ROLTON GROUP
ENGINEERING THE FUTURE™

# PHASE 1 GEO-ENVIRONMENTAL DESK STUDY

FOR

# LAND NORTH OF THAXTED ROAD SAFFRON WALDEN ESSEX

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## PREFACE

a) Should new information come to light that influences the conclusions of this report, then this report should be referred back to Rolton Group for review and comment.

b) The comments given in this report and the opinions expressed are based on site conditions encountered during the walkover inspection, information obtained through the Groundsure report or pertinent information taken from online sources and on the findings of desk studies made of responsible third parties. However, there may be special conditions prevailing at the site which have not been disclosed by the investigation and which have not been considered in this report.

# 1.0 INTRODUCTION

Rolton Group Ltd (RGL) has been appointed by Kier Ventures (the Client) to provide a Geo-Environmental assessment to assist with the due diligence associated with two parcels of land located Southeast of Saffron Walden in Cambridgeshire, known as 'Land North of Thaxted Road, Saffron Walden'. This report presents the findings of a Phase 1 Geo-Environmental Desk Study.

The approach of this report and the recommended further investigations are intended to be in accordance with the Environment Agency's guidance document 'Land Contamination: Risk management' (LCRM) (Ref. 7.1) BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites (Ref 7.2) and the National Planning Policy Framework (NPPF) (Ref 7.3). The specific main objectives of this report are therefore:

- To develop a Conceptual Site Model that identifies potential pollutant linkages arising as a result of redevelopment of the site, and past and present activities at the site or in the near vicinity, and to make an initial assessment of the risks from such linkages to human health, controlled waters and the environment more generally.
- To assess probable ground conditions, likely foundation solutions and appropriate means of future ground investigations.

The scope of this assessment is confined to the potential risks to receptors including the environment (mainly controlled waters) and to human health (mainly site users) from the presence of contaminative substances existing in the ground and groundwater. This report does not consider (unless specifically mentioned) matters such as above-ground hazardous materials (such as asbestos) or possible air-borne pollutants or invasive plant species.

The Desk Study comprised the following:

- A walkover inspection to note the general condition of the site and any evidence for hazardous substances.
- A review of a Groundsure Report, consisting of environmental data relevant to the site and its setting in the public domain, and collated from organisations such as the Environment Agency, the British Geological Survey, Natural England and the Local Planning Authority.
- A review of the geology, hydrology and hydro-geology of the site from published mapping and other available Faerences – including of previous investigations undertaken in the vicinity.
- A review of historic maps for the site.
- A review of Environment Agency mapping with respect to flooding and surface waters.

## 2.0 PROPOSED DEVELOPMENT

The scheme is for outline consent for the erection of up to 55 dwellings, associated landscaping and public open space, with access from Knight Park.

Options are under review at present, the following briefly summarises the likely development:

- A residential housing development with new roads, areas of POS and drainage including attenuation ponds.
- Access to the development will be off Thaxted Road via a proposed new road access that will be required to meet highways standards.
- Some re-profiling of the site levels is likely to be required for the development.
- Residential dwellings with gardens and associated access
- Infrastructure – services, roads and footpaths
- Parks and public open spaces
- SUDS and/or, swale

Access is to be taken via Knight Park into the western boundary of the site.

The proposed finished ground levels have not been provided. For the purposes of this report it is assumed that some limited earthworks are likely to be required to enable to development.

The design proposals are yet to be finalised and hence the actual type and nature of buildings have not been provided. It is anticipated that the new development will be in line with the surrounding developments. Furthermore, it is assumed that the new buildings will be of traditional design and construction, with standard loadings.

# 3.0 THE SITE

The following Section describes the site and surrounding land and their environmental features and setting.

## 3.1 INFORMATION SOURCES

The information has been predominantly sourced from the Groundsure report presented in Appendix B. This collates information in the public domain from bodies such as the Environment Agency, Local Planning Authority, British Geological Survey and Natural England; other sources are indicated as appropriate.

## 3.2 SITE LOCATION AND DESCRIPTION

The site is located north of Thaxted Road.

The site comprises two agricultural fields bounded by hedgerow with intermittent trees of mixed variety and maturity. The two fields are separated by Tiptofts Lane, a public footpath.

The overall site forms an irregular shape as shown on the 'Framework Indicative Layout' plans (Ref 3119-1003) provided by Kier, presented in Appendix A. The site is up to approximately 300m long and between 140m and 200m wide, with and overall area of approximately 4.3 hectares. The approximate centre of the site has a grid reference of 555225E 237420N.

Ground levels across the site vary between approximately 93mAOD in the southeast to 77mAOD in the northwest.

A site location plan is included in Appendix A.

## 3.3 WALKOVER SITE INSPECTION

A walkover of the site was undertaken by an RGL engineer during July 2023.

The site was readily accessible by foot via Tiptofts lane, with limited vehicular access. Several shallow dry and vegetated ditches were situated along the various field boundaries alongside existing hedgerow. Tiptofts Lane is in a cutting some 1m to 2m lower than the surrounding areas.

The site can be split into its respective parcels separated by Tiptofts Lane:

Parcel 1, to the north of Tiptofts Lane, consists of an open field roughly triangular in shape sloping down in a northerly orientation, bordered by a hedgerow to the south and east. The northern boundary is marked by an embankment constructed as part of a new residential development situated north of the site. The western boundary is formed by an embankment associated with an older development (C.2000).

Parcel 2, south of Tiptofts Lane, is an open field roughly rectangular in shape bordered by hedgerow, trees or dense vegetation on all sides. The eastern and southern boundaries have small slopes between the fields. The southern site boundary is level with an adjoining commercial estate, situated off Thaxted Road.

There were no obvious signs or sources of contamination upon the site.

The land directly to the south of the site is a commercial retail park containing a Household Waste Recycling Centre (HWRC), the boundary being formed by security fencing. The retail park and HWRC which neighbour the site were not physically accessed for the walkover survey, comments are based on observations made from the subject site.

The commercial park is predominantly covered by hardstanding. The neighbouring commercial properties have materials stored adjacent to the boundary, including solid waste, such as cardboards and plastics.

The HWRC is completely covered by hardstanding. The facility appears to be appropriately operated and maintained.

Site photographs are presented in Appendix C.

## 3.4 SITE ENVIRONS

The wider surrounding land features a mixture of uses including residential (northeast), commercial (southwest) and agricultural (southeast).

The land immediately north is occupied by an active construction site with new dwellings, access roads and earthworks under construction.

## 3.5 ENVIRONMENTAL SETTING

### 3.5.1 GEOLOGY

The published British Geological Survey (BGS) map for the area (Sheet 222 'Great Dunmow') and the BGS GeoIndex website show the site to be underlain by superficial deposits of the Lowestoft Formation – Diamicton, a chalky till deposit which encroaches the south-eastern extent of the site. Superficial deposits are unmapped across the majority of the central portion of the site. Underlying bedrock is indicated to comprise of the undifferentiated Lewes Nodular Chalk Formation and Seaford Chalk Formation, typically consisting of hard nodular chalks, beneath the whole site and surrounding area.

There are no recorded faults within 250m of the site. There are no recorded linear features within 250m of the site
According to the desk study information the site does not lie within a Coal Mining Reporting Area.
No sinkholes are recorded within 500m c.2014, however this does not mean there is no risk.

With reference to BGS records and desk study information the following ground subsidence hazards are associated with this site:

| HAZARD POTENTIAL | VERY HIGH | HIGH | MODERATE | LOW | VERY LOW | NEGLIGIBLE |
|---|---|---|---|---|---|---|
| Collapsible Ground | | | | | ✓ | |
| Compressible Ground | | | | | | ✓ |
| Ground Dissolution | | | | ✓ | | |
| Landslide | | | | | ✓ | |
| Running Sand | | | | | ✓ | |
| Shrinking or Swelling Clay | | | | ✓ | | |

*Table 1 – Hazard Potential*

### 3.5.2 HYDRO-GEOLOGY

The various soil strata on site have the following Environment Agency aquifer classifications:

- Till & Head Superficial Deposits: Secondary aquifer(undifferentiated).
- Chalk Bedrock: Principal Aquifer

Secondary aquifers are capable of supporting water supplies at a local scale and can form an important source of base flow to watercourses. A Principal aquifer is defined as a regionally extensive aquifer or aquifer system that has the potential to be used as a source of potable (drinkable) water. The aquifers underlying this site are both recorded as high vulnerability.

There are no recorded water abstractions within 250m of the site. There nearest recorded groundwater abstraction is 285m to the north, for general farming, spray irrigation and domestic use. There is a public (potable) groundwater supply abstraction some 1270m west of the site.

The site lies within a Source Protection Zone 3 (SPZ3), total catchment area. Reference to the online BGS database indicates this SPZ3 is associated with multiple drinking water extraction points.

Aquifer designation mapping and Source Protection Zone mapping are presented in Appendix B.

### 3.5.3 HYDROLOGY

The site is indicated to feature an in-land river, which appears to be a historical drainage ditch running along the northern field boundary and continue westward converging with other watercourse running north beyond 1km. The desk study information records two underground water courses on site associated with the in-land river.

An additional fifteen surface and six underground inland water courses are recorded within 250m of the site. These records appear to be mapped as single points, and are all associated with three converging surface drainage ditches in the area.

There are no recorded Discharge Consents on or within 250m of the site.

The site is indicated to have a negligible potential for Groundwater flooding to occur at surface. A low risk is recorded within 50m of the site.

Surface water flooding is indicated along route of the drain along western site boundary (0.1m to 0.3m, for a 1 in 30-year return period) and along the northern boundary (0.1m to 0.3m, for a 1 in 1000 year return period)

A full flood risk assessment is beyond the scope of this report.

## 3.6 SITE HISTORY

The following table (Table 2) summarises the features on the historic Ordnance Survey and Country Series maps for the site and surrounding area. It should be appreciated that changes in mapping techniques can produce conflicting information. Not all maps are described if features are unchanged from one publication to the next. For full details reference should be made to the maps in the Groundsure report in Appendix B. Arial images have been reviewed from public on-line sources, for supplementary information. The images are not provided in this report.

*Note: 'Tramway' or 'railway' interchangeably refer to the same feature from here.*

| MAP DATE & SCALE | ON SITE | SURROUNDING LAND |
|---|---|---|
| 1877 (1:10,560 & 1:2,500) | The site is part of two open fields separated by a track. | The immediately surrounding land comprises open fields. Thaxted Road is recorded approximately 100m southwest of the site. A small pit is indicated off Thaxted Road approximately 110m southwest. A brickfield is recorded approximately 400m northeast of the site. |
| 1896-1898 (1:10,560) | The site appears unchanged from the previous publication. | A Cement works is recorded adjoining the west site boundary. Two chalk pits are recorded adjoining the cement works. The brickfield is no longer depicted, although old clay pits are recorded in the same area. |
| 1897 (1:2,500) | The site appears unchanged from the previous publication. | The site appears unchanged from the previous publication. |
| 1919-1923 (1:10,560) | A tramway is identified along the route of the track separating the two fields, the remainder of the site appears unchanged from the previous publication. | A tramway is now recorded running between the northern area and southern area, extending to a claypit some 500m east of the site. Both chalk pits are indicated to have been expanded. |
| 1921 (1:2,500) | The site appears unchanged from the 1919-1923 publication. (only partial mapping is available) | The surrounding land appears unchanged from the previous publication. |
| 1923 (1:10,560) | The site appears unchanged from the previous publication. | The surrounding land appears unchanged from the previous publication. |
| 1938 (1:10,560) | The site appears unchanged from the previous publication. (only partial mapping is available) | The surrounding land appears unchanged from the previous publication. (only partial mapping is available) |
| 1946 (1:10,560) | The site appears unchanged from the previous publication. (only partial mapping is available) | The surrounding land appears unchanged from the previous publication. (only partial mapping is available) |
| 1947-1948 | The site appears unchanged from the previous publication. (only partial mapping is available) | The surrounding land appears unchanged from the previous publication. (only partial mapping is available) |
| 1952 (1:10,560) | The tramway is no longer identified. No other significant changes identified. (only partial mapping is available) | The tramway and cement works are no longer identified. A single building within a pit is labelled 'works'. (only partial mapping is available) |
| 1959 (1:10,560) | The tramway is no longer identified. No other significant changes identified. | The surrounding land appears unchanged from the previous publication. (only partial mapping is available) |

| MAP DATE & SCALE | ON SITE | SURROUNDING LAND |
|---|---|---|
| 1970 (1:2,500) | The site appears unchanged from the previous publication. (only partial mapping is available) | A 'Refuse Tip' is indicated in the location of the former chalk pit, some 80m to the southeast of the site. |
| 1972 (1:10,000) | *No map information is presented for the site during this time period.* | Land extending westwards appears largely unchanged. Residential development of Saffron Walden is shown 250m to the north. |
| 1980 (1:10,000) | *No map information is presented for the site during this time period.* | Land extending westwards appears largely unchanged. Residential development of Saffron Walden is shown 250m to the west. |
| 1985-1989 (1:2,500) | The site appears unchanged from the 1980 publication. | The Chalk pit is no longer shown, with new buildings, Hill View and High Bank shown on the location. A Depot and Veerman Lodge are identified to the south. |
| 1991 (1:10,000) | *No map information is presented for the site during this time period.* | The 'works' is now labelled 'Southgates industrial park'. Additional buildings appear on site. |
| 1993 (1:2,500) | The site appears unchanged from the previous publication. | The surrounding land appears unchanged from the previous publication. |
| 1999 (aerial) | The site is shown as two adjoining worked arable fields. | The land immediately southwest of the site appears mixed derelict grass land, active industrial sites. The former chalk pit appears to be actively receiving or extracting materials. |
| 2001 (1:10,000) | The site appears unchanged from the previous publication. | A 'Depot' is indicated to the southwest of the site. |
| 2009 (aerial) | The site is shown as two adjoining worked arable fields. | Residential dwellings or offices appear west of the site, later described as 'The Old Cement Kilns'. The HWRC adjoins the southwest corner of the site. industrial buildings are no longer present. Soils appear stockpiled near the west site boundary. |
| 2010 (1:10,000) | The site appears unchanged from the previous publication. | 'Southgates industrial park' is now labelled 'The Old Cement Kilns'. Building footprints are depicted to have changed. |
| 2013 (aerial) | The site is shown as two adjoining worked arable fields. | No significant changes to 2009 aerial, additional soils appear stockpiled. |
| 2017 (aerial) | The site is shown as two adjoining worked arable fields. | A commercial property appears constructed. Additional soils appear to be stockpiled along the southwest of the site. A number of residential properties are shown just off Tiptofts Lane. |
| 2020 (aerial) | The site is shown as two adjoining worked arable fields. | Additional commercial properties are shown over the previously stockpiled soils. Land clearance is shown between the site boundary and 'The Old Cement Kilns'. |
| 2023 (1:10,000) | The site appears unchanged from the previous publication. | The 'Depot' is no longer marked and building footprint and road layout changes are shown to the immediate southwest.<br>'The Old Cement Kilns' are identified to the west. |
| 2023 (on-line arial) | The site appears unchanged from the previous plan. | A new housing development is shown under construction to the north.<br>Some houses are shown to the west, including over the location of the chalk pit / refuse tip. |

*Table 2 – Historic Mapping Summary*

In summary, the site has been two fields dissected by a track and/or tramway since at least 1877. The Tramway was identified between 1919 and 1948, . The surrounding land has been subjected to localised quarrying and industrial development before residential redevelopment and commercial land use progressively enveloped the west and northern site boundaries.

## 3.7 ENVIRONMENTAL SETTING

The following summarises relevant environmental features of the site and surrounding land. Potential contamination sources and potential receptors or features are included where the development could cause mobilisation of contaminants. In some cases specific higher-risk sources are highlighted as absent. For full details reference should be made to the Groundsure report in Appendix B.

### 3.7.1 POTENTIAL CONTAMINATION SOURCES OR FEATURES

1. There are nine historical industrial land uses listed on site. These comprise six relating to railway/tramway sidings [1898 – 1948] and three relating to cement works [1919-1948]. A further fifty records are listed within 500m of the site. These include: Unspecified works, cement works, railway/tramway sidings, chalk pit(s), refuse heap(s), unspecified quarry(ies), unspecified pit(s), brickfield, old clay pit(s) and tanks. The majority of these features span from 1896 up to the 1950's. Some of these appear to be duplicate entries for the same features.

2. There is a single historical tank listed some 81m west of the site, dated 1897, of unspecified use. This is not depicted on the historical plans.

3. There are no historical energy features, such as substations, listed within 250m of the site.

4. There are no historical petrol filing stations or garages are listed within 250m of the site.

5. There are no active EA landfill sites within 500m of the site.

6. There are seven Historical Landfills (LA / mapping records) recorded within 500m of the site, relating to four locations (some records are replicated) to the southwest. There are two Historical EA/NRW landfill records some 250m to 450m to the east; there is one Historical Local Authority waste site, identified as on site, but representing the existing recycling centre directly to the south (and off) site. ; there are five Licensed waste sites (all relating to the off-site HWRC). These listings are dated from the early 1960's to present day (the HWRC being active). And at close inspection none relate to the actual site.

7. Two waste exemptions are recorded within 250m. One is for 'use of waste in construction' situated some 150m NW, the second is for 'storage of sludge' on a farm some 210m SE.

8. One Licensed discharge to controlled waters is listed within 500m of the site, some 275m south at Brick Kiln Farm, for final treated effluent to a 'ditch tributary of The Slade'.

9. There is one recorded pollution incident located some 55m SW, dated 2002, where an inorganic chemical product was released causing significant impact to waters.

### 3.7.2 POTENTIALLY SENSITIVE RECEPTORS THAT COULD BE AFFECTED BY DEVELOPMENT

The site is indicated to be within a Nitrate Vulnerable Zone. This designation applies to much of England and indicates no special sensitivity or concern.

### 3.7.3 UNEXPLODED ORDNANCE (UXO)

No preliminary UXO risk assessment has been carried out for the site however the online Zetica database has also been reviewed. The database identifies that the existence of UXO at the site can largely be ruled out given the size of the site and due no recorded bombings within the vicinity. Therefore, the site is considered to be of low risk.

It is recommended that a specialist is consulted for further information regarding UXO risk associated with this site.

### 3.7.4 RADON

The site is not in a geological area where Radon protection measures are required for new dwellings. As defined by the United Kingdom Health Security Agency (UKHSA), less than 1% of homes are estimated to be at or above the action level.

### 3.7.5 DEPARTMENT OF ENVIRONMENT INDUSTRY PROFILES

The DoE industry profile for 'Railway Land' is the only identified profile on site.
Given the adjoining land the following DoE profiles have been referred to: 'Waste recycling, treatment and disposal sites (landfills and other waste treatment or waste disposal sites)' *and* 'Ceramics, cement and asphalt manufacturing works'.

The DoE profile for 'Railway Land' details that most contaminants are located at the servicing infrastructure (stations, workshops etc) with sidings and freight yards likely to contain fuel and lubricating oils, PAHs and Etylene Glycol. Given the unrecorded nature of the tramway it is possible the levels are made up from engineering fill and may contain locally elevated metals, asbestos, ash and sulphates.

'Waste recycling, treatment and disposal sites (landfills and other waste treatment or waste disposal sites)' profile does not specifically detail the contaminants likely to be present within a landfill setting due to the number of materials that could have been handled at individual sites leading to a wide range of contaminative substances.

Landfill gas is generally considered to be present along with leachates in soil and groundwater. Capping materials are also often contaminated, especially on older landfills where caps are shallow and poorly engineered. Landfills may also contain drummed waste such as asbestos or highly mobile liquid fuels, usually sporadically placed, and can easily become disturbed during site investigation or development.

'Ceramics, cement and asphalt manufacturing works' profile details metals, metalloids, acids, bases solvents, PAHs, PCBs and asbestos as possible contaminants found around specific plants or as part of waste storage.

It is recommended that an appropriate site investigation is carried out to determine the exact nature of any contamination associated with an individual site.

### 3.7.6 MINERAL SITES

Localised mineral extraction has historically taken place in land immediately around the site. Three records are within 250m all for ceased activities.

It is understood that filling has taken place between 1961 to the. Waste is recorded to include inert waste. However this assumes good working practice on the part of the landfill operator.

# 4.0 CORRESPONDENCE

As part of the desk study information the Local Authority Environmental Health Officer was contacted for comment on the proposed development. The site is not on their register and hence there are no records. The response is provided in Appendix E.

# 5.0 PRELIMINARY CONCEPTUAL SITE MODEL AND RISK ASSESSMENT

## 5.1 LEGISLATION AND GUIDANCE

Currently, UK contaminated land is assessed and managed through a number of integrated policies and guidance. The Environment Agency's guidance document 'Land Contamination: Risk Management' (LCRM) advises on how the legislative framework dealing with contaminated land should be implemented.

The National Planning Policy Framework (NPPF) makes provision for assessing and managing contaminated land in the context of redevelopment which is subject to planning control.

Current policy under NPPF states that planning policies and decisions should ensure that "a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation)".

The assessment process requires that "adequate site investigation information, prepared by a competent person, is available to inform these assessments." The guidance provided in NPPF also states that "all investigations of land potentially affected by contamination should be carried out in accordance with established procedures, (such as BS10175 Investigation of Potentially Contaminated Sites – Code of Practice)".

The NPPF and statutory provisions for dealing with contaminated land are clear in ensuring that "where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner".

Fundamental to the assessment of contaminated land is the development of a Conceptual Site Model (CSM). This is an evaluation of the site conditions and its particular characteristics with respect to so called Source-Pathway-Receptor (S-P-R) relationships, or plausible pollutant linkages. The CSM can then be used to assess and define risk and in turn it provides a basis for determining the condition of the land in the context of the proposed development and what, if any, action needs to be taken to allow the proposed development to proceed safely and without detrimental impact to the site itself or the wider environment.

A plausible pollutant linkage is defined by three elements:

| | |
|---|---|
| Source | a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution. |
| Pathway | a route by which a receptor is or could be affected by a contaminant. |
| Receptor | something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops or animals. |

By definition a pollutant linkage can only exist where the three S-P-R elements are present. The following table below represents a Conceptual Site Model (CSM) with respect to possible contamination presence; it considers plausible pollutant linkages given the site's history, its environmental setting and the initial visual and physical findings of the investigation. This is then used to determine the appropriate chemical testing and risk assessment.

Risk in the context of contaminated land is considered in terms of its significance and this is qualitatively assessed on the basis of magnitude of harm that may occur and likelihood of that harm occurring. The risk assessment follows the general principles as set out within BS10175 and CIRIA C552 (Ref: 7.9).

## 5.2 POTENTIAL CONTAMINANT SOURCES, PATHWAYS AND RECEPTORS

Potential sources identified from the information reviewed within this Phase 1 report include:

### On-site

- Possible made ground under the former tramway sidings,
- Possible fuelling or chemical refilling during agricultural activities
- Made ground including soil bunds.

### Off-site

- Current and historical commercial/industrial land use including a household recycling centre (waste site) to the north, metal fabricators to the south,
- Railway embankment, and associated sidings,
- Historical quarrying,
- Historical land filling

Potential contaminants associated with these sources includes, but is not restricted to, metals/metalloids, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons, polychlorinated biphenyls (PCBs), asbestos, ground/landfill gases.

The potential pathways for contamination migration include:

- Ingestion, inhalation, dermal contact (human health receptors)
- Infiltration and contaminant migration through permeable strata
- Secondary pathway from groundwater contamination to surface water
- Migration of ground gases and vapours
- Direct contact and uptake by plants

Identified receptors include:

| | |
|---|---|
| Site workers: | Site workers (construction personnel) are anticipated to include those involved with any construction works at the site, particularly ground workers. |
| End users: | Workers and visitors to the site. |
| Neighbouring sites: | Workers and buildings in neighbouring land. |
| Controlled Waters: | The underlying superficial deposits are designated a Secondary A aquifer, the bedrock geology is designated a Principal aquifer. The site is within a Zone 3 SPZ, however, there are no recorded abstractions within 250m. There nearest recorded surface water feature is a drainage ditch 75m south-west. |
| Flora and fauna: | Plants and animals that may be affected by proposed continued use. |
| Buildings: | The existing buildings and other structures. |
| Buried services: | Potable water pipes that may be present. |

## 5.3 CONCEPTUAL SITE MODEL

The CSM is used to provide both a context and framework for undertaking any intrusive site investigation which may be deemed necessary to characterise the site with respect to contamination. Where a pollutant linkage is identified further investigation may be needed to confirm or quantify specific conditions, validate the existence of the pollutant linkage and thereby confirm and quantify the degree of risk. This is an important element of the assessment process and under the principles of risk assessment constitutes "hazard identification" and "hazard assessment".

A CSM and risk assessment for the site is provided in Table 3 below. This has been derived based on the expected development proposals and the findings of this desk study.

## 5.2 CONCEPTUAL SITE MODEL

**The following table (Table 3) presents a Conceptual Site Model for the site: -**

| CONTAMINATIVE SOURCE | PATHWAY | RECEPTOR(S) | PROBABILITY | CONSEQUENCE | RISK | DISCUSSION |
|---|---|---|---|---|---|---|
| Release of fuels, oils or liquid chemicals most likely from vehicles, including tramway, or agricultural plant. [Includes on and off-site sources] | Ingestion, inhalation or direct contact. | Residents, site users, construction personnel. | Low likelihood | Medium | Moderate | •The site has a history of mixed use as farmland and nearby mineral extraction, only limited parts appear to have been accessible to tramway vehicles or likely ever used for transfer/storage of oils, fuels or agrichemicals.<br>•Modern agrichemicals break down relatively quickly in the environment.<br>Some release of liquid contaminants may have occurred but there is no reason to expect significant presence of mobile contaminants from past site usage itself. The site is elevated relative to the nearby quarrying so is unlikely to be influenced by possible spillages or discharges from those facilities.<br>•The details of any potentially contaminative liquids placed within landfills on site are unknown.<br>••The main risk would be chronic exposure to residents in private gardens. Construction personnel would be at less risk due to the short exposure and basic health and safety measures that should be standard practice. |
| | Run-off or leaching to groundwater and flow off site or to surface waters. Infiltration to depth. | Controlled waters. | Low likelihood | Medium | Moderate | •There is limited evidence to indicate there is likely to have been serious release of liquid contaminants at the site.<br>•The underlying aquifers are likely to be in communication and are used for drinking water.<br>•Abstractions recorded near site for potable use. Site within SPZ3. |
| | Direct contact | Building materials (Foundations), buried services – | Low likelihood | Mild | Low | •Polymer water supply mains can be affected by even low concentrations of hydrocarbons but the effect is tainted water rather than a |

| CONTAMINATIVE SOURCE | PATHWAY | RECEPTOR(S) | PROBABILITY | CONSEQUENCE | RISK | DISCUSSION |
|---|---|---|---|---|---|---|
| | | mainly water supply mains. | | | | significant risk to health. Other buried services would appear at significantly less risk.<br>•Foundations and substructures would not appear at<br>significant risk over the wider site but localised dumping of materials may increase the risk. |
| Made ground and deposition of wastes at the surface Contaminants could potentially come in any form. (includes off-site sources) | Ingestion, inhalation or direct contact. | Residents, site users, construction personnel. | Low likelihood | Minor | Low | •There is no indication that wastes or made ground are likely to be present and may cover a significant extent of the site.<br>•The make-up of the nearby fill in the industrial site in unknown. Wastes from buildings can include asbestos containing materials.<br>•The main risk would be chronic exposure to residents in private gardens. Construction personnel would be at less risk due to the short exposure and basic health and safety measures that should be standard practice. |
| | Run-off or leaching to groundwater and flow off site or to surface waters. | Controlled waters. | Low likelihood | Minor | Low | • Abstractions recorded near site for potable use. Site within SPZ3. |
| | Direct contact. | Buried building materials – mainly concrete. | Low likelihood | Mild | Low | •The main risk would appear to be to concrete from potential sulphates. |
| Landfill gas from degradable buried wastes on site or nearby. (off-site sources) | Inhalation and asphyxiation or explosion in confined spaces. | Residents, site users, construction personnel. | Low likelihood | Minor | Low / moderate | •The site itself is unlikely to have significant deposits of buried degradable materials however the adjoining made ground is significant and nearby infilled quarries have potential to contain unrecorded waste.<br>•Possible sources would include the old clay pits that have unrecorded and uncontrolled landfill with potentially contaminative wastes.<br>•Private residential properties located near to historic fill would be most at risk; properties situated further away would be at much lower risk. |

| CONTAMINATIVE SOURCE | PATHWAY | RECEPTOR(S) | PROBABILITY | CONSEQUENCE | RISK | DISCUSSION |
|---|---|---|---|---|---|---|
| Contaminants migrating through soils or via groundwater from adjacent polluted land or other sites | Inhalation of vapours or ingestion via gardening or contact with soils. | Residents, construction personnel | Likely | Minor | Low / moderate | •Surrounding land has a similar history to the site with recorded mineral sites and subsequent landfill of pits.<br>•Contaminants from historical landfill would appear the most plausible, particularly gasses from putrescible buried waste.<br>•Residents would appear at most risk from long-term exposure in gardens. Indoor inhalation of volatiles is possible but unlikely to be significant. |
| | Contact with building materials eg water mains or concrete | Residents, building materials | Low likelihood | Mild | Low / moderate | •Polymer water mains can be affected by even low concentrations of hydrocarbons although the result is usually tainted water rather than a serious health risk.<br>•Other buried services would appear at significantly less risk.<br>• Foundations and substructures would be most at risk from any Sulphates or acids but this appears unlikely. |

*Table 3 – Initial Conceptual Site Model*

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

## 6.1 GROUND CONDITIONS

From the above desk study findings, RGL have concluded the following:

- It cannot be ruled out that shallow made ground (disturbed ground) may be present across the site as a result of surrounding historic industrial usage that may have encroached.
- There is potentially contaminative or putrescible wastes in made ground.
- Natural ground is likely to consist of clay, silt, sand and gravel where present, overlying Chalk bedrock.
- It is not clear exactly at what depth groundwater may be encountered; but it is likely to be a continuous body within the Chalk bedrock. There is potential for a perched aquifer within any superficial deposits.
- The characteristic situation of superficial deposits overlying chalk is recorded in the southeast of the site. The desk study information identified a recorded moderate risk of ground dissolution associated with this geology. Typically, new developments see previously stable features open up following site-strip and new pathways for flowing water are created.

## 6.2 CONTAMINATION PRESENCE

Potential sources of contaminative substances have been identified as:

- Made ground or natural soils at the site may contain persistent contaminants such as heavy metals, polyaromatic hydrocarbons or pesticides/herbicides, as a result of the ongoing agricultural use and neighbouring industrial activities.
- There is a possibility of hydrocarbons and/or volatile organic compounds resulting from spillages of fuels or oils, potentially emanating from an off-site source. Other liquid contaminants (including in groundwater) may be present.
- There is the potential that groundwater (within the Principal Chalk aquifer) has in some way been impacted by the long history of agricultural activities in the area and near-by cement works/chalk pits.
- There is a possibility of localised made ground with the potential to generate landfill gas either on site or in the near vicinity.

The preliminary Conceptual Site Model for the site has identified that end users are probably most at risk from persistent contaminants or ground gases within made ground both on and off site based on the proposed development of residential use. There appears to be medium risk to sensitive controlled ground waters beneath the site.

There would appear to be no significant geo-environmental obstacle to redevelopment of the site as proposed. An intrusive ground investigation should be undertaken to better quantify risks to human health and controlled waters and to determine appropriate remedial or mitigation measures, if required.

The Conceptual Site Model should be revised and updated in the light of the findings of such further investigations and also when the development scheme has been more fully designed.

## 6.3 RECOMMENDED INVESTIGATIONS

Following the conclusions of this desk study, it is considered essential that the site be subject to intrusive investigations before detailed designs are undertaken or construction costs are finalised. Investigations should be carried out in accordance with the recommendations of BS5930 2015 +A1 2020 'Code of Practice for Site Investigations' (Ref. 7.3).

The investigations are recommended to be carried out by a combination of simple machine-excavated pits, shallow windowless sampled boreholes and deeper cable percussive boreholes within the Chalk bedrock.

### 6.3.1 GEO-ENVIRONMENTAL INVESTIGATIONS

To determine the sites environmental impact and to assess the potential liabilities with respect to contamination presence, the site should have geo-environmental investigation undertaken. The objectives of the geo-environmental intrusive works should include:

1. To confirm the absence of made ground; and if present, over what part and to what depth.
2. Determine whether contaminative substances are present at site - most likely in near-surface natural soils but potentially. associated with made ground.
3. Determine the ground gas regime due to local chalk extraction and subsequent backfilling of pits, whether migration and emission is likely at the surface.
4. Determine the presence of any groundwater and also determine if it has been impacted by the site history and/or surrounding site usage.

Following installation of any boreholes it will be necessary to undertake at least six rounds of gas and groundwater monitoring before the gas and groundwater regimes are properly understood. If hazardous ground gas presence is possible or positively identified then monitoring may be required for at least 6 months before detailed measures can be specified to mitigate the risk to any development. Similarly, if groundwater is found to be significantly impacted with pollutants, a period of repeated monitoring or additional sampling wells may be required. In either case the findings would need to be discussed with the Environmental Health Department and perhaps also the Environment Agency.

### 6.3.2 GEOTECHNICAL INVESTIGATIONS

Geotechnical investigations are recommended to be undertaken to determine properties for the design and construction of the development and should include:

1. Determine the geotechnical properties of any made ground at the site, including its shrinkability and potential suitability for ground improvement or re-engineering.
2. Determine the geotechnical properties of the natural ground, including at depth, for the design of spread or piled foundations.
3. Potentially investigate for dissolution features if required.

## 6.4 GENERAL COMMENTS

The above conclusions and recommendations are given for preliminary site assessment purposes only. These will need to be reviewed and updated following completion of any intrusive works detailed above.

Soils at the site, including topsoil, are potentially suitable for re-use in the future development, subject to testing and determination of characteristics during ground investigation works. If soils are found to be unsuitable for re-use, then removal from site may be required following the technical guidance of WM3 waste classification and further testing of soils may be necessary.

It is envisaged that traditional foundations will be suitable for the majority of the site, however, some localised deepening and/or even piled foundations may be required for those buildings determined to lie within the influence of trees.

## 7.0 REFERENCES

7.1 Environment Agency, 'LCRM: Land Contamination Risk Management' (2020).

7.2 British Standard 10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites. Code of Practice.'

7.3 Ministry of Housing, Communities and Local Government – 'National Planning Policy Framework' (2021)

7.4 British Geological Survey (BGS) sheet 222, 'Great Dunmow', (Bedrock and Superficial Geology) 1:50,000.

7.5 British Geological Survey (BGS), GeoIndex Onshore

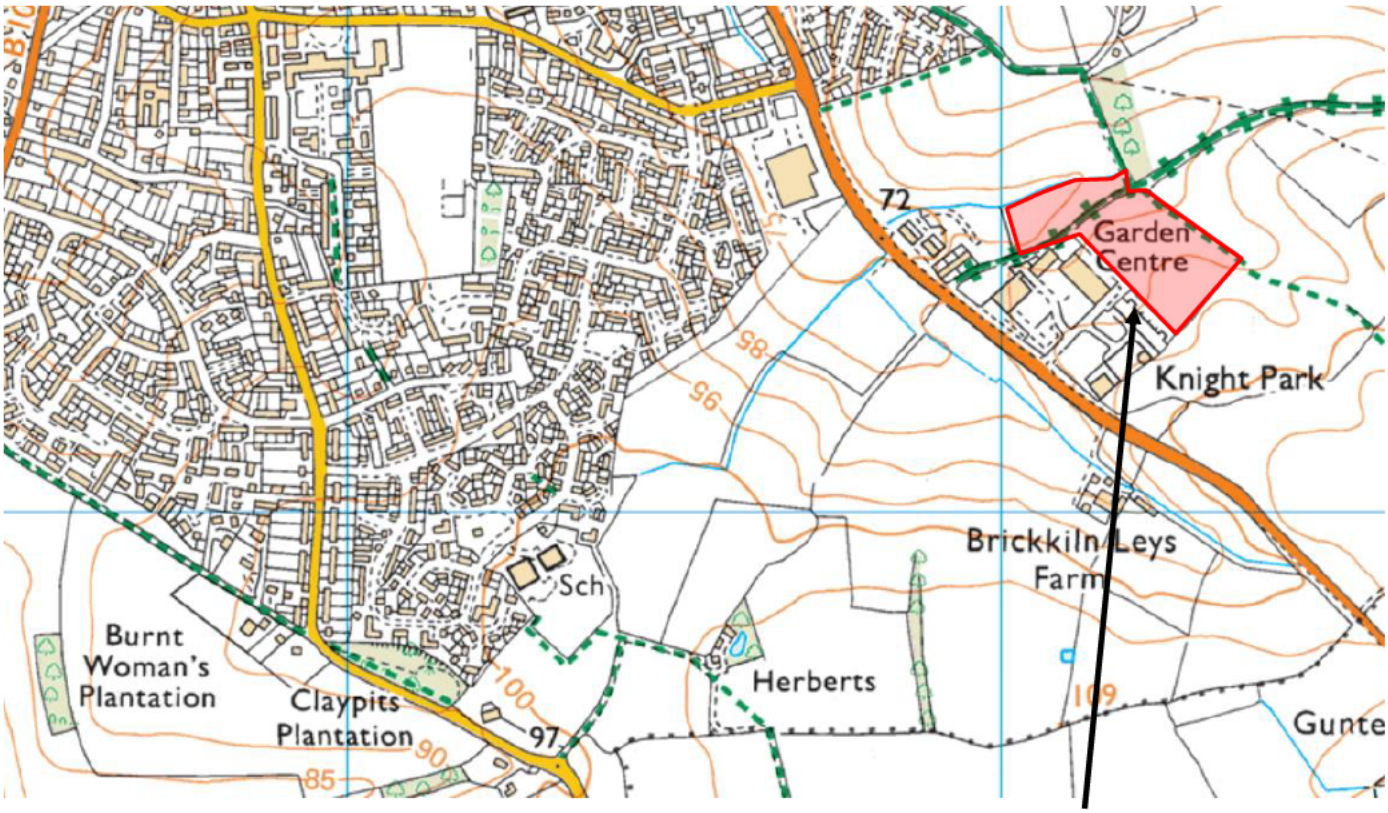
7.6 Department of the Environment (DoE) Industry Profile – Waste recycling, treatment and disposal sites, 1996.

7.7 British Standard 5930:2015 + A1 2020, 'Code of Practice for Site Investigations'.

# APPENDIX A – DRAWINGS & FIGURES

ROLTON GROUP
ENGINEERING THE FUTURE™
www.rolton.com 01933 410

| | |
|---|---|
| Project No. | Saffron Walden - Site 2 |
| Figure No & T tle | 1. Site Location Plan |
| Date | May 2023 |
| Scale | N.T.S. |
| Prepared by | TEM |




**Nearest Postcode CB10 2SG**
**Approx Grid Reference 555166 / 237452**

**SITE**



Rolton Group Ltd, The Charles Parker Building, Midland Road, Higham Ferrers, Northants, NN10 8DN
Tel 01933 410909


KIER

| | | | | | |
|---|---|---|---|---|---|
| Client: Kier Group | Drawing Title: Location Plan | | | | |
| Project: Land South of Saffron Walden | Scale: 1:1250 @ A2 | Revision | Drawn | Check | Date |
| | | A | RB | JH | 04 07 23 |
| | | B | RB | JH | 12 07 23 |
| | | C | MP | JH | 17 11 23 |

Omega Architects
The Front Barn 124 Manor Road North Thames Ditton KT7 0BH
T: 01372 470 313 W: www.omega[redacted]

| Project No' | Class | Dwg No' | Status | Rev |
|---|---|---|---|---|
| 3119 | A | 1000 | PR | C |

# APPENDIX B – GROUNDSURE REPORT

Groundsure LOCATION INTELLIGENCE

# Enviro+Geo Insight

## Land South of Saffron Walden - Site West of industrial Estate (Site 2), CB10 2SG

## Order Details

**Date:** 07/07/2023

**Your ref:** 22-0222

**Our Ref:** GS-YGL-IED-ZUB-U33

## Site Details

**Location:** 555199 237430

**Area:** 4.09 ha

**Authority:** Uttlesford District Council ↗






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

# Summary of findings

| Page | Section | Past land use > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 15 > | 1.1 > | Historical industrial land uses > | 6 | 20 | 12 | 11 | - |
| 17 > | 1.2 > | Historical tanks > | 0 | 0 | 1 | 1 | - |
| 18 > | 1.3 > | Historical energy features > | 0 | 0 | 0 | 9 | - |
| 18 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 19 | 1.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| 19 | 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** |
| 20 > | 2.1 > | Historical industrial land uses > | 9 | 22 | 16 | 12 | - |
| 23 > | 2.2 > | Historical tanks > | 0 | 0 | 1 | 1 | - |
| 23 > | 2.3 > | Historical energy features > | 0 | 0 | 0 | 26 | - |
| 24 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 24 | 2.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| **Page** | **Section** | **Waste and landfill >** | **On site** | **0-50m** | **50-250m** | **250-500m** | **500-2000m** |
| 25 | 3.1 | Active or recent landfill | 0 | 0 | 0 | 0 | - |
| 25 | 3.2 | Historical landfill (BGS records) | 0 | 0 | 0 | 0 | - |
| 26 > | 3.3 > | Historical landfill (LA/mapping records) > | 1 | 4 | 1 | 1 | - |
| 26 > | 3.4 > | Historical landfill (EA/NRW records) > | 0 | 0 | 1 | 1 | - |
| 27 > | 3.5 > | Historical waste sites > | 1 | 0 | 0 | 0 | - |
| 27 > | 3.6 > | Licensed waste sites > | 0 | 5 | 0 | 0 | - |
| 29 > | 3.7 > | Waste exemptions > | 0 | 0 | 2 | 1 | - |
| **Page** | **Section** | **Current industrial land use >** | **On site** | **0-50m** | **50-250m** | **250-500m** | **500-2000m** |
| 30 > | 4.1 > | Recent industrial land uses > | 0 | 1 | 4 | - | - |
| 31 | 4.2 | Current or recent petrol stations | 0 | 0 | 0 | 0 | - |
| 31 | 4.3 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 31 | 4.4 | Gas pipelines | 0 | 0 | 0 | 0 | - |
| 31 | 4.5 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 32 | 4.6 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
| 32 | 4.7 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 32 | 4.8 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| 32 | 4.9 | Historical licensed industrial activities (IPC) | 0 | 0 | 0 | 0 | - |
| 32 | 4.10 | Licensed industrial activities (Part A(1)) | 0 | 0 | 0 | 0 | - |
| 33 | 4.11 | Licensed pollutant release (Part A(2)/B) | 0 | 0 | 0 | 0 | - |
| 33 | 4.12 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| 33 > | 4.13 > | Licensed Discharges to controlled waters > | 0 | 0 | 0 | 1 | - |
| 33 | 4.14 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 34 | 4.15 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 34 | 4.16 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 34 > | 4.17 > | List 2 Dangerous Substances > | 0 | 0 | 0 | 1 | - |
| 34 > | 4.18 > | Pollution Incidents (EA/NRW) > | 0 | 0 | 1 | 0 | - |
| 35 | 4.19 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 35 | 4.20 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 35 | 4.21 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrogeology > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 36 > | 5.1 > | Superficial aquifer > | Identified (within 500m) | | | | |
| 38 > | 5.2 > | Bedrock aquifer > | Identified (within 500m) | | | | |
| 40 > | 5.3 > | Groundwater vulnerability > | Identified (within 50m) | | | | |
| 41 > | 5.4 > | Groundwater vulnerability- soluble rock risk > | Identified (within 0m) | | | | |
| 42 | 5.5 | Groundwater vulnerability- local information | None (within 0m) | | | | |
| 43 > | 5.6 > | Groundwater abstractions > | 0 | 0 | 0 | 2 | 6 |
| 45 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 46 > | 5.8 > | Potable abstractions > | 0 | 0 | 0 | 0 | 3 |
| 47 > | 5.9 > | Source Protection Zones > | 1 | 0 | 1 | 0 | - |
| 47 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrology > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 48 > | 6.1 > | Water Network (OS MasterMap) > | 2 | 3 | 20 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 > | 6.2 > | Surface water features > | 1 | 2 | 11 | - | - |
| 51 > | 6.3 > | WFD Surface water body catchments > | 1 | - | - | - | - |
| 51 > | 6.4 > | WFD Surface water bodies > | 0 | 0 | 0 | - | - |
| 52 > | 6.5 > | WFD Groundwater bodies > | 1 | - | - | - | - |

| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 53 | 7.1 | Risk of flooding from rivers and the sea | None (within 50m) | | | | |
| 53 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 53 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 54 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 54 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 55 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 55 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |

| Page | Section | Surface water flooding > | |
|---|---|---|---|
| 56 > | 8.1 > | Surface water flooding > | 1 in 30 year, Greater than 1.0m (within 50m) |

| Page | Section | Groundwater flooding > | |
|---|---|---|---|
| 58 > | 9.1 > | Groundwater flooding > | Low (within 50m) |

| Page | Section | Environmental designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 59 | 10.1 | Sites of Special Scientific Interest (SSSI) | 0 | 0 | 0 | 0 | 0 |
| 60 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 60 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 60 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 60 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 61 | 10.6 | Local Nature Reserves (LNR) | 0 | 0 | 0 | 0 | 0 |
| 61 > | 10.7 > | Designated Ancient Woodland > | 0 | 0 | 0 | 0 | 5 |
| 61 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 62 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 62 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| 62 | 10.11 | Green Belt | 0 | 0 | 0 | 0 | 0 |
| 62 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 62 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
| 63 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 63 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| 63 > | 10.16 > | Nitrate Vulnerable Zones > | 2 | 0 | 0 | 0 | 10 |
| 65 > | 10.17 > | SSSI Impact Risk Zones > | 1 | - | - | - | - |
| 66 | 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 |
| 67 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 67 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 67 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| 67 | 11.4 | Listed Buildings | 0 | 0 | 0 | - | - |
| 68 | 11.5 | Conservation Areas | 0 | 0 | 0 | - | - |
| 68 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 68 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 69 > | 12.1 > | Agricultural Land Classification > | Grade 2 (within 250m) | | | | |
| 70 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 70 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 71 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| 71 | 12.5 | Countryside Stewardship Schemes | 0 | 0 | 0 | - | - |
| Page | Section | Habitat designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 72 | 13.1 | Priority Habitat Inventory | 0 | 0 | 0 | - | - |
| 72 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 72 | 13.3 | Open Mosaic Habitat | 0 | 0 | 0 | - | - |
| 72 | 13.4 | Limestone Pavement Orders | 0 | 0 | 0 | - | - |
| Page | Section | Geology 1:10,000 scale > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 73 > | 14.1 > | 10k Availability > | Identified (within 500m) | | | | |
| 74 | 14.2 | Artificial and made ground (10k) | 0 | 0 | 0 | 0 | - |
| 75 > | 14.3 > | Superficial geology (10k) > | 1 | 1 | 1 | 1 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 76 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
| 77 > | 14.5 > | Bedrock geology (10k) > | 1 | 1 | 0 | 0 | - |
| 78 | 14.6 | Bedrock faults and other linear features (10k) | 0 | 0 | 0 | 0 | - |
| Page | Section | Geology 1:50,000 scale > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 79 > | 15.1 > | 50k Availability > | Identified (within 500m) | | | | |
| 80 | 15.2 | Artificial and made ground (50k) | 0 | 0 | 0 | 0 | - |
| 80 | 15.3 | Artificial ground permeability (50k) | 0 | 0 | - | - | - |
| 81 > | 15.4 > | Superficial geology (50k) > | 1 | 1 | 0 | 1 | - |
| 82 > | 15.5 > | Superficial permeability (50k) > | Identified (within 50m) | | | | |
| 82 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 82 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| 83 > | 15.8 > | Bedrock geology (50k) > | 1 | 0 | 0 | 1 | - |
| 84 > | 15.9 > | Bedrock permeability (50k) > | Identified (within 50m) | | | | |
| 84 | 15.10 | Bedrock faults and other linear features (50k) | 0 | 0 | 0 | 0 | - |
| Page | Section | Boreholes > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 85 > | 16.1 > | BGS Boreholes > | 0 | 1 | 2 | - | - |
| Page | Section | Natural ground subsidence > | | | | | |
| 87 > | 17.1 > | Shrink swell clays > | Low (within 50m) | | | | |
| 89 > | 17.2 > | Running sands > | Very low (within 50m) | | | | |
| 91 > | 17.3 > | Compressible deposits > | Negligible (within 50m) | | | | |
| 92 > | 17.4 > | Collapsible deposits > | Very low (within 50m) | | | | |
| 93 > | 17.5 > | Landslides > | Very low (within 50m) | | | | |
| 95 > | 17.6 > | Ground dissolution of soluble rocks > | Low (within 50m) | | | | |
| Page | Section | Mining and ground workings > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 97 > | 18.1 > | BritPits > | 0 | 1 | 2 | 1 | - |
| 98 > | 18.2 > | Surface ground workings > | 0 | 11 | 14 | - | - |
| 99 | 18.3 | Underground workings | 0 | 0 | 0 | 0 | 0 |
| 100 | 18.4 | Underground mining extents | 0 | 0 | 0 | 0 | - |
| 100 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 100 > | 18.6 > | Non-coal mining > | 1 | 1 | 0 | 0 | 0 |
| 101 | 18.7 | JPB mining areas | None (within 0m) | | | | |
| 101 | 18.8 | The Coal Authority non-coal mining | 0 | 0 | 0 | 0 | - |
| 101 | 18.9 | Researched mining | 0 | 0 | 0 | 0 | - |
| 101 | 18.10 | Mining record office plans | 0 | 0 | 0 | 0 | - |
| 102 | 18.11 | BGS mine plans | 0 | 0 | 0 | 0 | - |
| 102 | 18.12 | Coal mining | None (within 0m) | | | | |
| 102 | 18.13 | Brine areas | None (within 0m) | | | | |
| 102 | 18.14 | Gypsum areas | None (within 0m) | | | | |
| 102 | 18.15 | Tin mining | None (within 0m) | | | | |
| 103 | 18.16 | Clay mining | None (within 0m) | | | | |
| Page | Section | Ground cavities and sinkholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 104 | 19.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 104 | 19.2 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 104 | 19.3 | Reported recent incidents | 0 | 0 | 0 | 0 | - |
| 104 | 19.4 | Historical incidents | 0 | 0 | 0 | 0 | - |
| 105 | 19.5 | National karst database | 0 | 0 | 0 | 0 | - |
| Page | Section | Radon > | | | | | |
| 106 > | 20.1 > | Radon > | Less than 1% (within 0m) | | | | |
| Page | Section | Soil chemistry > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 108 > | 21.1 > | BGS Estimated Background Soil Chemistry > | 3 | 3 | - | - | - |
| 108 | 21.2 | BGS Estimated Urban Soil Chemistry | 0 | 0 | - | - | - |
| 109 | 21.3 | BGS Measured Urban Soil Chemistry | 0 | 0 | - | - | - |
| Page | Section | Railway infrastructure and projects > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 110 | 22.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 110 | 22.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 111 | 22.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 111 > | 22.4 > | Historical railway and tunnel features > | 5 | 11 | 1 | - | - |
| 112 | 22.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 112 | 22.6 | Historical railways | 0 | 0 | 0 | - | - |
| 112 | 22.7 | Railways | 0 | 0 | 0 | - | - |
| 112 | 22.8 | Crossrail 1 | 0 | 0 | 0 | 0 | - |
| 112 | 22.9 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 113 | 22.10 | HS2 | 0 | 0 | 0 | 0 | - |

## Recent aerial photograph


Capture Date: 05/04/2020

Site Area: 4.09ha

## Recent site history - 2017 aerial photograph


Capture Date: 09/04/2017

Site Area: 4.09ha

# Recent site history - 2013 aerial photograph


Capture Date: 01/05/2013

Site Area: 4.09ha

# Recent site history - 2009 aerial photograph


Capture Date: 29/06/2009

Site Area: 4.09ha

# Recent site history - 1999 aerial photograph

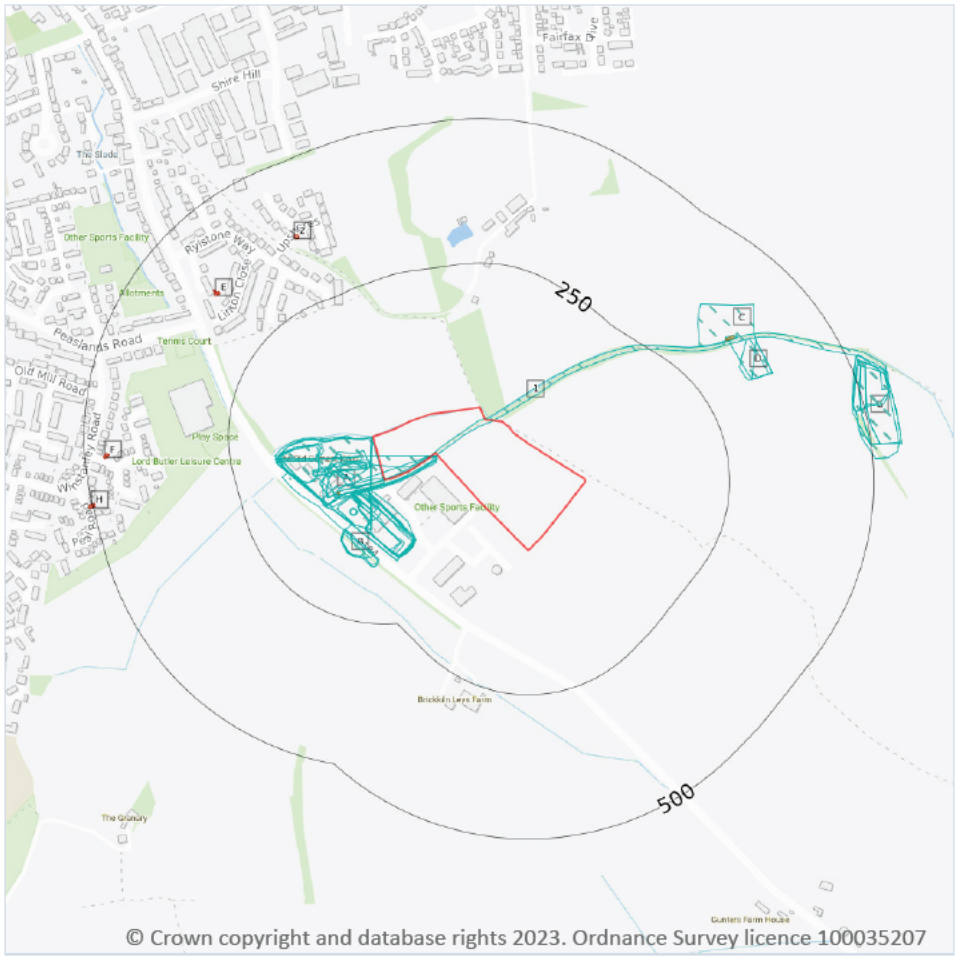

Capture Date: 18/07/1999

Site Area: 4.09ha

## OS MasterMap site plan


Site Area: 4.09ha

# 1 Past land use




Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

## 1.1 Historical industrial land uses

| Records within 500m | 49 |
|---|---|

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

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

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| 1 | On site | Railway Sidings | 1898 | 2067093 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| **A** | **On site** | **Cement Works** | **1948** | **2064450** |
| **A** | **On site** | **Cement Works** | **1919 - 1938** | **2088916** |
| **A** | **On site** | **Tramway Sidings** | **1923 - 1938** | **2100380** |
| **A** | **On site** | **Tramway Sidings** | **1919** | **2102522** |
| **A** | **On site** | **Tramway Sidings** | **1948** | **2106490** |
| A | 2m W | Cement Works | 1896 - 1898 | 2084903 |
| A | 2m W | Railway Sidings | 1896 | 2113209 |
| A | 2m W | Industrial Park | 1991 | 2043096 |
| A | 2m W | Unspecified Works | 1980 | 2073305 |
| A | 2m W | Unspecified Works | 1971 | 2106237 |
| A | 3m W | Unspecified Works | 1952 | 2114166 |
| A | 17m W | Railway Sidings | 1923 | 2110729 |
| A | 17m W | Railway Sidings | 1896 | 2101678 |
| A | 23m W | Railway Sidings | 1919 | 2083695 |
| A | 25m W | Railway Sidings | 1952 | 2075826 |
| A | 29m W | Chalk Pit | 1959 | 2113125 |
| A | 34m W | Refuse Heap | 1971 | 2084201 |
| A | 34m W | Refuse Heap | 1980 | 2085312 |
| A | 34m W | Chalk Pit | 1919 | 2071040 |
| A | 36m W | Chalk Pit | 1938 | 2095424 |
| A | 41m W | Chalk Pits | 1896 - 1898 | 2072242 |
| A | 43m W | Chalk Pit | 1948 | 2106970 |
| A | 44m W | Chalk Pit | 1923 | 2104180 |
| A | 45m W | Railway Sidings | 1952 | 2079244 |
| A | 47m W | Railway Sidings | 1896 | 2090757 |
| A | 71m W | Unspecified Tank | 1948 | 2044365 |
| A | 72m W | Tank | 1919 | 2050495 |
| A | 88m W | Chalk Pit | 1896 - 1898 | 2072034 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| A | 92m W | Unspecified Quarry | 1938 - 1947 | 2093984 |
| A | 94m W | Unspecified Quarry | 1919 | 2075728 |
| A | 94m W | Cuttings | 1877 | 2061634 |
| A | 98m W | Unspecified Pit | 1952 | 2041611 |
| B | 109m SW | Chalk Pits | 1896 - 1898 | 2107721 |
| B | 110m SW | Unspecified Pit | 1877 | 2068397 |
| B | 112m SW | Unspecified Quarry | 1923 | 2072584 |
| B | 113m SW | Unspecified Quarry | 1938 - 1948 | 2077950 |
| B | 116m SW | Unspecified Pit | 1952 | 2077554 |
| C | 303m NE | Brick Field | 1877 | 2063574 |
| D | 329m E | Old Clay Pit | 1896 - 1898 | 2117337 |
| D | 337m E | Unspecified Pit | 1877 | 2041621 |
| C | 343m NE | Unspecified Kiln | 1877 | 2045877 |
| G | 478m E | Clay Pit | 1959 | 2098959 |
| G | 481m E | Old Clay Pit | 1898 | 2062293 |
| G | 481m E | Clay Pit | 1919 | 2086120 |
| G | 481m E | Clay Pit | 1946 | 2101192 |
| G | 481m E | Clay Pit | 1896 | 2068763 |
| G | 492m E | Tramway Sidings | 1946 | 2066206 |
| G | 492m E | Tramway Sidings | 1919 | 2071464 |

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

## 1.2 Historical tanks

| Records within 500m | 2 |
|---|---|

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

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

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| A | 81m W | Unspecified Tank | 1897 | 344387 |
| C | 343m NE | Tanks | 1877 | 348430 |

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

## 1.3 Historical energy features

| Records within 500m | 9 |
|---|---|

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

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

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| E | 362m NW | Electricity Substation | 1981 | 227821 |
| E | 363m NW | Electricity Substation | 1989 - 1996 | 233422 |
| 2 | 367m NW | Electricity Substation | 1969 - 1996 | 232896 |
| E | 368m NW | Electricity Substation | 1969 | 227991 |
| E | 368m NW | Electricity Substation | 1983 | 228271 |
| F | 458m W | Electricity Substation | 1981 - 1996 | 234502 |
| F | 462m W | Electricity Substation | 1989 | 239887 |
| H | 496m W | Electricity Substation | 1981 - 1996 | 232299 |
| H | 497m W | Electricity Substation | 1983 - 1989 | 239602 |

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

## 1.4 Historical petrol stations

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

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

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

## 1.5 Historical garages

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

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

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

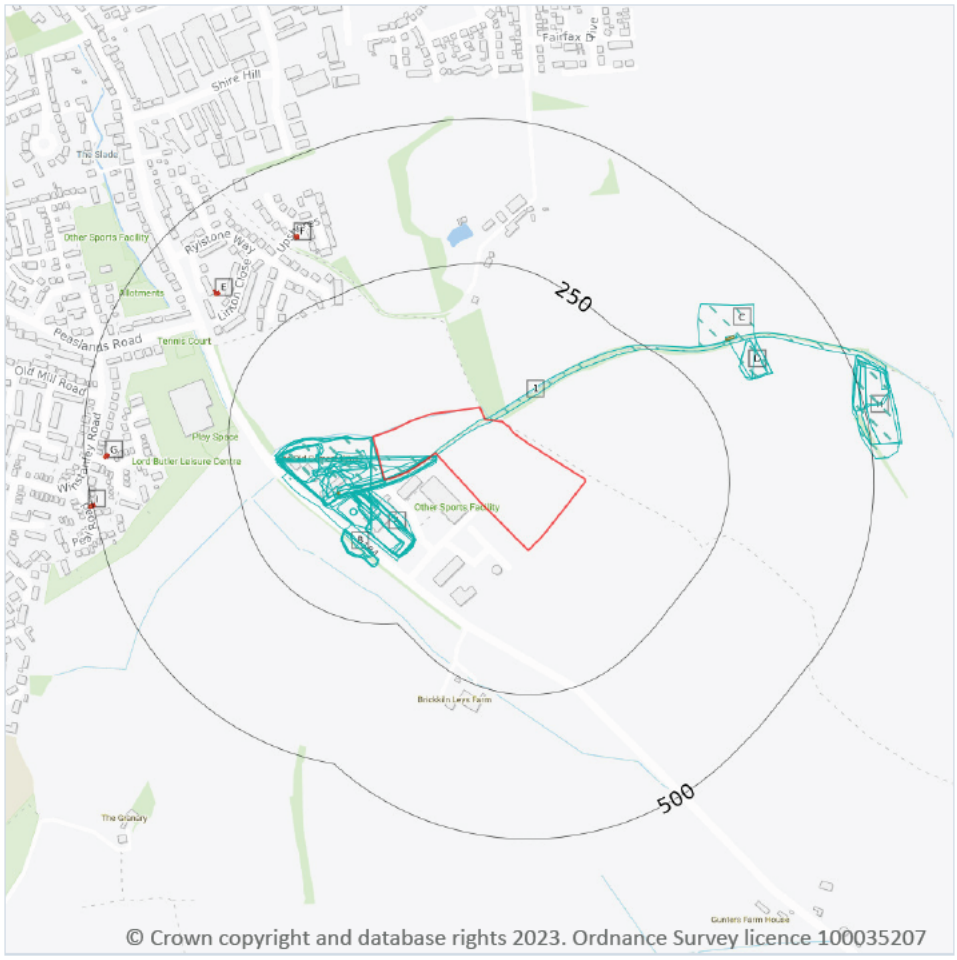
## 1.6 Historical military land

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

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

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

# 2 Past land use - un-grouped




Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

## 2.1 Historical industrial land uses

| Records within 500m | 59 |
|---|---|

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 20 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| 1 | On site | Railway Sidings | 1898 | 2067093 |
| A | On site | Tramway Sidings | 1919 | 2102522 |
| A | On site | Cement Works | 1919 | 2088916 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| **A** | **On site** | **Cement Works** | **1923** | **2088916** |
| **A** | **On site** | **Tramway Sidings** | **1923** | **2100380** |
| **A** | **On site** | **Cement Works** | **1948** | **2064450** |
| **A** | **On site** | **Tramway Sidings** | **1948** | **2106490** |
| **A** | **On site** | **Cement Works** | **1938** | **2088916** |
| **A** | **On site** | **Tramway Sidings** | **1938** | **2100380** |
| A | 2m W | Cement Works | 1898 | 2084903 |
| A | 2m W | Cement Works | 1896 | 2084903 |
| A | 2m W | Railway Sidings | 1896 | 2113209 |
| A | 2m W | Industrial Park | 1991 | 2043096 |
| A | 2m W | Unspecified Works | 1971 | 2106237 |
| A | 2m W | Unspecified Works | 1980 | 2073305 |
| A | 3m W | Unspecified Works | 1952 | 2114166 |
| A | 17m W | Railway Sidings | 1923 | 2110729 |
| A | 17m W | Railway Sidings | 1896 | 2101678 |
| A | 23m W | Railway Sidings | 1919 | 2083695 |
| A | 25m W | Railway Sidings | 1952 | 2075826 |
| A | 29m W | Chalk Pit | 1959 | 2113125 |
| A | 34m W | Refuse Heap | 1971 | 2084201 |
| A | 34m W | Refuse Heap | 1980 | 2085312 |
| A | 34m W | Chalk Pit | 1919 | 2071040 |
| A | 36m W | Chalk Pit | 1938 | 2095424 |
| A | 41m W | Chalk Pits | 1896 | 2072242 |
| A | 42m W | Chalk Pits | 1898 | 2072242 |
| A | 43m W | Chalk Pit | 1948 | 2106970 |
| A | 44m W | Chalk Pit | 1923 | 2104180 |
| A | 45m W | Railway Sidings | 1952 | 2079244 |
| A | 47m W | Railway Sidings | 1896 | 2090757 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| A | 71m W | Unspecified Tank | 1948 | 2044365 |
| A | 72m W | Tank | 1919 | 2050495 |
| A | 88m W | Chalk Pit | 1898 | 2072034 |
| A | 89m W | Chalk Pit | 1896 | 2072034 |
| A | 92m W | Unspecified Quarry | 1938 | 2093984 |
| A | 94m W | Unspecified Quarry | 1947 | 2093984 |
| A | 94m W | Unspecified Quarry | 1919 | 2075728 |
| A | 94m W | Cuttings | 1877 | 2061634 |
| A | 98m W | Unspecified Pit | 1952 | 2041611 |
| B | 109m SW | Chalk Pits | 1896 | 2107721 |
| B | 110m SW | Unspecified Pit | 1877 | 2068397 |
| B | 111m SW | Chalk Pits | 1898 | 2107721 |
| B | 112m SW | Unspecified Quarry | 1923 | 2072584 |
| B | 113m SW | Unspecified Quarry | 1938 | 2077950 |
| B | 114m SW | Unspecified Quarry | 1948 | 2077950 |
| B | 116m SW | Unspecified Pit | 1952 | 2077554 |
| C | 303m NE | Brick Field | 1877 | 2063574 |
| D | 329m E | Old Clay Pit | 1896 | 2117337 |
| D | 330m E | Old Clay Pit | 1898 | 2117337 |
| D | 337m E | Unspecified Pit | 1877 | 2041621 |
| C | 343m NE | Unspecified Kiln | 1877 | 2045877 |
| H | 478m E | Clay Pit | 1959 | 2098959 |
| H | 481m E | Old Clay Pit | 1898 | 2062293 |
| H | 481m E | Clay Pit | 1946 | 2101192 |
| H | 481m E | Clay Pit | 1919 | 2086120 |
| H | 481m E | Clay Pit | 1896 | 2068763 |
| H | 492m E | Tramway Sidings | 1946 | 2066206 |
| H | 492m E | Tramway Sidings | 1919 | 2071464 |

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

## 2.2 Historical tanks

| Records within 500m | 2 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on page 20 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| A | 81m W | Unspecified Tank | 1897 | 344387 |
| C | 343m NE | Tanks | 1877 | 348430 |

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

## 2.3 Historical energy features

| Records within 500m | 26 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on page 20 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| E | 362m NW | Electricity Substation | 1981 | 227821 |
| E | 363m NW | Electricity Substation | 1994 | 233422 |
| E | 363m NW | Electricity Substation | 1996 | 233422 |
| E | 363m NW | Electricity Substation | 1993 | 233422 |
| E | 364m NW | Electricity Substation | 1989 | 233422 |
| F | 367m NW | Electricity Substation | 1994 | 232896 |
| F | 367m NW | Electricity Substation | 1996 | 232896 |
| F | 367m NW | Electricity Substation | 1993 | 232896 |
| E | 368m NW | Electricity Substation | 1983 | 228271 |
| E | 368m NW | Electricity Substation | 1969 | 227991 |
| F | 368m NW | Electricity Substation | 1983 | 232896 |
| F | 368m NW | Electricity Substation | 1981 | 232896 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| F | 368m NW | Electricity Substation | 1969 | 232896 |
| F | 369m NW | Electricity Substation | 1989 | 232896 |
| G | 458m W | Electricity Substation | 1981 | 234502 |
| G | 458m W | Electricity Substation | 1994 | 234502 |
| G | 458m W | Electricity Substation | 1996 | 234502 |
| G | 458m W | Electricity Substation | 1993 | 234502 |
| G | 459m W | Electricity Substation | 1983 | 234502 |
| G | 462m W | Electricity Substation | 1989 | 239887 |
| I | 496m W | Electricity Substation | 1994 | 232299 |
| I | 496m W | Electricity Substation | 1996 | 232299 |
| I | 496m W | Electricity Substation | 1993 | 232299 |
| I | 496m W | Electricity Substation | 1981 | 232299 |
| I | 497m W | Electricity Substation | 1983 | 239602 |
| I | 499m W | Electricity Substation | 1989 | 239602 |

*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.*

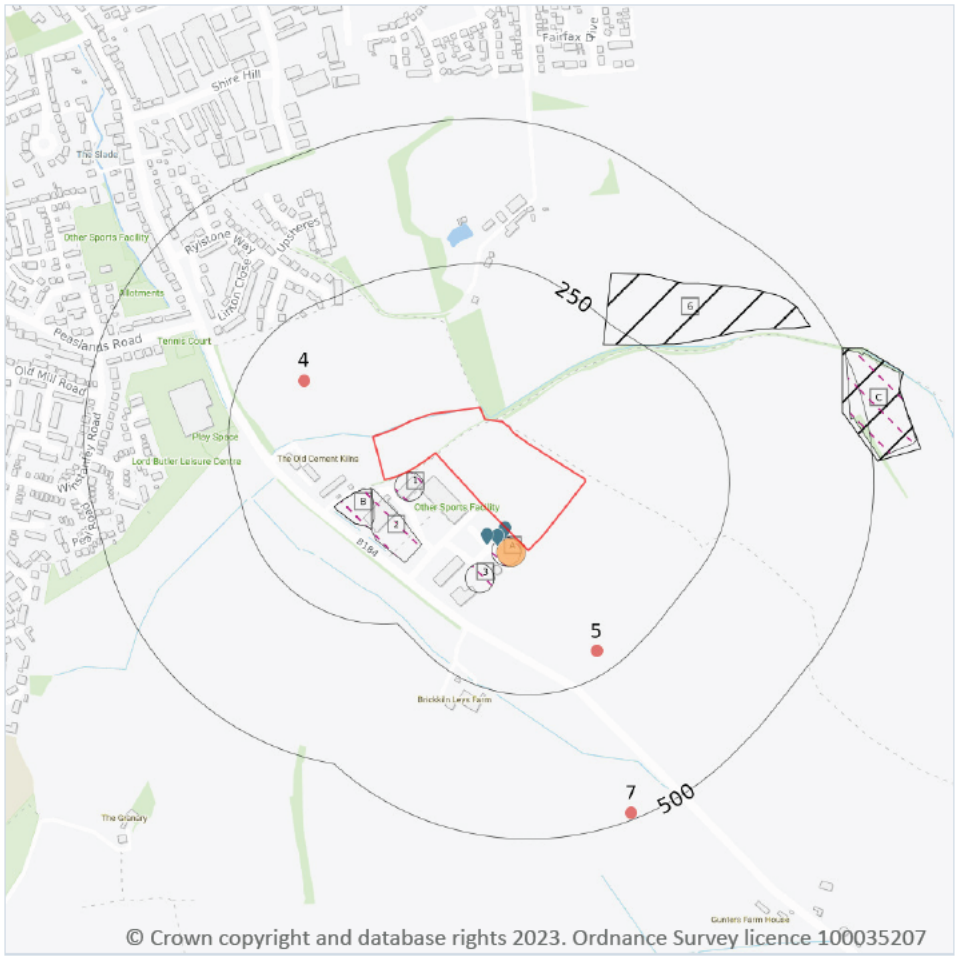
## 2.5 Historical garages

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

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

*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 | 7 |
|---|---|

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

Features are displayed on the Waste and landfill map on page 25 >

| ID | Location | Site address | Source | Data type |
|---|---|---|---|---|
| **1** | **On site** | **Plot 2, Thaxted road, Safron Walden** | **Uttlesford district council** | **Point** |
| A | 3m S | Civic Amenity Site | Uttlesford District Council | Point |
| 2 | 26m W | Refuse Tip | 1969 mapping | Polygon |
| B | 28m W | Refuse Tip | 1981 mapping | Polygon |
| B | 28m W | Refuse Tip | 1969 mapping | Polygon |
| 3 | 68m S | Former quarry used as refuse tip within 85m of study site | Uttlesford District Council | Point |
| C | 472m E | Refuse Tip | 1969 mapping | Polygon |

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

## 3.4 Historical landfill (EA/NRW records)

| Records within 500m | 2 |
|---|---|

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 25 >

| ID | Location | Details | | |
|---|---|---|---|---|
| 6 | 214m NE | Site Address: Shire Hall Farm, Saffron Walden, Essex<br>Licence Holder Address: Maple Road, Kings Lynn, Norfolk | Waste Licence: Yes<br>Site Reference: 219/92, UTT024<br>Waste Type: Inert<br>Environmental Permitting Regulations (Waste) Reference: -<br>Licence Issue: 14/08/1992<br>Licence Surrender: 31/07/1993 | Operator: R G Carter Projects Limited<br>Licence Holder: R G Carter Projects Limited<br>First Recorded 14/08/1992<br>Last Recorded: 31/07/1993 |

| ID | Location | Details | | |
|---|---|---|---|---|
| C | 461m E | Site Address: Thaxted Road, Saffron Walden, Essex<br>Licence Holder Address: - | Waste Licence: -<br>Site Reference: UTT009<br>Waste Type: Commercial, Household<br>Environmental Permitting Regulations (Waste) Reference: -<br>Licence Issue: -<br>Licence Surrender: - | Operator: Saffron Walden Rural District Council<br>Licence Holder: -<br>First Recorded 31/12/1964<br>Last Recorded: 31/12/1971 |

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

## 3.5 Historical waste sites

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

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

Features are displayed on the Waste and landfill map on page 25 >

| ID | Location | Address | Further Details | Date |
|---|---|---|---|---|
| **A** | **On site** | **Site Address: Thaxted Road, SAFFRON WALDEN, Essex, CB11 3AA** | **Type of Site: Civic Amenity And Recycling Centre<br>Planning application reference: UTT/0710/05/CC<br>Description: Scheme comprises redevelopment to provide a new civic amenity & recycling centre. Works also include estate road infrastructure and associated junction to the B184 Thaxted Road, incorporating the creation of a new link road to Public Byway No. 18 Saffro n Walden (without alteration to the Byway). Construction - bathroom, kitchen fittings. An application (ref: UTT/0710/05/CC) for detailed planning permission was granted by Uttlesford D.C. Tender details remain to be finalised. We are advised that may be open tender from the private client - details anticipated to be made available August 2005. Work is almost complete<br>Data source: Historic Planning Application<br>Data Type: Point** | **06/03/200 8** |

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

## 3.6 Licensed waste sites

| Records within 500m | 5 |
|---|---|

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

Features are displayed on the Waste and landfill map on page 25 >

| ID | Location | Details | | |
|---|---|---|---|---|
| A | 5m S | Site Name: Saffron Walden Recycling Centre For Household Waste<br>Site Address: Saffron Walden Recycling Centre For Household Waste, Thaxted Road, Saffron Walden, Essex, CB10 2UR<br>Correspondence Address: - | Type of Site: Household Waste Amenity Site<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: ECC002<br>EPR reference: EA/EPR/BP3695SG/A001<br>Operator: Essex County Council<br>Waste Management licence No: 100573<br>Annual Tonnage: 24999 | Issue Date: 13/11/2008<br>Effective Date: -<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Issued |
| A | 21m S | Site Name: Saffron Walden RCHW<br>Site Address: Saffron Walden Recycling Centre For Household Waste, Thaxted Road, Saffron Walden, Essex, CB10 2UR<br>Correspondence Address: - | Type of Site: Household Waste Amenity Site<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: ESS001<br>EPR reference: EA/EPR/LB3104XY/T001<br>Operator: Essex County Council<br>Waste Management licence No: 100573<br>Annual Tonnage: 24999 | Issue Date: 31/03/2022<br>Effective Date: -<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Transferred |
| A | 21m S | Site Name: Saffron Walden Recycling Centre For Household Waste<br>Site Address: Saffron Walden Recycling Centre For Household Waste, Thaxted Road, Saffron Walden, Essex, CB10 2UR<br>Correspondence Address: - | Type of Site: Household Waste Amenity Site<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: VEO197<br>EPR reference: EA/EPR/AB3703GL/T001<br>Operator: Veolia Environmental Services ( U K) Plc<br>Waste Management licence No: 100573<br>Annual Tonnage: 24999 | Issue Date: 13/11/2008<br>Effective Date: 01/11/2013<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Transferred |

| ID | Location | Details | | |
|---|---|---|---|---|
| A | 21m S | Site Name: Saffron Walden Recycling Centre For Household Waste<br>Site Address: Saffron Walden Recycling Centre For Household Waste, Thaxted Road, Saffron Walden, Essex, CB10 2UR<br>Correspondence Address: - | Type of Site: Household Waste Amenity Site<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: VEO197<br>EPR reference: EA/EPR/AB3703GL/V002<br>Operator: Veolia Environmental Services ( U K ) Plc<br>Waste Management licence No: 100573<br>Annual Tonnage: 24999 | Issue Date: 13/11/2008<br>Effective Date: 01/11/2013<br>Modified: 11/05/2015<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Modified |
| A | 34m S | Site Name: Saffron Walden Recycling Centre For Household Waste<br>Site Address: Essex County Council, Thaxted Road, Saffron Walden, Essex, CB10 2UR<br>Correspondence Address: - | Type of Site: Household, Commercial & Industrial Waste T Stn<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: ESS001<br>EPR reference: EA/EPR/CP3699NF/S001<br>Operator: Essex County Council<br>Waste Management licence No: 70423<br>Annual Tonnage: 0 | Issue Date: 21/03/1997<br>Effective Date: -<br>Modified: -<br>Surrendered Date: 29/05/2009<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Surrendered |

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

## 3.7 Waste exemptions

**Records within 500m** **3**

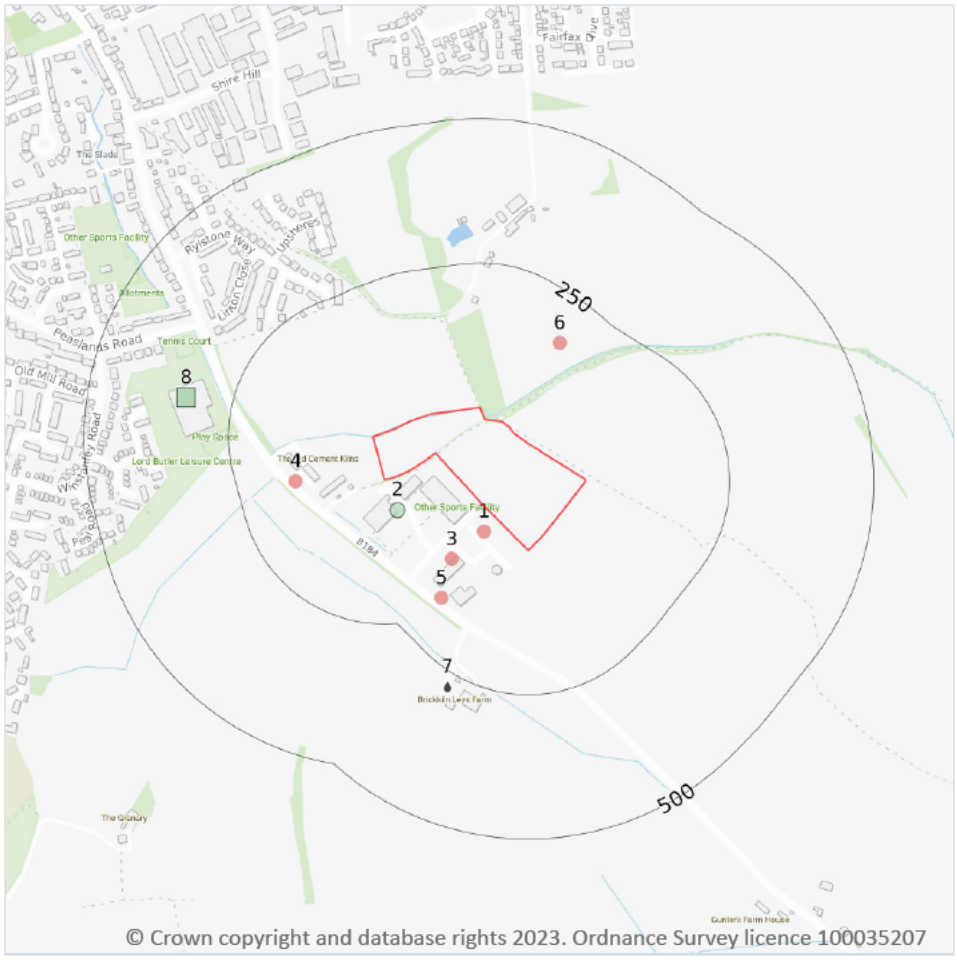
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on page 25 >

| ID | Location | Site | Reference | Category | Sub-Category | Description |
|---|---|---|---|---|---|---|
| 4 | 154m NW | - | WEX352593 | Using waste exemption | Not on a farm | Use of waste in construction |
| 5 | 211m SE | Roos Farm | WEX263406 | Storing waste exemption | On a farm | Storage of sludge |
| 7 | 489m SE | Roos Farm | WEX263407 | Storing waste exemption | On a farm | Storage of sludge |

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

# 4 Current industrial land use






Site Outline

Search buffers in metres (m)

Recent industrial land uses

Licensed Discharges to controlled waters

List 2 Dangerous Substances

Pollution Incidents (EA/NRW)

## 4.1 Recent industrial land uses

| Records within 250m | 5 |
|---|---|

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on page 30 >

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 1 | 31m S | Public Recycling Facility | Essex, CB10 | Recycling Centres | Infrastructure and Facilities |
| 3 | 105m S | Electricity Sub Station | Essex, CB10 | Electrical Features | Infrastructure and Facilities |

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 4 | 149m W | Electricity Sub Station | Essex, CB10 | Electrical Features | Infrastructure and Facilities |
| 5 | 165m S | Gas Governor Station | Essex, CB10 | Gas Features | Infrastructure and Facilities |
| 6 | 169m NE | Electricity Pole | Essex, CB10 | Electrical Features | Infrastructure and Facilities |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

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

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

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

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

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

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

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

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

## 4.7 Regulated explosive sites

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

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

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

## 4.8 Hazardous substance storage/usage

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

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

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

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

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

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

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

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

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

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

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

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

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

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

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

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

## 4.13 Licensed Discharges to controlled waters

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

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

Features are displayed on the Current industrial land use map on page 30 >

| ID | Location | Address | Details | |
|---|---|---|---|---|
| 7 | 275m S | BRICK KILN FARM, THAXTED ROAD, SAFFRON WALDON, ESSEX, CB10 2UR | Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY<br>Permit Number: EPRRB3190DK<br>Permit Version: 1<br>Receiving Water: DITCH TRIBUTARY OF THE SLADE | Status: NEW ISSUED UNDER EPR 2010<br>Issue date: 25/05/2020<br>Effective Date: 25/05/2020<br>Revocation Date: - |

*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 | 1 |
|---|---|

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.

Features are displayed on the Current industrial land use map on **page 30 >**

| ID | Location | Name | Status | Receiving Water | Authorised Substances |
|---|---|---|---|---|---|
| 8 | 330m W | Lord Butler Fitness & Leisure Centre | Not Active | Na | pH |

*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 30 >**

| ID | Location | Details | |
|---|---|---|---|
| 2 | 55m SW | Incident Date: 03/05/2002<br>Incident Identification: 76902<br>Pollutant: Inorganic Chemicals/Products<br>Pollutant Description: Other Inorganic Chemical or Product | Water Impact: Category 2 (Significant)<br>Land Impact: Category 3 (Minor)<br>Air Impact: Category 4 (No Impact) |

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

## 4.19 Pollution inventory substances

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

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

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

## 4.20 Pollution inventory waste transfers

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

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

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

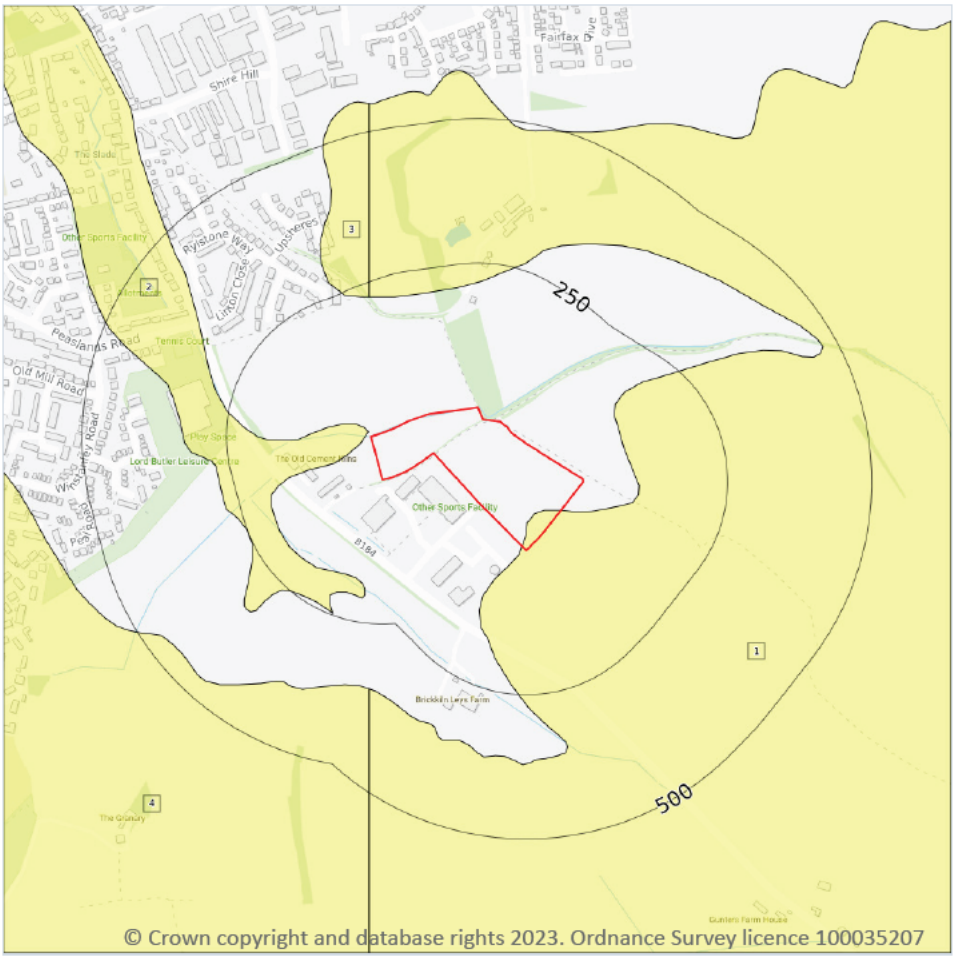
## 4.21 Pollution inventory radioactive waste

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

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

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

# 5 Hydrogeology - Superficial aquifer




Site Outline

Search buffers in metres (m)

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

## 5.1 Superficial aquifer

| Records within 500m | 4 |
|---|---|

Aquifer status of groundwater held within superficial geology.

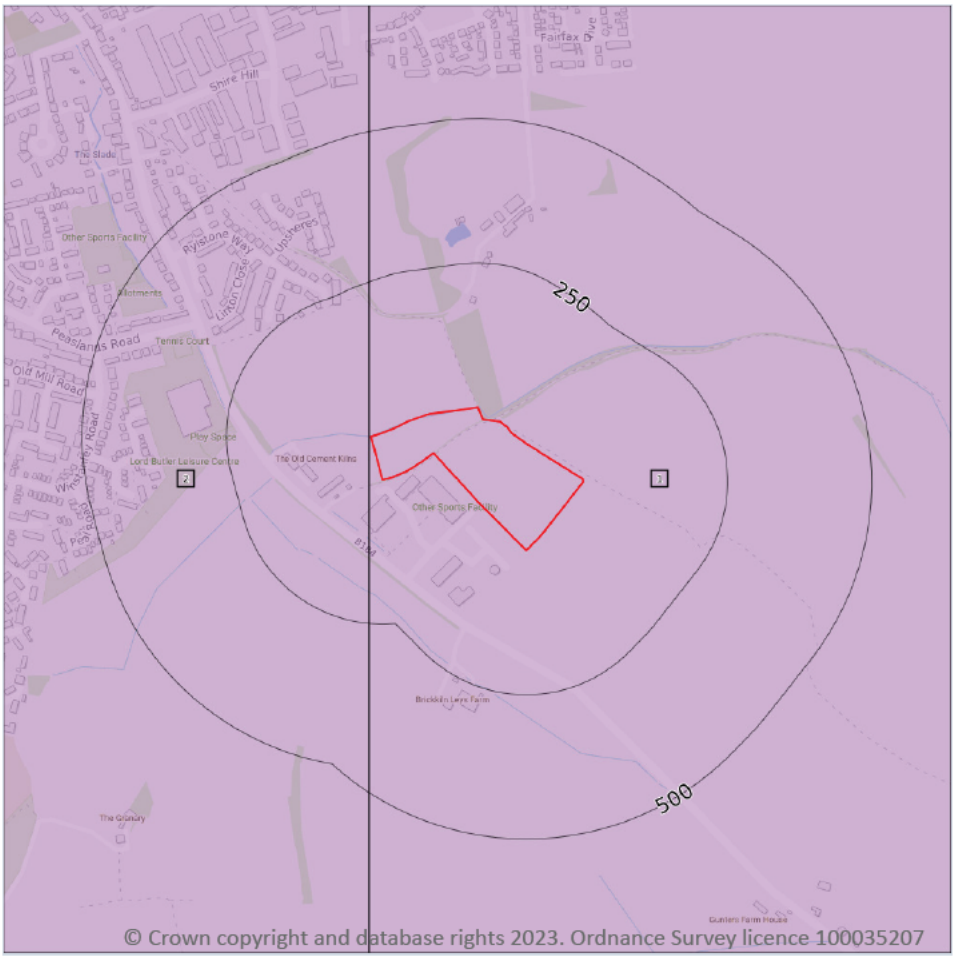
Features are displayed on the Hydrogeology map on page 36 >

| ID | Location | Designation | Description |
|---|---|---|---|
| **1** | **On site** | **Secondary Undifferentiated** | **Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type** |
| 2 | 9m W | 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 |

| ID | Location | Designation | Description |
|---|---|---|---|
| 3 | 225m NW | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |
| 4 | 359m SW | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |

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

# Bedrock aquifer




Site Outline

Search buffers in metres (m)

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

## 5.2 Bedrock aquifer

| Records within 500m | 2 |
|---|---|

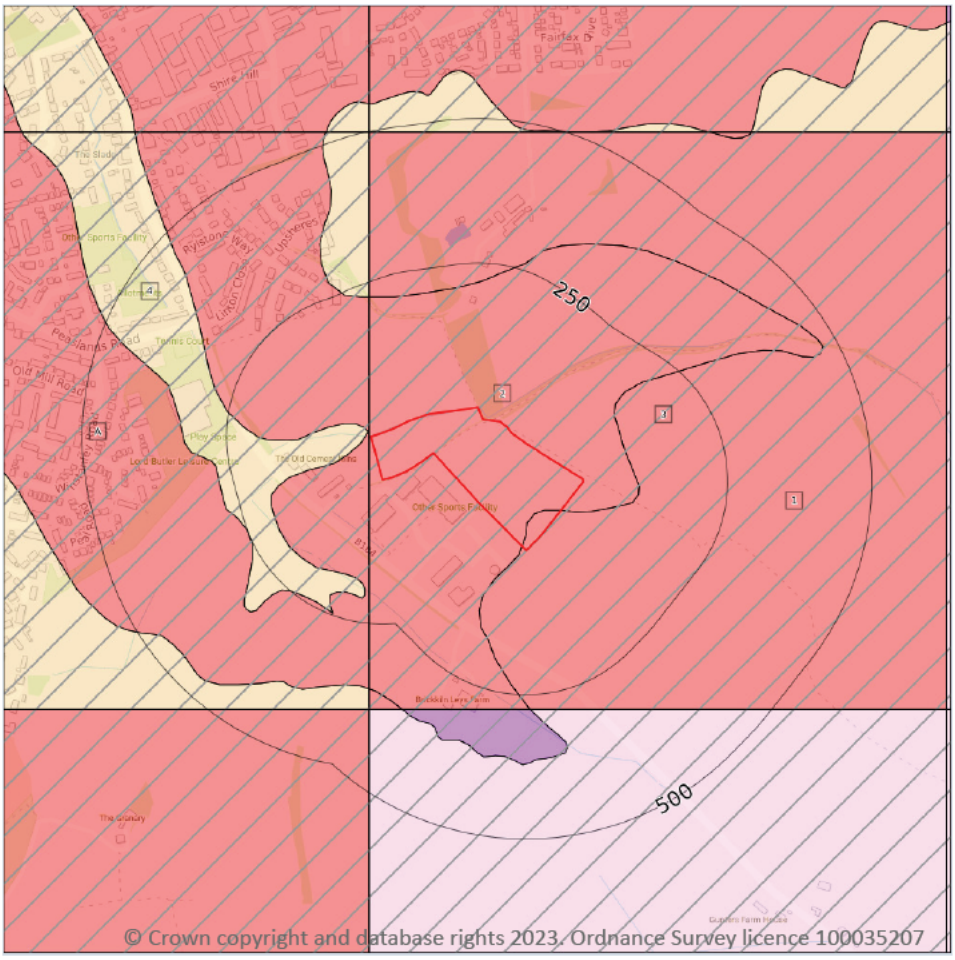
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on page 38 >

| 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 | 4m W | 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




Site Outline

Search buffers in metres (m)

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

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

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

## 5.3 Groundwater vulnerability

| Records within 50m | 4 |
|---|---|

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 40 >

| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|---|---|---|---|---|---|
| **1** | **On site** | **Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer** | **Leaching class: Intermediate Infiltration value: 40-70% Dilution value: <300mm/year** | **Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data** | **Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures** |
| **2** | **On site** | **Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer** | **Leaching class: Intermediate Infiltration value: 40-70% Dilution value: <300mm/year** | **Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data** | **Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures** |
| A | 3m W | Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer | Leaching class: High Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data | Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures |
| 4 | 8m W | Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: High Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data | Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures |

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

## 5.4 Groundwater vulnerability- soluble rock risk

| Records on site | 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 |
|---|---|---|
| **3** | **Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.** | **16.0%** |

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

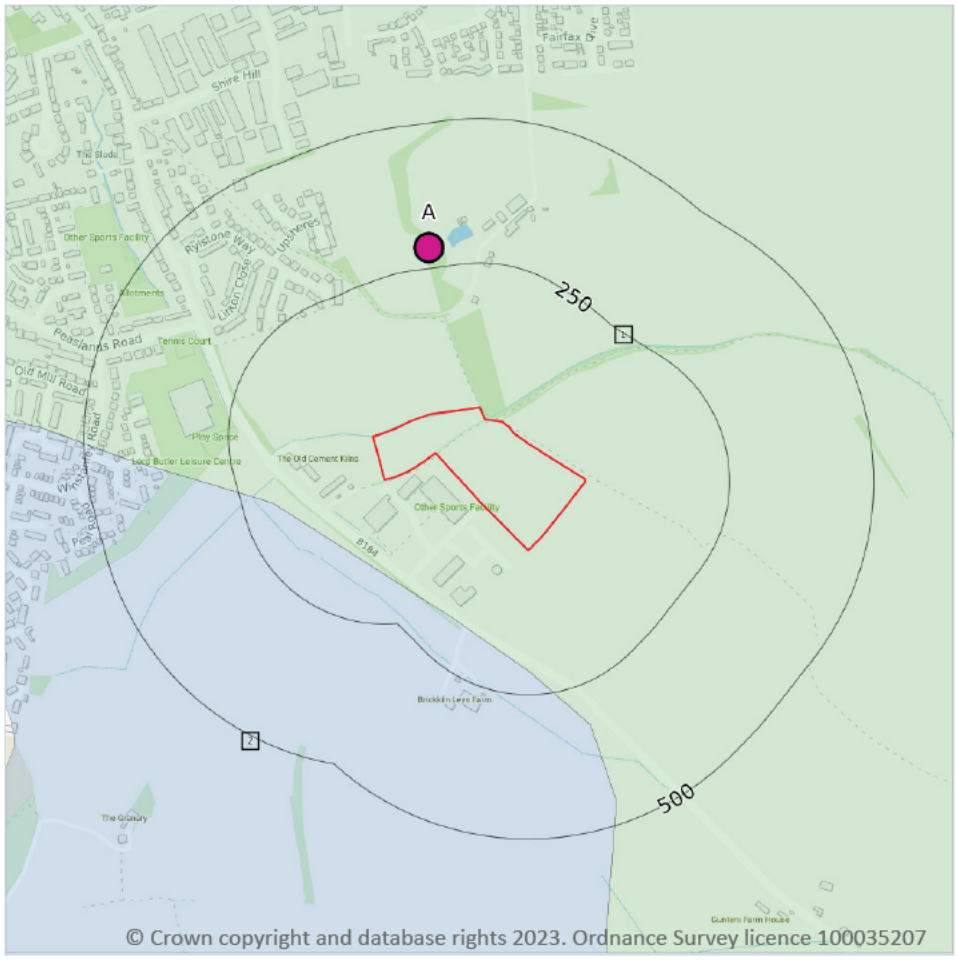
## 5.5 Groundwater vulnerability- local information

| 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




Site Outline

Search buffers in metres (m)

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

## 5.6 Groundwater abstractions

| Records within 2000m | 8 |
|---|---|

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 43 >

| ID | Location | Details | |
|---|---|---|---|
| A | 286m N | Status: Historical<br>Licence No: 6/33/27/*G/0024<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: WELL 1 E OF SAFFRON WALDEN<br>Data Type: Point<br>Name: ENGELMANN FARMS LTD<br>Easting: 555100<br>Northing: 237800 | Annual Volume ($m^3$): 2727.6<br>Max Daily Volume ($m^3$): 45.46<br>Original Application No: -<br>Original Start Date: 01/01/1968<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 02/03/1994<br>Version End Date: - |
| A | 286m N | Status: Historical<br>Licence No: 6/33/27/*G/0024<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: WELL 1 E OF SAFFRON WALDEN<br>Data Type: Point<br>Name: ENGELMANN FARMS LTD<br>Easting: 555100<br>Northing: 237800 | Annual Volume ($m^3$): 2727.6<br>Max Daily Volume ($m^3$): 45.46<br>Original Application No: -<br>Original Start Date: 01/01/1968<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 02/03/1994<br>Version End Date: - |
| - | 930m N | Status: Historical<br>Licence No: 6/33/27/*G/0024<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: WELL 2 E OF SAFFRON WALDEN<br>Data Type: Point<br>Name: ENGELMANN FARMS LTD<br>Easting: 555500<br>Northing: 238400 | Annual Volume ($m^3$): 2727.6<br>Max Daily Volume ($m^3$): 45.46<br>Original Application No: -<br>Original Start Date: 01/01/1968<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 02/03/1994<br>Version End Date: - |
| - | 930m N | Status: Historical<br>Licence No: 6/33/27/*G/0024<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: WELL 2 E OF SAFFRON WALDEN<br>Data Type: Point<br>Name: ENGELMANN FARMS LTD<br>Easting: 555500<br>Northing: 238400 | Annual Volume ($m^3$): 2727.6<br>Max Daily Volume ($m^3$): 45.46<br>Original Application No: -<br>Original Start Date: 01/01/1968<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 02/03/1994<br>Version End Date: - |
| - | 1271m W | Status: Historical<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: DEBDEN ROAD, SAFFRON WALDEN<br>Data Type: Point<br>Name: THREE VALLEYS WATER PLC<br>Easting: 553810<br>Northing: 237020 | Annual Volume ($m^3$): 1244467.50<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: -<br>Original Start Date: 21/11/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 27/12/2007<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1271m W | Status: Active<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BOREHOLE AT DEBDEN ROAD, SAFFRON WALDEN<br>Data Type: Point<br>Name: Affinity Water Limited<br>Easting: 553810<br>Northing: 237020 | Annual Volume ($m^3$): 1244467.5<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: NPS/WR/011805<br>Original Start Date: 21/11/1966<br>Expiry Date: -<br>Issue No: 103<br>Version Start Date: 14/11/2012<br>Version End Date: - |
| - | 1286m W | Status: Historical<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: DEBDEN ROAD,SAFFRON WALDEN<br>Data Type: Point<br>Name: THREE VALLEYS WATER PLC<br>Easting: 553800<br>Northing: 237000 | Annual Volume ($m^3$): 1244467.50<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: -<br>Original Start Date: 01/11/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 27/12/2007<br>Version End Date: - |
| - | 1460m NW | Status: Active<br>Licence No: 6/33/27/*G/0002<br>Details: General Use Relating To Secondary Category (Medium Loss)<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BOREHOLE AT SAFFRON WALDEN<br>Data Type: Point<br>Name: SAFFRON WALDEN STEAM LAUNDRY CO LTD<br>Easting: 553800<br>Northing: 238300 | Annual Volume ($m^3$): 22727<br>Max Daily Volume ($m^3$): 90.91<br>Original Application No: -<br>Original Start Date: 01/01/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/04/2008<br>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 | 3 |
|---|---|

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 43 >

| ID | Location | Details | |
|---|---|---|---|
| - | 1271m W | Status: Historical<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: DEBDEN ROAD, SAFFRON WALDEN<br>Data Type: Point<br>Name: THREE VALLEYS WATER PLC<br>Easting: 553810<br>Northing: 237020 | Annual Volume ($m^3$): 1244467.50<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: -<br>Original Start Date: 21/11/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 27/12/2007<br>Version End Date: - |
| - | 1271m W | Status: Active<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BOREHOLE AT DEBDEN ROAD, SAFFRON WALDEN<br>Data Type: Point<br>Name: Affinity Water Limited<br>Easting: 553810<br>Northing: 237020 | Annual Volume ($m^3$): 1244467.5<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: NPS/WR/011805<br>Original Start Date: 21/11/1966<br>Expiry Date: -<br>Issue No: 103<br>Version Start Date: 14/11/2012<br>Version End Date: - |
| - | 1286m W | Status: Historical<br>Licence No: 6/33/27/*G/0013<br>Details: Potable Water Supply - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: DEBDEN ROAD,SAFFRON WALDEN<br>Data Type: Point<br>Name: THREE VALLEYS WATER PLC<br>Easting: 553800<br>Northing: 237000 | Annual Volume ($m^3$): 1244467.50<br>Max Daily Volume ($m^3$): 3491.33<br>Original Application No: -<br>Original Start Date: 01/11/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 27/12/2007<br>Version End Date: - |

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

## 5.9 Source Protection Zones

| Records within 500m | 2 |
|---|---|

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 43 >

| ID | Location | Type | Description |
|---|---|---|---|
| **1** | **On site** | **3** | **Total catchment** |
| 2 | 138m SW | 2 | Outer catchment |

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

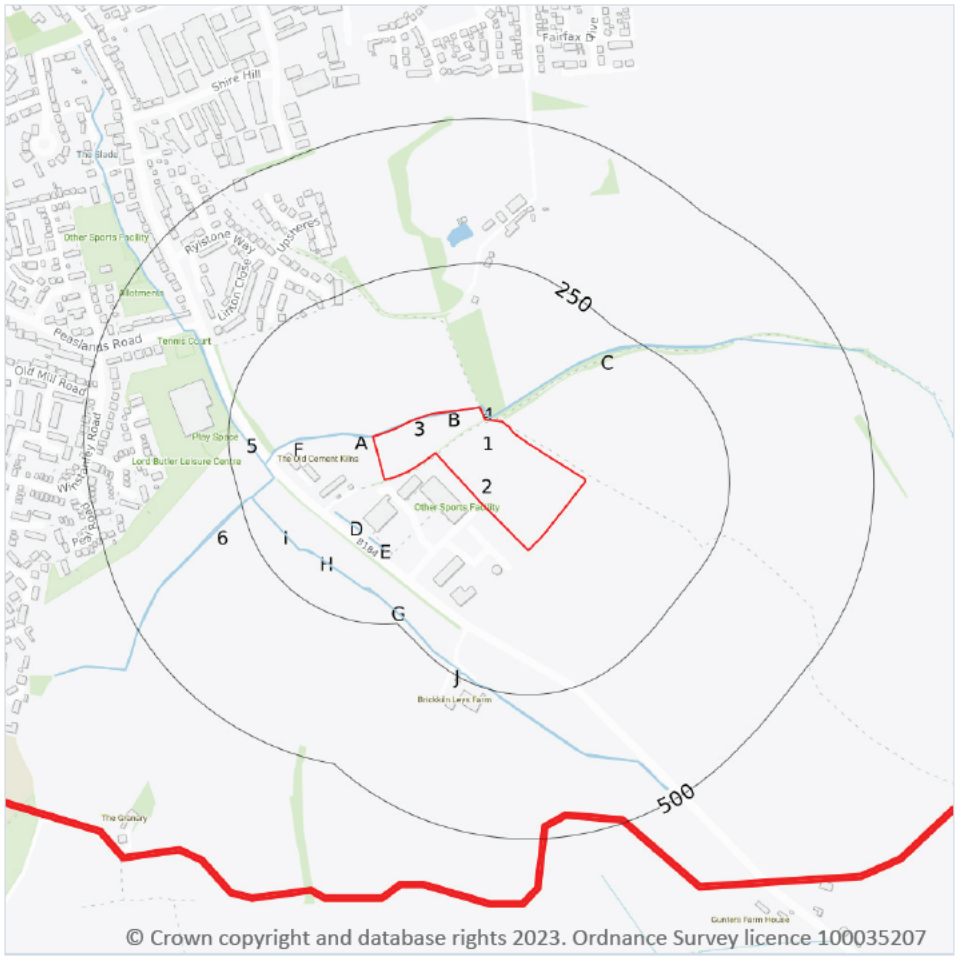
## 5.10 Source Protection Zones (confined aquifer)

| 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 | 25 |
|---|---|

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 48 >

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

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| **B** | **On site** | **Inland river not influenced by normal tidal action.** | **On ground surface** | **Watercourse contains water year round (in normal circumstances)** | **-** |
| **3** | **On site** | **Inland river not influenced by normal tidal action.** | **Underground** | **Watercourse contains water year round (in normal circumstances)** | **-** |
| **4** | **On site** | **Inland river not influenced by normal tidal action.** | **Underground** | **Watercourse contains water year round (in normal circumstances)** | **-** |
| C | 2m N | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| D | 95m SW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| E | 103m SW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| F | 138m W | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| F | 145m W | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| G | 175m SW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| H | 175m SW | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| I | 176m SW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| F | 177m W | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| F | 183m W | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| 5 | 193m W | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | The Slade |
| 6 | 229m W | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 238m S | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| J | 238m S | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 239m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 240m S | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 240m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 242m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 246m S | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| J | 247m S | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| J | 249m S | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

| Records within 250m | 14 |
|---|---|

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 48 >**

*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 48 >**

| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|---|---|---|---|---|---|---|
| **1** | **On site** | **River** | **Slade** | **GB105033037580** | **Cam Rhee and Granta** | **Cam and Ely Ouse** |

*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 48 >**

| ID | Location | Type | Name | Water body ID | Overall rating | Chemical rating | Ecological rating | Year |
|---|---|---|---|---|---|---|---|---|
| - | 1219m NW | River | Slade | GB105033037580 ↗ | 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 48 >

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|---|---|---|---|---|---|---|---|
| 2 | On site | Cam and Ely Ouse Chalk | GB40501G400500 ↗ | 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 | 0 |
|---|---|

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

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

## 7.2 Historical Flood Events

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

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

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

## 7.3 Flood Defences

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

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

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

## 7.4 Areas Benefiting from Flood Defences

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

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

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

## 7.5 Flood Storage Areas

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

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

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

# River and coastal flooding - Flood Zones

## 7.6 Flood Zone 2

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

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

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

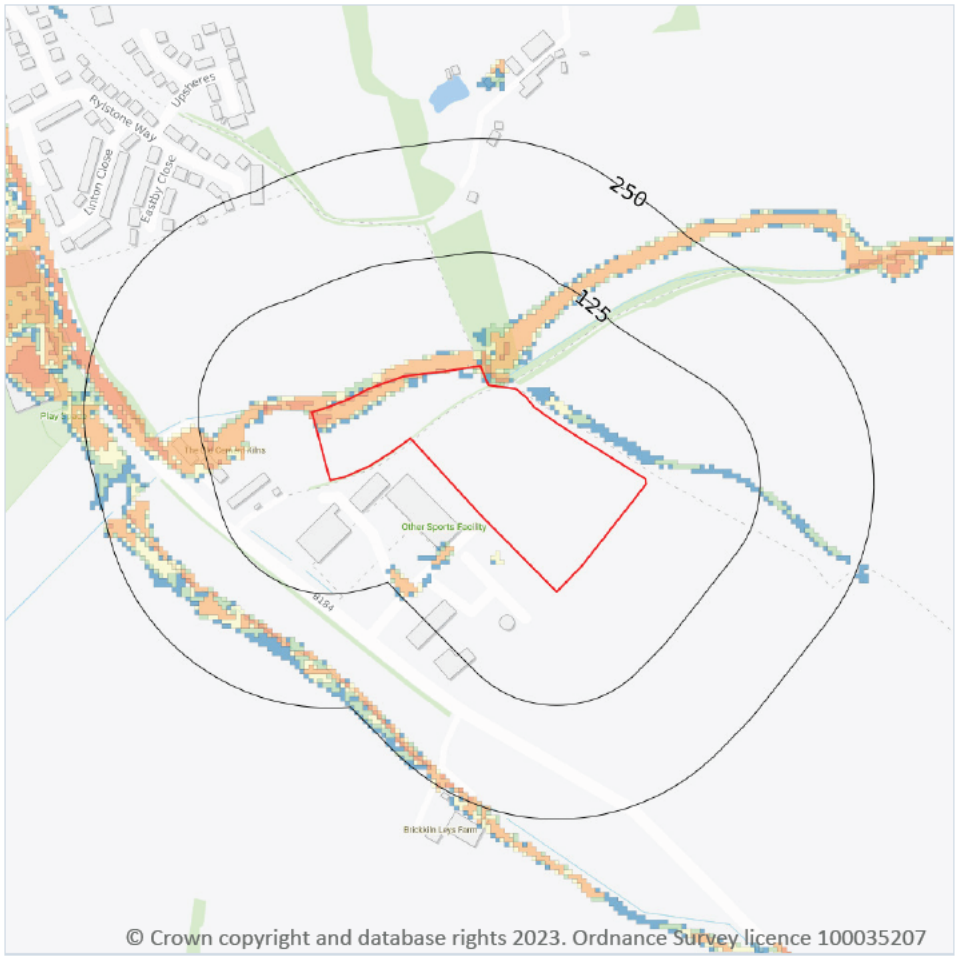
## 7.7 Flood Zone 3

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

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

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

# 8 Surface water flooding




Site Outline
Search buffers in metres (m)

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

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

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

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

## 8.1 Surface water flooding

| | |
|---|---|
| **Highest risk on site** | **1 in 30 year, 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 56 >

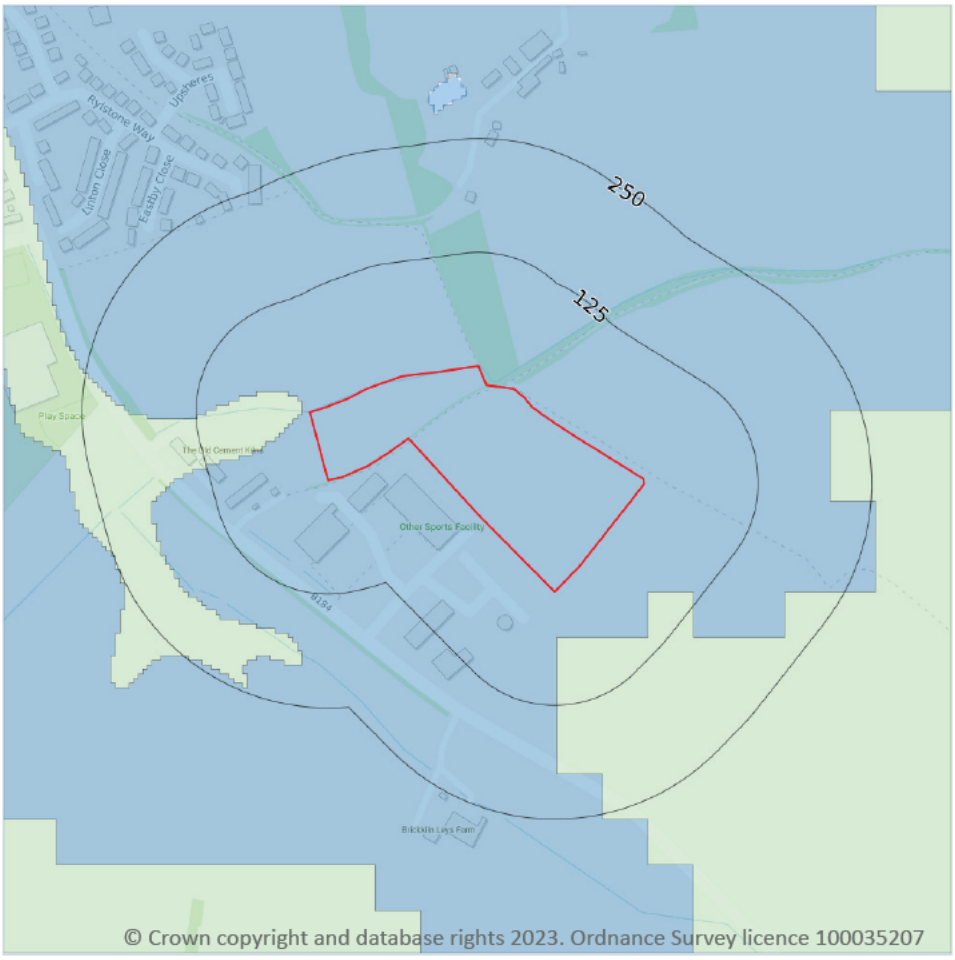
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 Ambiental Risk Analytics.*

# 9 Groundwater flooding




Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

## 9.1 Groundwater flooding

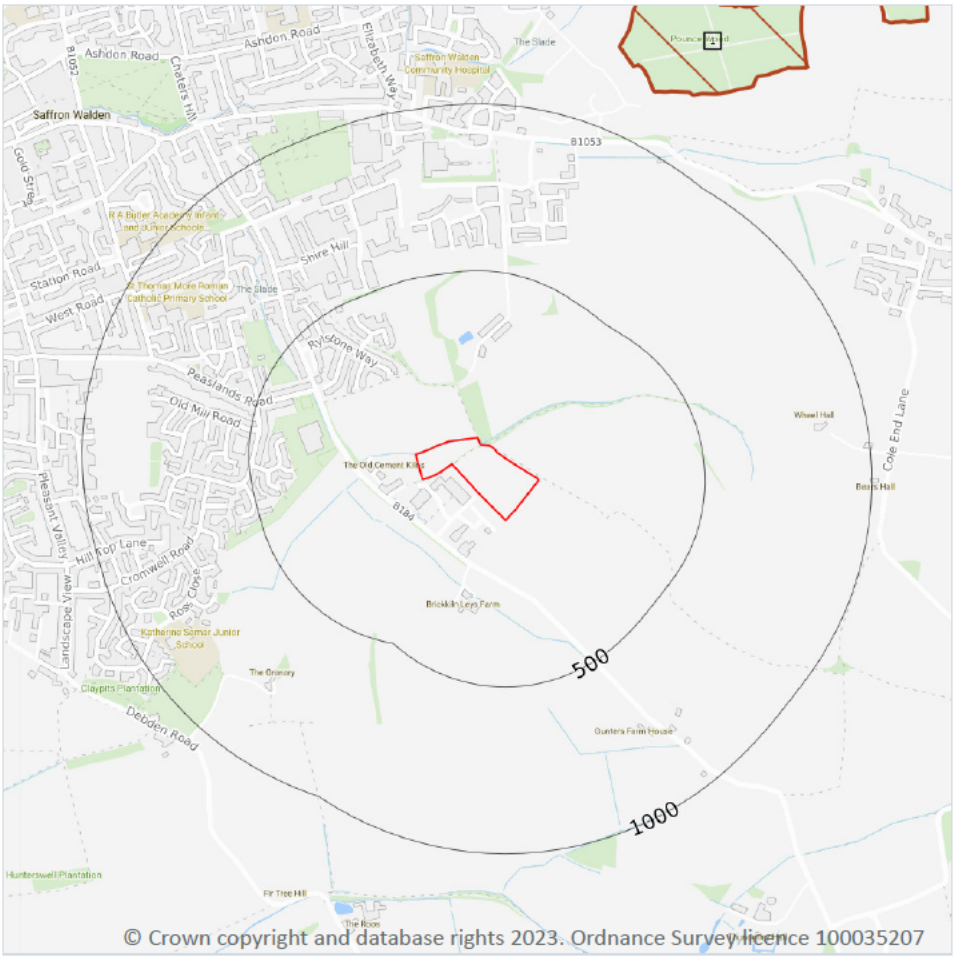
| | |
|---|---|
| **Highest risk on site** | **Negligible** |
| **Highest risk within 50m** | **Low** |

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 58 >

*This data is sourced from Ambiental Risk Analytics.*

# 10 Environmental designations




Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

## 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 | 5 |
|---|---|

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 59 >**

| ID | Location | Name | Woodland Type |
|---|---|---|---|
| 1 | 1165m NE | Pounce Wood | Ancient Replanted Woodland |
| - | 1642m S | Peverels Wood | Ancient & Semi-Natural Woodland |
| - | 1694m N | Whitehill Wood | Ancient Replanted Woodland |
| 4 | 1722m NE | Martins Wood | Ancient & Semi-Natural Woodland |
| - | 1854m SE | Crowney 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 | 0 |
|---|---|

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

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

## 10.12 Proposed Ramsar sites

| Records within 2000m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

## 10.13 Possible Special Areas of Conservation (pSAC)

| Records within 2000m | 0 |
|---|---|

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

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

## 10.14 Potential Special Protection Areas (pSPA)

| Records within 2000m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

## 10.15 Nitrate Sensitive Areas

| Records within 2000m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

## 10.16 Nitrate Vulnerable Zones

| Records within 2000m | 12 |
|---|---|

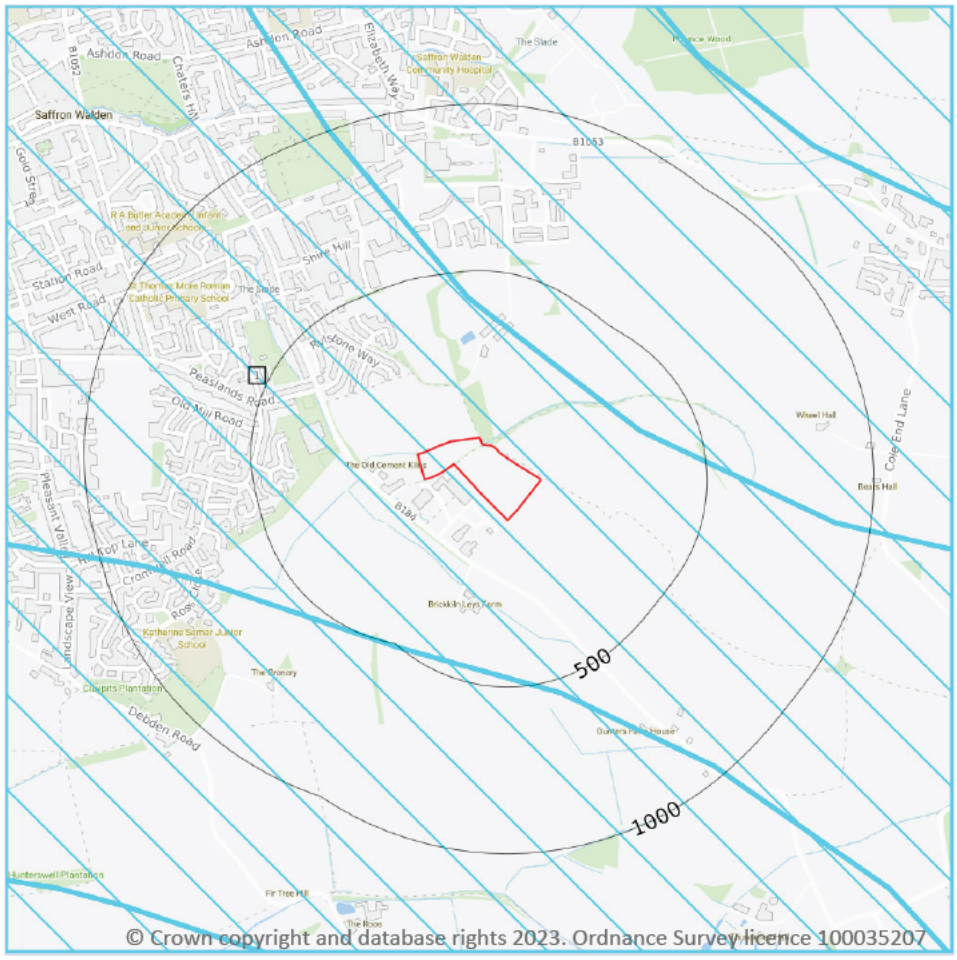
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| **On site** | **Ely Ouse and Cut-off channel NVZ** | **Surface Water** | **390** | **Existing** |
| **On site** | **Anglian Chalk** | **Groundwater** | **71** | **Existing** |
| 911m W | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 911m W | Anglian Chalk | Groundwater | 71 | Existing |
| 1001m E | River Blackwater NVZ | Surface Water | 434 | Existing |
| 1005m E | Sandlings and Chelmsford | Groundwater | 78 | Existing |
| 1293m S | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 1293m S | Anglian Chalk | Groundwater | 71 | Existing |

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| 1695m SW | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 1695m SW | Anglian Chalk | Groundwater | 71 | Existing |
| 1879m SE | River Blackwater NVZ | Surface Water | 434 | Existing |
| 1879m SE | Sandlings and Chelmsford | Groundwater | 78 | Existing |

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

# SSSI Impact Zones and Units




Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

## 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 65 >

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

*This data is sourced from Natural England.*

## 10.18 SSSI Units

| Records within 2000m | 0 |
|---|---|

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

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

# 11 Visual and cultural designations

## 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 | 0 |
|---|---|

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

*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.*

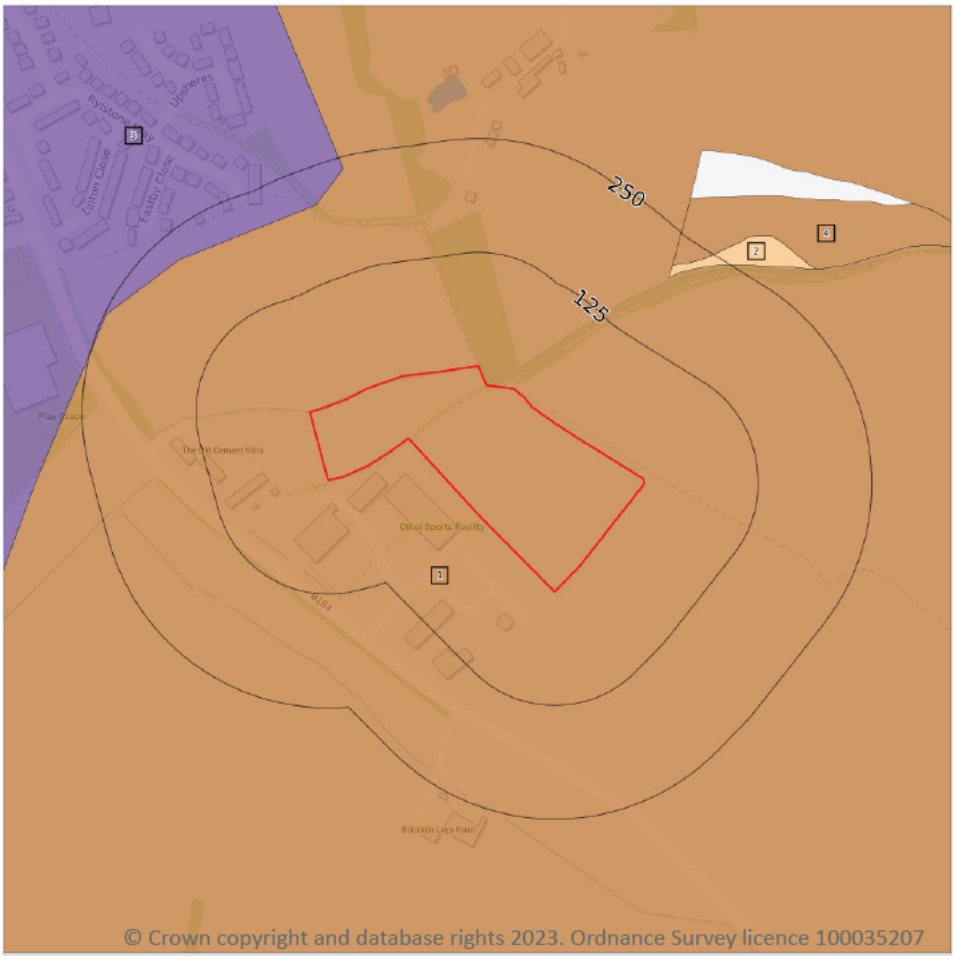
## 11.7 Registered Parks and Gardens

| 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




Site Outline

Search buffers in metres (m)

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

## 12.1 Agricultural Land Classification

| Records within 250m | 4 |
|---|---|

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 69 >

| ID | Location | Classification | Description |
|---|---|---|---|
| **1** | **On site** | **Grade 2** | **Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.** |
| 2 | 202m NE | Grade 3a | Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops. |
| 3 | 208m NW | Urban | - |
| 4 | 216m NE | Grade 2 | Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1. |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

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

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

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

## 12.3 Tree Felling Licences

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

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

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

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

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

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

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

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

*This data is sourced from Natural England.*

# 13 Habitat designations

## 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.*

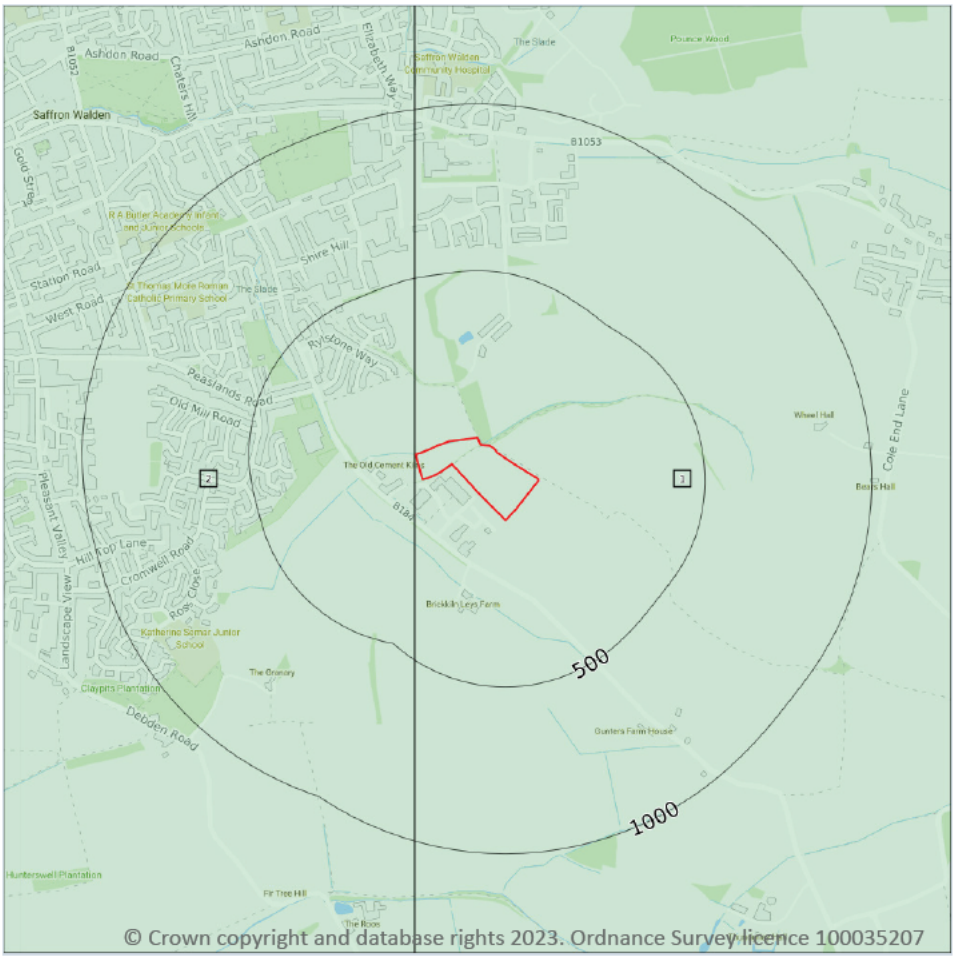
## 13.4 Limestone Pavement Orders

| 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 73 >

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| **1** | **On site** | **No coverage** | **Full** | **Full** | **No coverage** | **TL53NE** |
| 2 | 4m W | Full | Full | Full | No coverage | TL53NW |

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

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

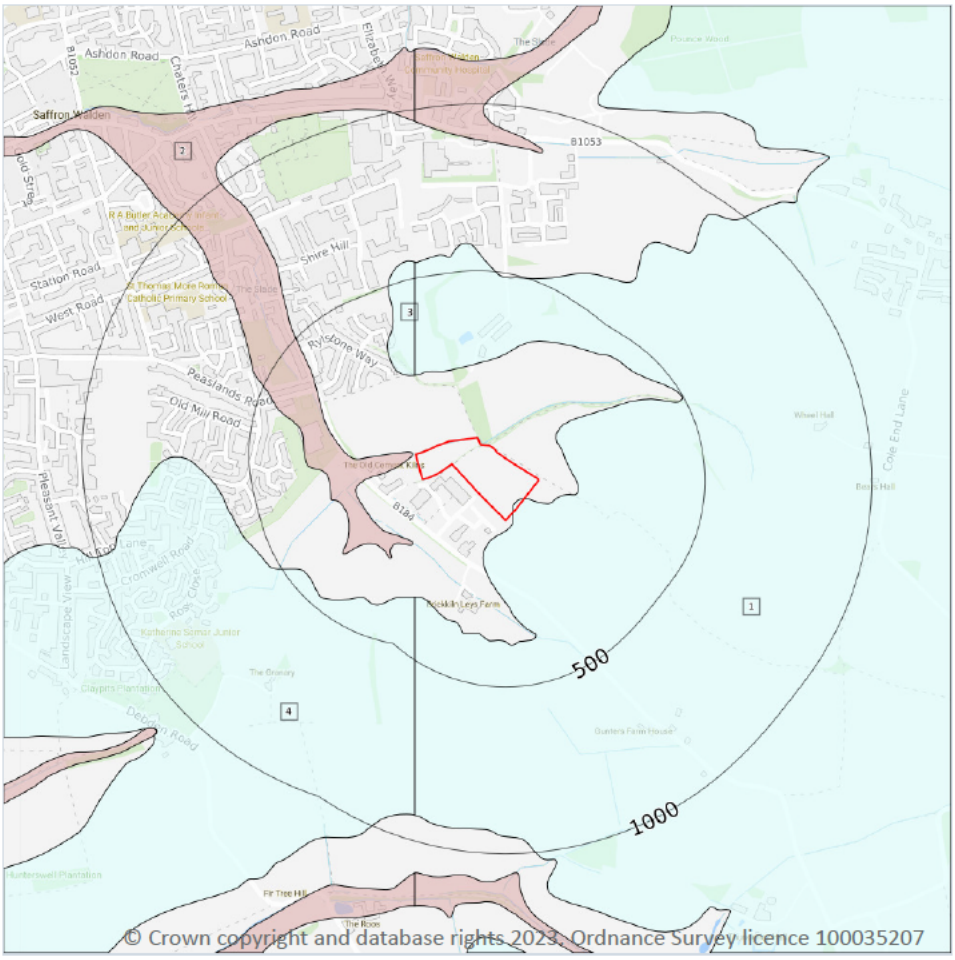
## 14.2 Artificial and made ground (10k)

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

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

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

# Geology 1:10,000 scale - Superficial




Site Outline

Search buffers in metres (m)

Landslip (10k)

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

## 14.3 Superficial geology (10k)

| Records within 500m | 4 |
|---|---|

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

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

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **LOFT-DMTN** | **Lowestoft Formation - Diamicton** | **Diamicton** |
| 2 | 11m W | HEAD-DMTN | Head - Diamicton | Diamicton |
| 3 | 221m NW | LOFT-DMTN | Lowestoft Formation - Diamicton | Diamicton |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 4 | 353m SW | LOFT-DMTN | Lowestoft Formation - Diamicton | Diamicton |

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

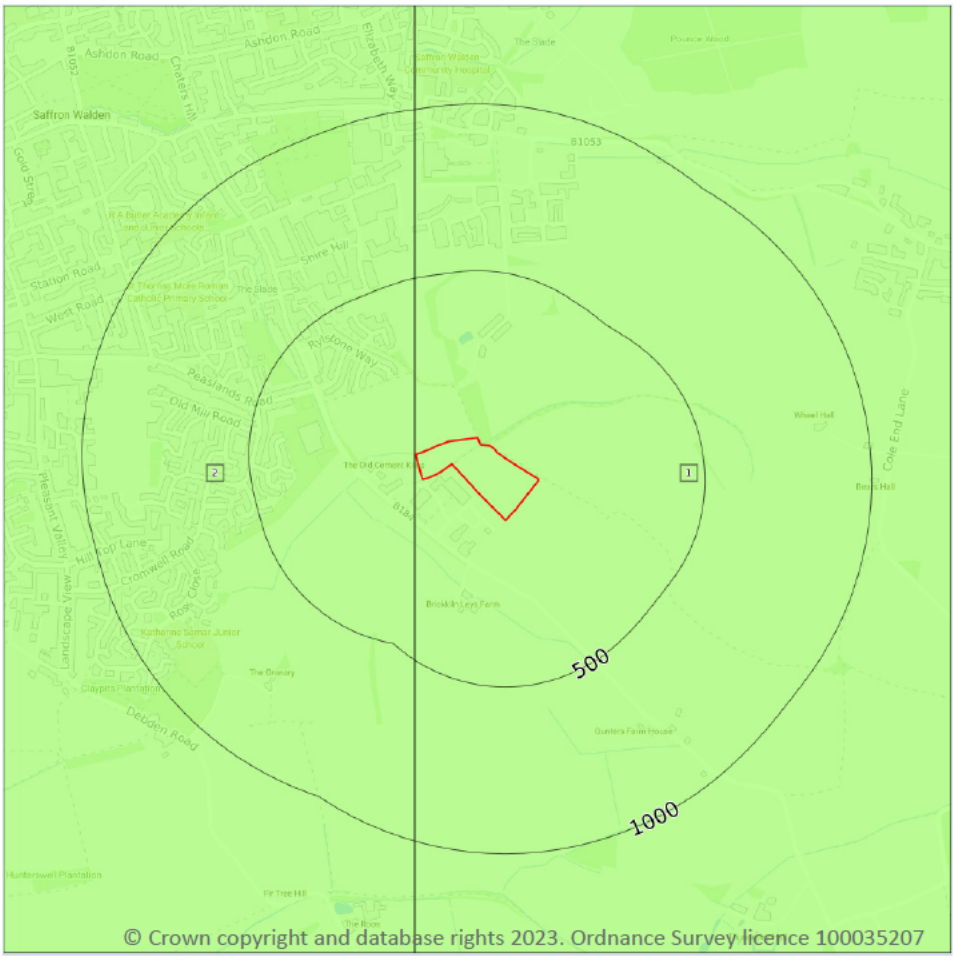
## 14.4 Landslip (10k)

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

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

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

# Geology 1:10,000 scale - Bedrock




Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

## 14.5 Bedrock geology (10k)

**Records within 500m** **2**

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

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

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **LESE-CHLK** | **Lewes Nodular Chalk Formation And Seaford Chalk Formation (undifferentiated) - Chalk** | **Santonian Age - Turonian Age** |
| 2 | 4m W | LESE-CHLK | Lewes Nodular Chalk Formation And Seaford Chalk Formation (undifferentiated) - Chalk | Santonian Age - Turonian Age |

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

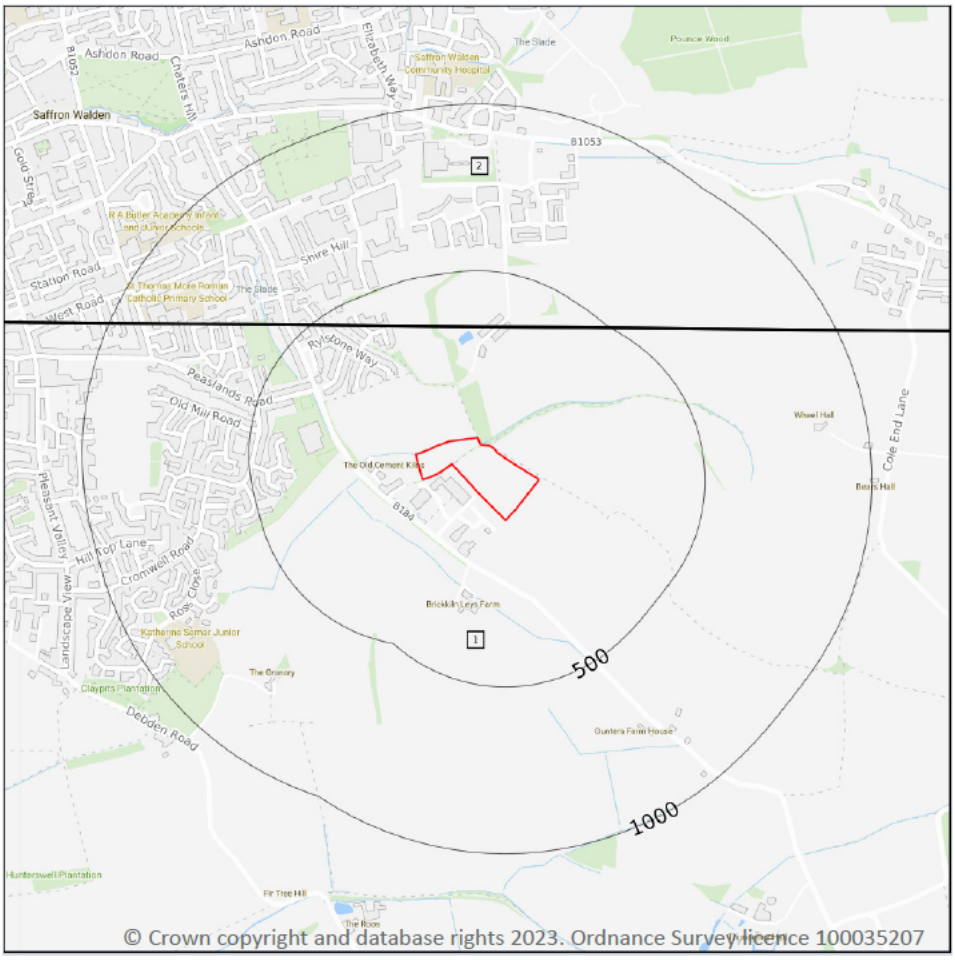
## 14.6 Bedrock faults and other linear features (10k)

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

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

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

# 15 Geology 1:50,000 scale - Availability




Site Outline

Search buffers in metres (m)

Geological map tile

## 15.1 50k Availability

| Records within 500m | 2 |
|---|---|

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

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

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| **1** | **On site** | **Full** | **Full** | **Full** | **No coverage** | **EW222_great_dunmow_v4** |
| 2 | 332m N | Full | Full | Full | No coverage | EW205_saffron_walden_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.*

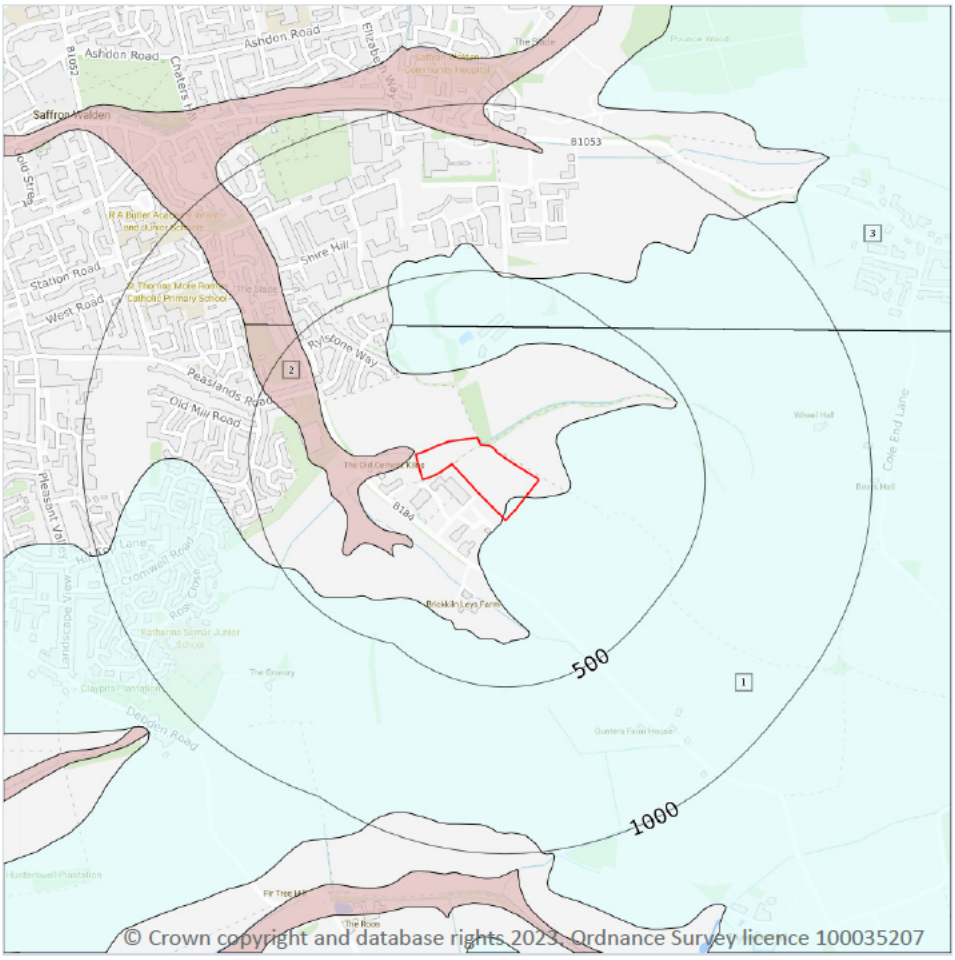
## 15.3 Artificial ground permeability (50k)

| 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** **3**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on page 81 >

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **LOFT-DMTN** | **LOWESTOFT FORMATION** | **DIAMICTON** |
| 2 | 9m W | HEAD-XCZSV | HEAD | CLAY, SILT, SAND AND GRAVEL |
| 3 | 332m N | LOFT-DMTN | LOWESTOFT FORMATION | DIAMICTON |

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

## 15.5 Superficial permeability (50k)

| Records within 50m | 2 |
|---|---|

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

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| **On site** | **Mixed** | **Moderate** | **Low** |
| 8m W | Mixed | 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.*

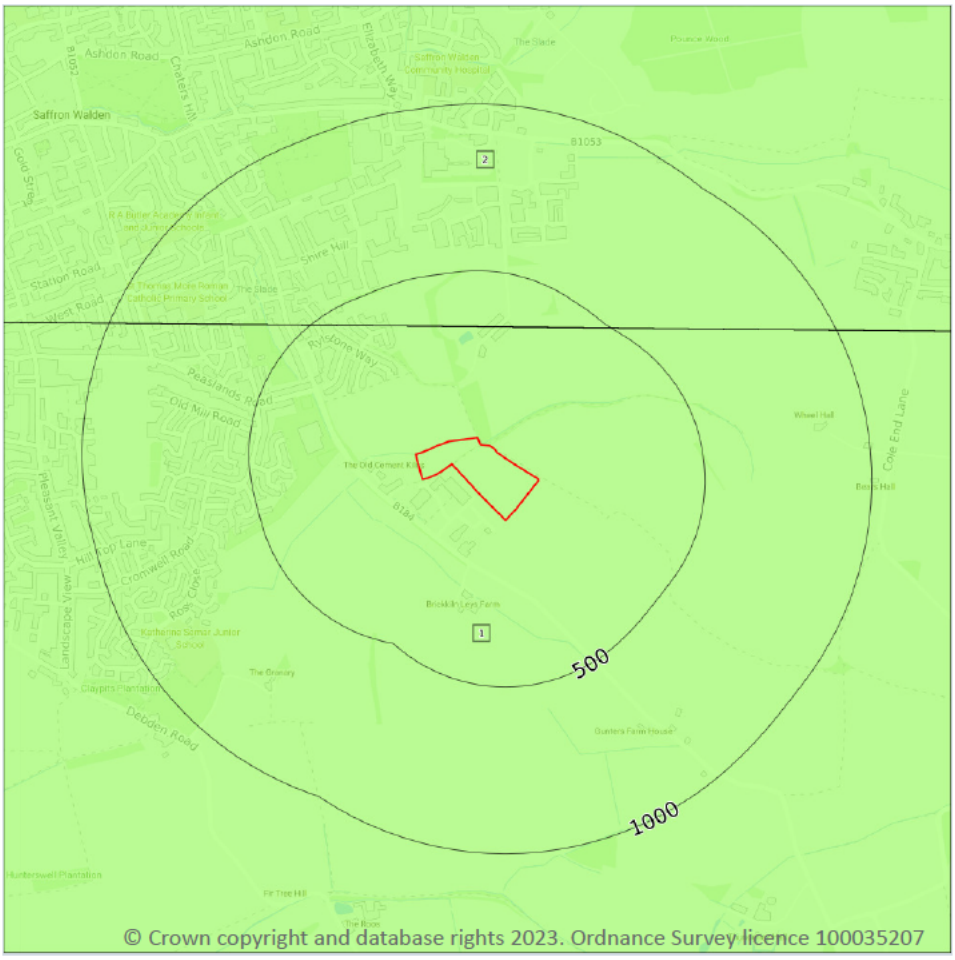
## 15.7 Landslip permeability (50k)

| 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 | 2 |
|---|---|

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 83 >

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **LESE-CHLK** | **LEWES NODULAR CHALK FORMATION AND SEAFORD CHALK FORMATION (UNDIFFERENTIATED) - CHALK** | **TURONIAN** |
| 2 | 332m N | 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 | 2 |
|---|---|

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

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| **On site** | **Fracture** | **Very High** | **Very High** |
| 3m W | Fracture | Very High | Very High |

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

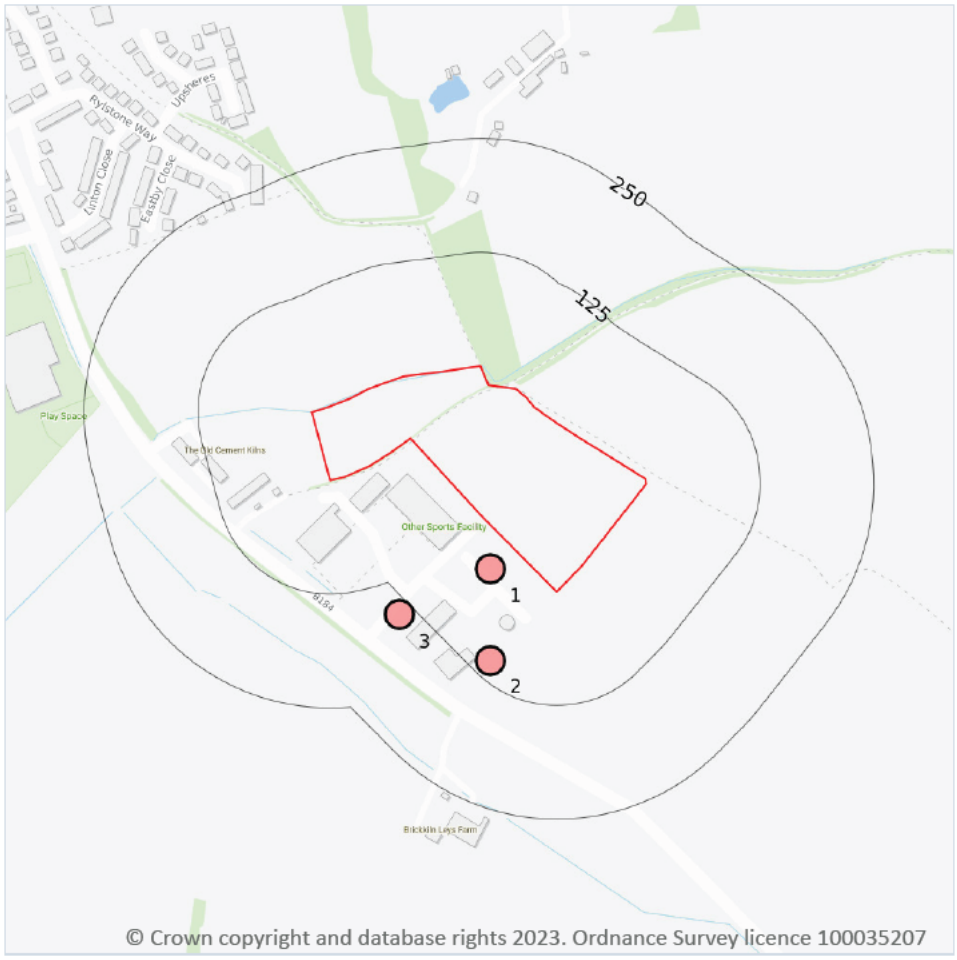
## 15.10 Bedrock faults and other linear features (50k)

| 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




Site Outline

Search buffers in metres (m)

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

## 16.1 BGS Boreholes

**Records within 250m** 3

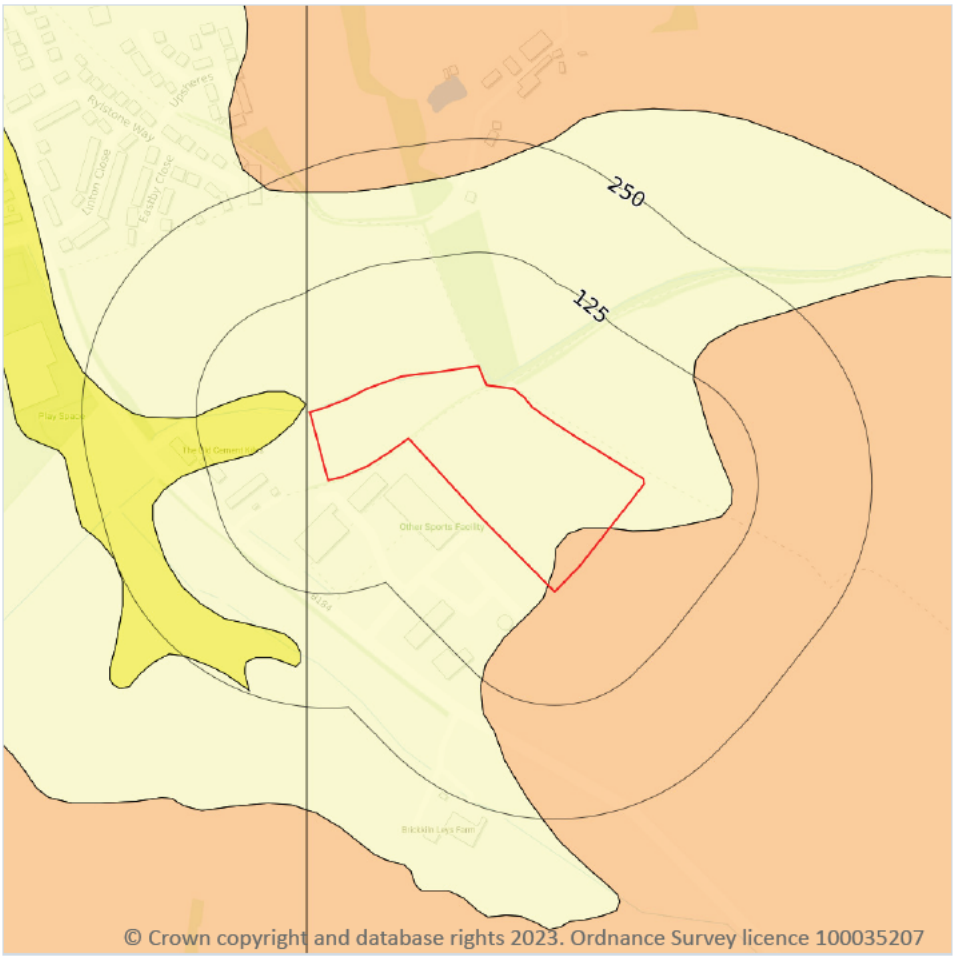
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on page 85 >

| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|---|---|---|---|---|---|---|
| 1 | 34m S | 555200 237300 | THAXTED ROAD SAFFRON WALDEN NO.2 | 45.0 | N | 544507 |
| 2 | 105m S | 555200 237200 | THAXTED ROAD SAFFRON WALDEN NO.3 | 45.0 | N | 544508 |
| 3 | 140m SW | 555100 237250 | THAXTED ROAD SAFFRON WALDEN NO.1 | 45.5 | N | 544506 |

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

# 17 Natural ground subsidence - Shrink swell clays




## 17.1 Shrink swell clays

| Records within 50m | 4 |
|---|---|

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).

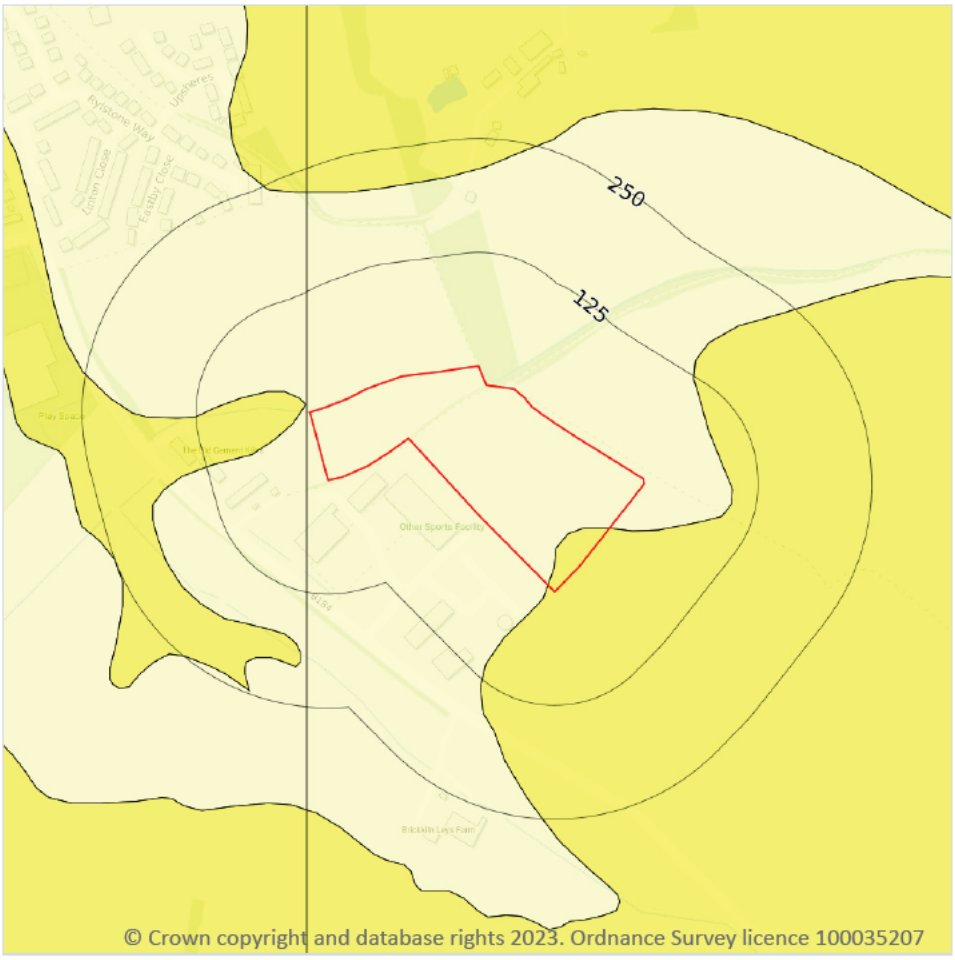
Features are displayed on the Natural ground subsidence - Shrink swell clays map on page 87 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Ground conditions predominantly non-plastic.** |
| **On site** | **Low** | **Ground conditions predominantly medium plasticity.** |
| 4m W | Negligible | Ground conditions predominantly non-plastic. |

| Location | Hazard rating | Details |
|---|---|---|
| 9m W | Very low | Ground conditions predominantly low plasticity. |

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

# Natural ground subsidence - Running sands




Site Outline

Search buffers in metres (m)

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

## 17.2 Running sands

| Records within 50m | 4 |
|---|---|

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.

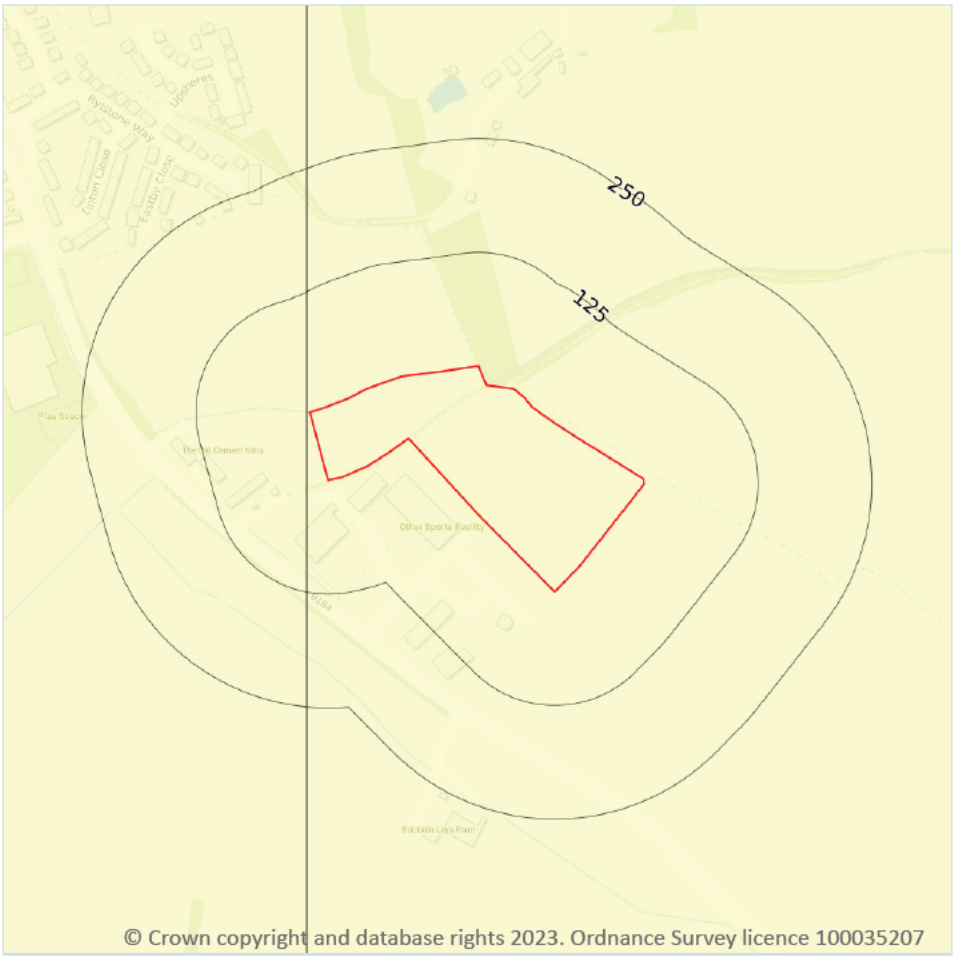
Features are displayed on the Natural ground subsidence - Running sands map on page 89 >

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

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.** |
| 4m W | 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. |
| 9m W | Very low | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

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

# Natural ground subsidence - Compressible deposits




Site Outline

Search buffers in metres (m)

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

## 17.3 Compressible deposits

| Records within 50m | 2 |
|---|---|

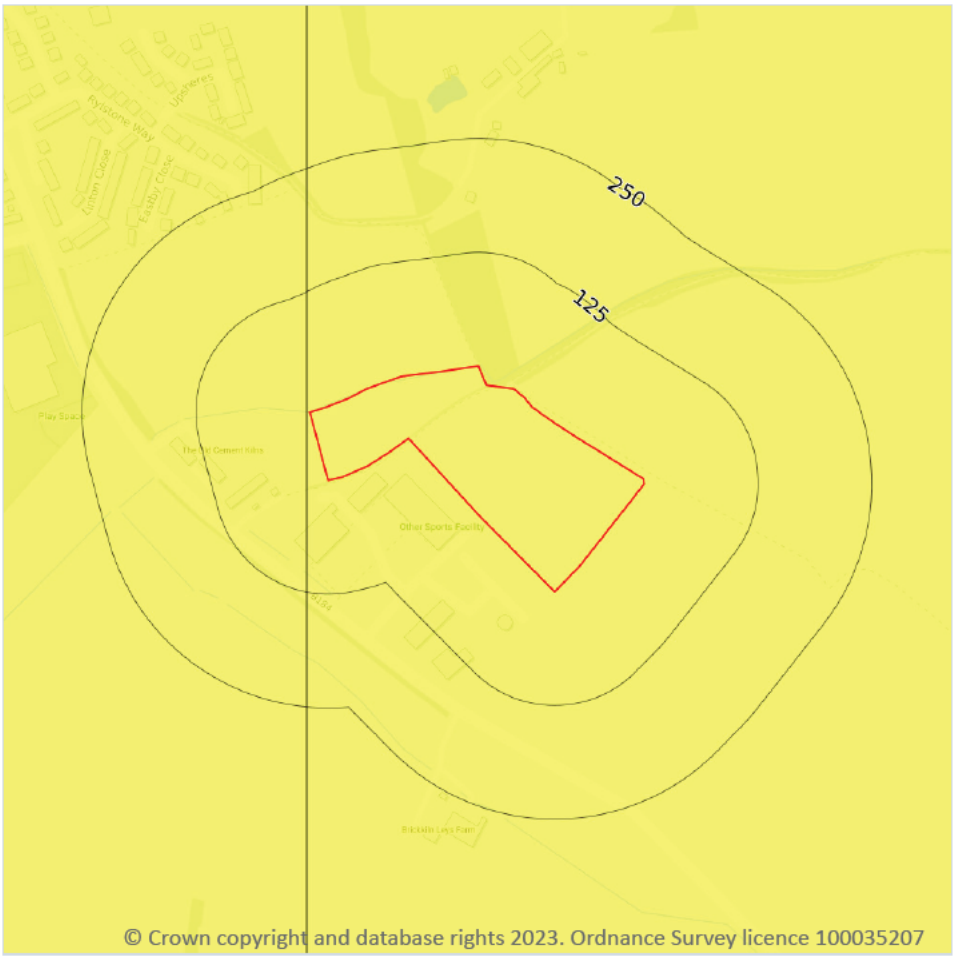
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on page 91 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Compressible strata are not thought to occur.** |
| 4m W | Negligible | Compressible strata are not thought to occur. |

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

# Natural ground subsidence - Collapsible deposits




Site Outline

Search buffers in metres (m)

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

## 17.4 Collapsible deposits

| Records within 50m | 2 |
|---|---|

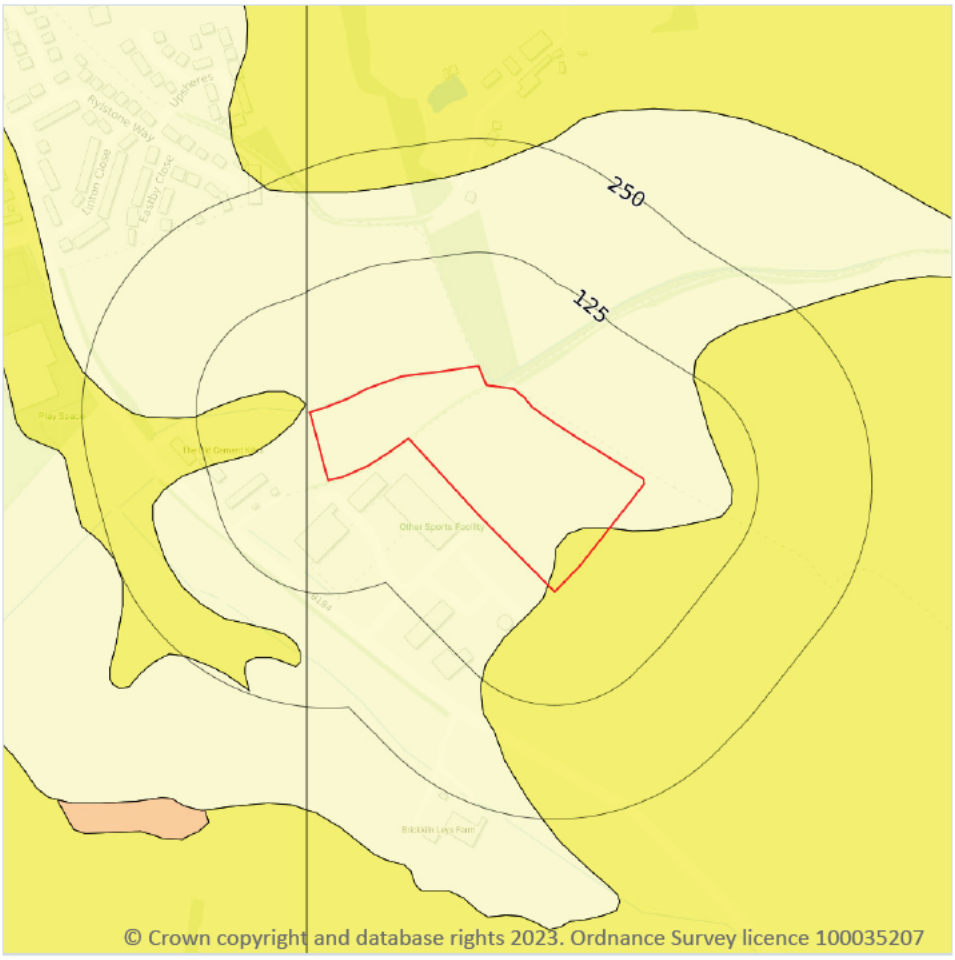
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on page 92 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Deposits with potential to collapse when loaded and saturated are unlikely to be present.** |
| 4m W | 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 | 4 |
|---|---|

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.

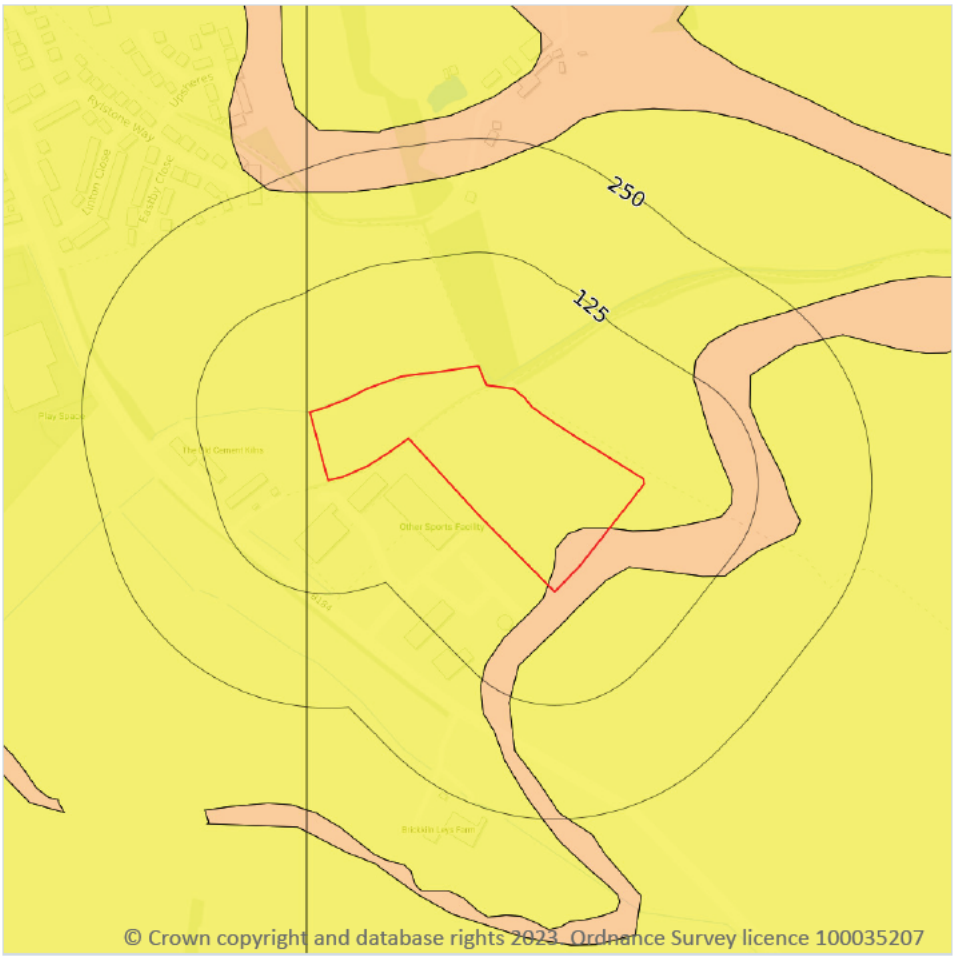
Features are displayed on the Natural ground subsidence - Landslides map on page 93 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **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.** |

| 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.** |
| 4m W | 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. |
| 9m W | Very low | Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered. |

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

# Natural ground subsidence - Ground dissolution of soluble rocks




Site Outline

Search buffers in metres (m)

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

## 17.6 Ground dissolution of soluble rocks

| Records within 50m | 4 |
|---|---|

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.

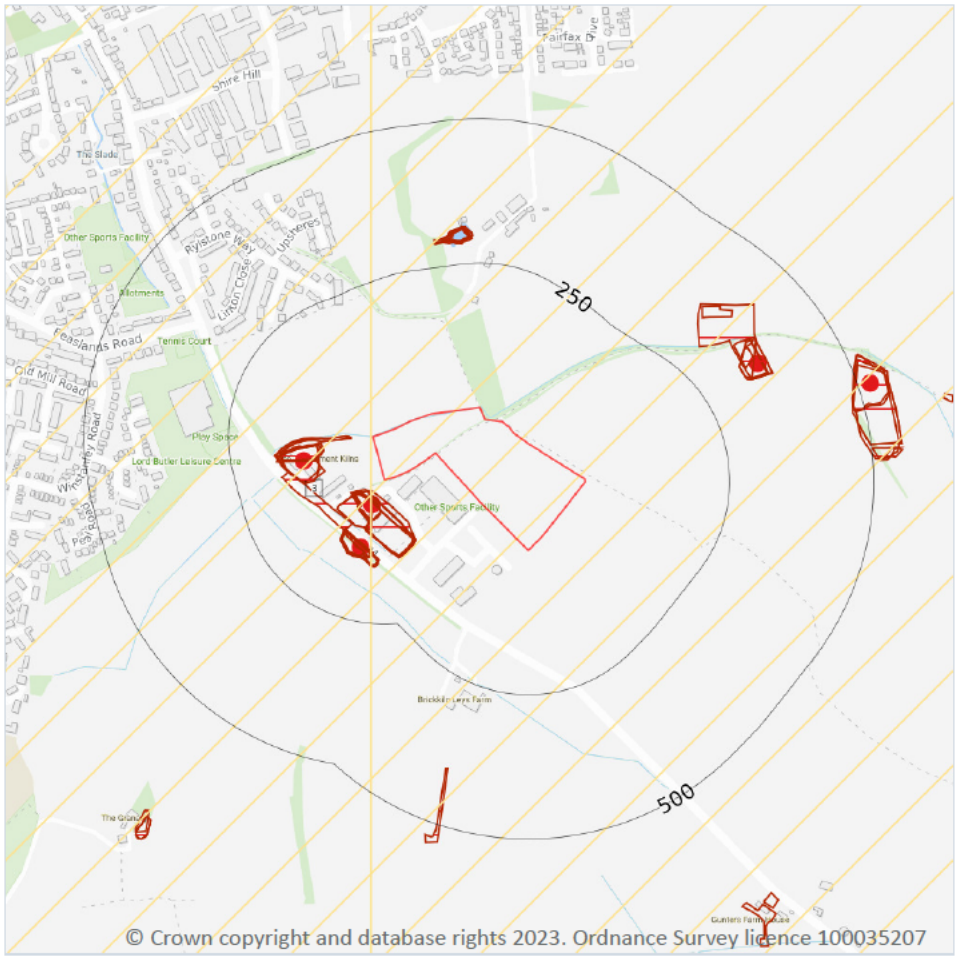
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on page 95 >

| 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.** |

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Low** | **Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.** |
| 4m W | 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. |
| 30m SE | 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 and ground workings




## 18.1 BritPits

| Records within 500m | 4 |
|---|---|

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.

Features are displayed on the Mining and ground workings map on page 97 >

| ID | Location | Details | Description |
|---|---|---|---|
| A | 48m W | Name: Saffron Walden Cement Works<br>Address: SAFFRON WALDEN, Essex<br>Commodity: Chalk<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| C | 123m SW | Name: Saffron Walden Cement Works<br>Address: SAFFRON WALDEN, Essex<br>Commodity: Chalk<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| B | 127m W | Name: Saffron Walden Cement Works<br>Address: SAFFRON WALDEN, Essex<br>Commodity: Chalk<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |
| E | 360m E | Name: Shirehill Brick Field<br>Address: SAFFRON WALDEN, Essex<br>Commodity: Clay & Shale<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |

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

## 18.2 Surface ground workings

| Records within 250m | 25 |
|---|---|

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 and ground workings map on page 97 >

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 29m W | Chalk Pit | 1959 | 1:10560 |
| A | 34m W | Refuse Heap | 1971 | 1:10000 |
| A | 34m W | Refuse Heap | 1980 | 1:10000 |

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 34m W | Chalk Pit | 1919 | 1:10560 |
| A | 36m W | Chalk Pit | 1938 | 1:10560 |
| B | 38m W | Water Body | 1898 | 1:10560 |
| A | 41m W | Chalk Pits | 1896 | 1:10560 |
| A | 42m W | Chalk Pits | 1898 | 1:10560 |
| B | 42m W | Pond | 1896 | 1:10560 |
| A | 43m W | Chalk Pit | 1948 | 1:10560 |
| A | 44m W | Chalk Pit | 1923 | 1:10560 |
| B | 88m W | Chalk Pit | 1898 | 1:10560 |
| B | 89m W | Chalk Pit | 1896 | 1:10560 |
| B | 92m W | Unspecified Quarry | 1938 | 1:10560 |
| B | 94m W | Unspecified Quarry | 1947 | 1:10560 |
| B | 94m W | Unspecified Quarry | 1919 | 1:10560 |
| 3 | 94m W | Cuttings | 1877 | 1:10560 |
| B | 98m W | Unspecified Pit | 1952 | 1:10560 |
| C | 109m SW | Chalk Pits | 1896 | 1:10560 |
| C | 110m SW | Unspecified Pit | 1877 | 1:10560 |
| C | 111m SW | Chalk Pits | 1898 | 1:10560 |
| C | 112m SW | Unspecified Quarry | 1923 | 1:10560 |
| C | 113m SW | Unspecified Quarry | 1938 | 1:10560 |
| C | 114m SW | Unspecified Quarry | 1948 | 1:10560 |
| C | 116m SW | Unspecified Pit | 1952 | 1:10560 |

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

## 18.3 Underground workings

| Records within 1000m | 0 |
|---|---|

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

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

## 18.4 Underground mining extents

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

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

*This data is sourced from 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 | 2 |
|---|---|

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 and ground workings map on **page 97 >**

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| **1** | **On site** | **Not available** | **Chalk** | **A** | **Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.** |
| 2 | 4m W | Not available | Chalk | A | Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |

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

## 18.7 JPB mining areas

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

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

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

## 18.8 The Coal Authority non-coal mining

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

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

*This data is sourced from The Coal Authority.*

## 18.9 Researched mining

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

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

*This data is sourced from Groundsure.*

## 18.10 Mining record office plans

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

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

*This data is sourced from Groundsure.*

## 18.11 BGS mine plans

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

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

*This data is sourced from Groundsure.*

## 18.12 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.*

## 18.13 Brine areas

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

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

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

## 18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

## 18.16 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 Ground cavities and sinkholes

## 19.1 Natural cavities

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

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

*This data is sourced from Stantec UK Ltd.*

## 19.2 Mining cavities

| Records within 1000m | 0 |
|---|---|

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

*This data is sourced from Stantec UK Ltd.*

## 19.3 Reported recent incidents

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

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

*This data is sourced from Groundsure.*

## 19.4 Historical incidents

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

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

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

*This data is sourced from Groundsure.*

## 19.5 National karst database

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

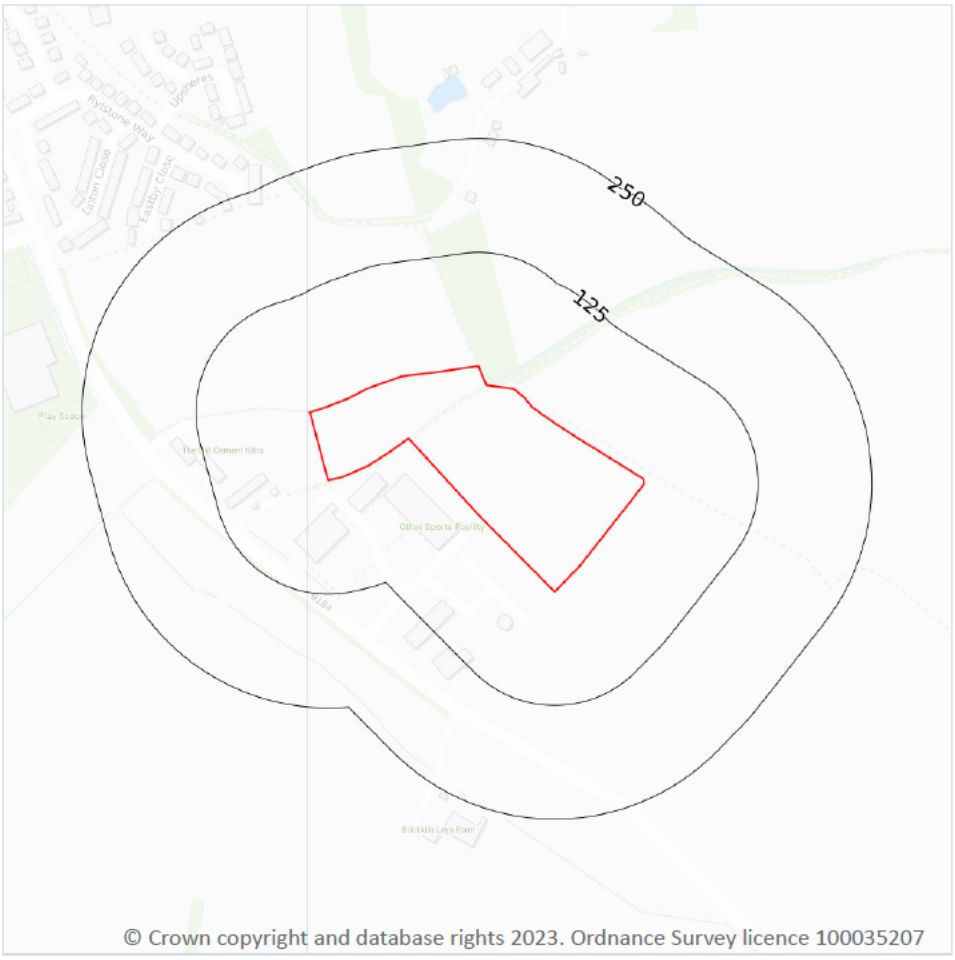
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

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

# 20 Radon






## 20.1 Radon

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

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

Features are displayed on the Radon map on page 106 >

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

*This data is sourced from the British Geological Survey and UK Health Security Agency.*

# 21 Soil chemistry

## 21.1 BGS Estimated Background Soil Chemistry

| Records within 50m | 6 |
|---|---|

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

| Location | Arsenic | Bioaccessible Arsenic | Lead | Bioaccessible Lead | Cadmium | Chromium | Nickel |
|---|---|---|---|---|---|---|---|
| **On site** | **15 - 25 mg/kg** | **No data** | **100 mg/kg** | **60 mg/kg** | **1.8 mg/kg** | **40 - 60 mg/kg** | **15 - 30 mg/kg** |
| **On site** | **15 - 25 mg/kg** | **No data** | **100 mg/kg** | **60 mg/kg** | **1.8 mg/kg** | **40 - 60 mg/kg** | **15 - 30 mg/kg** |
| **On site** | **15 - 25 mg/kg** | **No data** | **100 mg/kg** | **60 mg/kg** | **1.8 mg/kg** | **60 - 90 mg/kg** | **30 - 45 mg/kg** |
| 3m W | 15 - 25 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 40 - 60 mg/kg | 15 - 30 mg/kg |
| 8m W | 15 - 25 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 30 - 45 mg/kg |
| 27m W | 15 - 25 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 40 - 60 mg/kg | 15 - 30 mg/kg |

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

## 21.2 BGS Estimated Urban Soil Chemistry

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

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

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

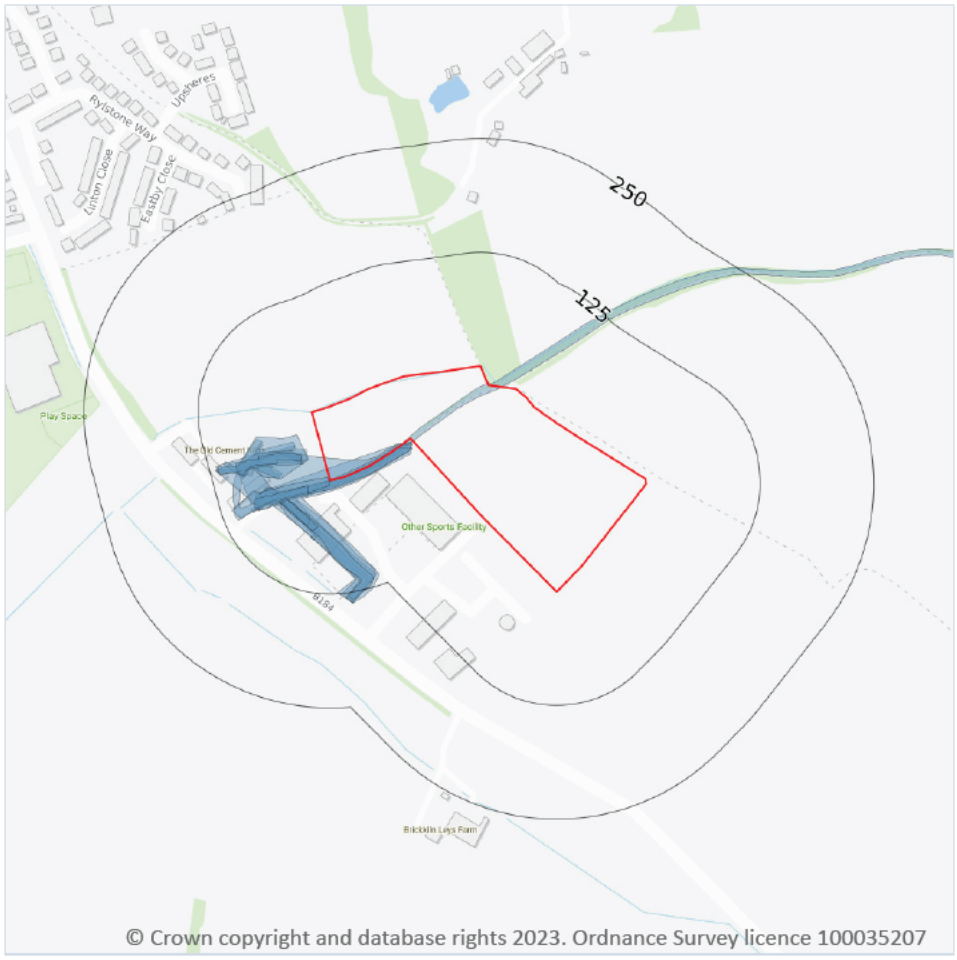
## 21.3 BGS Measured Urban Soil Chemistry

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

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

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

# 22 Railway infrastructure and projects




Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

## 22.1 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.*

## 22.2 Underground railways (Non-London)

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

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

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

## 22.3 Railway tunnels

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

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

## 22.4 Historical railway and tunnel features

| Records within 250m | 17 |
|---|---|

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.

Features are displayed on the Railway infrastructure and projects map on page 110 >

| Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|
| **On site** | **Railway Sidings** | **1898** | **10560** |
| **On site** | **Tramway Sidings** | **1923** | **10560** |
| **On site** | **Tramway Sidings** | **1948** | **10560** |
| **On site** | **Tramway Sidings** | **1938** | **10560** |
| **On site** | **Tramway Sidings** | **1919** | **10560** |
| 1m W | Tramway Sidings | 1921 | 2500 |
| 2m W | Railway Sidings | 1896 | 10560 |
| 17m W | Railway Sidings | 1923 | 10560 |
| 17m W | Railway Sidings | 1896 | 10560 |
| 22m W | Railway Sidings | 1897 | 2500 |
| 23m W | Railway Sidings | 1919 | 10560 |
| 25m W | Railway Sidings | 1952 | 10560 |
| 26m W | Railway Sidings | 1921 | 2500 |
| 45m W | Railway Sidings | 1952 | 10560 |
| 47m W | Railway Sidings | 1896 | 10560 |
| 50m W | Railway Sidings | 1897 | 2500 |
| 93m W | Railway Sidings | 1897 | 2500 |

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

## 22.5 Royal Mail tunnels

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

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

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

## 22.6 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.*

## 22.7 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.*

## 22.8 Crossrail 1

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

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

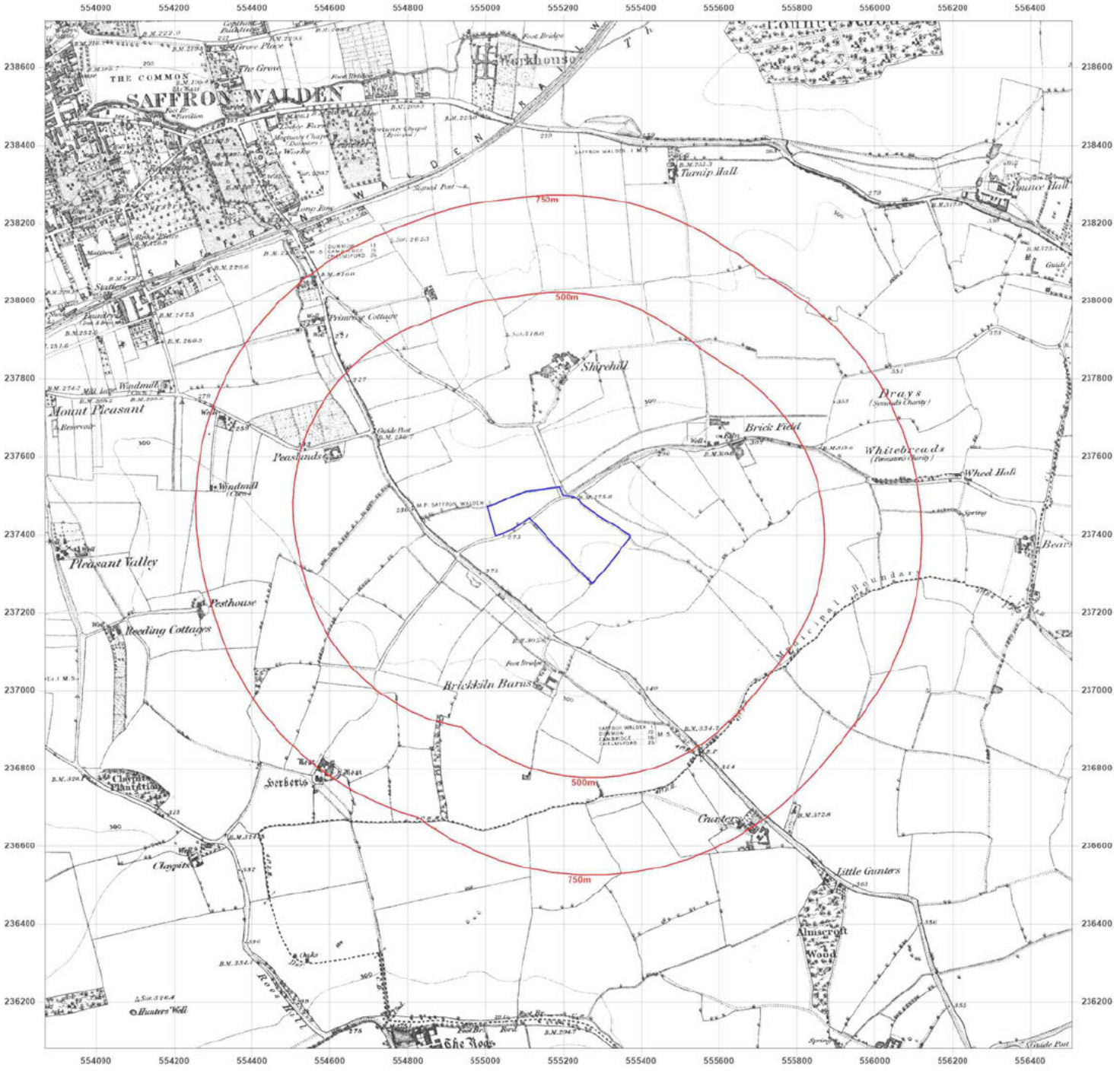
*This data is sourced from publicly available information by Groundsure.*

## 22.9 Crossrail 2

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

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

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




Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

**Map Name:** County Series
**Map date:** **1877**
**Scale:** 1:10,560
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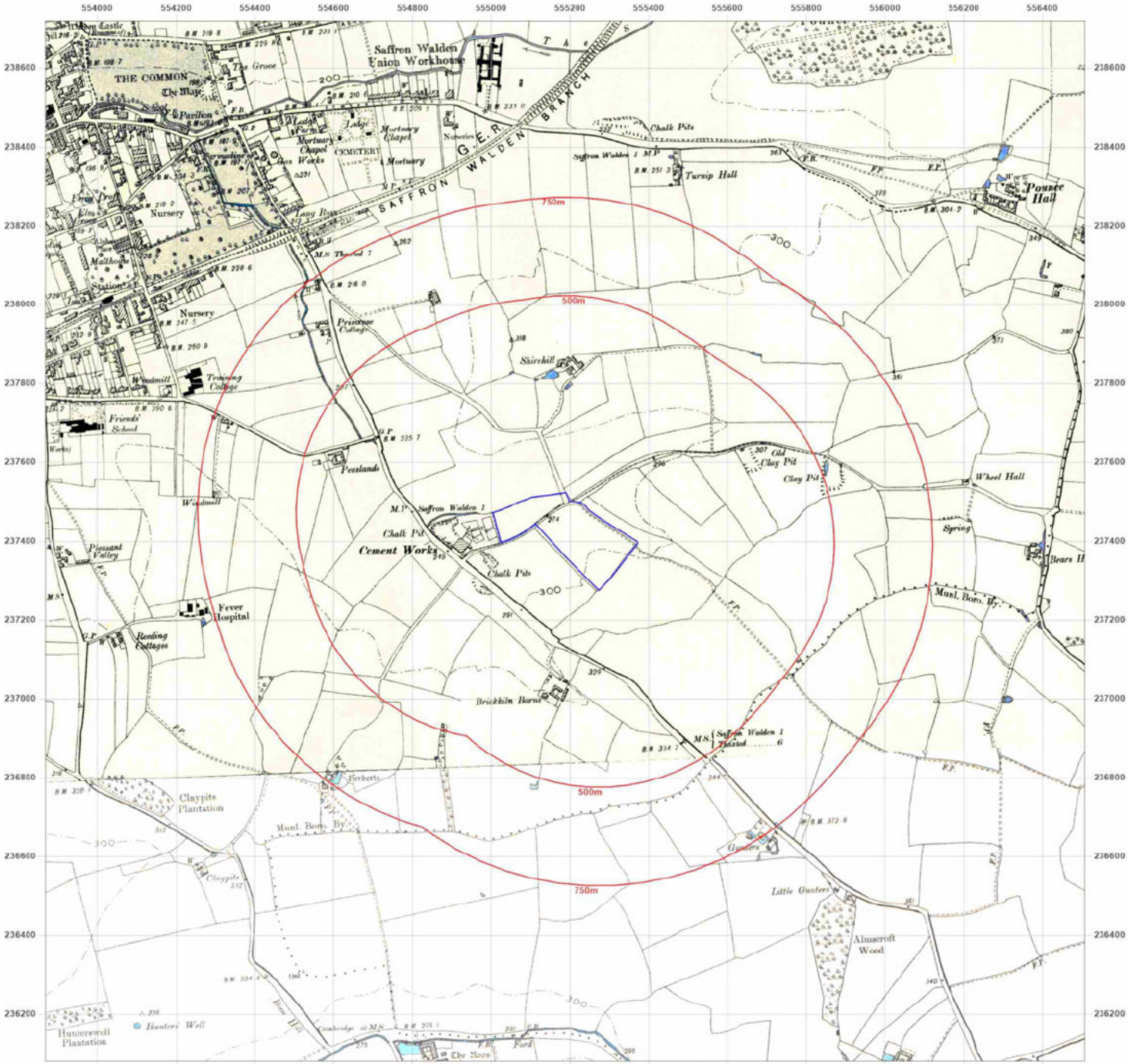


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**Client Ref:** 22-0222
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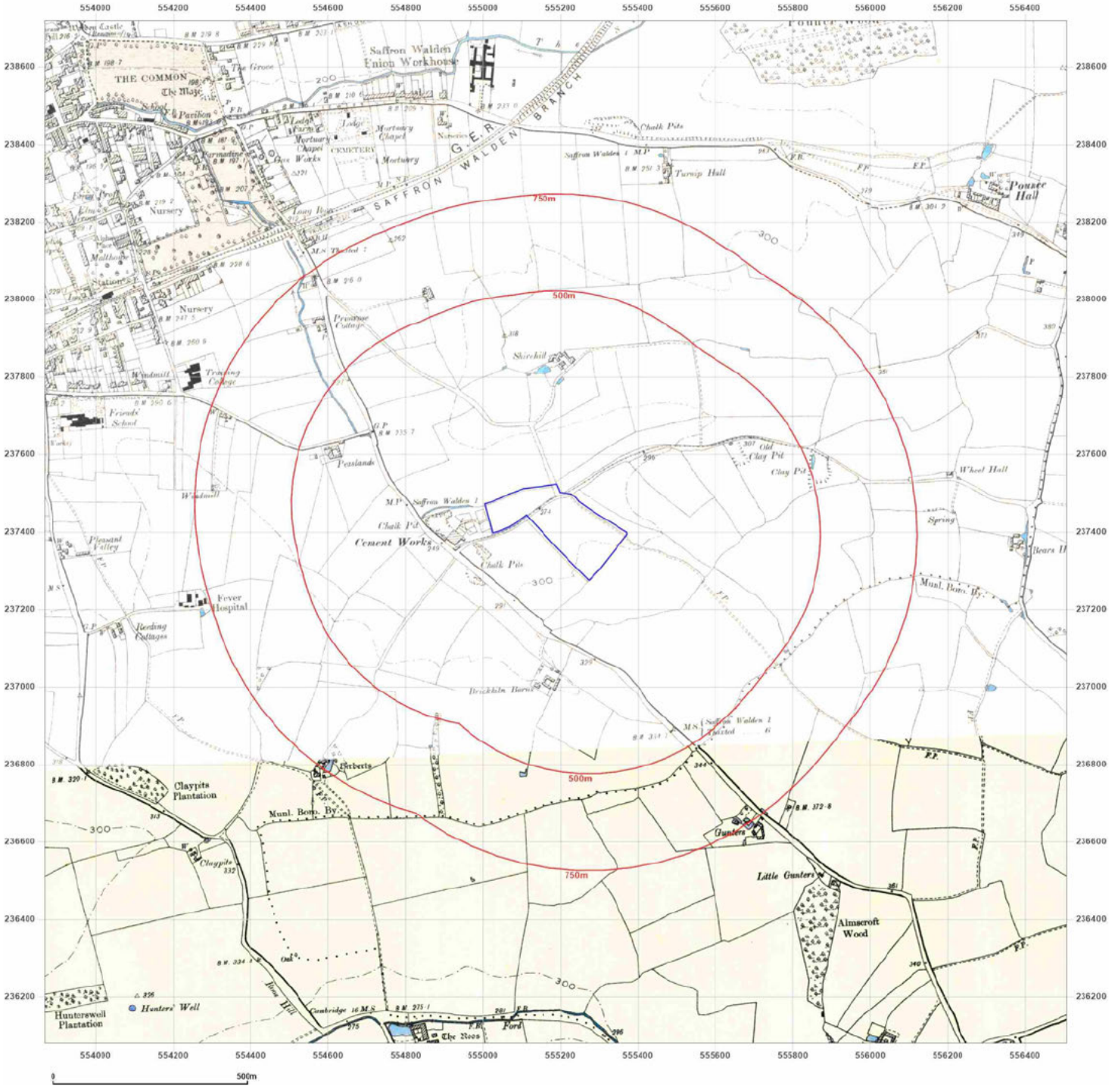


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**Site Details:**

Land South of Saffron Walden -
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**Client Ref:** 22-0222
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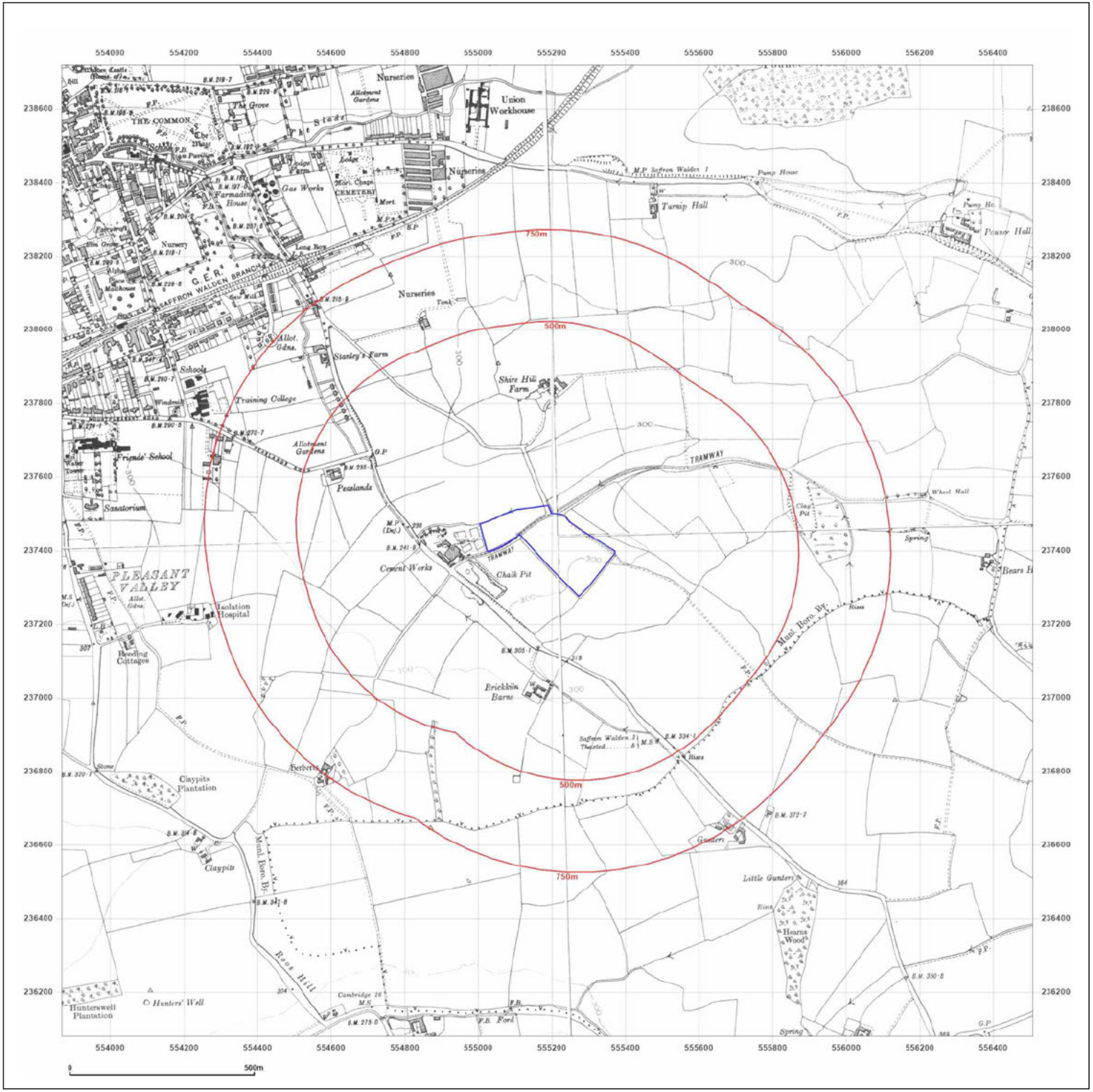


**Site Details:**

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**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
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**Map Name:** County Series
**Map date:** **1919-1923**
**Scale:** 1:10,560
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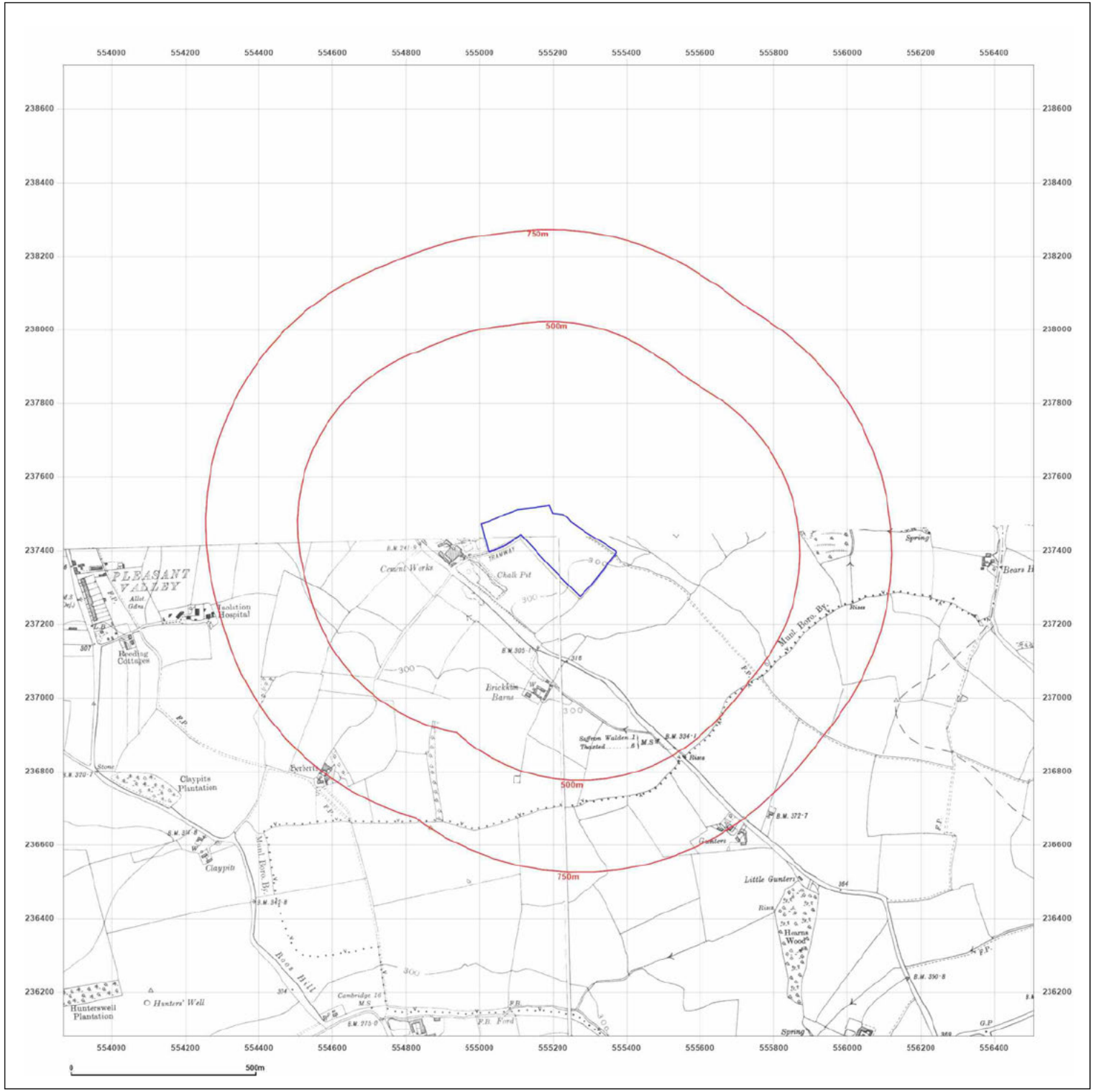


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**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

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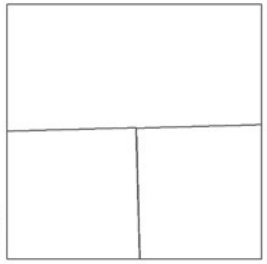

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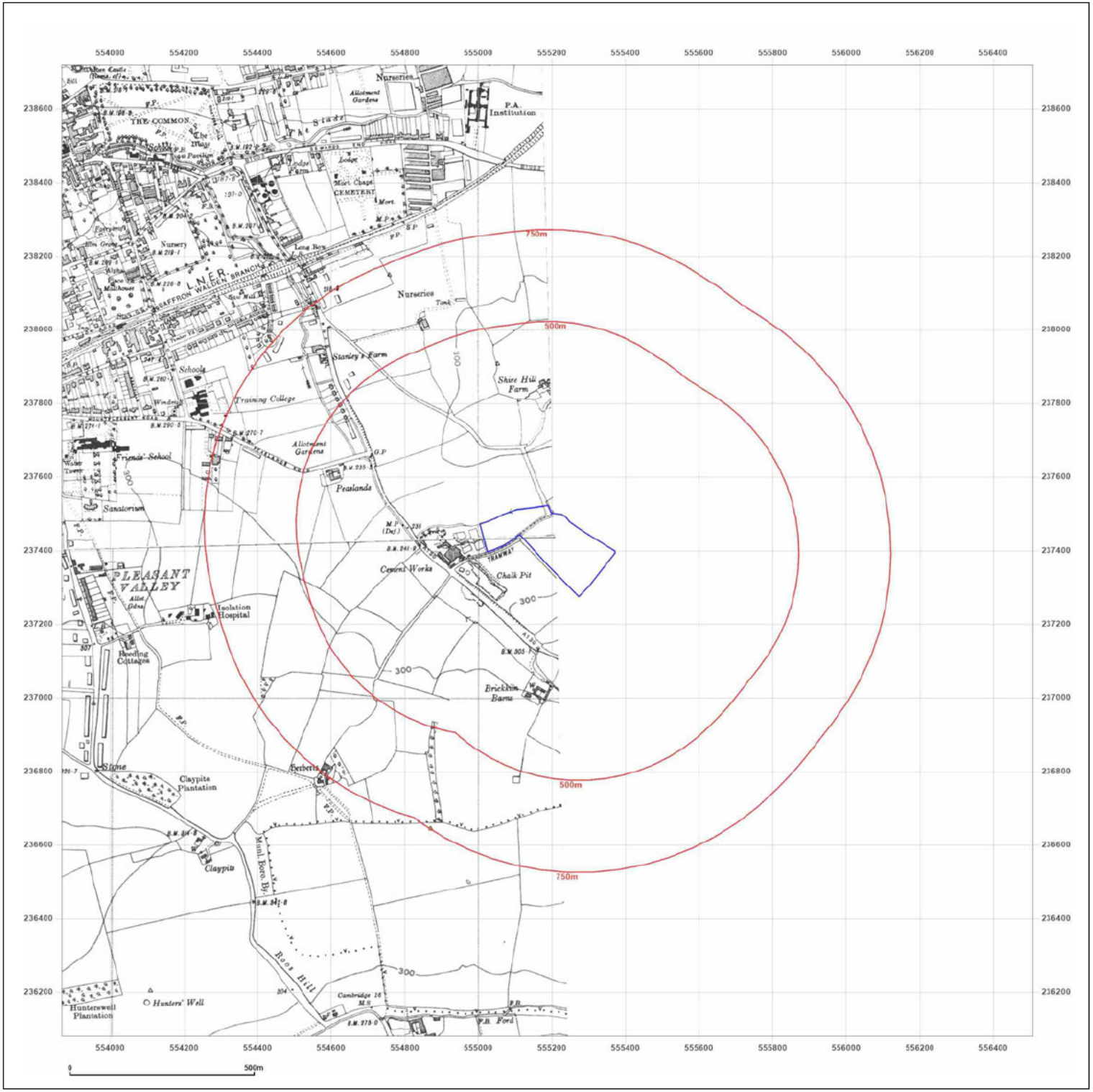


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**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
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**Map Name:** County Series
**Map date:** **1938**
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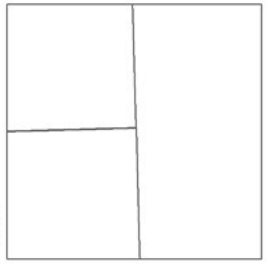

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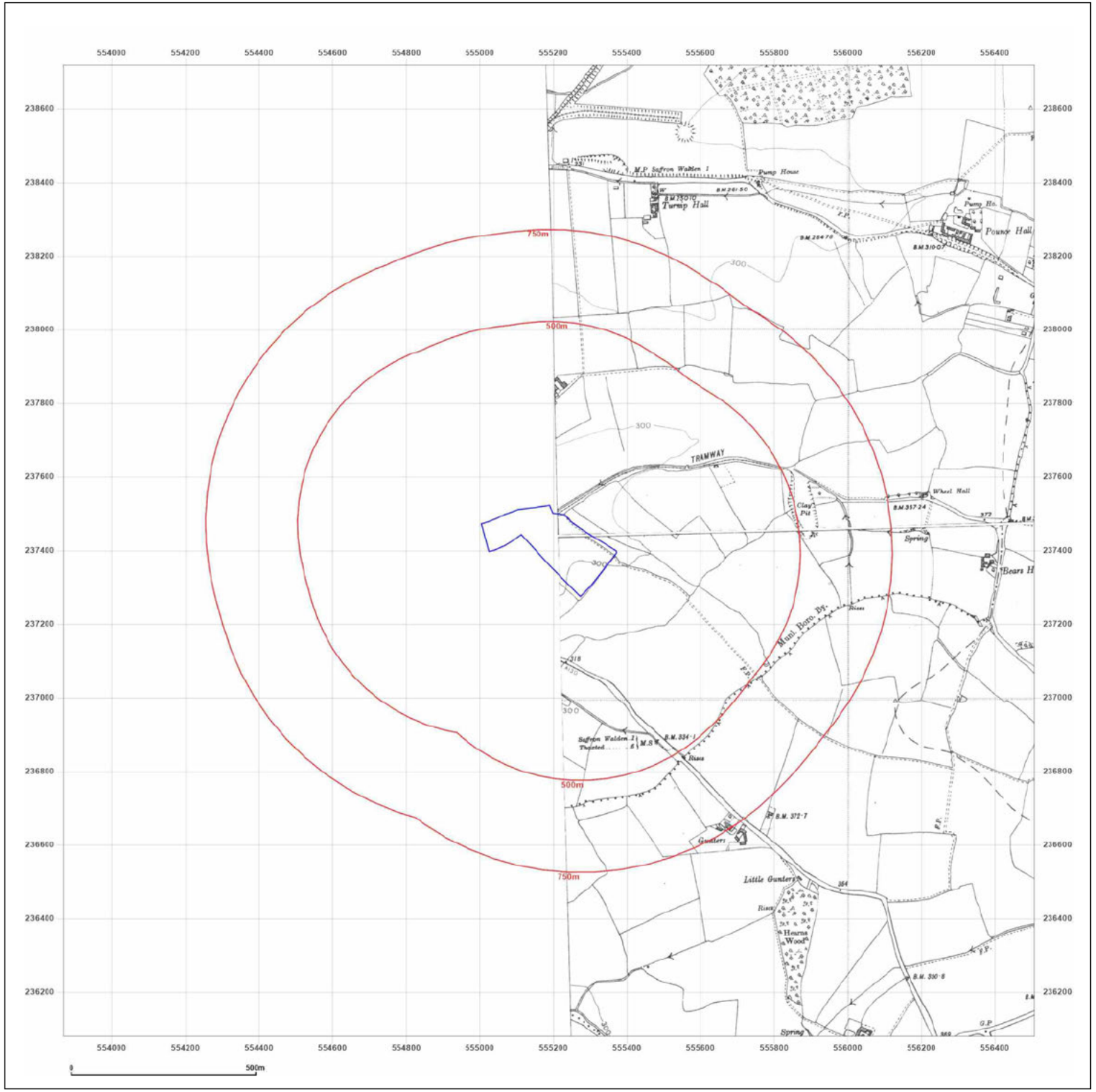


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**Grid Ref:** 555187, 237399

**Map Name:** County Series
**Map date:** **1946**
**Scale:** 1:10,560
**Printed at:** 1:10,560

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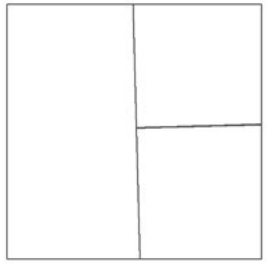

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**Grid Ref:** 555187, 237399

**Map Name:** County Series
**Map date:** **1947-1948**
**Scale:** 1:10,560
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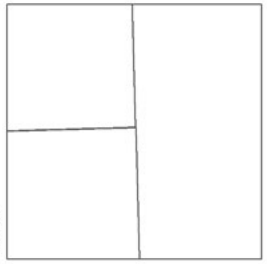

Surveyed 1876
Revised 1948
Edition N/A
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**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

**Map Name:** Provisional
**Map date:** 1952
**Scale:** 1:10,560
**Printed at:** 1:10,560

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

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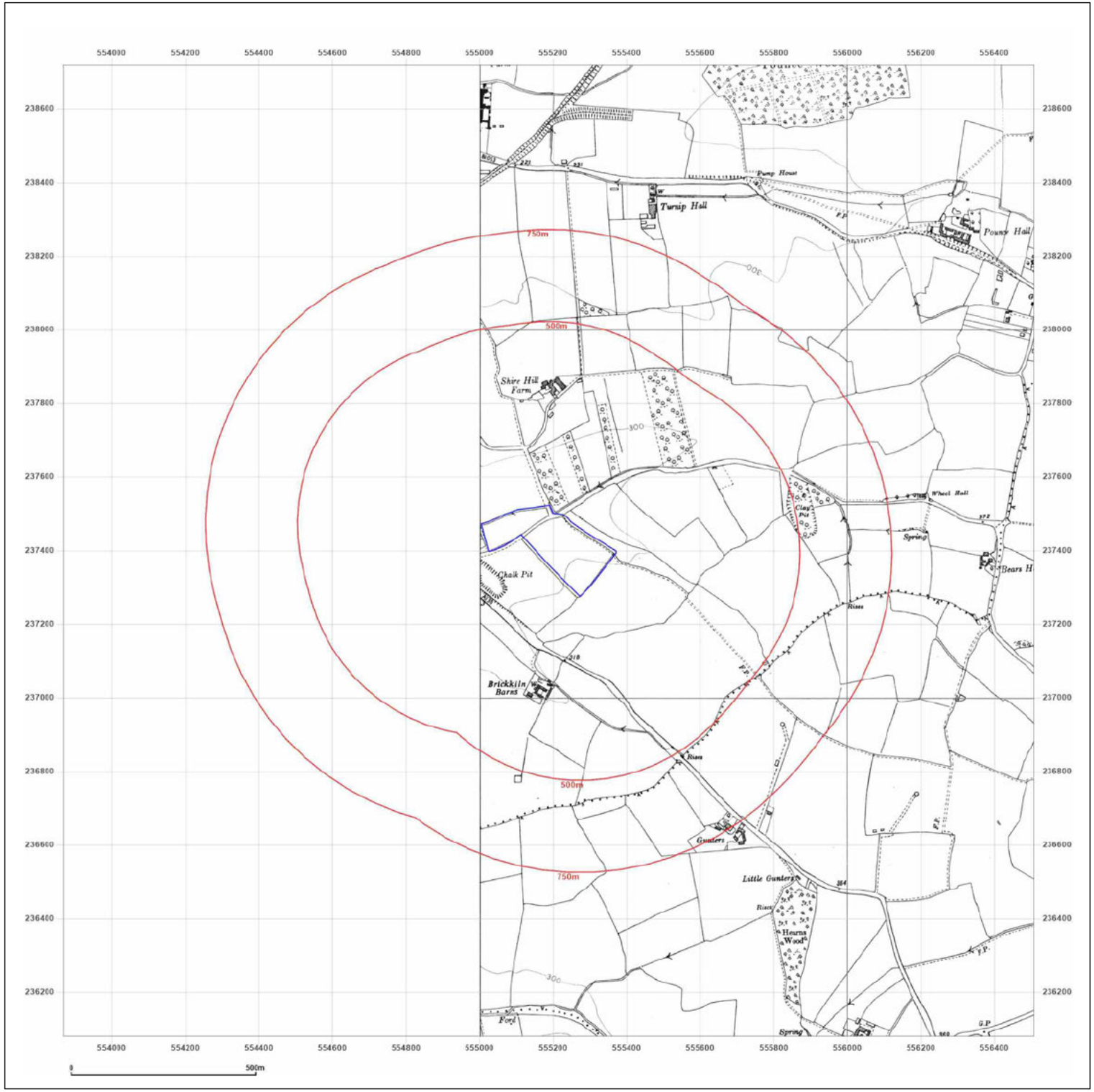


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

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

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

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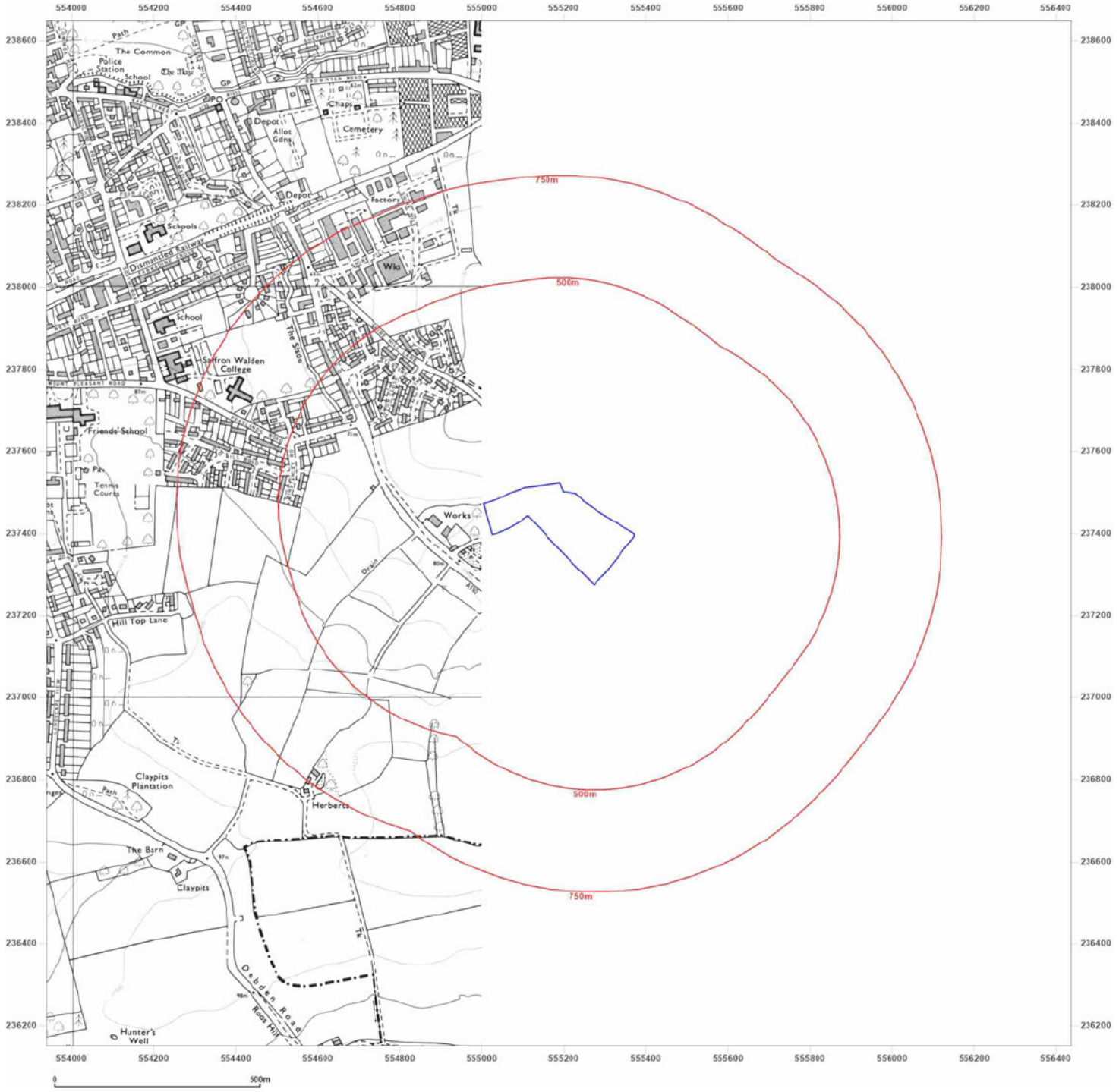


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

**Map Name:** National Grid
**Map date:** 1972
**Scale:** 1:10,000
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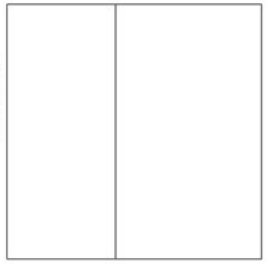

Surveyed 1969
Revised 1972
Edition N/A
Copyright 1972
Levelled 1958

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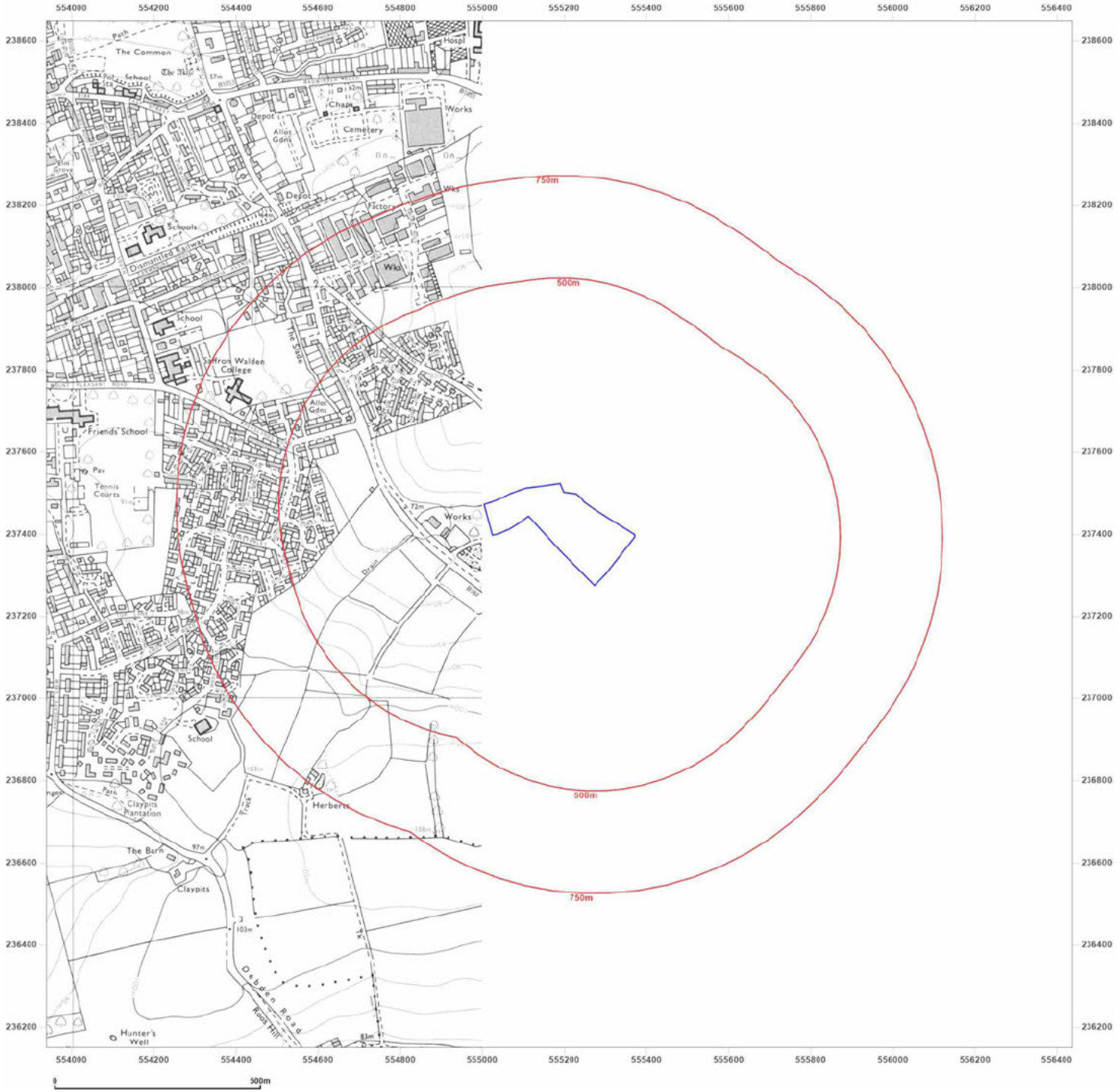


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

**Map Name:** National Grid
**Map date:** 1980
**Scale:** 1:10,000
**Printed at:** 1:10,000

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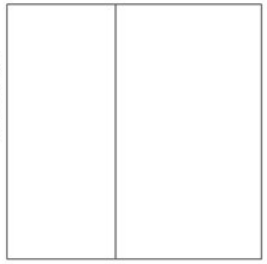
Surveyed 1969
Revised 1980
Edition N/A
Copyright N/A
Levelled N/A



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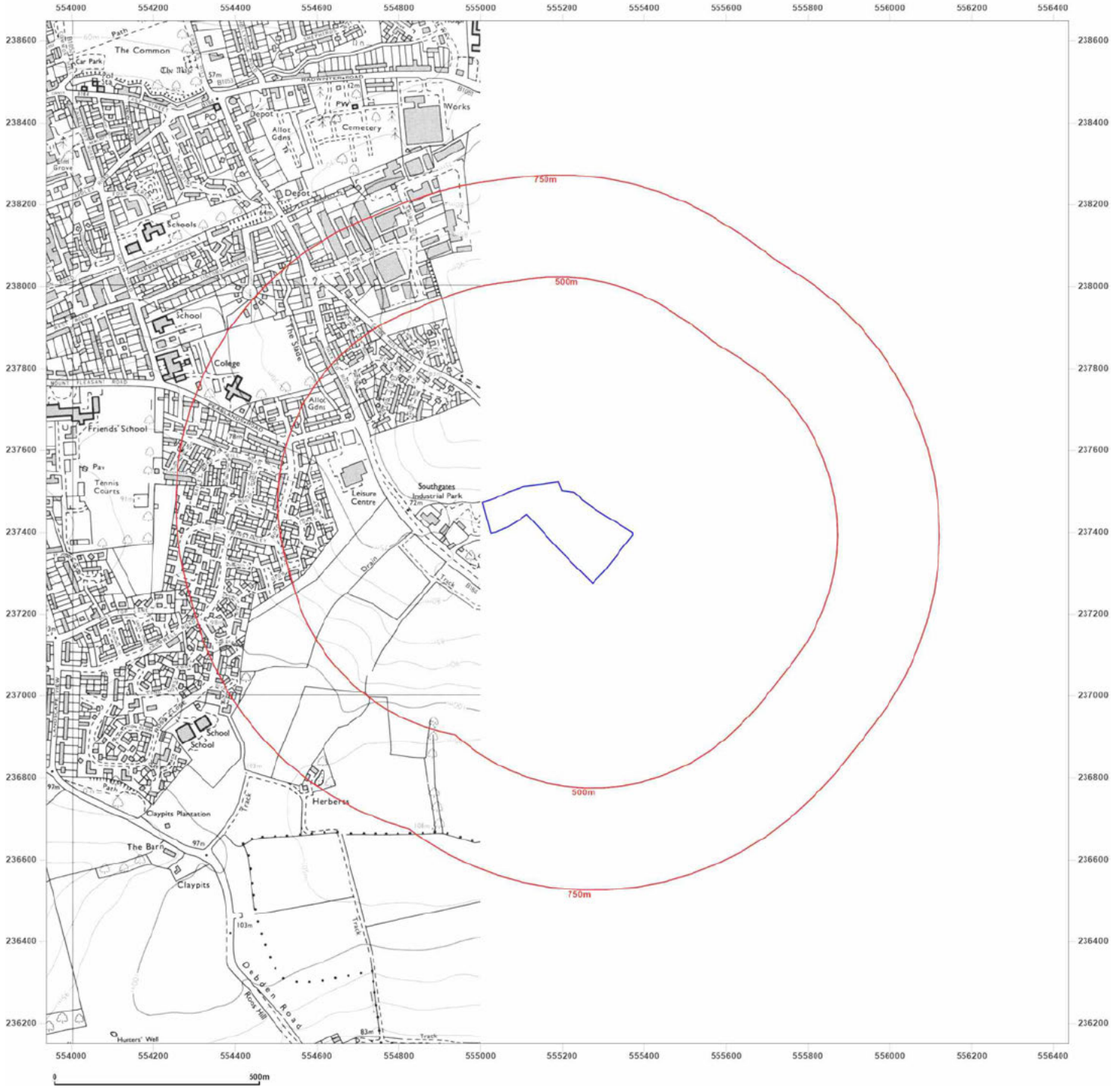


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

**Map Name:** National Grid
**Map date:** 1991
**Scale:** 1:10,000
**Printed at:** 1:10,000

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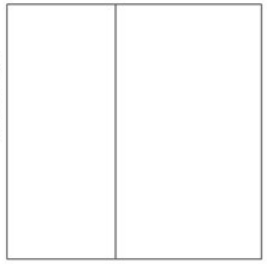
Surveyed 1989
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A



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Production date: 07 July 2023

Map legend available at:
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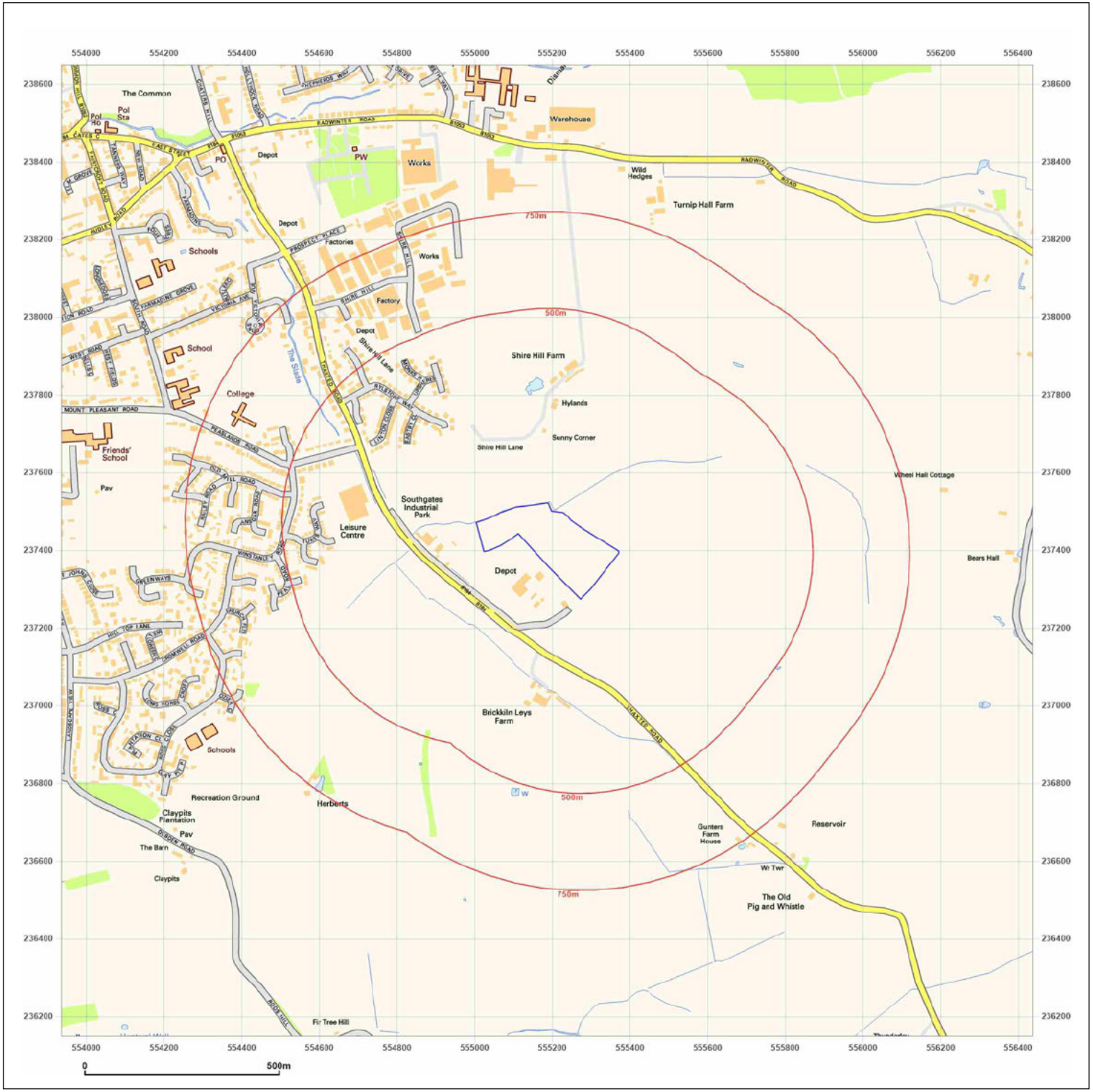


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

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

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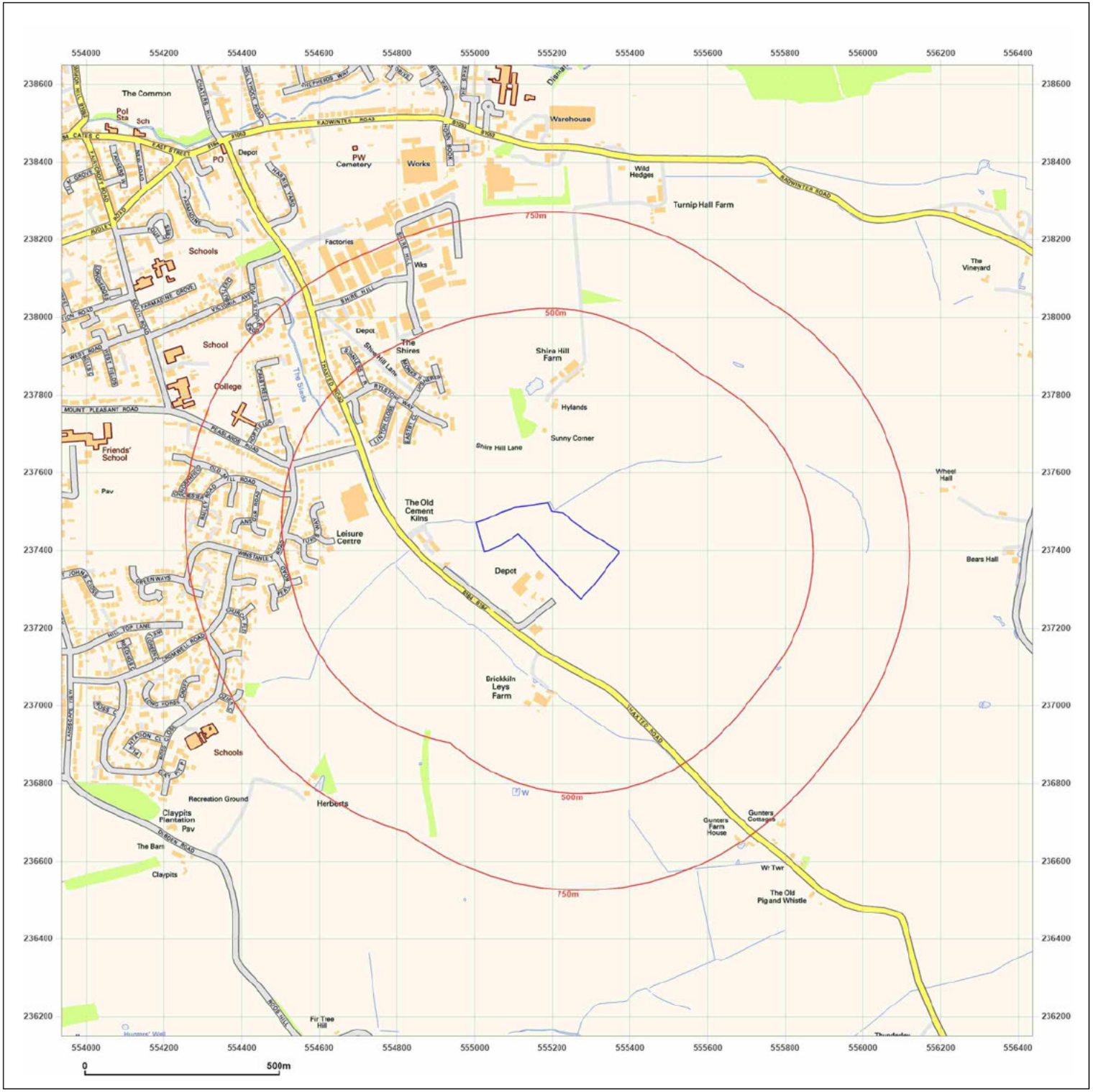


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

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

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Map legend available at:
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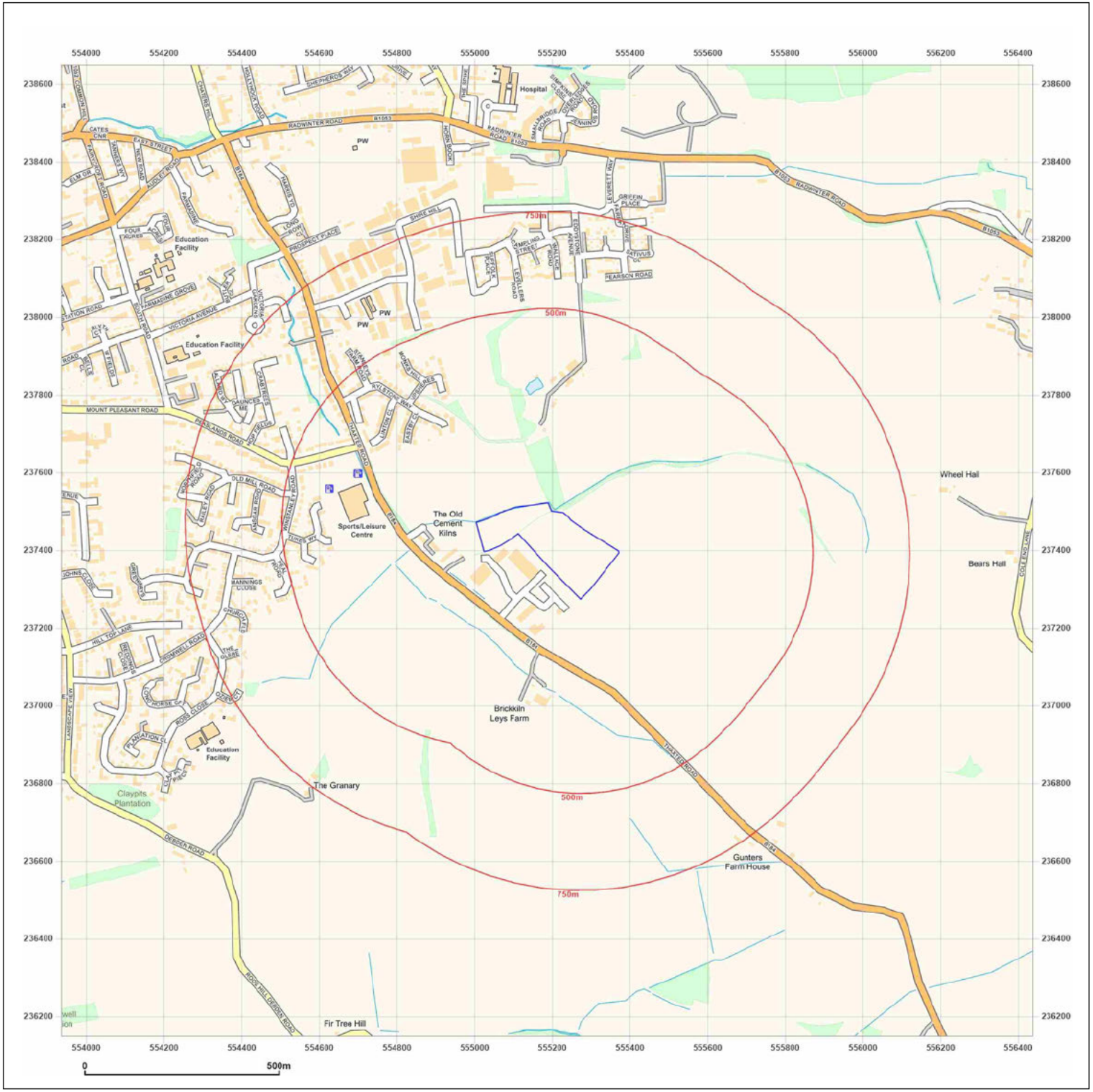


Groundsure INSIGHTS

**Site Details:**

Land South of Saffron Walden -
Site West of industrial Estate
(Site 2), CB10 2SG

**Client Ref:** 22-0222
**Report Ref:** GS-8RM-69E-ANL-6HU
**Grid Ref:** 555187, 237399

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

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## 22.10 HS2

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

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

*This data is sourced from HS2 ltd.*

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# APPENDIX C – ANNOTATED SITE PHOTOGRAPHS

*Photograph 1 – Situated in the east of parcel 1 facing northwest showing the new development (right), the raised land associated with the former quarry and 'The Old Cement Kilns' centre background.*

*Photograph 2 – Located in the west of parcel 1 facing east showing level change, hedgerow and residential dwellings under construction.*

*Photograph 3 – Located on Tiptofts Lane facing east showing level change, dense vegetation and commercial park (right).*

*Photograph 4 – Situated northwest of parcel 2 facing west showing level change between infilled ground and existing ground levels.*

*Photograph 5 – Located southeast of parcel 2 facing northwest, again showing general level changes. The HWRC is left of frame (behind the trees). Tiptofts Lane is marked by the hedgerow (background).*

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The Development: Land off Thaxted Road, Saffron Walden (Parcels 1 & 2)

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