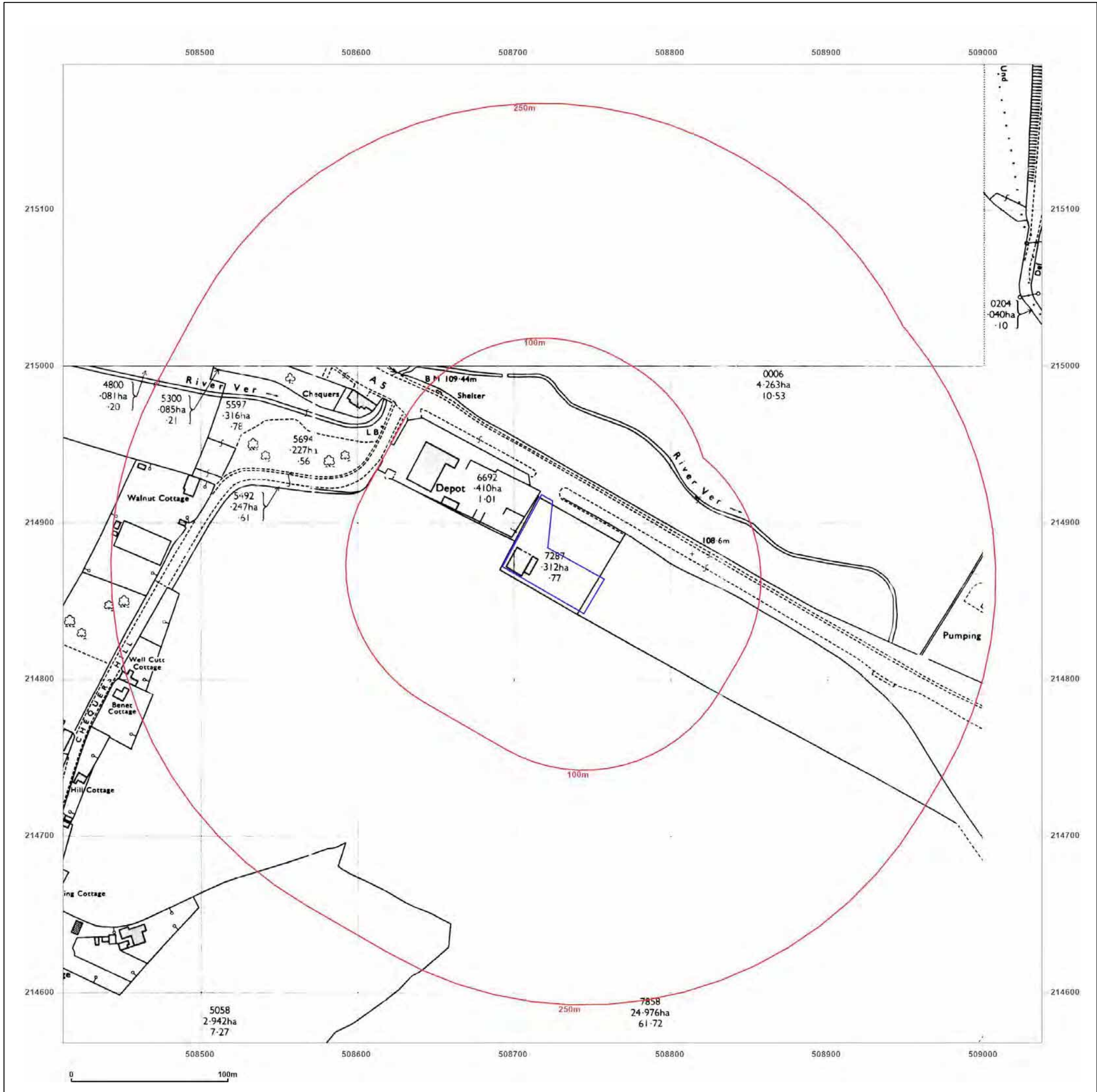
ACORN LODGE, LONDON  
ROAD, FLAMSTEAD, AL3 8HB

Client Ref: GJ273  
Report Ref: GS-9045152  
Grid Ref: 508725, 214880

Map Name: National Grid  
Map date: 1972-1975  
Scale: 1:2,500  
Printed at: 1:2,500



Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A		Surveyed N/A Revised 1975 Edition N/A Copyright N/A Levelled N/A
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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: National Grid

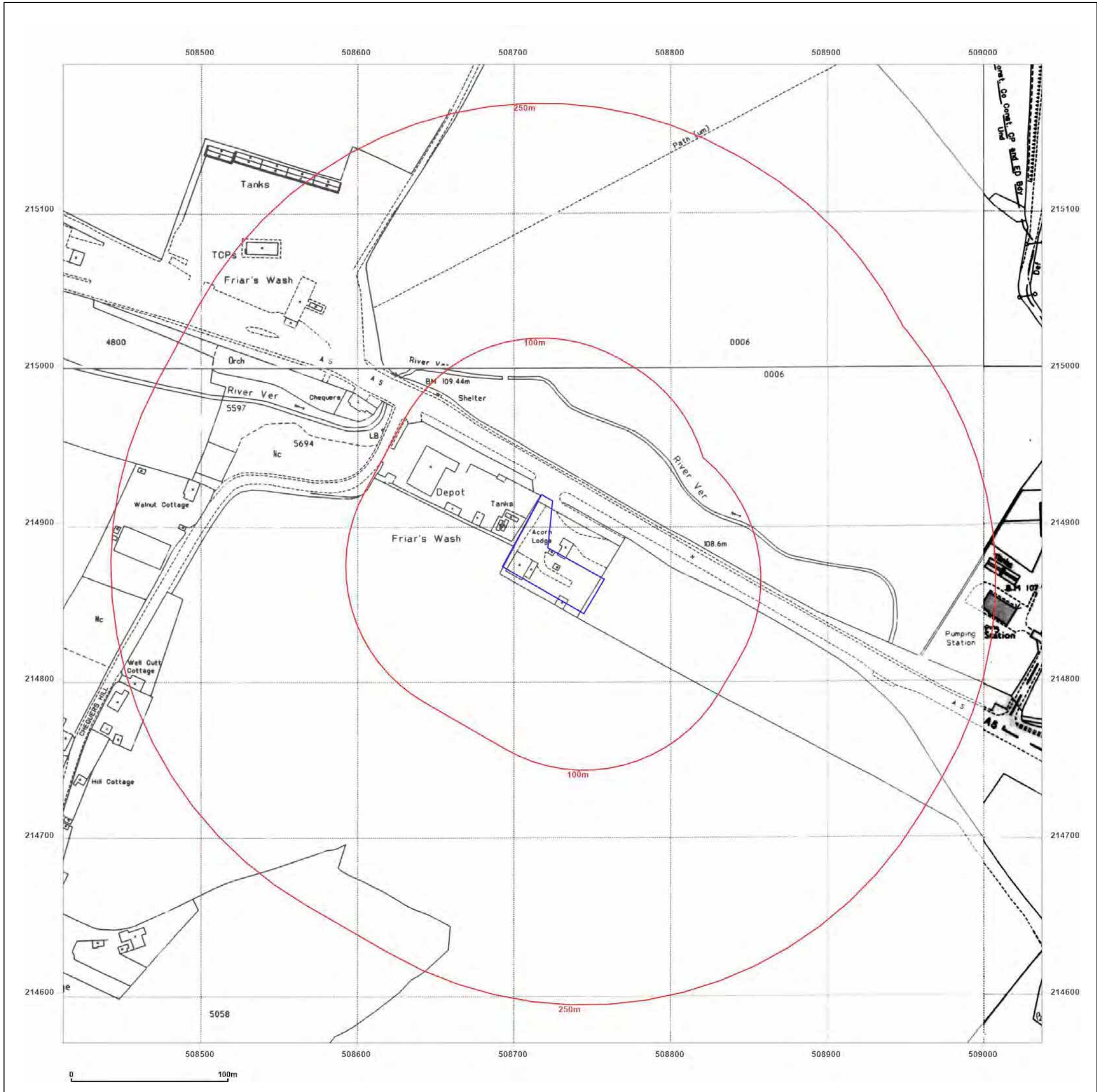
Map date: 1992-1993

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed 1958 Revised 1992 Edition N/A Copyright 1992 Levelled 1958



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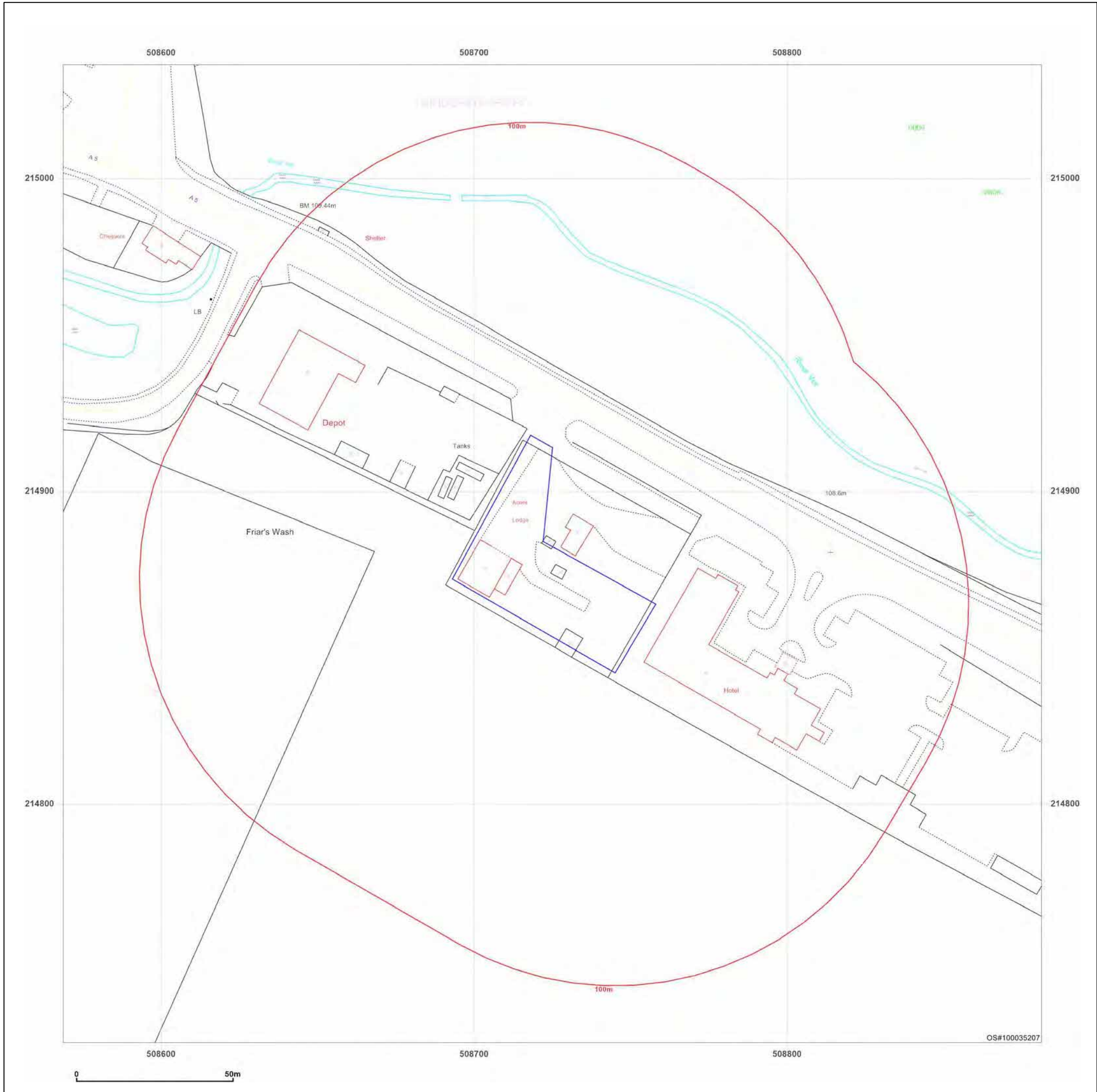
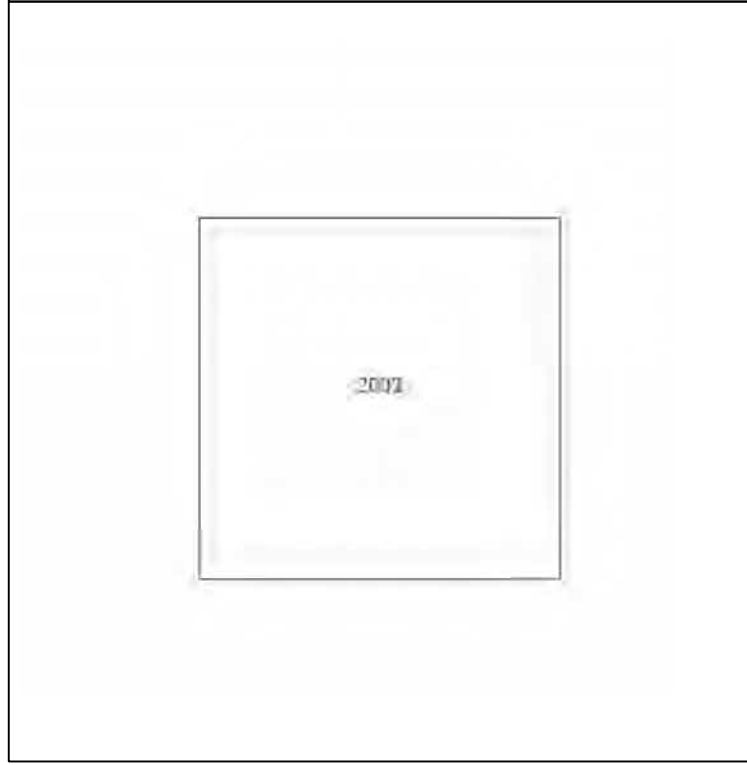
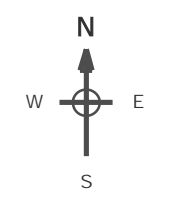
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Report Ref: GS-9045152  
Grid Ref: 508725, 214880

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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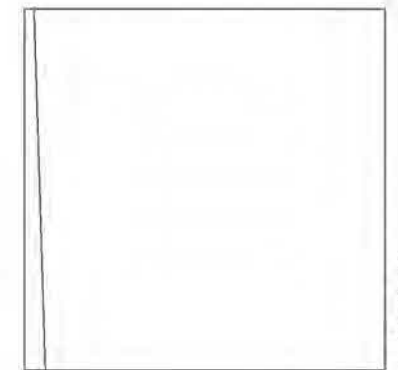
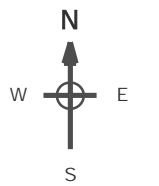
Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1884

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878  
 Revised N/A  
 Edition 1884  
 Copyright N/A  
 Levelled N/A

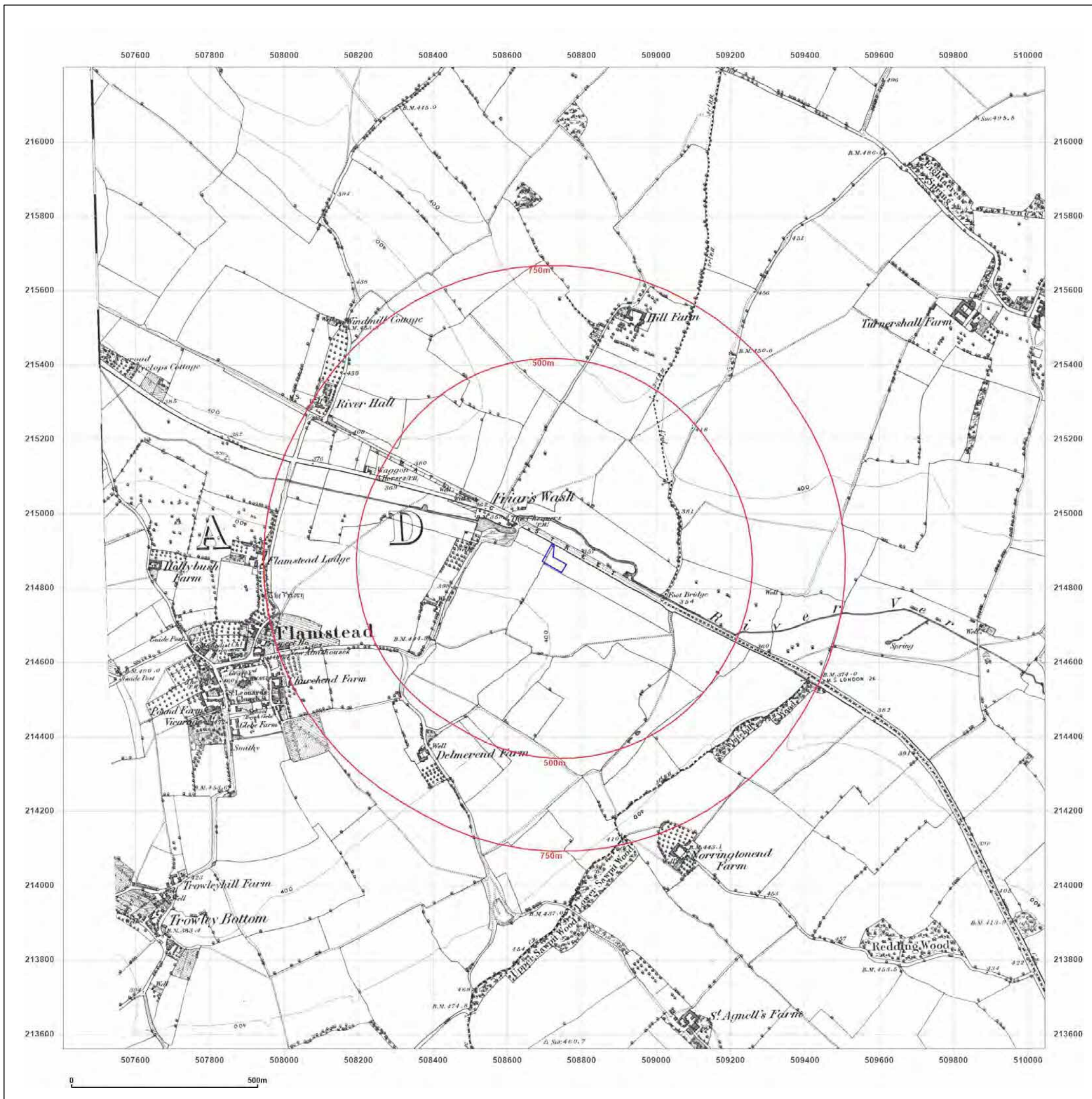


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1897-1899

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878 Revised 1899 Edition N/A Copyright N/A Levelled N/A	Surveyed 1878 Revised 1899 Edition N/A Copyright N/A Levelled N/A
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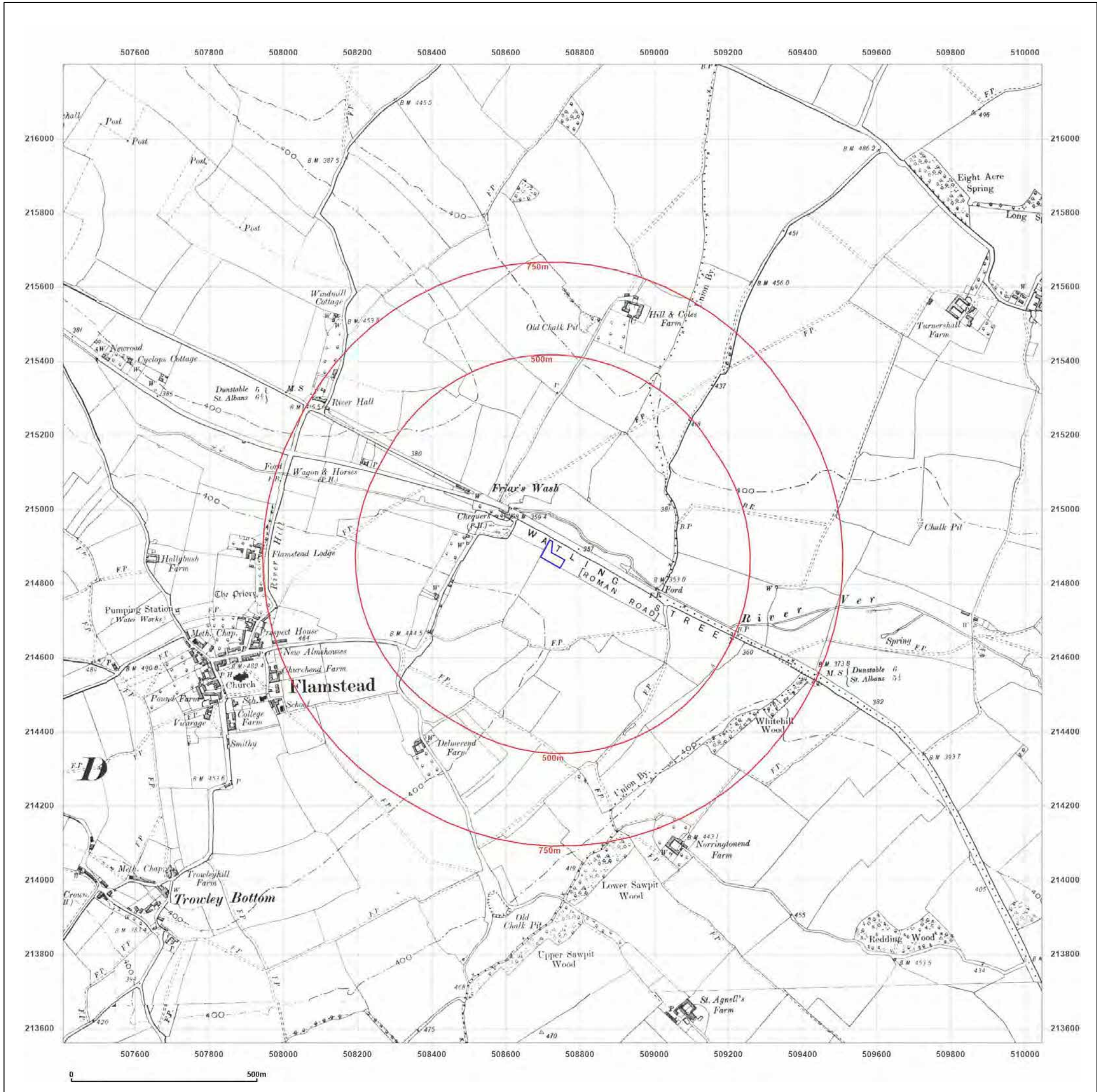


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1899-1900

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878 Revised 1900 Edition N/A Copyright N/A Levelled N/A	Surveyed 1878 Revised 1899 Edition N/A Copyright N/A Levelled N/A
Surveyed 1877 Revised 1900 Edition N/A Copyright N/A Levelled N/A	

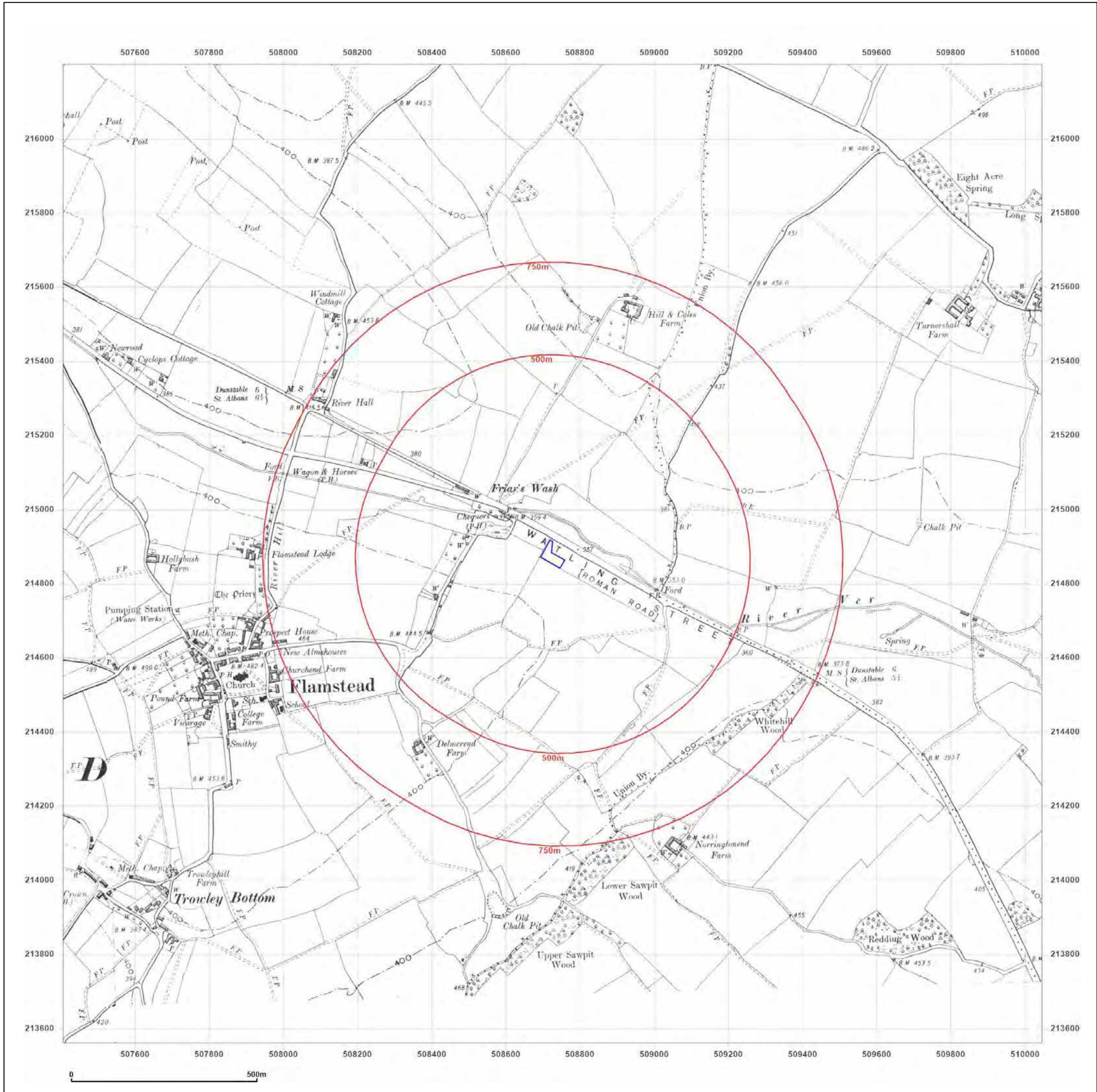


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1920-1922

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed 1878 Revised 1922 Edition N/A Copyright N/A Levelled N/A
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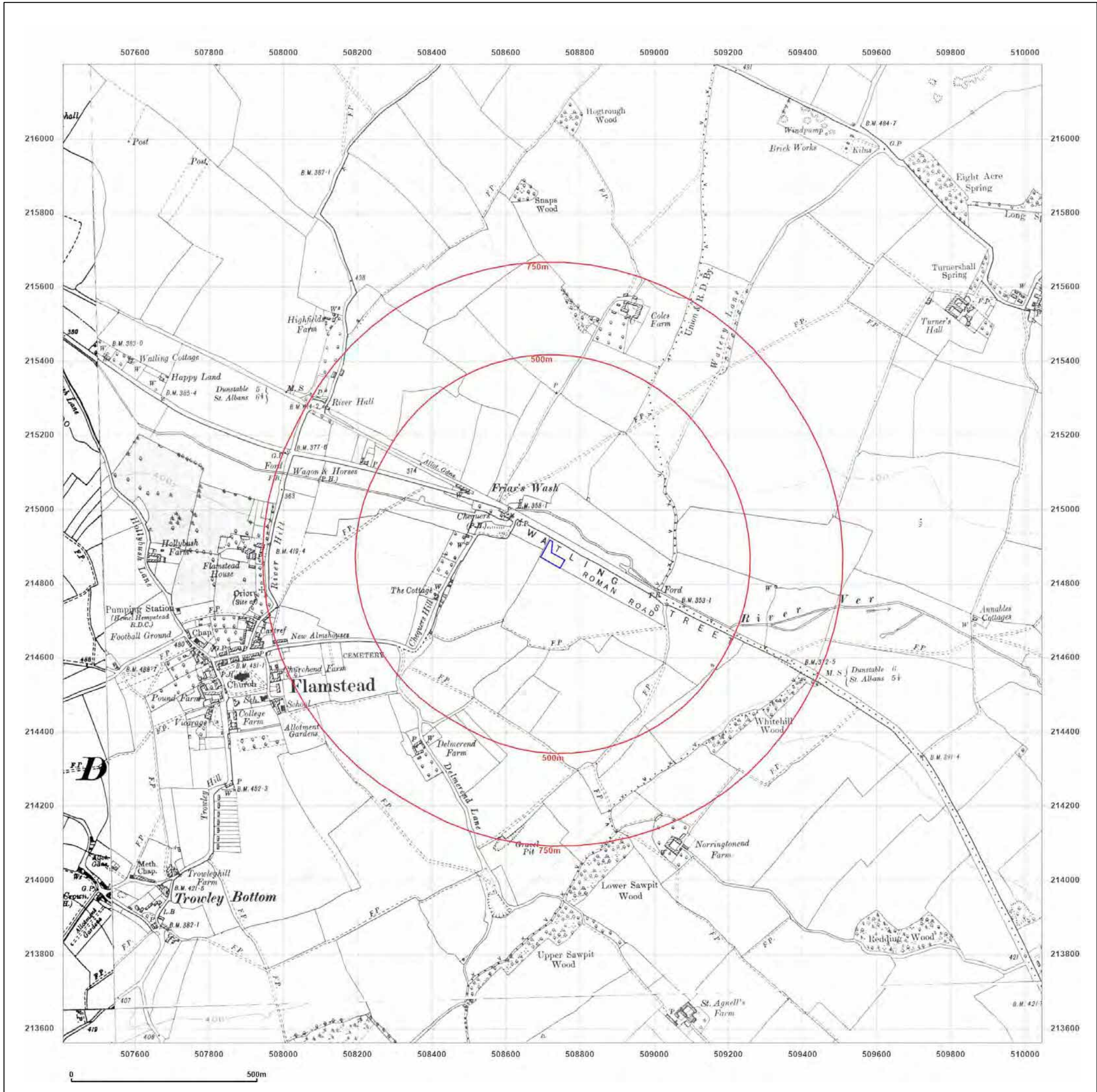


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1922

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878 Revised 1922 Edition N/A Copyright N/A Levelled N/A	Surveyed 1878 Revised 1922 Edition N/A Copyright N/A Levelled N/A
Surveyed 1876 Revised 1922 Edition N/A Copyright N/A Levelled N/A	

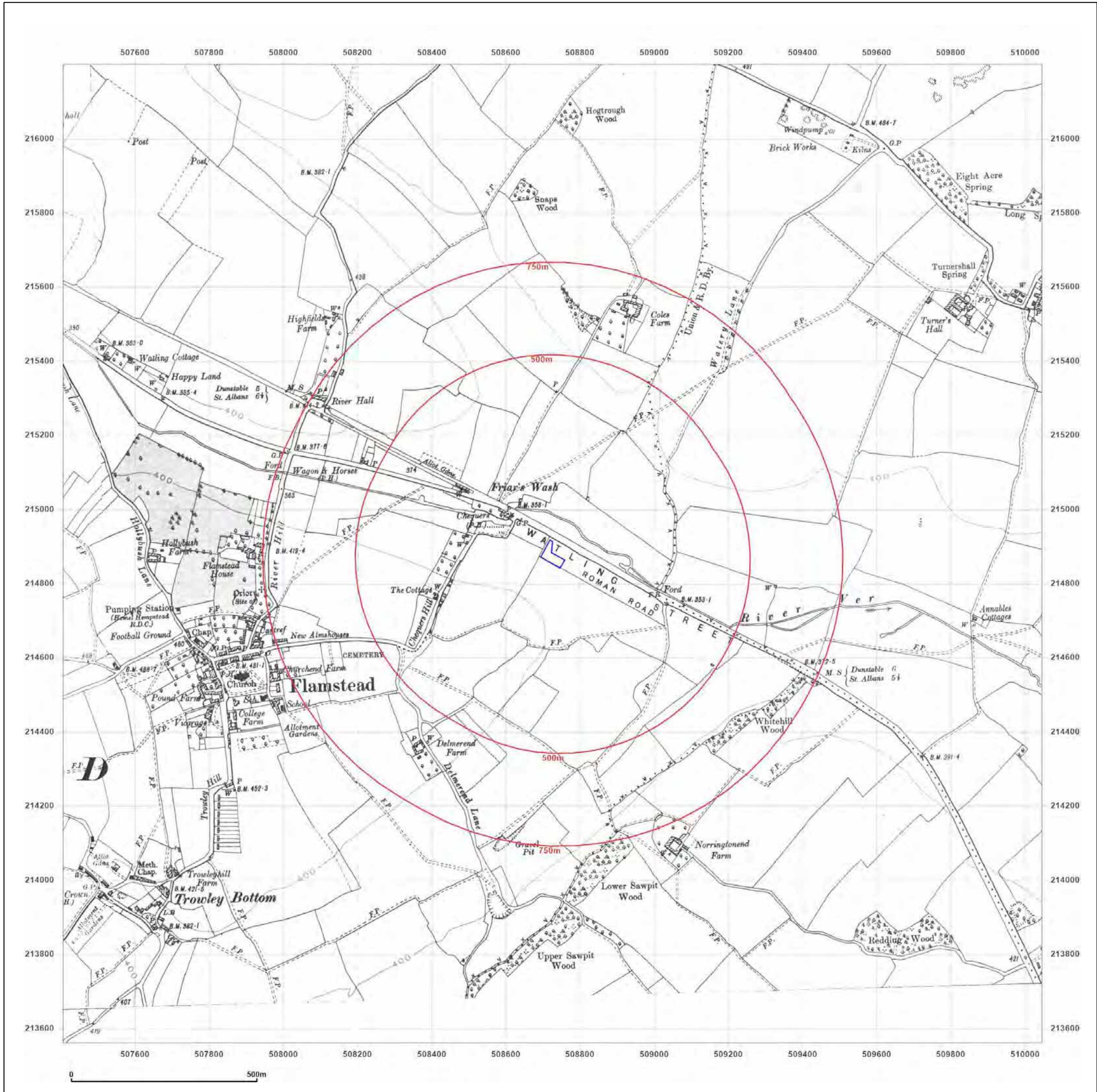


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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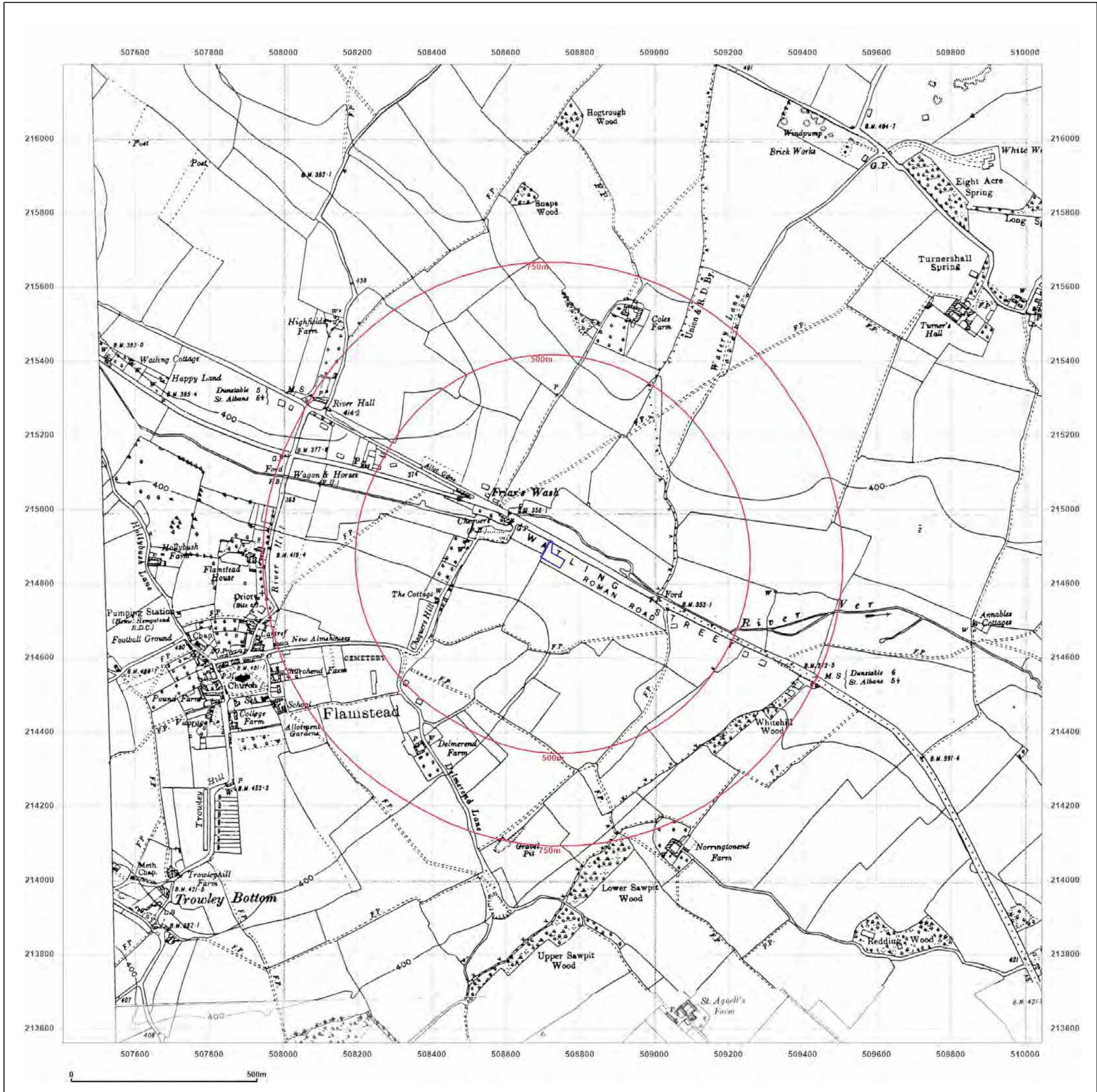


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878  
 Revised 1878  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

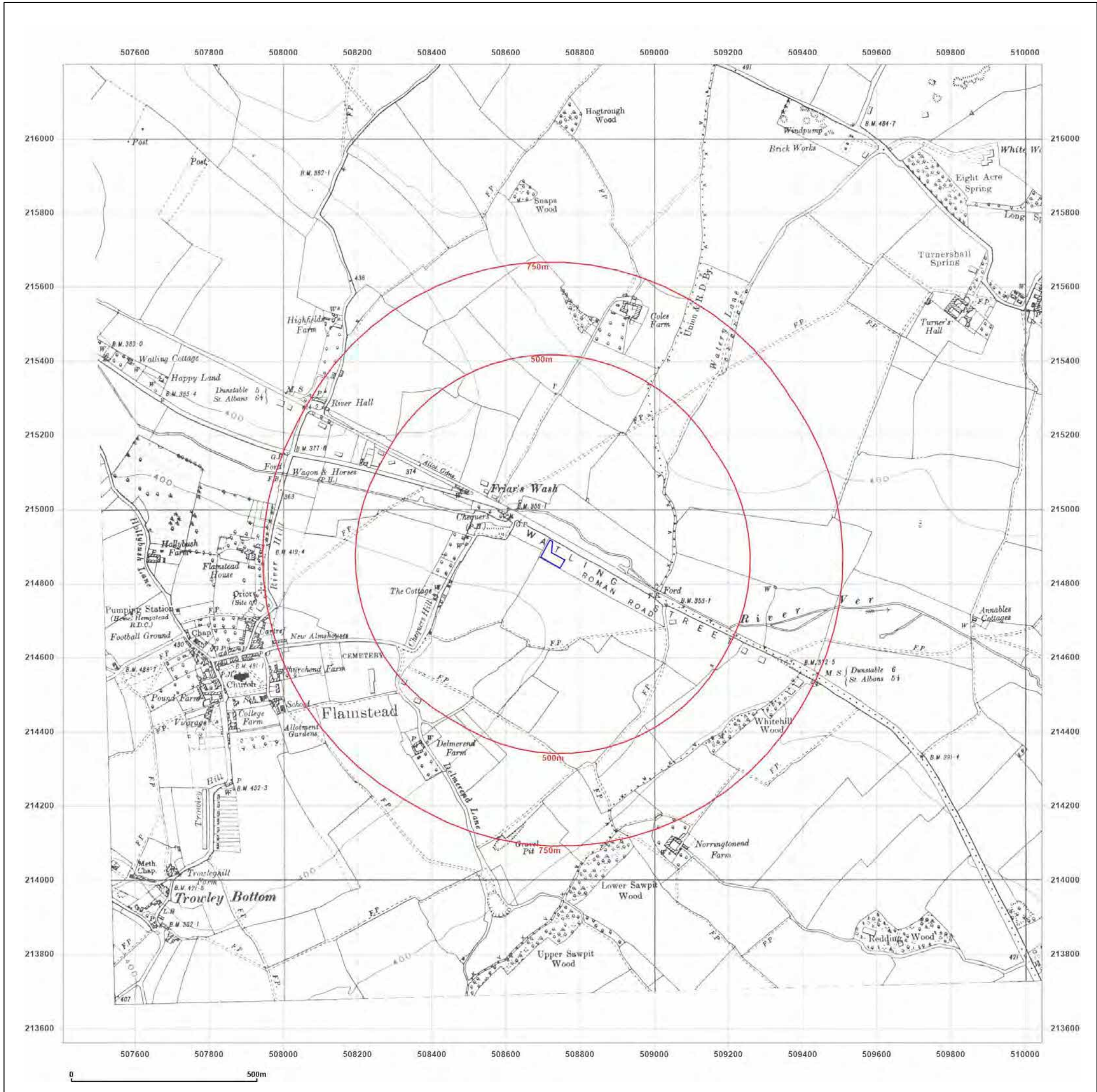


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878  
 Revised 1938  
 Edition 1938  
 Copyright N/A  
 Levelled N/A

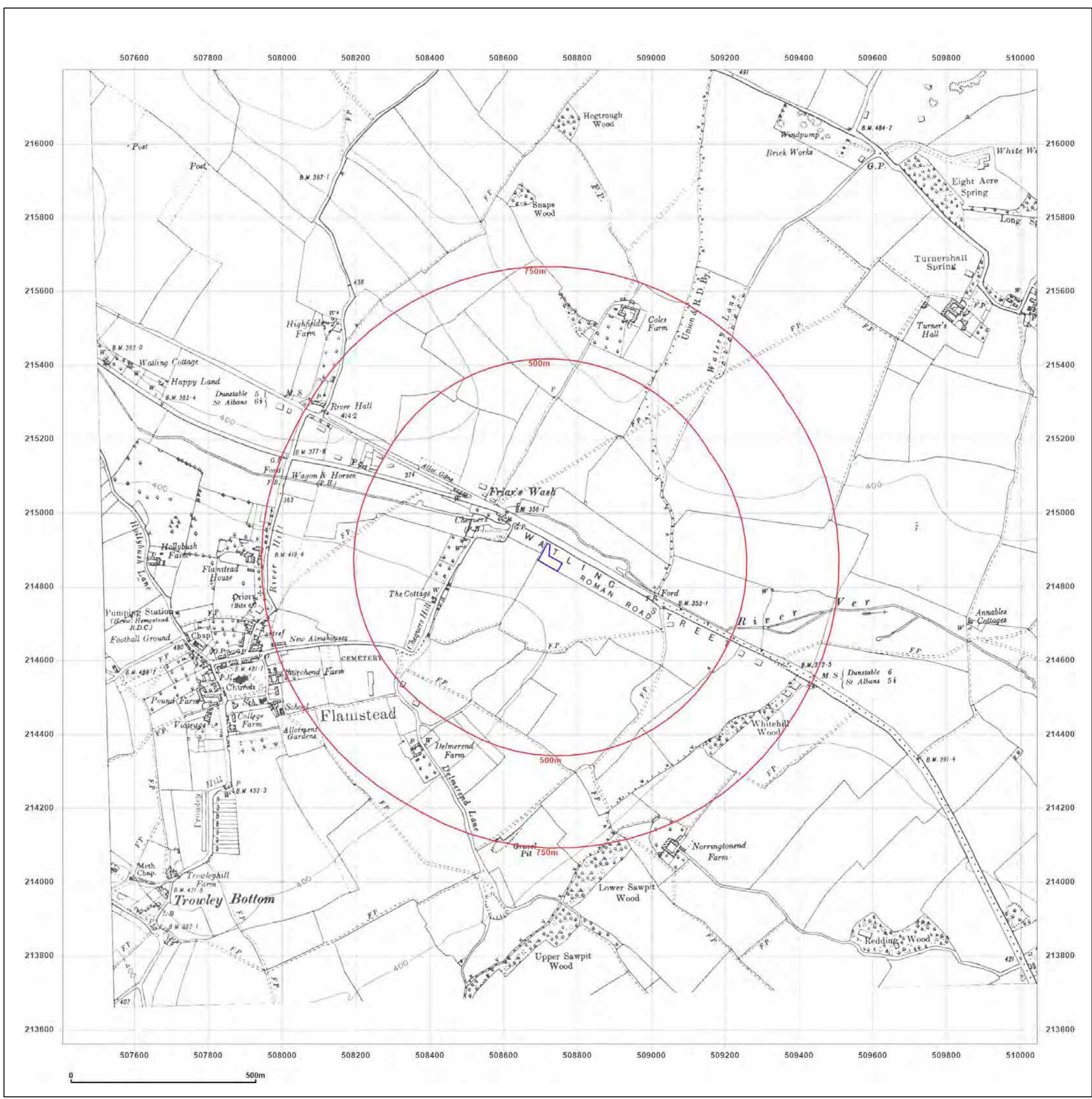


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: County Series

Map date: 1946-1947

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878  
 Revised 1946  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1878  
 Revised 1946  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1876  
 Revised 1947  
 Edition 1947  
 Copyright N/A  
 Levelled N/A

Surveyed 1877  
 Revised 1946  
 Edition N/A  
 Copyright N/A  
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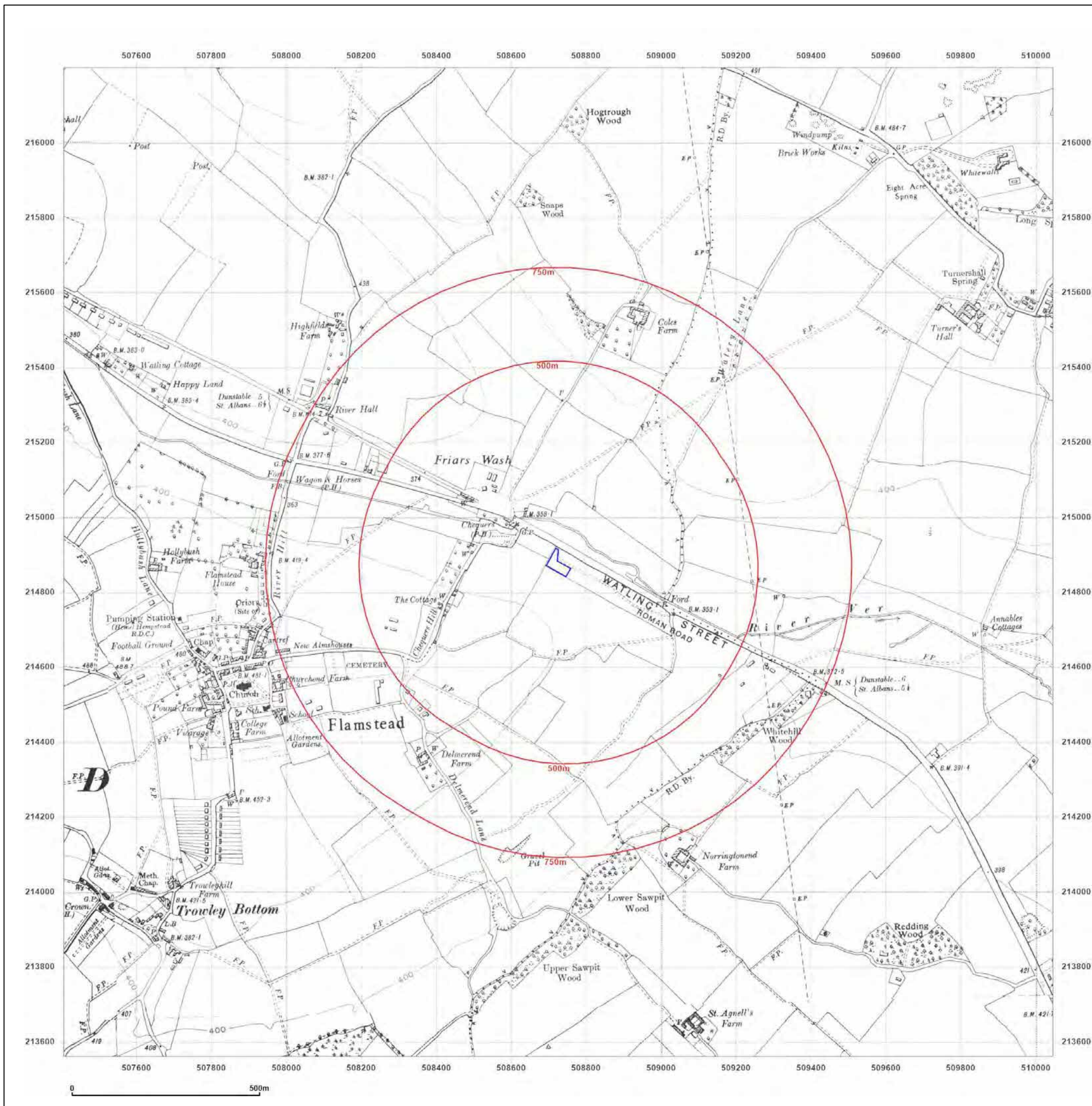


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: Provisional

Map date: 1960

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A Revised 1960 Edition 1960 Copyright 1960 Levelled N/A	Surveyed N/A Revised 1959 Edition N/A Copyright 1960 Levelled N/A
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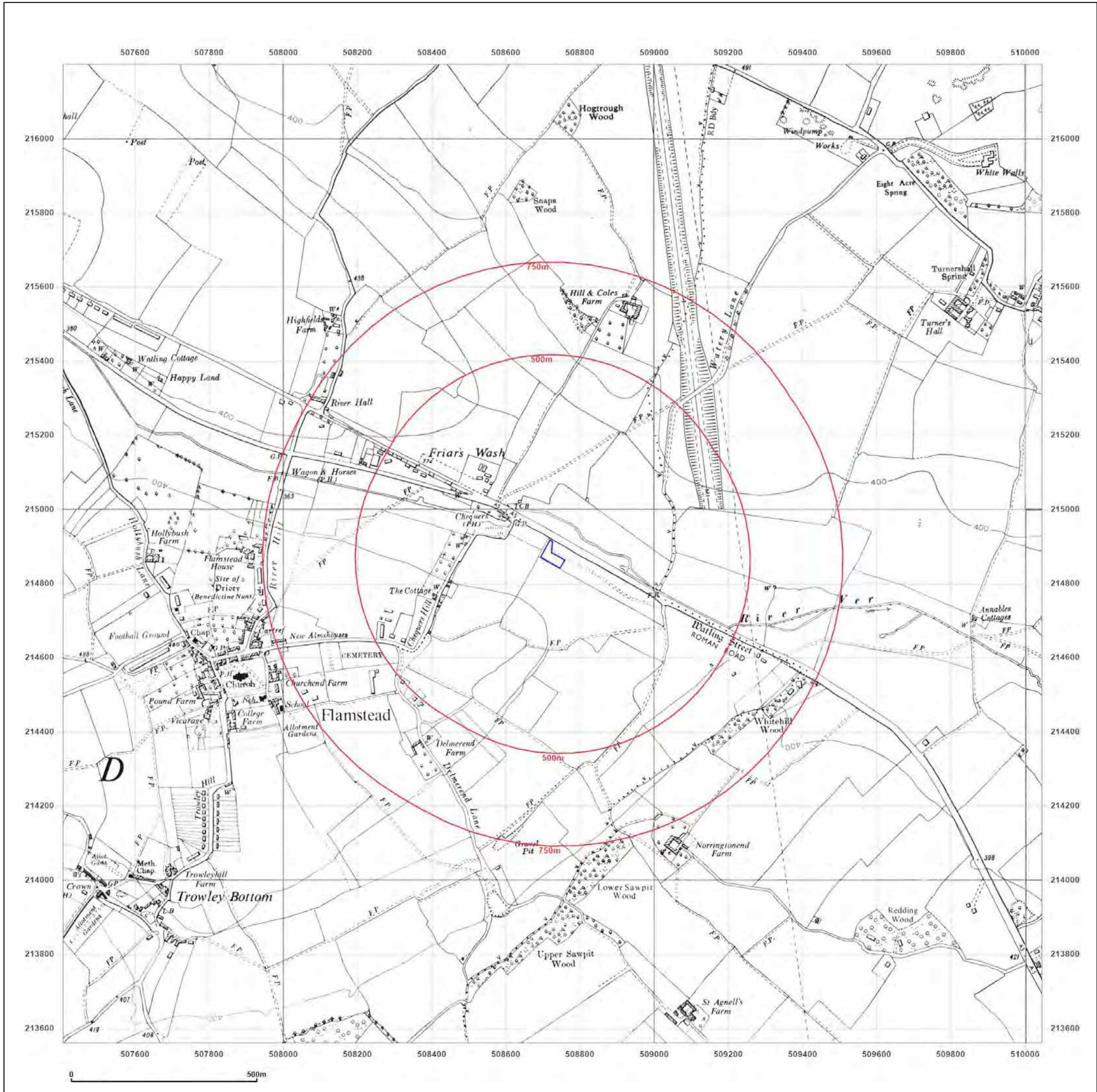


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Client Ref: GJ273  
 Report Ref: GS-9045152  
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Map Name: Provisional

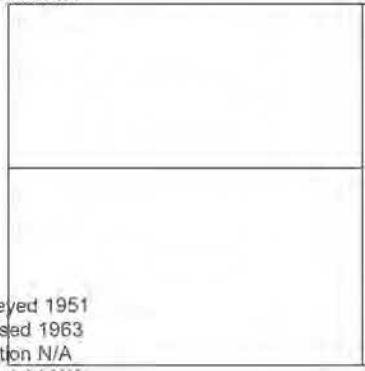
Map date: 1960-1963

Scale: 1:10,560

Printed at: 1:10,560



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



Surveyed 1951  
 Revised 1963  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

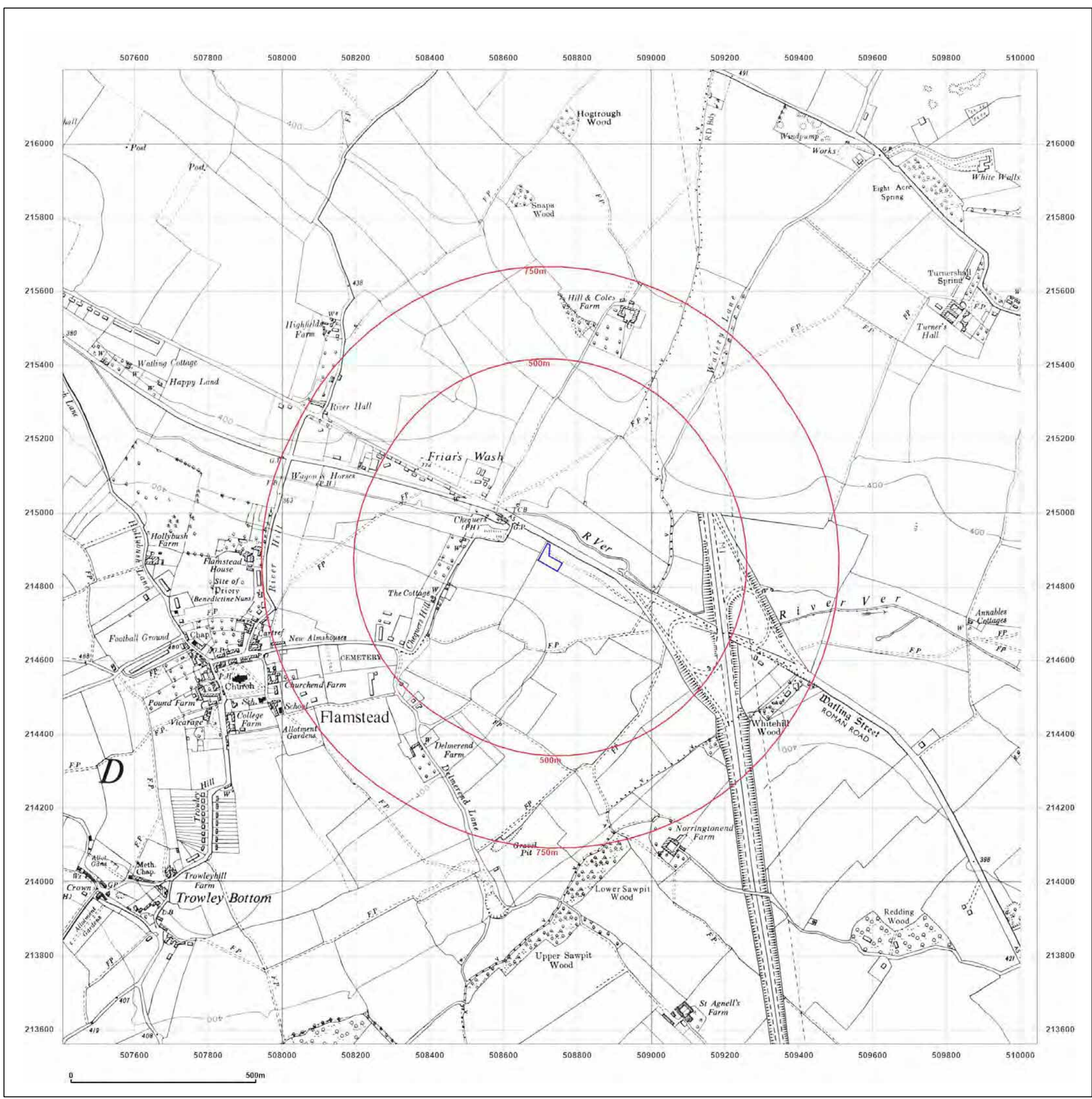


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 Report Ref: GS-9045152  
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Map Name: National Grid

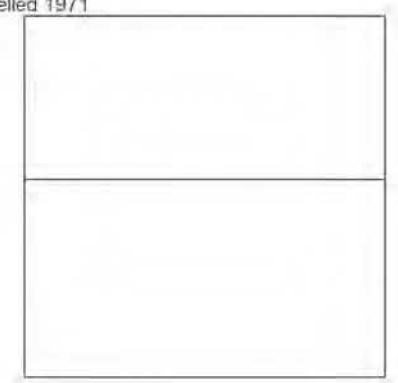
Map date: 1975

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973  
 Revised 1974  
 Edition N/A  
 Copyright 1975  
 Levelled 1971

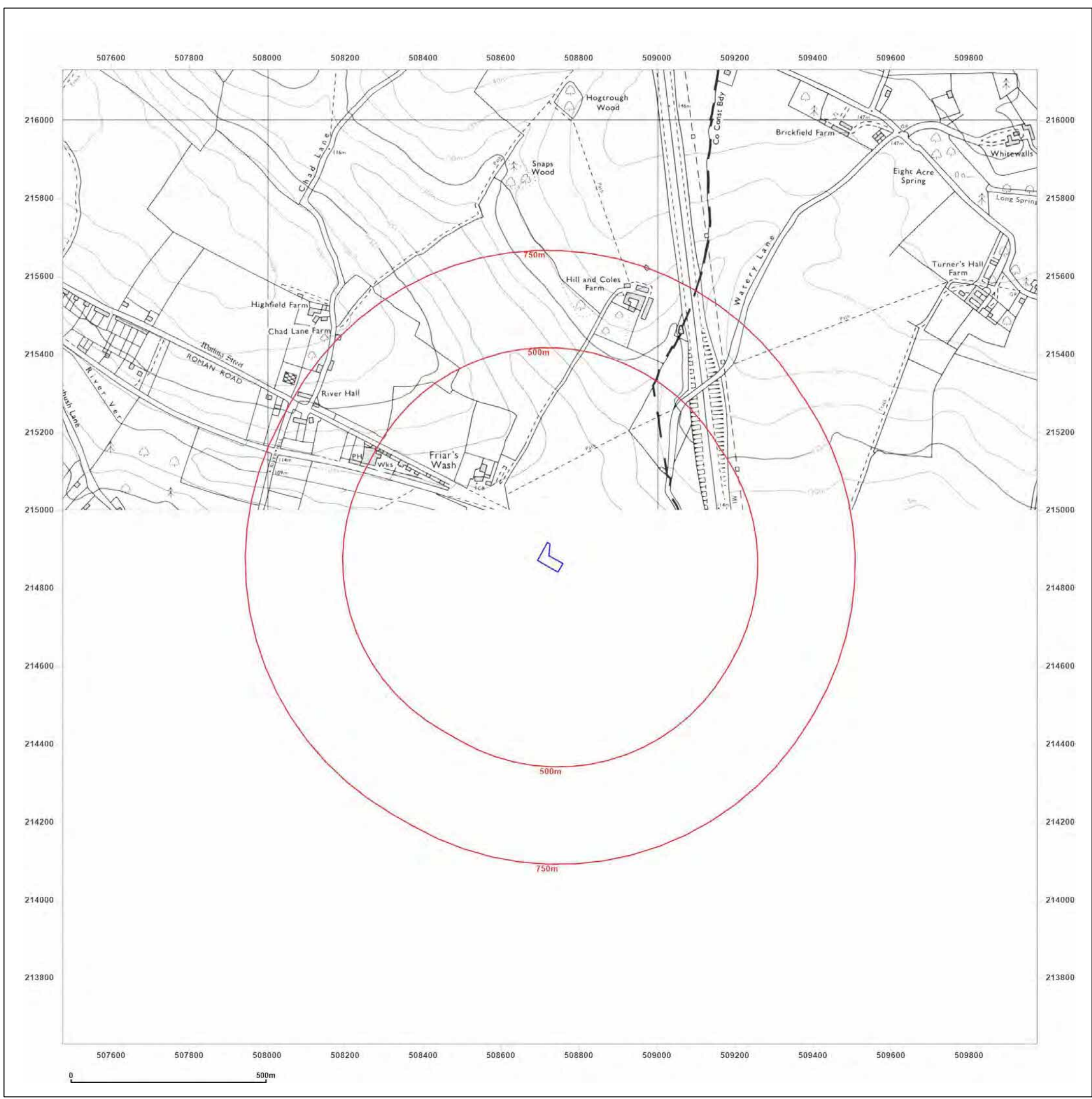


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Client Ref: GJ273  
 Report Ref: GS-9045152  
 Grid Ref: 508725, 214880

Map Name: National Grid

Map date: 1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1979  
 Revised 1980  
 Edition N/A  
 Copyright 1981  
 Levelled 1973

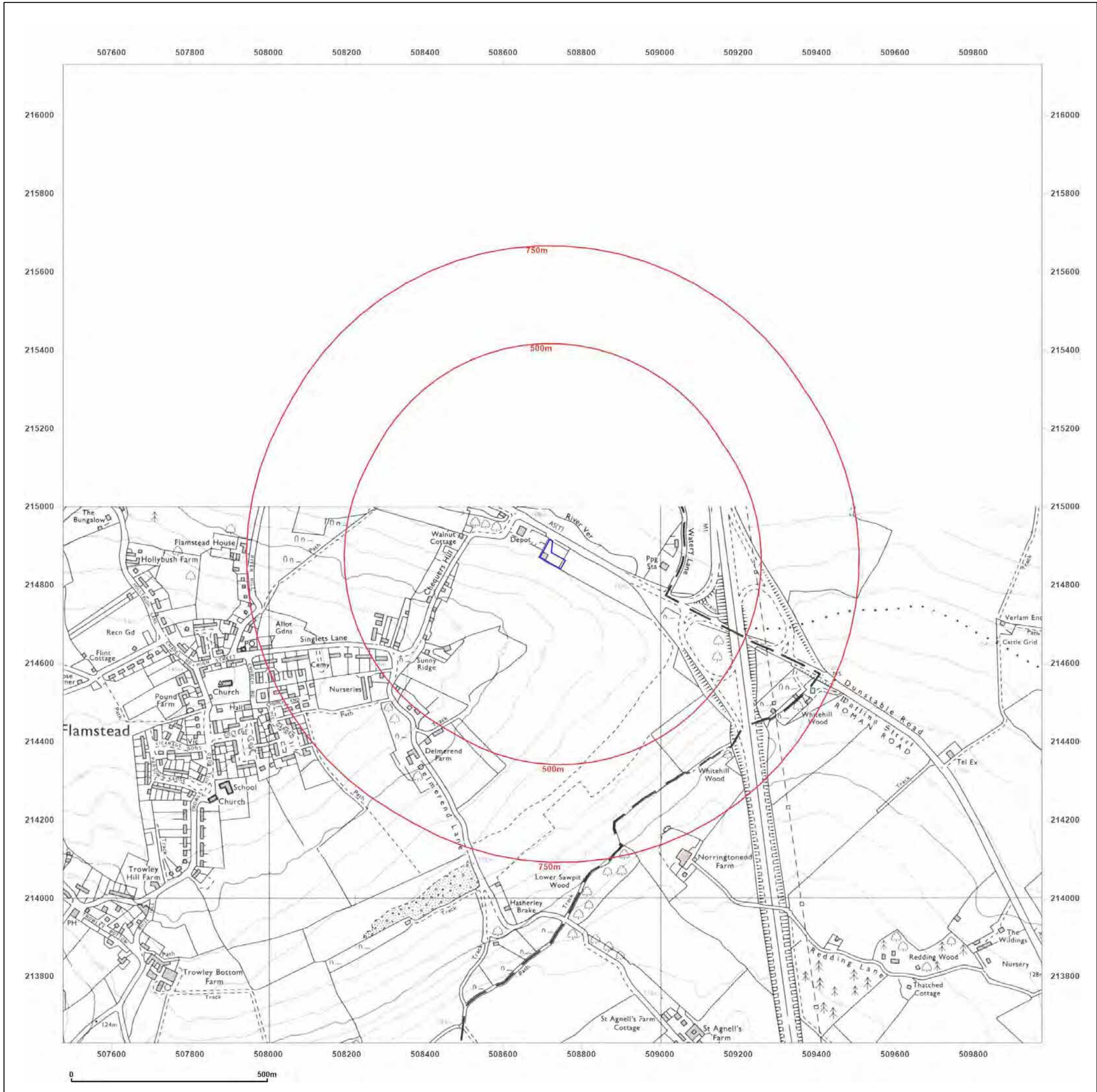


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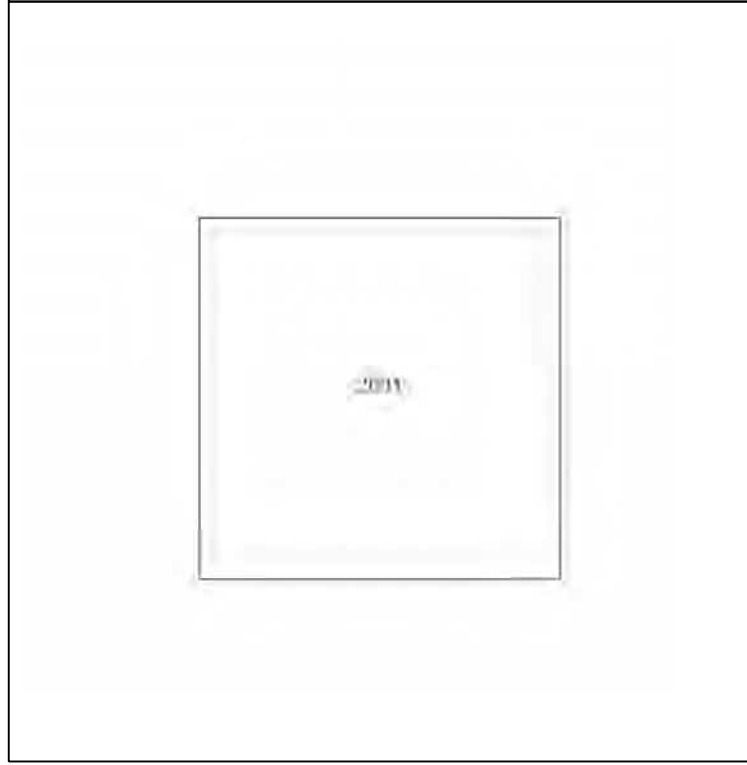
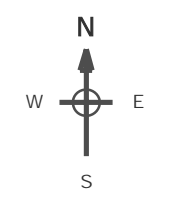


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Map Name: National Grid  
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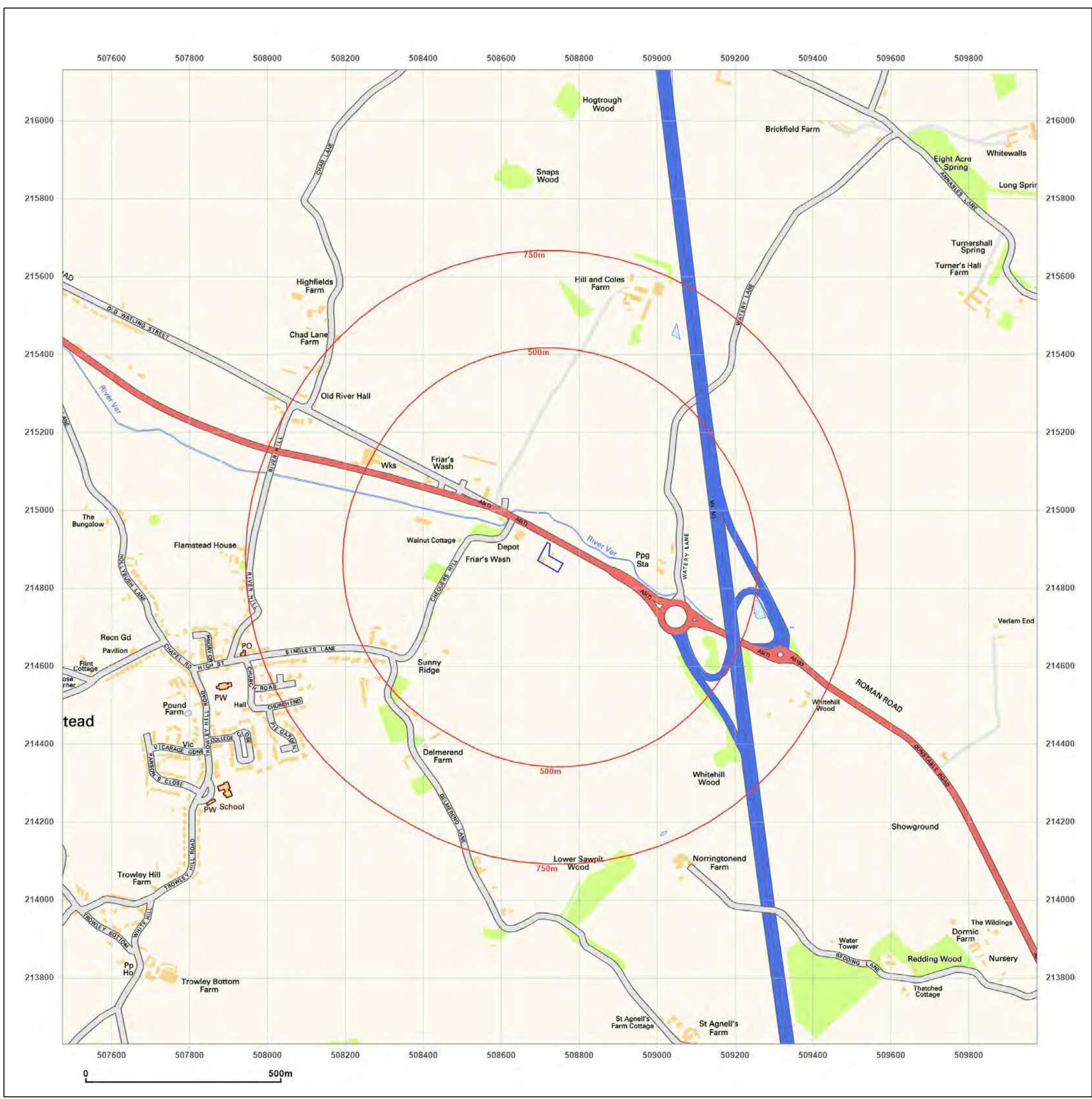


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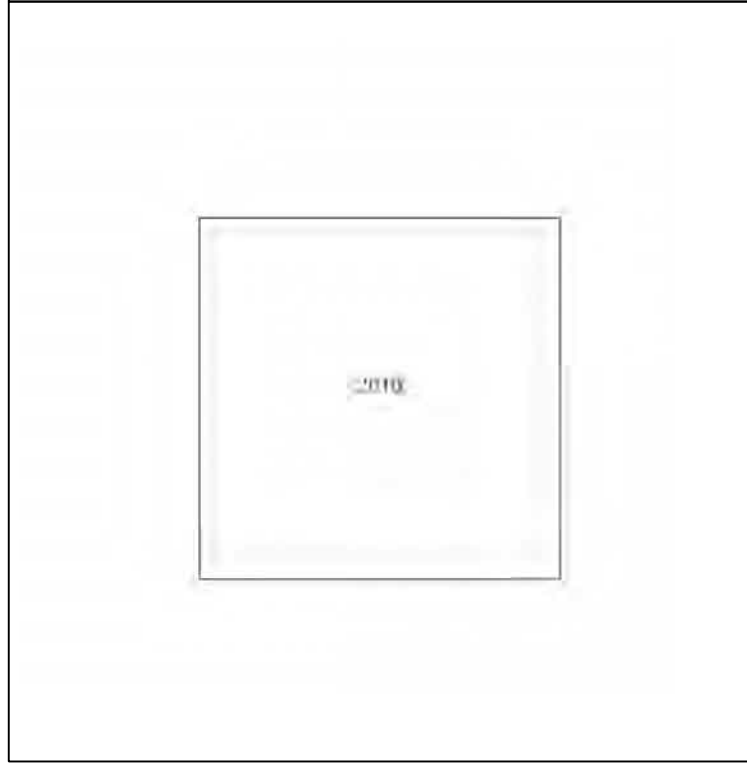
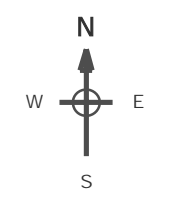


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Client Ref: GJ273  
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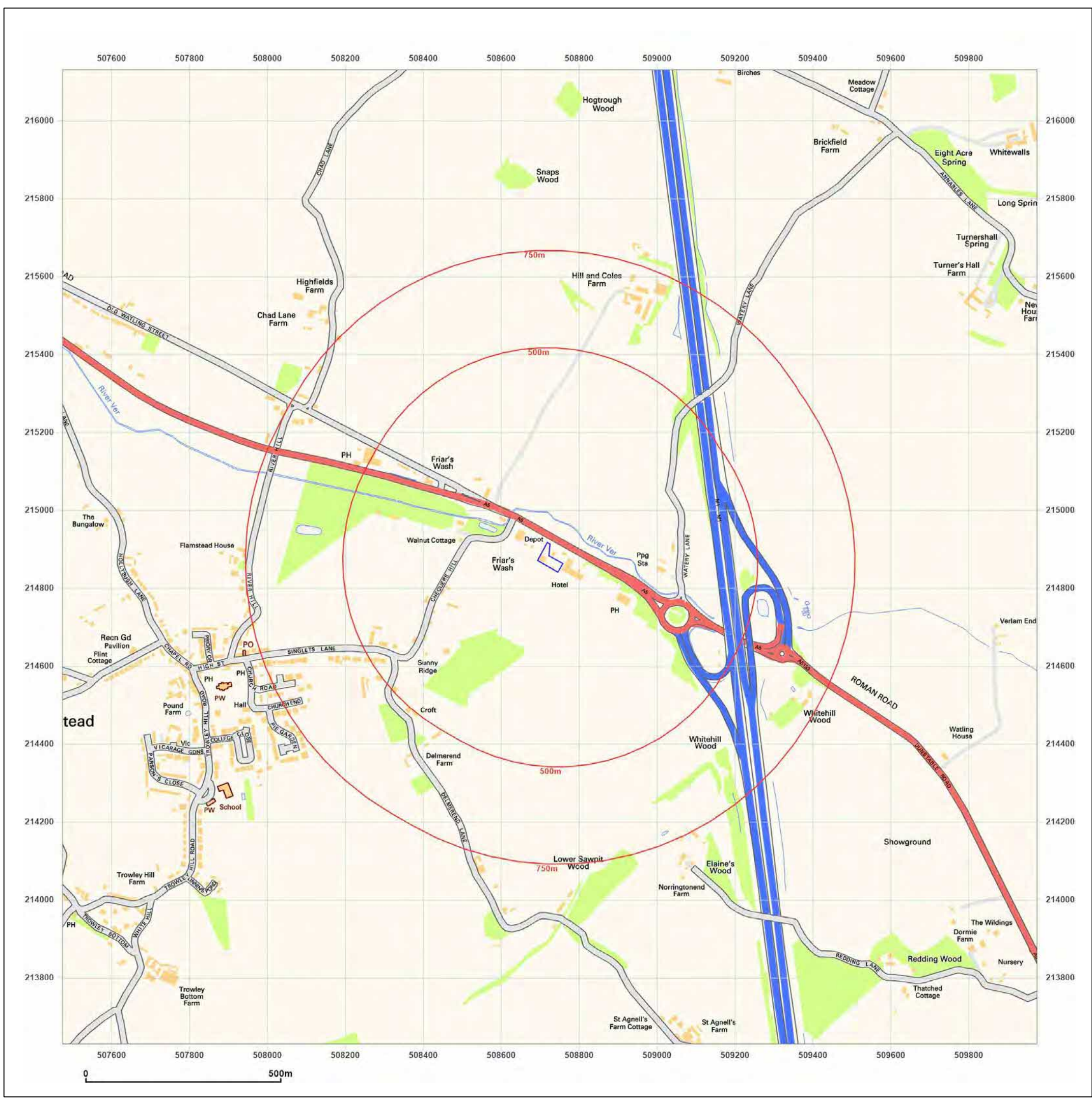


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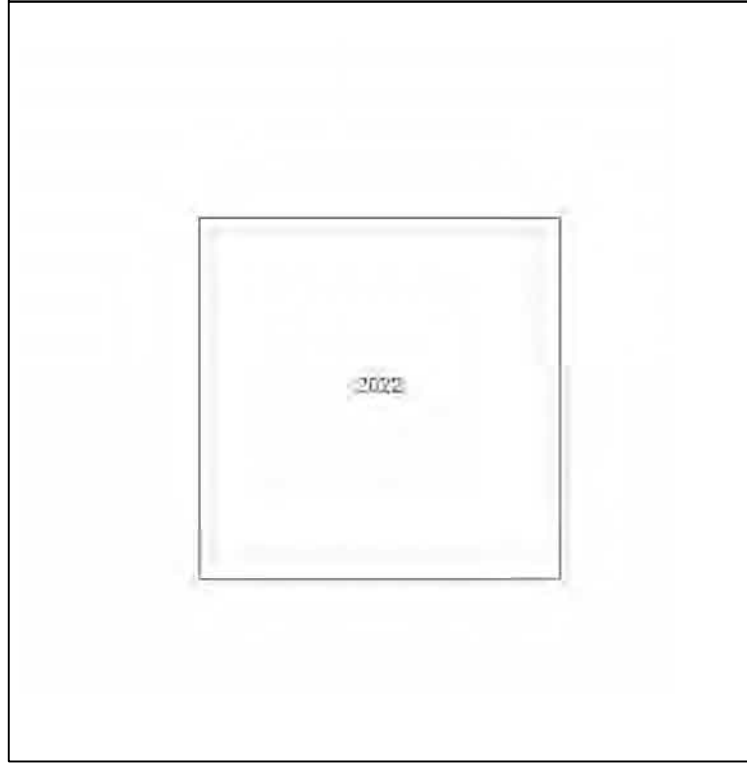
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Map Name: National Grid

Map date: 2022

Scale: 1:10,000

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