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Surfleet Primary School

Phase 1 Geoenvironmental Desk Study

Surfleet Primary School
Station Road, Surfleet
Spalding
Lincolnshire
PE11 4DB

Report Ref: 25.09.007- f01
October 2025

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DOCUMENT RECORD

Report Title	Phase 1 Geoenvironmental Desk Study
Development	Single storey classroom block
Project Address	Surfleet Primary School, Station Road, Surfleet, Spalding, Lincolnshire, PE11 4DB
Project Ref	25.09.007- dr01
Client	Surveyors to Education

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For and on behalf of ListersGeo, trading name of Listers Geotechnical Consultants Ltd

Issue No	**Date**	**Status**
dr01	1st October 2025	Draft Report
f01	9th October 2025	Final Report

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PHASE 1 GEOENVIRONMENTAL DESK STUDY

INTRODUCTION

A Phase 1 Geoenvironmentral Desk Study has been undertaken for a proposed new single storey class room block at Surfleet Primary School, Station Road, Surfleet, Spalding, Lincolnshire, PE11 4DB. A Site Location Plan is provided in Appendix A. The Ordnance Survey National Grid reference for the approximate centre of the site is 525794, 328572.

Instructions to undertake the investigation were received from Surveyors to Education, acting on behalf of the client, Surfleet Primary School, in their email dated 5th September 2025.

This report describes the desk study and walkover survey carried out by ListersGeo in order to provide an evaluation of the potential ground conditions and potential for any soil, gas or groundwater contamination at the site. The report presents a preliminary human health and groundwater risk assessment based on the findings of the desk study information, and information on the potential geotechnical conditions that may be encountered.

To our knowledge, the site has not been subject to any previous investigations.

This report has been prepared for the sole use of the client and their professional advisors. This report shall not be relied upon by third parties without the express written authority of ListersGeo. If an unauthorised third-party comes into possession of this report, they must not rely on it and the authors owe them no duty of care and skill.

SCOPE OF THE INVESTIGATION

The scope of the investigation as requested by the client's structural engineers, Surveyors to Education, was to undertake a desk study and walkover survey in order to provide an initial assessment of the extent of any soil, gas or groundwater contamination on the site. A contaminated land risk assessment was undertaken based on the Contaminated Land Exposure Assessment (CLEA) and Environment Agency (EA) Remedial Targets Methodology (RTM) guidelines.

The contaminated land risk assessment has been prepared to aid with the discharge of a Planning Permission condition.

PROPOSALS

It is proposed to redevelop the site to accommodate a single storey classroom block with asphalt hardstanding to the northeast of the main school building, southwest of the field. A proposed site layout plan is provided in Appendix A.

The report is based upon the above development proposals and the existing ground levels. Should either of these alter significantly following issue of this report, then the contents will require re-evaluation.

SITE INFORMATION AND RECONNAISSANCE

A reconnaissance of the site and its immediate surrounds was undertaken on the 10th September 2025. A selection of site photographs is presented in Appendix A along with a plan showing the existing site layout.

Setting, Size and Current Use

The site lies in a predominantly residential area and is currently occupied by a primary school. Access to the site was afforded via Station Road, occupying an area of approximately 0.60ha.

The site itself can be broadly divided into the main school building in the south and an open field in the North, divided by an approximately 1.60m high retaining wall in the west,, the retaining wall was approximately 1.20m high along the northwest facing side, retaining approximately 0.40m of material. The field was utilised as a sports pitch and playground with an allotment and shed in the southwest of the open field

At the time of investigation, the proposed development plot was occupied by some playground equipment.

The southern area of the site is surfaced with asphalt concrete and utilised for vehicle parking.

The main school building and retaining walls were constructed of masonry brick.

The school is enclosed by tall mature trees along the northern, eastern and western site boundaries.

The site is bordered by:

Direction	Feature
North	Open field, denoted as sewage works
East	Residential
South	Residential
West	Station Road, beyond which is the River Glen

Topography and Surface Conditions

The general topography of the area slopes gently down to the northeast. The site itself is generally flat, sloping gently down towards the north with a gradient of approximately 1°.

Potential Pollution Sources

Given the age of the school, it is anticipated that asbestos could potentially be present. Limited hydrocarbon contamination could potentially be present in the car park in the southern area of the site associated with leaks from parked vehicles.

No obvious visual or olfactory signs of contamination were noted during the site reconnaissance.

Vegetation

Small trees and mature trees up to between 12m and 14m tall (estimated by eye) were observed along the site boundaries, and an approximately 12m high tree (estimated by eye) is adjacent to the proposed plot of the new classroom.

DESK STUDY AND BACKGROUND INFORMATION

A desk study review of the site and its history has been undertaken to determine the former land use and the potential for any historically derived sources of chemical contamination.

The information provided in the desk study is obtained from independent third-party sources. We have relied on this information, but no guarantee can be given for the accuracy or completeness of the third-party data used. It should be appreciated that such data is not exhaustive and is constantly being updated and reviewed in light of new information and procedures. Therefore, improved practices, technology and new information may affect our conclusions and hence this report should be referred back to us for reassessment if new data comes to light, or changes in legislation/best practise is identified prior to development. Similarly, should the development commence more than one year from publication of this report, then we recommend this report is referred back to us for reassessment.

A copy of the desk study information obtained from Groundsure is presented in Appendix B of this report.

The desk study comprises a review of data compiled from multiple organisations and information sources, including:

- Ordnance Survey
- Environment Agency (EA)
- Local Authority
- Natural England
- UK Health Security Agency (UKHSA)
- Centre for Ecology & Hydrology
- Contemporary Trade Directories
- The Coal Authority
- British Geological Survey (BGS), National Geoscience Information Service
- Arup and Stantec
- Aerial Imagery
- Unexploded Ordnance (UXO) maps

Information from the above referenced sources has been utilised to develop a conceptual model of the site for use in the source-pathway-receptor risk assessment.

GEOLOGY

Published Geology

Reference to the BGS 1:50,000 scale map, Sheet No.144, Spalding, Solid and Drift edition, dated 1992, and other published geological information on the area indicates that the site is underlain by Quaternary age Superficial geology, Tidal Flat Deposits (Terrington Beds) overlying Bedrock geology, Oxford Clay Formation.

The BGS maps notes that the area is past the probable former Saxon coastline and was later marshland following a series of reclamations between the 14th and 19th century.

Made Ground

Medieval saltern silt mounds are recorded on the Spalding Golf Course some 670m west.

Superficial Deposits

The Tidal Flat Deposits is generally represented by unconsolidated, silty clay and sandy silt with layers of peart, sand and a basal gravel. Based on the nearby publicly available boreholes, the deposit is anticipated to be some 19m thick beneath the site.

Bedrock

The Oxford Clay Formation is generally represented by pale grey, green grey and brown grey at depth blocky mudstones becoming fossiliferous, bituminous and calcareous with nodular limestones at depth. Based on the geological cross section, the formation is anticipated to be some 55m thick beneath the site.

Historical Boreholes

The BGS holds records of exploratory holes historically put down during previous investigations. The records of one historical borehole, put down 745m to the west of the site, has been reviewed to aid the preliminary assessment of the ground conditions.

BGS ref: TF22NE48, deep borehole was put down in 1985 and encountered shallow Made Ground overlying Tidal Flat Deposits comprised of soft and firm silt down to 5.50m depth, above very loose to medium dense sand with occasional shell fragments down to 18.50m depth, overlying a bed of gravel. The Oxford Clay Formation was encountered from 19.10m comprised of stiff, grey, clays with chalk and flint of the Oxford Clay Formation down to base of the borehole, >20.00m depth. Blowing sands were also noted between 5.00m and 14.20m depth.

Other boreholes close to the above borehole (BGS ref: TF22NE35 and TF22NE39, 740m and 710m west) noted adverse hydrostatic conditions between 12.65m to 17.00m and below 18.50m.

Groundwater was recorded in three boreholes between 4.00 and 6.00m depth.

BACKGROUND SOIL CHEMISTRY

Information from the BGS is provided in the table below listing the background soil chemistry of some commonly occurring heavy metals in the natural soils in the site area:

Heavy Metal	Soil Averages (mg/kg)
Arsenic	15
Lead	100
Bio-accessible Lead	60
Cadmium	1.8
Chromium	60-90
Nickel	15-30

These concentrations do not indicate any naturally elevated background concentrations in the area.

Sulphate Bearing Strata

The Tidal Flat Deposits are not known to contain pyrite (iron sulphide) or gypsum. However, the Oxford Clay Formation is known to contain pyrite or iron sulphide, which, if allowed to oxidise, can provide an aggressive chemical environment for buried concrete. The Oxford Clay Formation is also known to contain gypsum, a sulphate mineral, which can provide an aggressive chemical environment for buried concrete.

HYDROLOGY

The site is on a gentle, northwest-facing hillside above the valley of the River Glen. The anticipated direction of hydraulic flow is to the northeast and the nearest surface watercourse in that direction is a drain, part of the adjacent sewage works along the northern site boundary.

The River Glen is located some 10m south and broadly runs northeast to southwest.

The Environment Agency's Catchment Data Explorer records the Glen Water Body, to be 'artificial' and of generally Moderate ecological status for the latest reported period, of 2022.

The following flood risks are recorded for the site:

- River or coastal waters: Medium risk, High risk is recorded south of the River Glen.
- Surface water: the highest recorded risk is 0.1m to 0.3m in a 1-in-100 year return period.
- Groundwater: Negligible

These data do not constitute a site-specific Flood Risk Assessment and we recommend further enquiries to determine if such an assessment would be required to support a development application for the site.

There are two recorded current surface water abstraction licenses located within 1000m of the site. Both of which are for spray irrigation purposes, the nearest of which is some 807m east.

HYDROGEOLOGY

The groundwater vulnerability and aquifer designation data are based on geological mapping provided by the British Geological Survey.

Groundwater vulnerability is divided, by the EA, into High, Medium and Low ranks (as further detailed in the appended Desk Study Report).

The aquifer designation is initially divided as below:

- **Superficial (Drift)** - permeable unconsolidated (loose) deposits. For example, sands and gravels
- **Bedrock** - solid permeable formations. For example, sandstone, chalk and limestone

And, for each of these, there are sub-classifications as Principal, Secondary A and Secondary B Aquifers and Unproductive Strata, each with a decreasing rank of importance.

The EA records both the Tidal Flat Deposits and the Oxford Clay Formation as Unproductive Aquifers.

There are no records of groundwater abstraction licences within 2000m of the site.

According to information provided by the EA the site is outside of any Source Protection Zones (SPZ).

HISTORY OF THE SITE

The history of the site has been assessed by reviewing historical Ordnance Survey and National Grid maps dating back to 1886 and aerial imagery of the area. This has revealed the following:

Time Period	Historical Site Use	Historical Use of the Surrounding Area
1886 to 1906	The site was historically a school with similar configuration to the existing footprint.	During this period the surrounding area is predominantly agricultural fields, Station Road is located directly south of the site, beyond which is the River Glen. There appears to be some earthworks/cutting directly south of the River Glen some 150m SW.
1906 to 1947	Unmapped	Unmapped
1947 to 1956	The configuration of the schools main building appears to have been changed with possibly an extension to the rear.	During this period the surrounding area remained relatively unchanged. Notable features include two large buildings, possibly industrial/commercial adjacent to the school, a cemetery 400m W and a golf course 700m W.
1956 to 1973	Unmapped	Unmapped
1973 to 1975	A new extension has been added to the western wing of the school, the configuration of which appears similar to present day.	During this period, there has been mixed development along Station Road. Notably, the two adjacent large buildings have been replaced with a single large building, possibly a warehouse, various drains have been installed north of the site and south of station road, a haulage depot is denoted some 600m NE, sewage works 600m NE and 600m W.
1985 to 1987	The site remains relatively unchanged.	Both sewage works have been replaced with residential development. New sewage works directly north of the site.

Time Period	Historical Site Use	Historical Use of the Surrounding Area
1995 to 2010	The site remains relatively unchanged.	The surrounding area remains relatively unchanged. Sewage works has been removed from the mapping circa 2010.
2025	The site remains relatively unchanged	The adjacent large building has been replaced by residential development (housing estate)

UNEXPLODED ORDNANCE AND BOMB SITES

The Zetica bomb risk map shows that the site is located in an area where there is a low risk of encountering unexploded ordnance (UXO) beneath the site. Works can normally proceed without any special precautions.

INDUSTRIAL USE SITES

The only potentially historical potentially contaminative activities use within 250m of the site is the sewage works directly north of the site, which discharges overflow storm water.

Given that these drains are managed and monitored by both the local water companies and environmental agency, it is anticipated that contaminants are likely limited or at strictly controlled low concentrations and not considered further.

The nearest active fuel filling station is in excess of 1km from the site.

Site Use

Since the earliest records (1886), the site has been a school playing field to the present day, given the age of the school potential contaminants include: asbestos and heavy metals associated with the current and historical development of the school.

Limited hydrocarbon contamination could potentially be present in the car park in the southern area of the site associated with leaks from parked vehicles.

Given that the site is a school, site operations and practices would be expected to have high standards for maintaining the site, as such it is anticipated that contaminants, if any, are likely limited or localised pockets and not widespread.

ENVIRONMENTAL PERMITS, INCIDENTS AND REGISTERS

There are no records of pollution incidents or accidents, storage of dangerous, hazardous or radioactive substances, pollution control licenses or contaminated land within 500m of the site.

There are however two licensed discharged to controlled water within 500m of the site. The nearest is the sewage works 130m west for sewer storm overflow, revoked in 2019. The other license is held by 31 Station Road some 250m west for discharging surface water, revoked in 1992. It is considered that both of these licenses pose limited to no risk to the site.

POTENTIALLY SENSITIVE LAND USES

The site is not located in close proximity to any environmentally sensitive land uses.

The site is however within a wider nitrate vulnerable zone.

WASTE TREATMENT AND LANDFILL SITES

Reference to records indicates that there are no current/historical landfill disposal sites or waste facilities within 500m of the site.

RADON GAS

Desk study information indicates that the site lies within an area where less than 1% of homes exceed the action level of 200Bq/m^3 for radon gas. Therefore, in accordance with BR 211, 'Radon: guidance on protective measures for new dwellings', no radon protection measures are necessary in the construction of new dwellings or extensions without underground rooms on this site.

This threshold value is considered to be sufficiently conservative to be protective of a school usage.

GEOTECHNICAL HAZARDS

The following geotechnical information from the Groundsure is provided here, but no formal geotechnical desk study or recommendations form part of the scope of this geoenvironmental report.

Naturally Occurring Hazards

The risk of naturally occurring geotechnical hazards at the site is recorded in the Groundsure report to be as follows:

Ground Stability Hazard	Hazard Potential Rating	Comments
Compressible deposits	Moderate	Associated with Tidal Flat Deposits
Running sand	Moderate	Associated with coarse grained Tidal Flat Deposits soils
Shrink swell clays	Low	Potentially higher where fine grained Tidal Flat Deposits are present
Landslides	Low	-
Collapsible deposits	Negligible	-
Ground dissolution of soluble rock	Negligible	-

INITIAL CONTAMINATION CONCEPTUAL SITE MODEL

A qualitative Preliminary Risk Assessment (PRA) has been undertaken in line with the EA's online guidance, Land Contamination: Risk Management (LCRM).

It is understood that the development proposals comprise the construction of a single storey classroom block within a primary school.

Potential sources of contamination and potential receptors have been assessed using the source-pathway-receptor principle to create a Conceptual Site Model (CSM). This takes into account the fact that a complete pathway must exist between a potential source of contamination and a potential receptor for there to be considered a risk.

POTENTIAL CONTAMINATION SOURCES

Potential Solid-, Liquid- and Vapour-phase Contamination Sources

The results of the desk study and walkover indicate that the following potential sources of soil or groundwater contamination are present at, or in close proximity to, the site:

- Made Ground is possibly present at the site associated with the historical/current development.
- Due to the age of the building, asbestos could potentially be present at the site.
- Limited hydrocarbon contamination associated with the car park in the southern area of the site.

Potential Ground Gas Contamination Sources

Two main groups of gaseous-phase contamination have been considered: the gases (including methane and carbon-dioxide) that result from organic decomposition of constituents in the ground; and Radon gas that results from the radioactive decay of thorium and uranium (found, in varying quantities, in most soils and rocks).

In consideration of the source-pathway-receptor methodology for ground gas risk assessment set out in CIRIA C665, the sensitivity of the school development is considered to be high.

The site is located in an area where the risks from ground gases are considered to be low. We have therefore provisionally assessed the risk of ground gas impacting the site, by reference to the CL:AIRE research bulletin RB17, "A pragmatic approach to ground gas risk assessment" 2012.

The following potential sources have been assessed:

- No credible sources or pathways for landfill gas migration from an off-site landfill have been identified.
- The site has not been a registered landfill.
- Any Made Ground present is/is not expected to be 5m deep or an average of 3m in thickness.
- The site lies on Tidal Flat Deposits, which can contain pockets or thin layers of peat, a naturally gassing organic soil.
- Radon protection measures are not required for this development.

Therefore, the following potential ground gases have been identified for the site:

- Carbon dioxide and methane gases

If organic soils (peat) or a significant thickness of Made Ground are present then further testing, monitoring or gas protection measures may be required.

RECEPTORS

The following most sensitive receptors have been identified at the site:

Human Health – Long Term Exposure

- End users of the site - the future staff and pupils
- Nearby residents

The critical receptor is a child between the age of 4 to 11.

Human Health – Short Term Exposure

- Construction workers (during redevelopment)
- Existing Users (staff and pupils)
- General Public (during redevelopment)
- Maintenance Workers

The critical receptor is a child between the age of 4 to 11.

Controlled Waters and Environment

- Drain/ditch, directly north of the site
- The River Glen, 10m to the south of the site

Infrastructure

- Substructures
- Water supply pipes

PATHWAYS

It is considered that a number of potential pathways exist between these potential sources and the above identified receptors. The viability of these pathways is discussed in the preliminary risk assessment.

Human Health

- Direct soil ingestion in areas of exposed soil
- Ingestion of soil attached to homegrown produce associated with the allotment
- Ingestion of homegrown produce with contamination uptake associated with the allotment
- Inhalation of indoor and outdoor vapours and dust
- Dermal contact with contaminated soil

- Inhalation of soil gases migrating through permeable strata into the building

Controlled Waters and Environment

- Migration/leaching of contaminants through the unsaturated zone
- Run-off to the nearby drain/ditch and River Glen

Infrastructure

- Leachable or corrosive contaminants within the soil
- Corrosive contaminants within the groundwater

PRELIMINARY RISK ASSESSMENT

Desk Study research has identified several potential contamination sources on the site including Made Ground and asbestos associated with historical and current site use, and limited hydrocarbon contamination associated with the car park. Based upon the findings of the Conceptual Site Model (CSM), it is considered low likelihood that soils below the site area itself may be contaminated.

If present the potential identified contaminants may pose a risk to human health via direct contact, ingestion or inhalation.

Since the earliest records the site has been part of a school playing field to the present day. As such contamination associated with the historical and current use, if any, is considered to be localised and at low concentrations.

Contamination associated with vehicle parking is considered to be at low concentrations and localised to the car park. Furthermore, the car park in the southern area of the site is surfaced with hardstanding and the impacts to soils beneath are likely to be low, and unlikely to impact the area of proposed development to the north.

Both the superficial and bedrock aquifers are classified as unproductive aquifers, there are also no known groundwater abstraction licenses within 2km of the site, as such the unproductive aquifers are not considered to be sensitive receptors and are not considered further.

Due to the presence of potentially gassing organic peat soils within the Tidal Flat Deposits, it is considered that gas monitoring is required at this site, to confirm the presence/absence of ground gases.

Based on the desk study research, the following potentially-complete pollutant linkages have been assessed and in accordance with CIRIA C552, a consequence and probability rating has been applied to each potential contamination source to create an overall risk rating. The definitions and methodology are presented in Appendix C and the results are presented in the following table:

ON-SITE SOURCES

Potential Sources	Pathway	Potential Receptor	Probability	Consequence	Risk Classification	Explanation
Contaminants within the Made Ground - *heavy metals, PAH, TPH, asbestos*	Ingestion, inhalation and direct skin exposure (dermal contact)	End Users - Staff/Pupil	Low likelihood	Medium	Moderate / Low	Contamination, if any is anticipated to be localised at low concentrations. Nominal ground investigation should be carried out to confirm this and reduce risk to **LOW.**
		Nearby Residents	Unlikely	Medium	Low	
		Construction Workers	Low likelihood	Medium	Moderate / Low	Contamination is expected to be at low concentrations. Suitable PPE will be used along with appropriate construction risk assessments - this will render the risk to **LOW** or **VERY LOW**.
		Maintenance Workers	Low likelihood	Medium	Moderate / Low	Maintenance workers may be exposed to ground contamination in a similar manner to development workers but it cannot be guaranteed that appropriate PPE and working practices will be adopted but exposed is likely to be less frequent.
	Migration through unsaturated zone, groundwater, drains or service runs	Drain - N River Glen 10m S	Low likelihood	Mild	Very Low	It is considered that the contamination associated with the site is generally localised, immobile or at low concentrations and unlikely that significant site-derived contaminated groundwater would be present and migrate to the nearby surface water or run off into the drain or River Glen.
	Surface run off		Low likelihood	Mild	Very Low	
	Direct contact	Substructures Water supply pipes	Low likelihood	Mild	Low	The Oxford Clay Formation is known to potentially contain sulphates at concentrations that may accelerate the degradation of buried concrete but anticipated depth to bedrock indicates that foundations are unlikely to extend this far. Limited contamination which may impact pipes is anticipated.
Ground gas in organic rich soils - *Carbon dioxide or methane*	Inhalation	End Users – Residents	Low likelihood	Mild	Moderate / Low	Gas generation is thought to be limited, however nominal investigation is recommended to establish if ground gas is present on site. If organic soils or a significant thickness of Made Ground are present then further testing, monitoring or gas protection measures may be required.
		Construction Workers	Unlikely	Mild	Very Low	
		Maintenance Workers	Unlikely	Mild	Very Low	
	Accumulation in building	On-site buildings	Low likelihood	Severe	Moderate	

The geoenvironmental investigation and risk assessment detailed in the remainder of this report have been conducted to validate this CSM.

LIMITATIONS AND RECOMMENDATIONS FOR FURTHER WORK

Environmental

Based on the desk study research, several of the sources, pathways and receptors listed in the CSM are considered to have the potential to be present as complete pollutant linkages. These have the potential to cause harm to the identified human health, controlled waters and infrastructure receptors.

Geotechnical

Although no formal geotechnical desk study or recommendations form part of the scope of this geoenvironmental report. If new foundations are to be constructed, then a geotechnical assessment is recommended to assist with foundation design. Particularly due to the presence of nearby trees, potentially shrinkable soils and potentially deep low strength, highly compressible soils down to some 19m depth.

Further Works

It is recommended that a Phase 2 intrusive site investigation be undertaken in the playing field (northern area of the site), taking into account the sources of contamination identified from the desk study and bearing in mind the proposed development layout, once finalised. This investigation will enable the identified risk to be explored and quantified and any remedial measures, that would be necessary to progress development, to be determined.

Such investigation is envisioned to include:

- Soil testing for range of contaminants including but not limited to: arsenic, cadmium, chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, zinc, sulphates, TPHs and PAHs.
- If new foundations are required, a single deep borehole in order to recover representative samples and testing, to assess the below ground conditions and enable a geotechnical assessment for foundation design.
- The installation of a gas and groundwater monitoring well in order to confirm the absence/presence of ground gases.

As the extent of contamination, if any, is unknown at this stage, potential remedial measures cannot be prescribed. However, the findings of the Phase 2 investigation will be used to quantify the risks and advise on the best methods to reduce any identified risks to acceptable levels for construction and the new development.

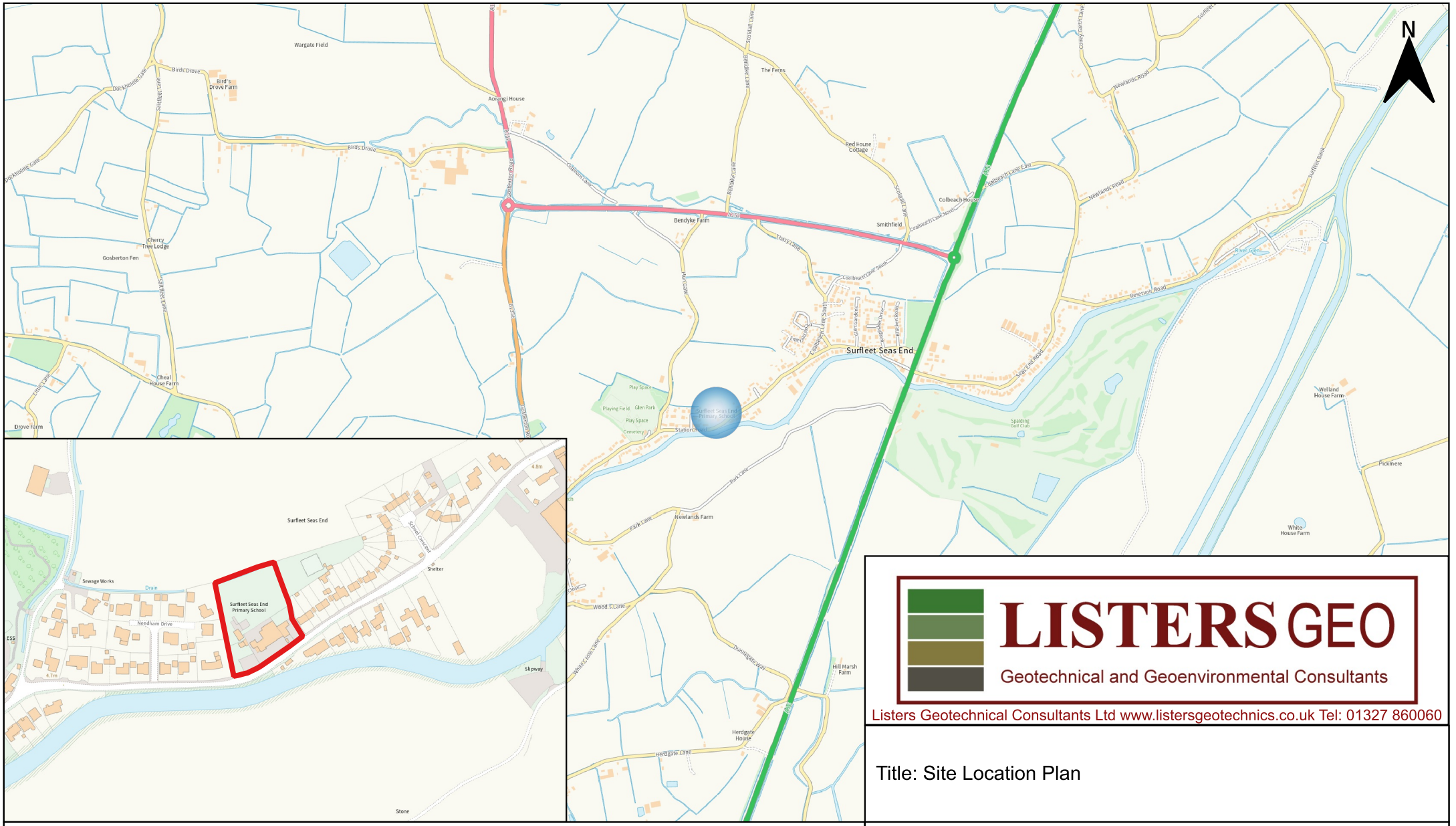
The conclusions of this report should be approved by the Local Authority as soon as possible to avoid delays to the development.

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APPENDIX A
PLANS & PHOTOGRAPHS



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Title: Site Location Plan

Key

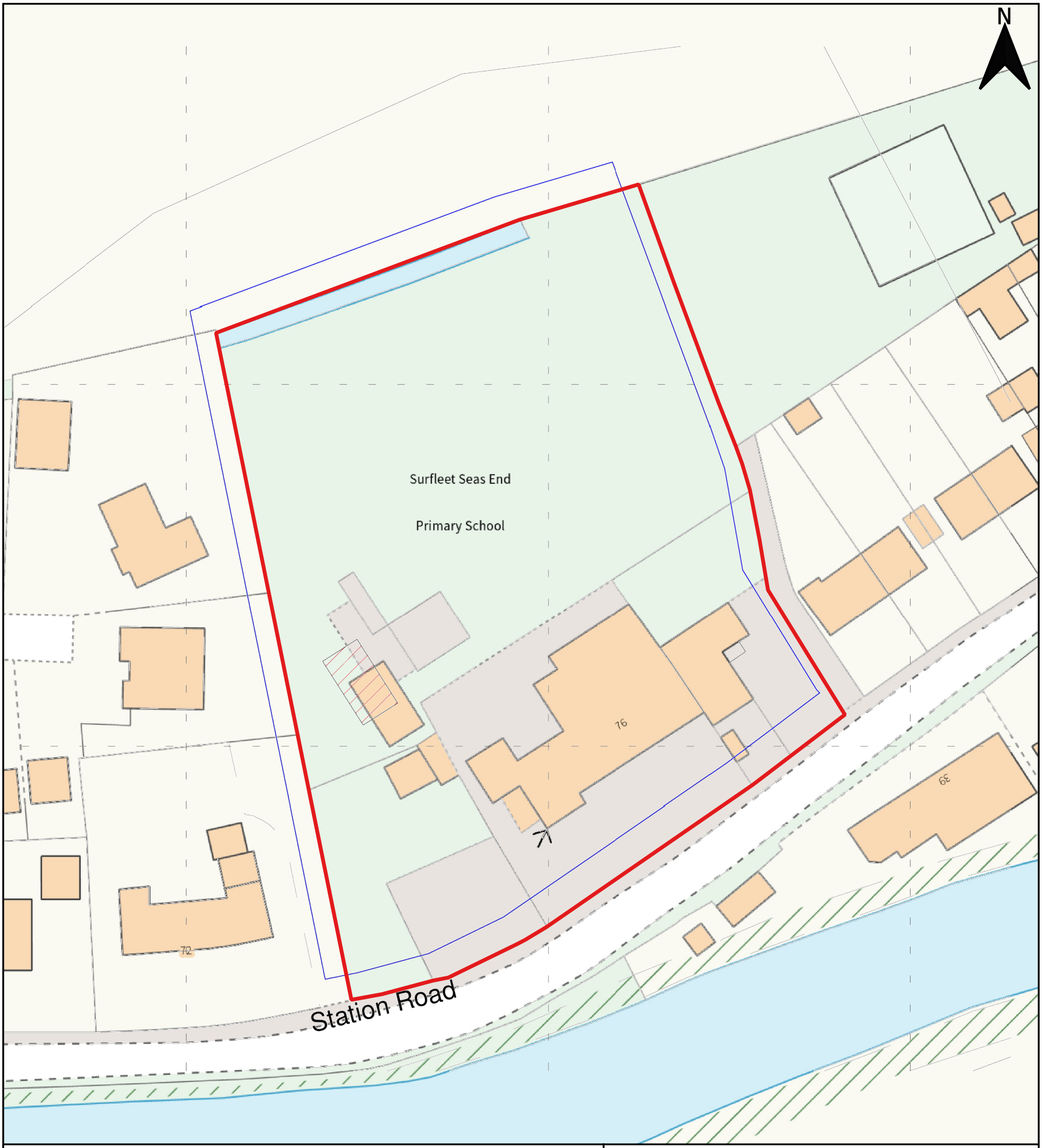
Site Boundary

Approximate Site Location

Site: Surfleet Primary School, Station Road, Surfleet, Spalding, Lincolnshire, PE11 4DB

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Scale: NTS	Job Number: 25.09.007	Drawn By: YT



Key

Site Boundary

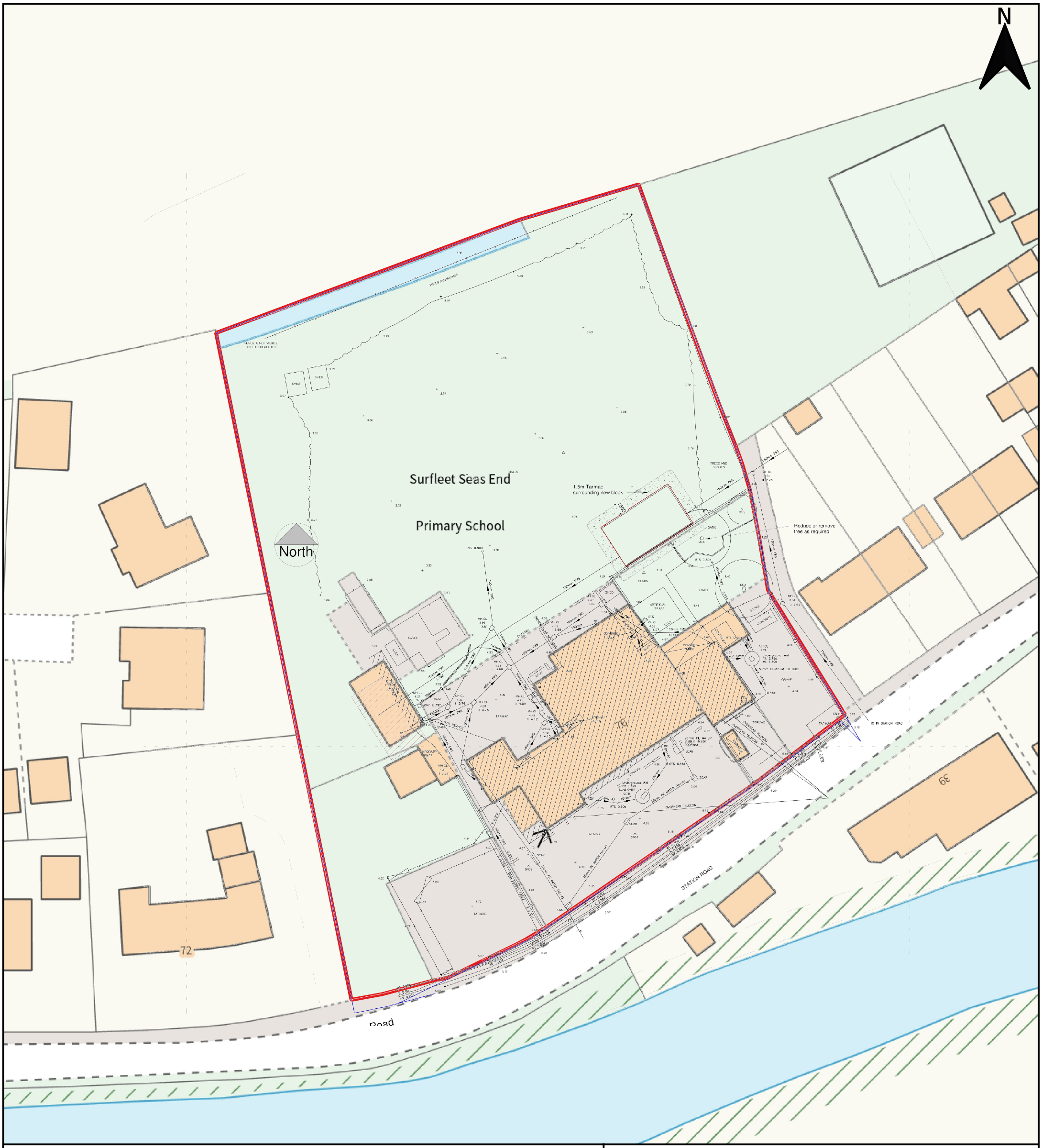
Extract from Surveyors to Education, drawing No. CIF-S2e-XX-XX-D-A-0000, titled 'Location and Block Plan', dated 06/11/2024

LISTERS GEO
Geotechnical and Geoenvironmental Consultants
Listers Geotechnical Consultants Ltd www.listersgeotechnics.co.uk Tel: 01327 860060

Title: Existing Site Layout Plan

Site: Surfleet Primary School, Station Road, Surfleet, Spalding, Lincolnshire, PE11 4DB

Scale: 1:500	Job Number: 25.09.007	Drawn By: YT



Key

Site Boundary

Extract from Surveyors to Education, drawing No. CIF-S2e-XX-XX-D-A-0100, titled 'Block Replacement', dated 06/11/2024

LISTERS GEO
Geotechnical and Geoenvironmental Consultants

Listers Geotechnical Consultants Ltd www.listersgeotechnics.co.uk Tel: 01327 860060

Title: Proposed Site Layout Plan

Site: Surfleet Primary School, Station Road, Surfleet, Spalding, Lincolnshire, PE11 4DB

Scale: 1:500	Job Number: 25.09.007	Drawn By: YT



Photo 1: View to the southeast showing the site entrance



Photo 2: View to the northwest showing the site entrance

SITE PHOTOGRAPHS

Report:
25.09.007



Photo 3: View to the south showing the retaining wall



Photo 4: View to the east showing the proposed development plot

SITE PHOTOGRAPHS

Report:
25.09.007



Photo 5: View to the north showing the site and tall trees



Photo 6: View to the west showing allotment

SITE PHOTOGRAPHS	Report: 25.09.007

LISTERS GEO
Geotechnical and Geoenvironmental Consultants

APPENDIX B
DESK STUDY INFORMATION

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Surfleet Primary School, Station Rd, Surfleet, Spalding, PE11 4DB

Order Details

Date: 08/09/2025

Your ref: 25.09.007/386

Our Ref: GS-EMQ-LY4-KMY-F5R

Site Details

Location: 525794 328572

Area: 0.62 ha

Authority: South Holland District Council ↗



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Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

Insight User Guide ↗

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

Certified B Corporation

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 >	2	1	0	5	-
16	1.2	Historical tanks	0	0	0	0	-
16 >	1.3 >	Historical energy features >	0	0	0	1	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	2	1	0	6	-
19	2.2	Historical tanks	0	0	0	0	-
19 >	2.3 >	Historical energy features >	0	0	0	1	-
19	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
22	3.7	Waste exemptions	0	0	0	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	4.1 >	Recent industrial land uses >	0	0	3	-	-
24	4.2	National Geographic Database (NGD) - Current or recent tanks	0	0	0	-	-
24	4.3	Current or recent petrol stations	0	0	0	0	-
24	4.4	Electricity cables	0	0	0	0	-
24	4.5	Gas pipelines	0	0	0	0	-

24	4.6	Sites determined as Contaminated Land	0	0	0	0	-
25	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.8	Regulated explosive sites	0	0	0	0	-
25	4.9	Hazardous substance storage/usage	0	0	0	0	-
25	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
26	4.12	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
26	4.13	Radioactive Substance Authorisations	0	0	0	0	-
26 >	**4.14 >**	**Licensed Discharges to controlled waters >**	0	0	1	1	-
27	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.16	Pollutant release to public sewer	0	0	0	0	-
27	4.17	List 1 Dangerous Substances	0	0	0	0	-
27	4.18	List 2 Dangerous Substances	0	0	0	0	-
27	4.19	Pollution Incidents (EA/NRW)	0	0	0	0	-
28	4.20	Pollution inventory substances	0	0	0	0	-
28	4.21	Pollution inventory waste transfers	0	0	0	0	-
28	4.22	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
29 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
30 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
31 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
32	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
32	5.5	Groundwater vulnerability- local information	None (within 0m)				
33	5.6	Groundwater abstractions	0	0	0	0	0
34 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	43
42	5.8	Potable abstractions	0	0	0	0	0
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m

44 >	6.1 >	Water Network (OS MasterMap) >	2	2	6	-	-
45 >	6.2 >	Surface water features >	0	2	3	-	-
46 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
46 >	6.4 >	WFD Surface water bodies >	0	1	0	-	-
46	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
47 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48 >	7.3 >	Flood Defences >	0	1	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
51 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
52 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
54 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
55 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57	10.7	Designated Ancient Woodland	0	0	0	0	0
57	10.8	Biosphere Reserves	0	0	0	0	0
57	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58	10.11	Green Belt	0	0	0	0	0

58	10.12	Proposed Ramsar sites	0	0	0	0	0
58	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
58	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
59 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	4
60 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
61 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
62	11.1	World Heritage Sites	0	0	0	-	-
62	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
62	11.3	National Parks	0	0	0	-	-
62	11.4	Listed Buildings	0	0	0	-	-
63	11.5	Conservation Areas	0	0	0	-	-
63	11.6	Scheduled Ancient Monuments	0	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	12.1 >	Agricultural Land Classification >	Grade 1 (within 250m)				
65	12.2	Open Access Land	0	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
65	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
66	13.1	Priority Habitat Inventory	0	0	0	-	-
66	13.2	Habitat Networks	0	0	0	-	-
66	13.3	Open Mosaic Habitat	0	0	0	-	-
66	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
67 >	14.1 >	10k Availability >	Identified (within 500m)				
68	14.2	Artificial and made ground (10k)	0	0	0	0	-

69	14.3	Superficial geology (10k)	0	0	0	0	-
69	14.4	Landslip (10k)	0	0	0	0	-
70	14.5	Bedrock geology (10k)	0	0	0	0	-
70	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
71 >	15.1 >	**50k Availability >**	Identified (within 500m)				
72	15.2	Artificial and made ground (50k)	0	0	0	0	-
72	15.3	Artificial ground permeability (50k)	0	0	-	-	-
73 >	15.4 >	**Superficial geology (50k) >**	1	0	0	0	-
74 >	15.5 >	**Superficial permeability (50k) >**	Identified (within 50m)				
74	15.6	Landslip (50k)	0	0	0	0	-
74	15.7	Landslip permeability (50k)	None (within 50m)				
75 >	15.8 >	**Bedrock geology (50k) >**	1	0	0	0	-
76 >	15.9 >	**Bedrock permeability (50k) >**	Identified (within 50m)				
76	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
77	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	**Natural ground subsidence >**					
78 >	17.1 >	**Shrink swell clays >**	Low (within 50m)				
79 >	17.2 >	**Running sands >**	Moderate (within 50m)				
80 >	17.3 >	**Compressible deposits >**	Moderate (within 50m)				
81 >	17.4 >	**Collapsible deposits >**	Negligible (within 50m)				
82 >	17.5 >	**Landslides >**	Very low (within 50m)				
83 >	17.6 >	**Ground dissolution of soluble rocks >**	Negligible (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
85	18.1	BritPits	0	0	0	0	-
86 >	18.2 >	**Surface ground workings >**	0	1	0	-	-
86	18.3	Underground workings	0	0	0	0	0
86	18.4	Underground mining extents	0	0	0	0	-

86	18.5	Historical Mineral Planning Areas	0	0	0	0	-
87	18.6	Non-coal mining	0	0	0	0	0
87	18.7	JPB mining areas	None (within 0m)				
87	18.8	The Coal Authority non-coal mining	0	0	0	0	-
87	18.9	Researched mining	0	0	0	0	-
88	18.10	Mining record office plans	0	0	0	0	-
88	18.11	BGS mine plans	0	0	0	0	-
88	18.12	Coal mining	None (within 0m)				
88	18.13	Brine areas	None (within 0m)				
88	18.14	Gypsum areas	None (within 0m)				
89	18.15	Tin mining	None (within 0m)				
89	18.16	Clay mining	None (within 0m)				

Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
90	19.1	Natural cavities	0	0	0	0	-
90	19.2	Mining cavities	0	0	0	0	0
90	19.3	Reported recent incidents	0	0	0	0	-
90	19.4	Historical incidents	0	0	0	0	-

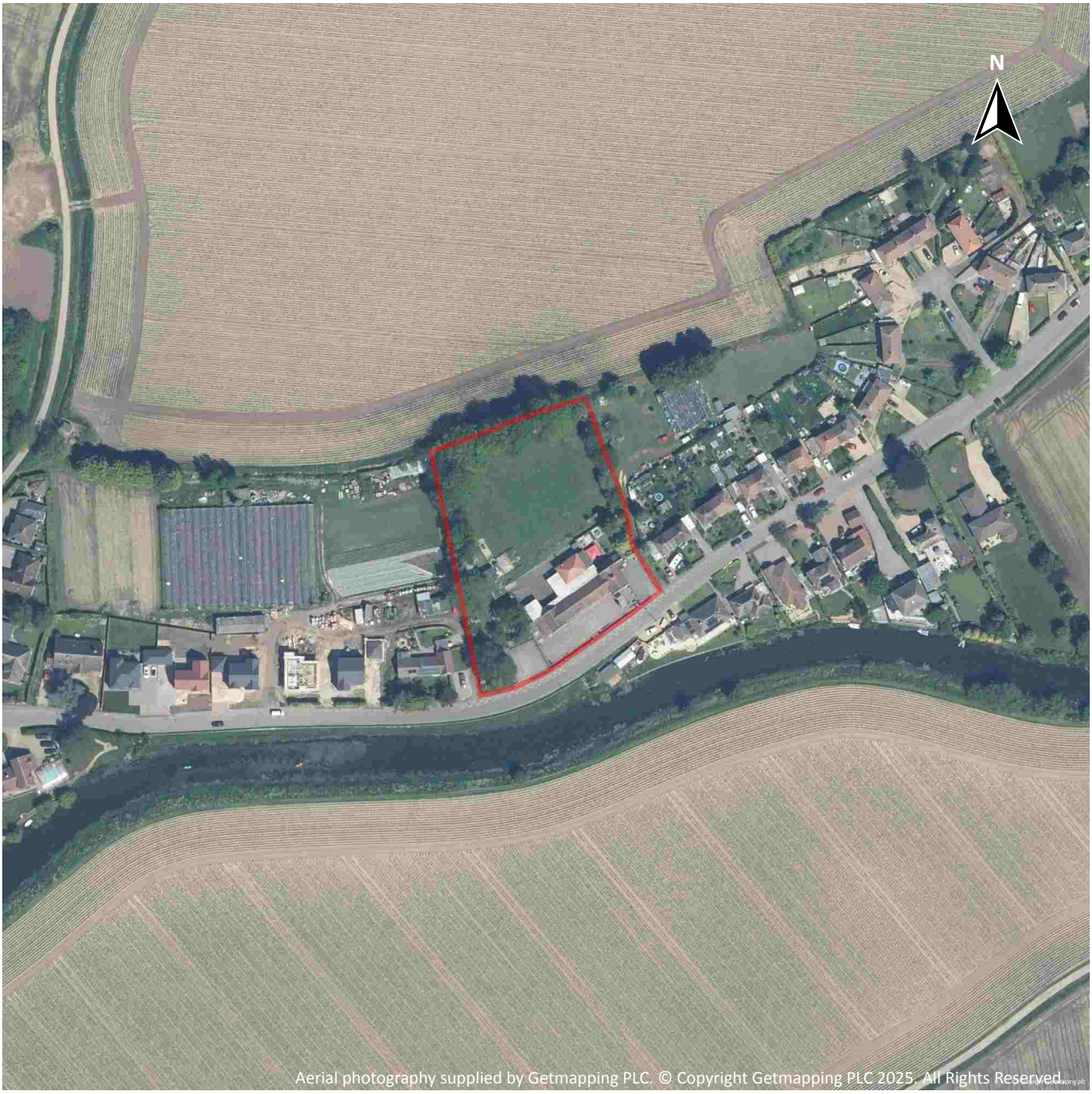
Page	Section	**Radon** >					
92 >	**20.1** >	**Radon** >	Less than 1% (within 0m)				

Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
94 >	**21.1** >	**BGS Estimated Background Soil Chemistry** >	1	1	-	-	-
94	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
94	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
95	22.1	Underground railways (London)	0	0	0	-	-
95	22.2	Underground railways (Non-London)	0	0	0	-	-
95	22.3	Railway tunnels	0	0	0	-	-
95	22.4	Historical railway and tunnel features	0	0	0	-	-
95	22.5	Royal Mail tunnels	0	0	0	-	-

96	22.6	Historical railways	0	0	0	-	-
96	22.7	Railways	0	0	0	-	-
96	22.8	Crossrail 2	0	0	0	0	-
96	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 29/05/2021

Site Area: 0.62ha

Recent site history - 2018 aerial photograph



Capture Date: 20/04/2018

Site Area: 0.62ha

Recent site history - 2010 aerial photograph



Capture Date: 23/05/2010

Site Area: 0.62ha

Recent site history - 2007 aerial photograph



Capture Date: 12/09/2007

Site Area: 0.62ha

Recent site history - 1999 aerial photograph



Capture Date: 18/06/1999

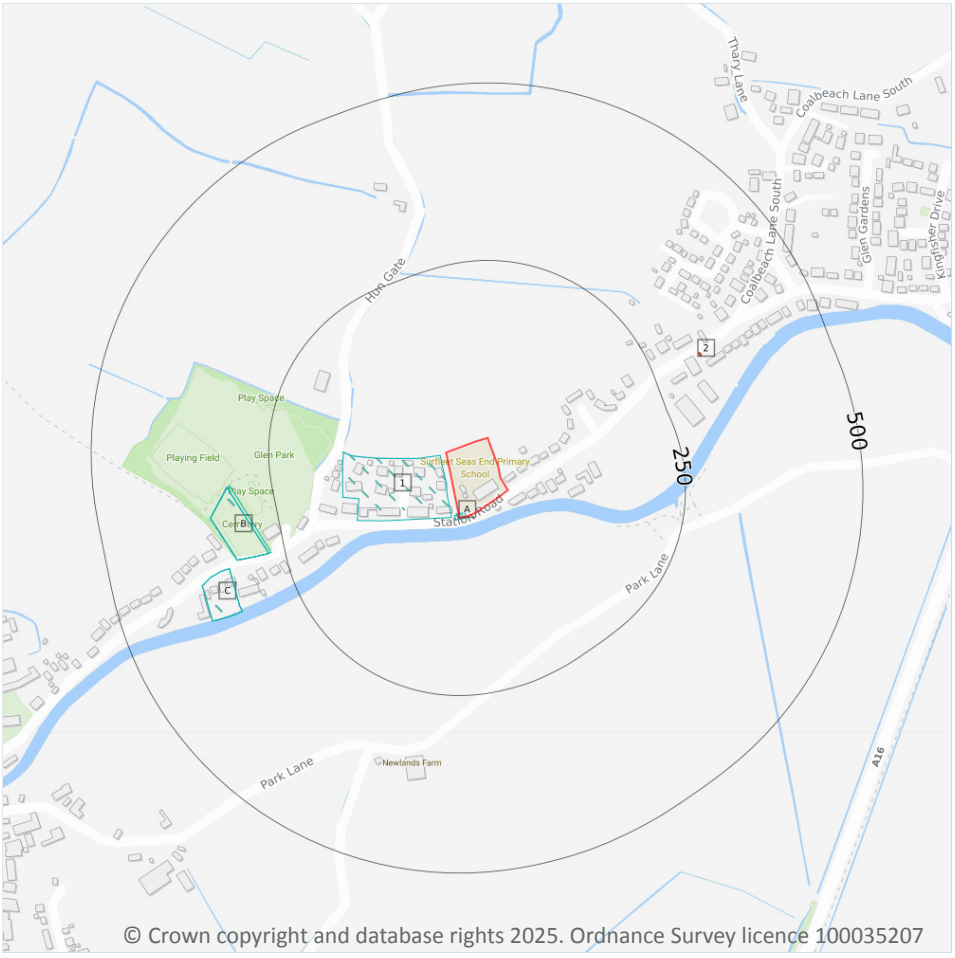
Site Area: 0.62ha

OS MasterMap site plan



Site Area: 0.62ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical energy features

1.1 Historical industrial land uses

Records within 500m	8

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 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
A	**On site**	**Unspecified Station**	**1906**	**2066024**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Station**	**1956**	**2068021**
1	8m W	Sewage Works	1989	2034163
B	270m W	Cemetery	1950 - 1956	2067427
B	273m W	Cemetery	1989	2046505
B	273m W	Cemetery	1975	2054763
C	331m W	Telephone Exchange	1975	2051532
C	331m W	Telephone Exchange	1989	2069217

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**0**

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'.

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**1**

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
2	320m E	Electricity Substation	1997	244113

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.

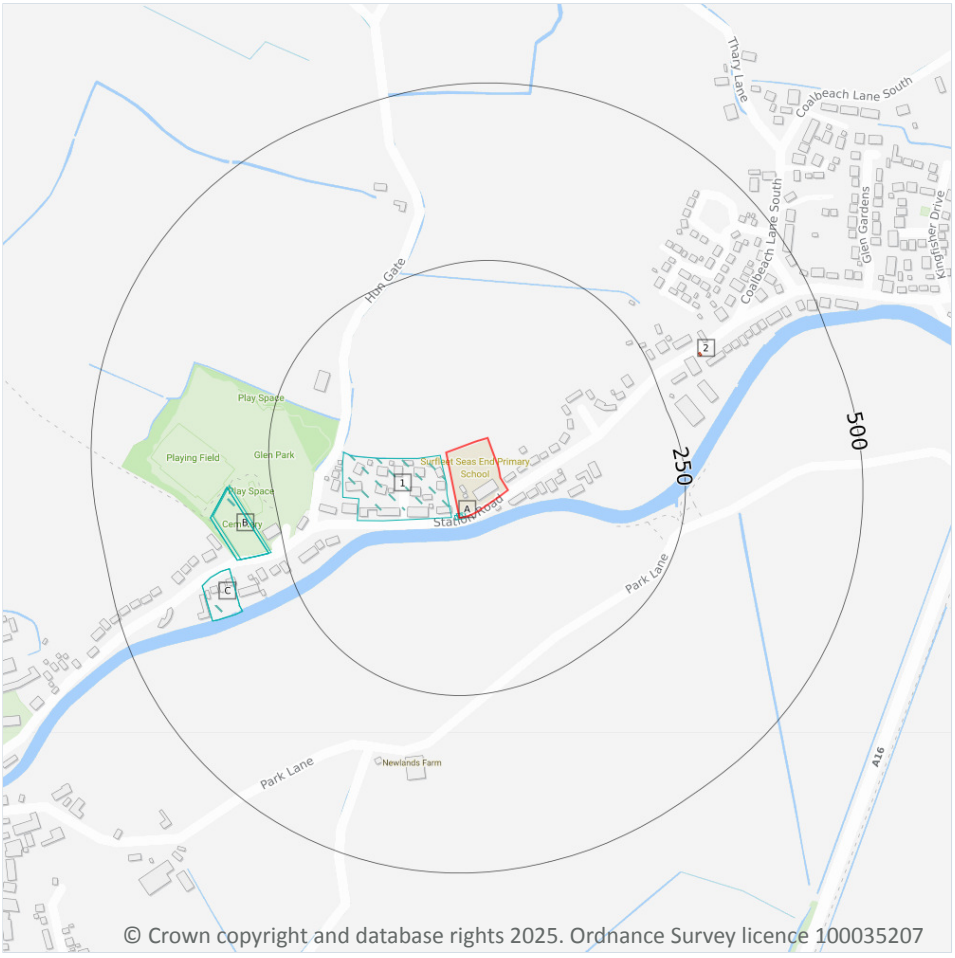
1.6 Historical military land

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



2.1 Historical industrial land uses

Records within 500m	9

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

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

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Station**	**1906**	**2066024**
A	**On site**	**Unspecified Station**	**1956**	**2068021**
1	8m W	Sewage Works	1989	2034163

ID	Location	Land Use	Date	Group ID
B	270m W	Cemetery	1950	2067427
B	273m W	Cemetery	1989	2046505
B	273m W	Cemetery	1975	2054763
B	273m W	Cemetery	1956	2067427
C	331m W	Telephone Exchange	1989	2069217
C	331m W	Telephone Exchange	1975	2051532

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**0**

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**1**

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 18 >**

ID	Location	Land Use	Date	Group ID
2	320m E	Electricity Substation	1997	244113

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	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	0

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.

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

4.1 Recent industrial land uses

Records within 250m	3

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
A	131m W	Sewage Works	Lincolnshire, PE11	Waste Storage, Processing and Disposal	Infrastructure and Facilities
1	213m W	Electricity Sub Station	Lincolnshire, PE11	Electrical Features	Infrastructure and Facilities
2	222m E	Slipway	Lincolnshire, PE11	Moorings and Unloading Facilities	Water

This data is sourced from Ordnance Survey.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m	0

Current or recent tanks identified from the Ordnance Survey NGD.

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 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.

4.11 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.

4.12 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.

4.13 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.

4.14 Licensed Discharges to controlled waters

Records within 500m	2

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

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

ID	Location	Address	Details	
A	124m W	WOODS LANE, WOODS LANE, SURFLEET, SPALDING, PE11 4AN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: AW5NF560 Permit Version: 1 Receiving Water: Fen Drain	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 10/08/1971 Effective Date: 10/08/1971 Revocation Date: 05/03/2019
3	254m W	31 STATION ROAD, SURFLEET, LINCOLNSHIRE, PE11 4DA	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: PR5NF5264 Permit Version: 1 Receiving Water: River Glen	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 08/01/1987 Effective Date: 08/01/1987 Revocation Date: 27/02/1992

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

4.15 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.

4.16 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.

4.17 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.

4.18 List 2 Dangerous Substances

Records within 500m	0

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

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

4.19 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.20 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.

4.21 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.

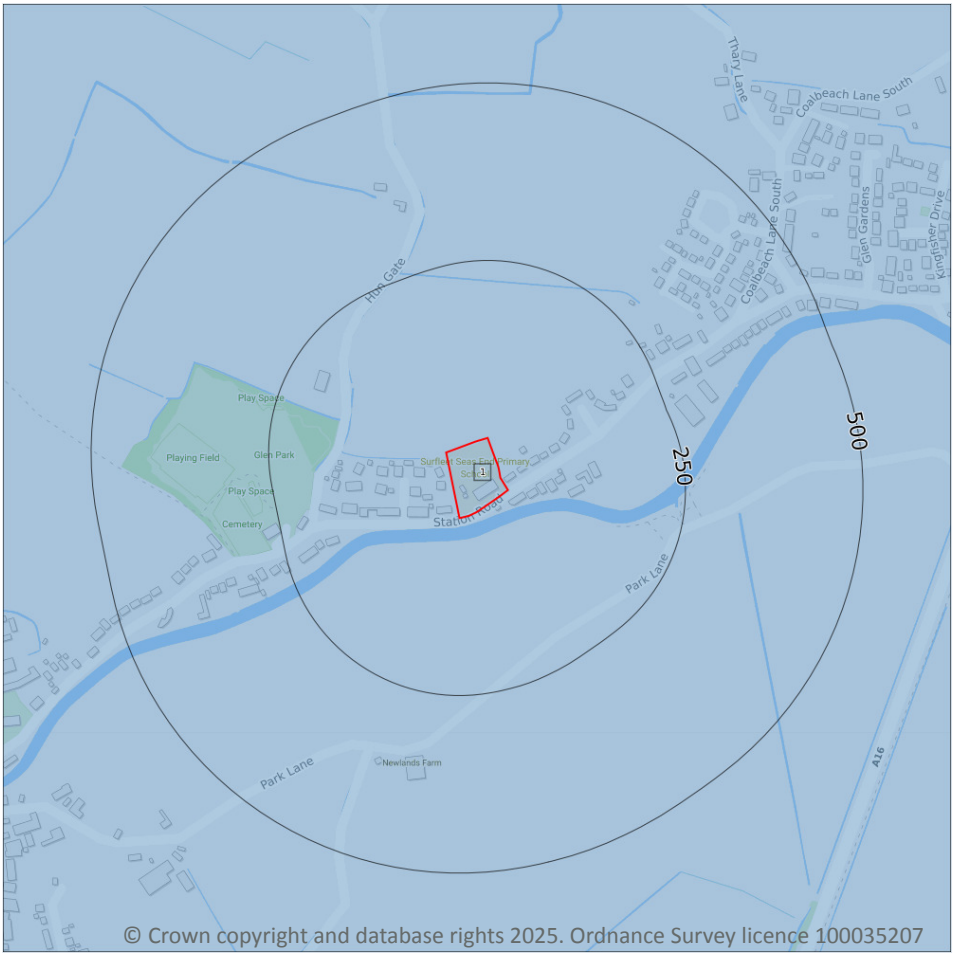
4.22 Pollution inventory radioactive waste

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	1

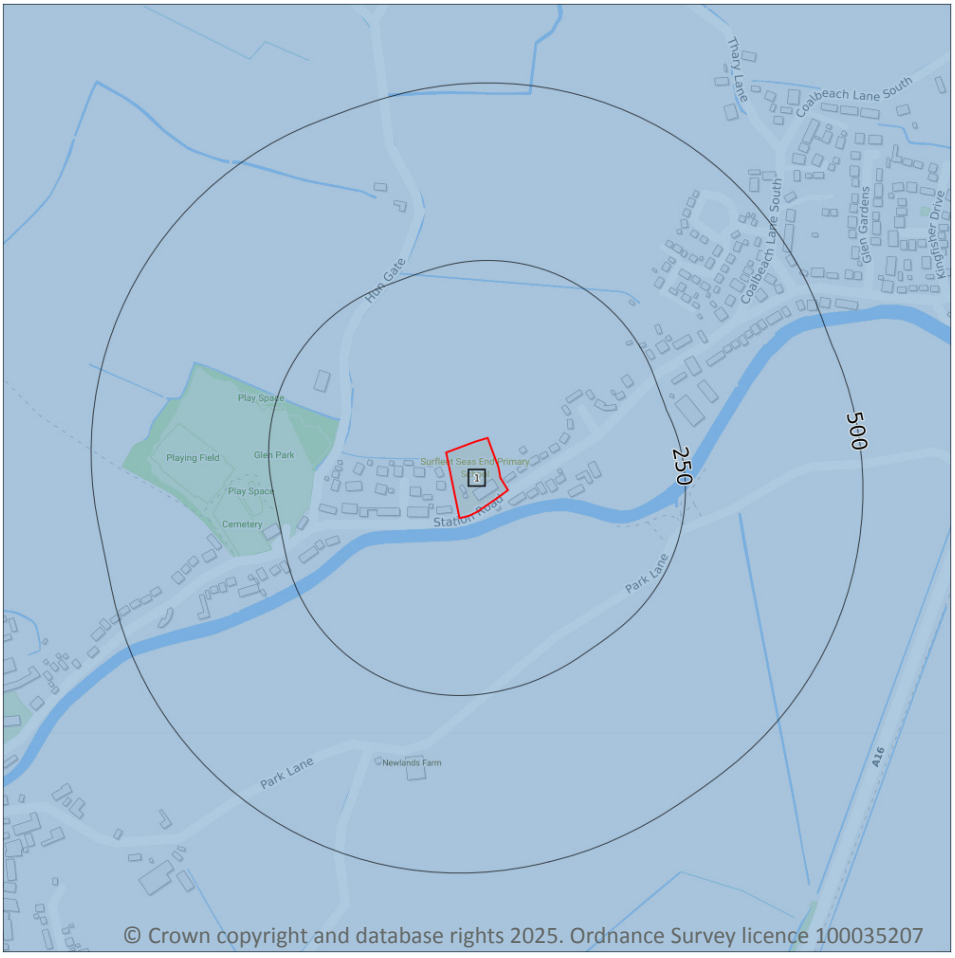
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 29 >**

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

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	1

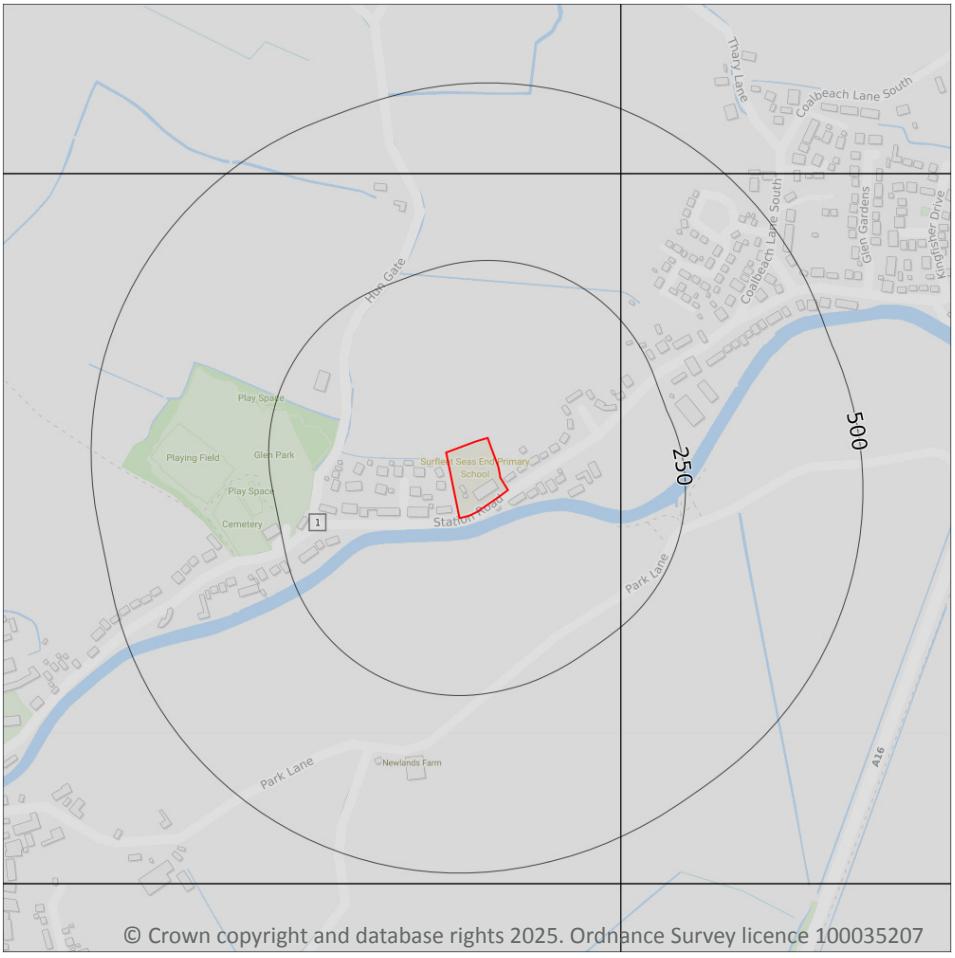
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 30 >**

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

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	1

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

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

Features are displayed on the Groundwater vulnerability map on **page 31 >**

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

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	0

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

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

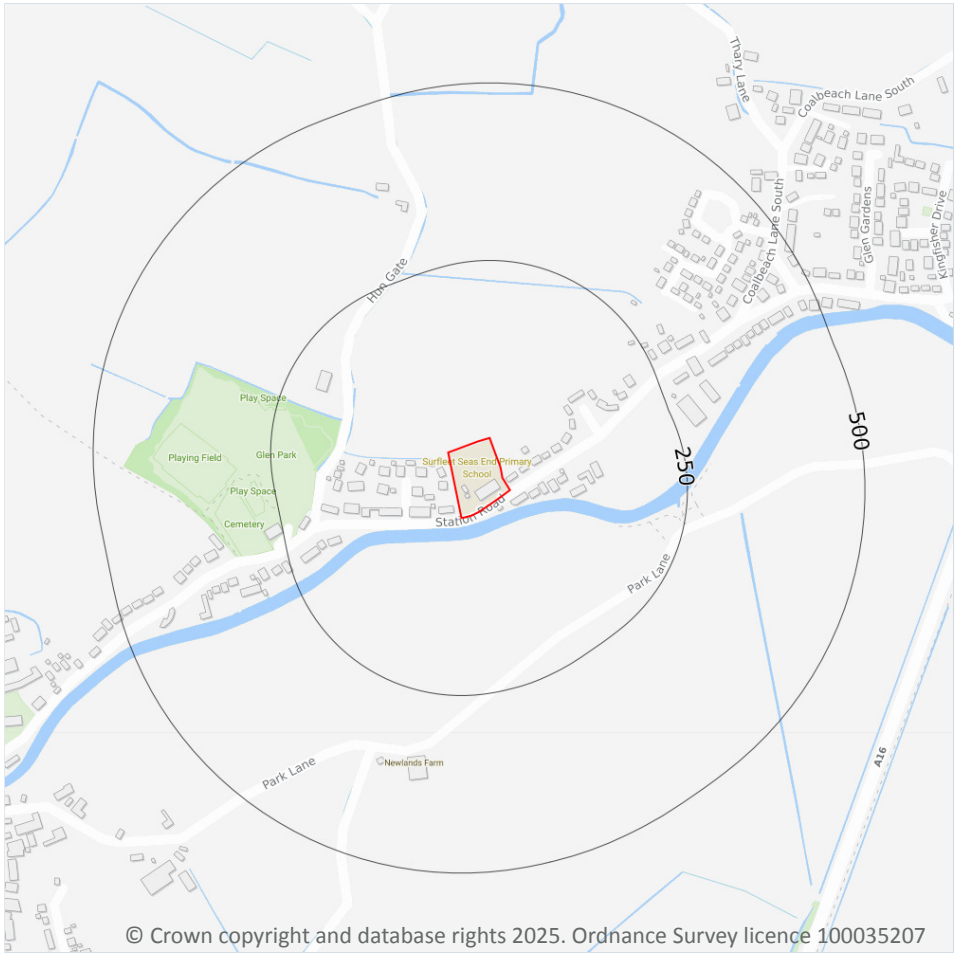
5.5 Groundwater vulnerability- local information

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	0

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.

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

5.7 Surface water abstractions

Records within 2000m	**43**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 33 >**

ID	Location	Details	
-	807m E	Status: Active Licence No: 5/31/14/*S/0249/R01 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN IN SURFLEET Data Type: Point Name: Goude Easting: 526640 Northing: 328668	Annual Volume (m^3): 12800 Max Daily Volume (m^3): 302.4 Original Application No: NPS/WR/038517 Original Start Date: 13/09/2022 Expiry Date: 31/03/2038 Issue No: 2 Version Start Date: 08/03/2023 Version End Date: -
-	807m E	Status: Historical Licence No: 5/31/14/*S/0249 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN - SURFLEET Data Type: Point Name: SPALDING GOLF CLUB Easting: 526640 Northing: 328670	Annual Volume (m^3): 12800 Max Daily Volume (m^3): 302.40 Original Application No: - Original Start Date: 09/01/2002 Expiry Date: 31/03/2022 Issue No: 1 Version Start Date: 01/04/2004 Version End Date: -
-	807m E	Status: Historical Licence No: 5/31/14/*S/0249/L Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN - SURFLEET Data Type: Point Name: SPALDING GOLF CLUB Easting: 526640 Northing: 328670	Annual Volume (m^3): 12800 Max Daily Volume (m^3): 302.40 Original Application No: N1224 Original Start Date: 01/04/2022 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2022 Version End Date: -
-	871m E	Status: Active Licence No: 5/31/14/*S/0123 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: R GLEN AT SURFLEET Data Type: Point Name: SPALDING GOLF CLUB Easting: 526700 Northing: 328700	Annual Volume (m^3): 3410 Max Daily Volume (m^3): 250.03 Original Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2004 Version End Date: -

ID	Location	Details	
-	1307m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT P Data Type: Point Name: Farmland Reserve UK Limited Easting: 524609 Northing: 329238	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1307m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT P Data Type: Point Name: Farmland Reserve UK Limited Easting: 524609 Northing: 329238	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1307m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT P Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524609 Northing: 329238	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1307m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT P Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524609 Northing: 329238	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1338m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: BLUE GOWT "C - D" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 525810 Northing: 325600	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -

ID	Location	Details	
-	1357m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524200 Northing: 327600	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: - Original Start Date: 01/04/1992 Expiry Date: - Issue No: 100 Version Start Date: 01/01/2011 Version End Date: -
-	1364m SW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK-POINT A Data Type: Line Name: Farmland Reserve UK Limited Easting: 524202 Northing: 327574	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1364m SW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK-POINT A Data Type: Line Name: Farmland Reserve UK Limited Easting: 524202 Northing: 327574	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1364m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK-POINT A Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524202 Northing: 327574	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1364m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK-POINT A Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524202 Northing: 327574	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -

ID	Location	Details	
-	1374m SW	Status: Historical Licence No: 5/31/14/*S/0036 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: R GLEN AT PINCHBECK Data Type: Line Name: DANIELS Easting: 524500 Northing: 327700	Annual Volume (m^3): 3296 Max Daily Volume (m^3): 613.724 Original Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2004 Version End Date: -
-	1416m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT Q Data Type: Point Name: Farmland Reserve UK Limited Easting: 524594 Northing: 329420	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1416m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT Q Data Type: Point Name: Farmland Reserve UK Limited Easting: 524594 Northing: 329420	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1416m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT Q Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524594 Northing: 329420	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1416m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT Q Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524594 Northing: 329420	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -

ID	Location	Details	
-	1463m W	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS, PINCHBECK-POINT A Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524202 Northing: 327574	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: - Original Start Date: 01/04/1992 Expiry Date: - Issue No: 101 Version Start Date: 28/09/2011 Version End Date: -
-	1584m W	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT N Data Type: Point Name: Farmland Reserve UK Limited Easting: 524188 Northing: 328842	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1584m W	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT N Data Type: Point Name: Farmland Reserve UK Limited Easting: 524188 Northing: 328842	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1584m W	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT N Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524188 Northing: 328842	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1584m W	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT N Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524188 Northing: 328842	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -

ID	Location	Details	
-	1640m W	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT O Data Type: Point Name: Farmland Reserve UK Limited Easting: 524227 Northing: 329206	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1640m W	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT O Data Type: Point Name: Farmland Reserve UK Limited Easting: 524227 Northing: 329206	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1640m W	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT O Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524227 Northing: 329206	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1640m W	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM DRAINS-GOSBERTON-POINT O Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524227 Northing: 329206	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1688m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBERRY DRAIN, GOSBERTON-POINT B Data Type: Line Name: Farmland Reserve UK Limited Easting: 523828 Northing: 329680	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -

ID	Location	Details	
-	1688m NW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBERRY DRAIN, GOSBERTON-POINT B Data Type: Line Name: Farmland Reserve UK Limited Easting: 523828 Northing: 329680	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1688m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBERRY DRAIN, GOSBERTON-POINT B Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 523828 Northing: 329680	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1688m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBERRY DRAIN, GOSBERTON-POINT B Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 523828 Northing: 329680	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1740m NW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBERRY DRAIN, GOSBERTON Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524400 Northing: 329700	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: - Original Start Date: 01/04/1992 Expiry Date: - Issue No: 100 Version Start Date: 01/01/2011 Version End Date: -
-	1820m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: General Farming & Domestic Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "A - B" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 526190 Northing: 325300	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -

ID	Location	Details	
-	1820m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "A - B" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 526190 Northing: 325300	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -
-	1853m SW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN, PINCHBECK-POINT M Data Type: Line Name: Farmland Reserve UK Limited Easting: 524174 Northing: 327578	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1853m SW	Status: Active Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN, PINCHBECK-POINT M Data Type: Line Name: Farmland Reserve UK Limited Easting: 524174 Northing: 327578	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 7920 Original Application No: NPS/WR/043552 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 103 Version Start Date: 19/12/2024 Version End Date: -
-	1853m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN, PINCHBECK-POINT M Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524174 Northing: 327578	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -
-	1853m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN, PINCHBECK-POINT M Data Type: Line Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524174 Northing: 327578	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: NPS/WR/014640 Original Start Date: 01/04/1992 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2019 Version End Date: -

ID	Location	Details	
-	1853m SW	Status: Historical Licence No: 5/31/14/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER GLEN, PINCHBECK-POINT M Data Type: Point Name: PROCTOR BROS (GOSBERTON) LTD Easting: 524174 Northing: 327578	Annual Volume (m^3): 100000 Max Daily Volume (m^3): 6000 Original Application No: - Original Start Date: 01/04/1992 Expiry Date: - Issue No: 101 Version Start Date: 28/09/2011 Version End Date: -
-	1874m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "G - H" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 527010 Northing: 327090	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -
-	1874m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: General Farming & Domestic Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "G - H" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 527010 Northing: 327090	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -
-	1874m SE	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "G - H" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD Easting: 527010 Northing: 327090	Annual Volume (m^3): 135000 Max Daily Volume (m^3): 8000 Original Application No: NS761 Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

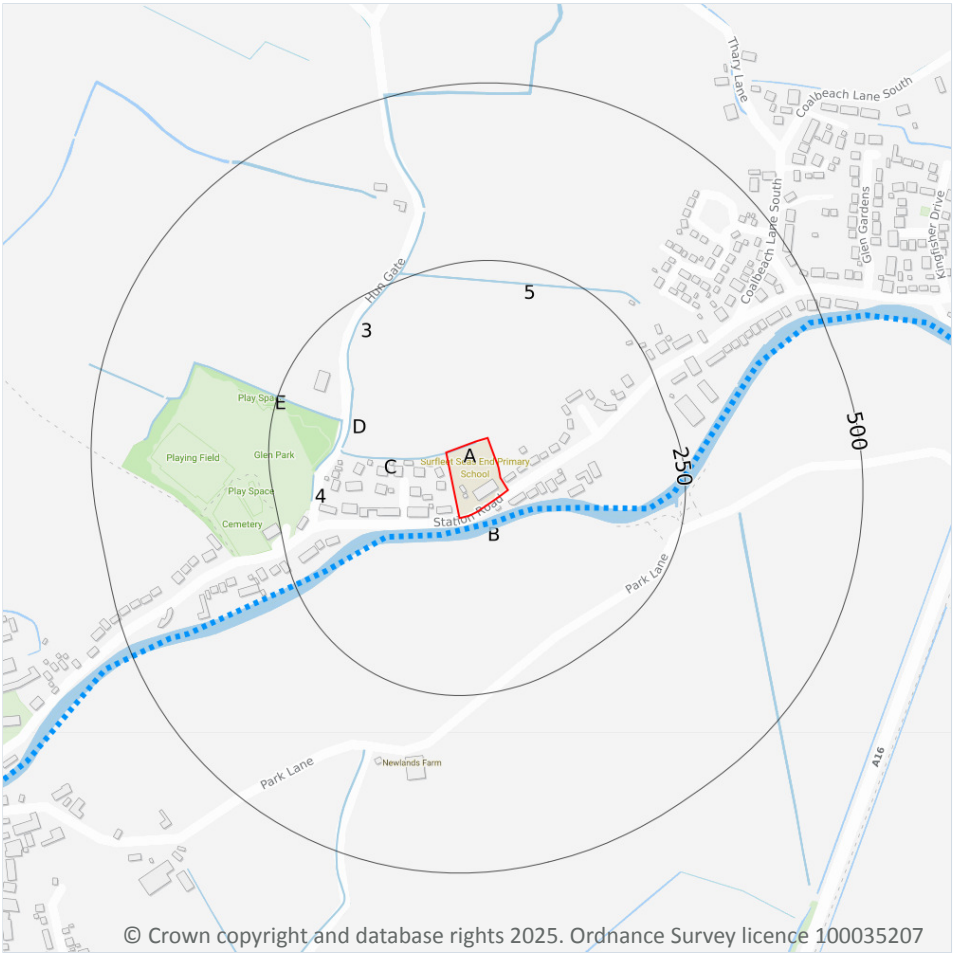
5.10 Source Protection Zones (confined aquifer)

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



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	10

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 44 >**

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
A	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**-**
B	21m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Glen
C	31m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	141m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	152m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	160m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
3	165m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	189m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	221m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**5**

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 44 >**

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 44 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Glen**	**GB105031050720**	**Glens**	**Welland**

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 44 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
1	17m S	River	Glen	GB105031050720 ↗	Moderate	Fail	Moderate	2019

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

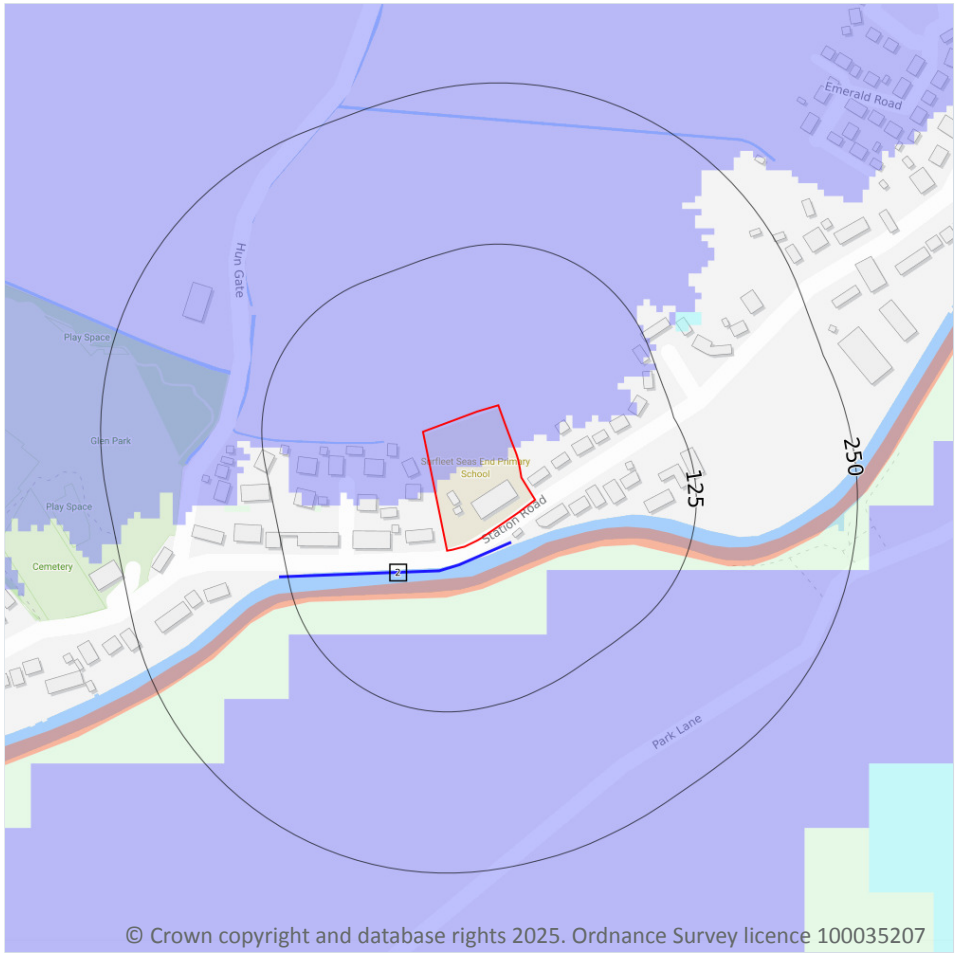
6.5 WFD Groundwater bodies

Records on site	0

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

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	4

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

Features are displayed on the River and coastal flooding map on **page 47 >**

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

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

7.2 Historical Flood Events

Records within 250m	**0**

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

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

7.3 Flood Defences

Records within 250m	**1**

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.

Features are displayed on the River and coastal flooding map on **page 47 >**

ID	Location	Update
2	11m SE	08/11/2022

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.

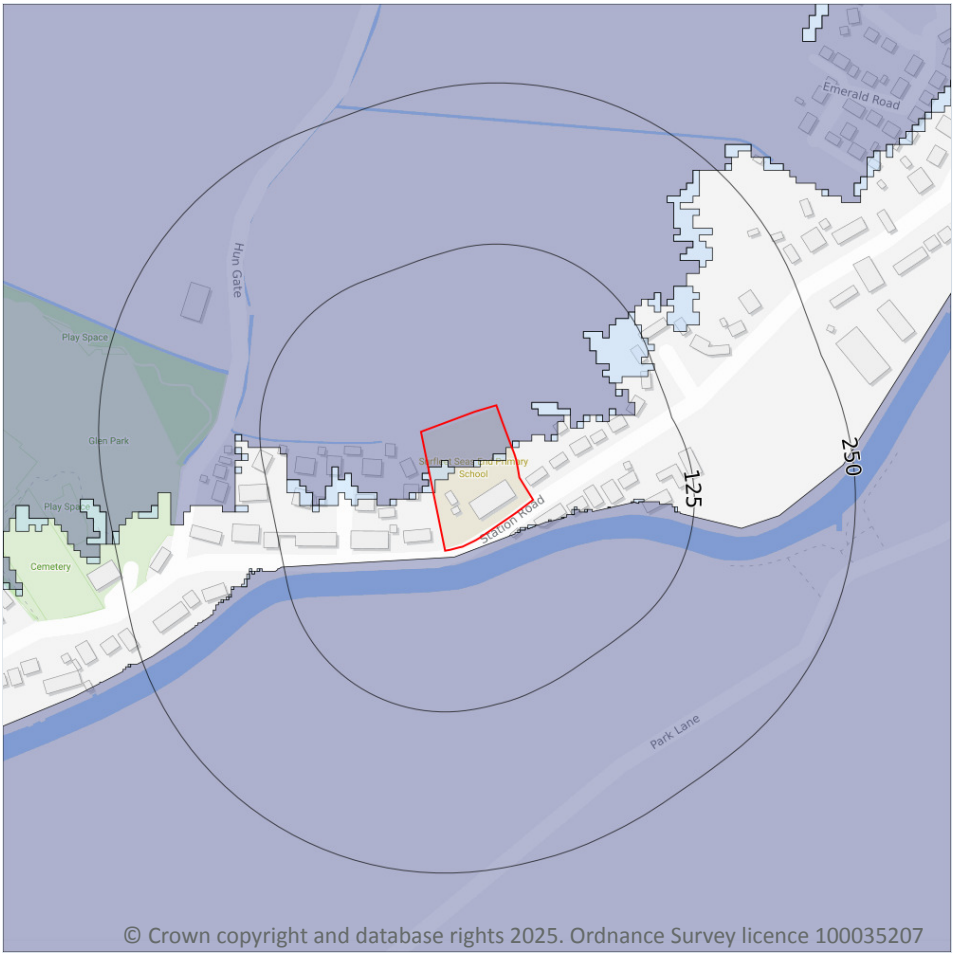
7.5 Flood Storage Areas

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



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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

Features are displayed on the River and coastal flooding map on **page 47 >**

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

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

7.7 Flood Zone 3

Records within 50m	1

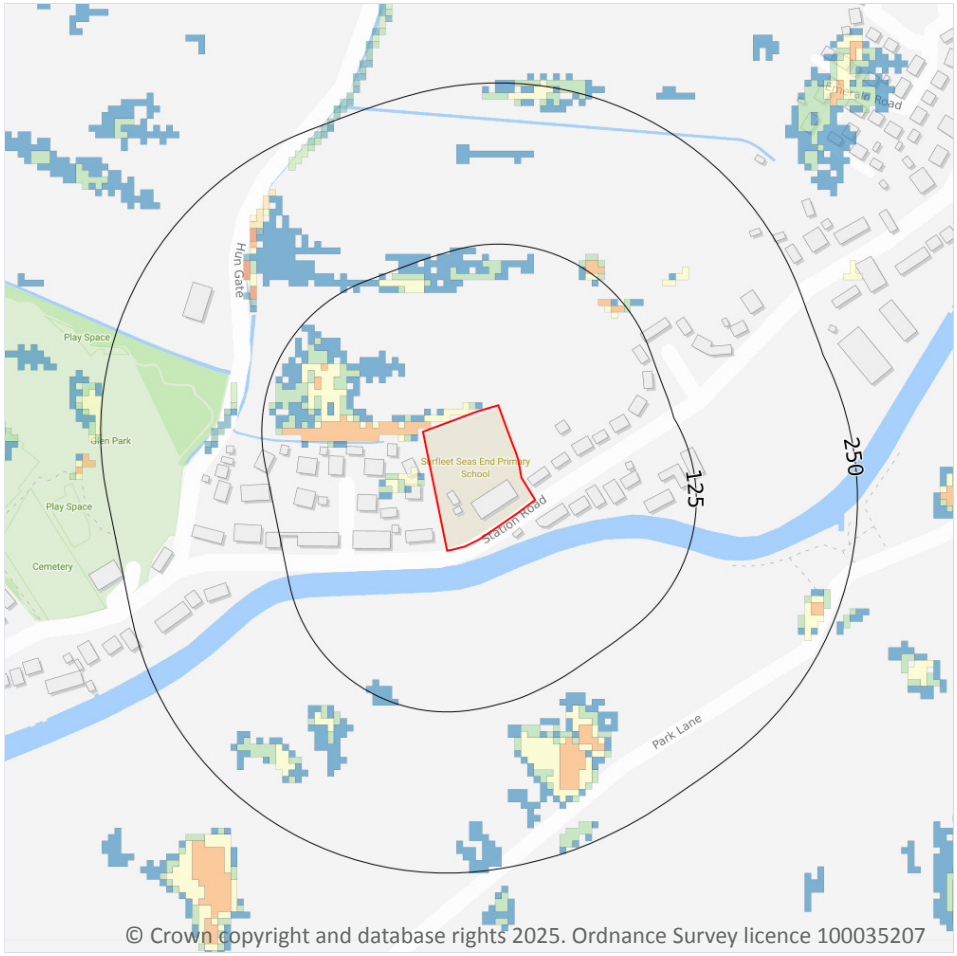
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 47 >**

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

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 100 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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

Features are displayed on the Surface water flooding map on **page 52 >**

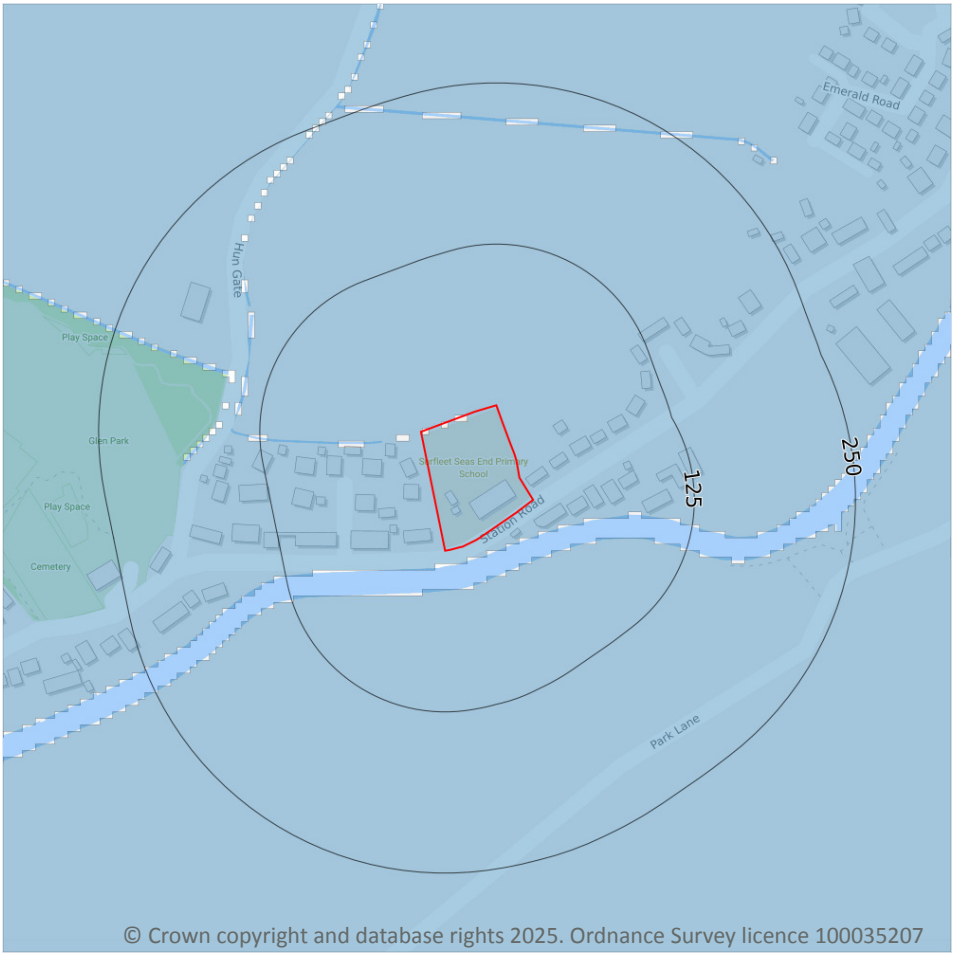
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Negligible

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	**Negligible**

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

Features are displayed on the Groundwater flooding map on **page 54 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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.

Features are displayed on the Environmental designations map on **page 55 >**

ID	Location	Name	Data source
1	523m W	Surfleet Lows SSSI	Natural England

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	0

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

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

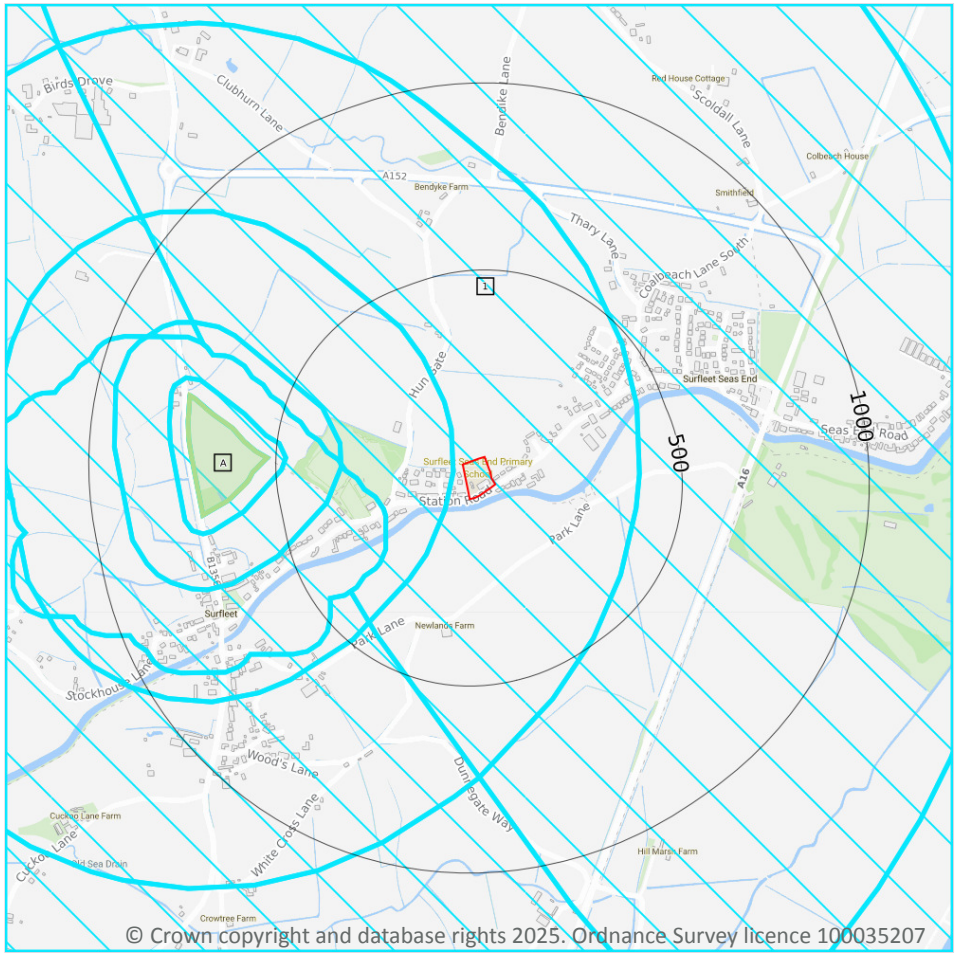
Records within 2000m	5

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	**Glen NVZ**	**Surface Water**	**378**	**Existing**
1371m NW	Risegate Eau NVZ	Surface Water	381	Existing
1508m SE	Vernatt's Drain NVZ	Surface Water	379	Existing
1662m W	Glen NVZ	Surface Water	378	Existing
1767m W	Risegate Eau NVZ	Surface Water	381	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 60 >**

ID	Location	Type of developments requiring consultation
1	**On site**	**https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0101054322251&notes=&location=525450,329390%20(IRZ%20polygon%20centre)**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	1

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.

Features are displayed on the SSSI Impact Zones and Units map on **page 60 >**

ID: A
Location: 523m W
SSSI name: Surfleet Lows
Unit name: Surfleet Lows
Broad habitat: Neutral Grassland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mire grassland and rush pasture	Favourable	22/08/2012

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.

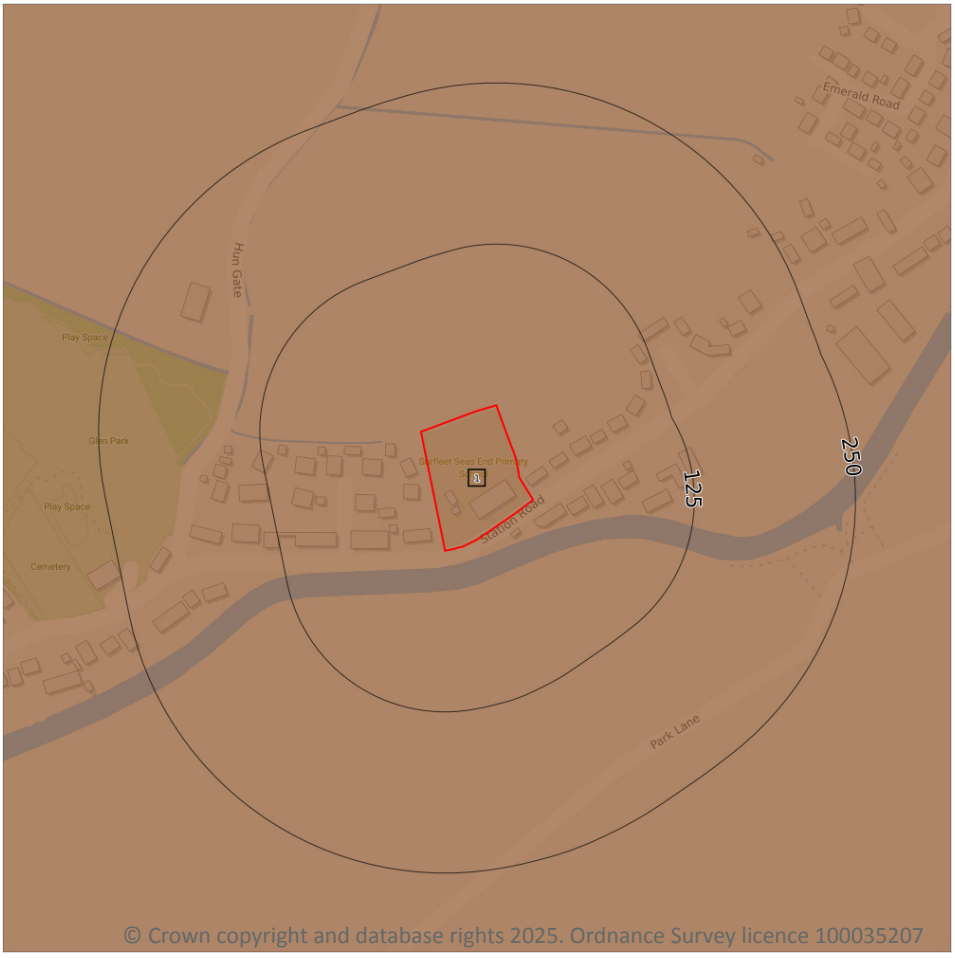
11.7 Registered Parks and Gardens

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	1

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

Features are displayed on the Agricultural designations map on **page 64 >**

ID	Location	Classification	Description
1	On site	Grade 1	**Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.**

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



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Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

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

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

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

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

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

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**EW144_spalding_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.

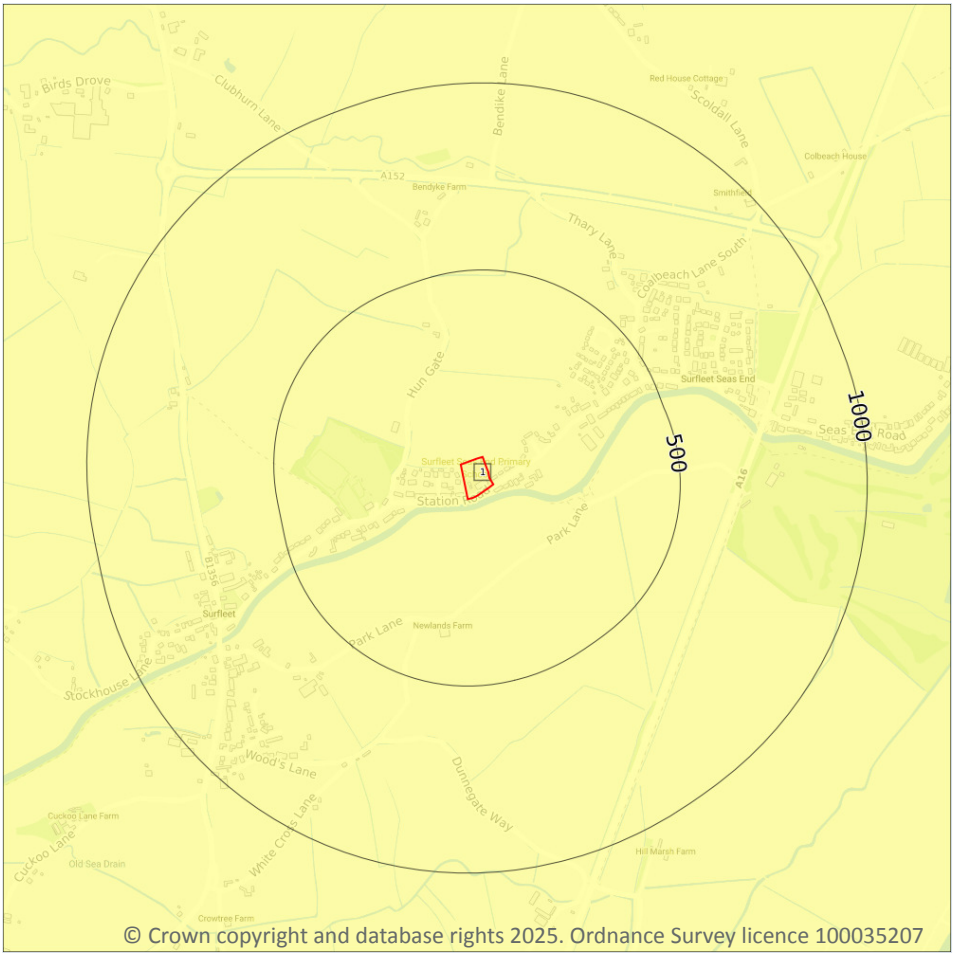
15.3 Artificial ground permeability (50k)

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	1

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 73 >**

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

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Low**	**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.

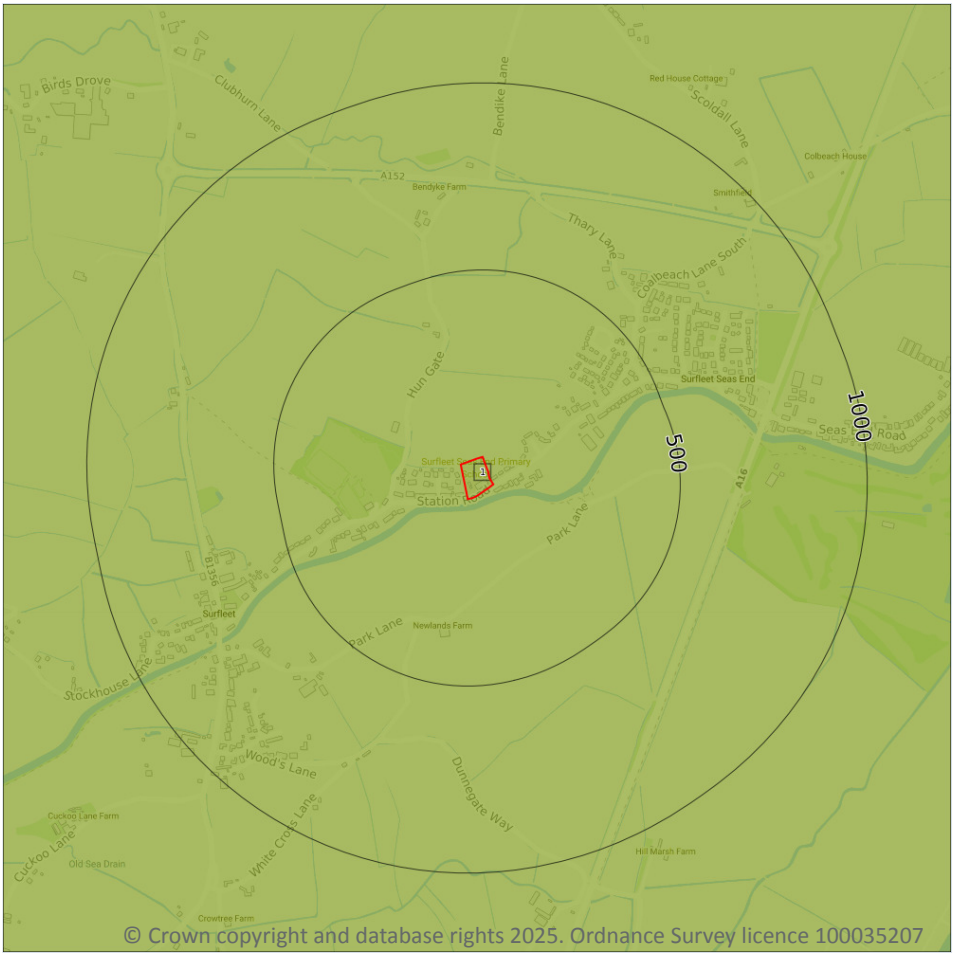
15.7 Landslip permeability (50k)

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	1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 75 >**

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

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes

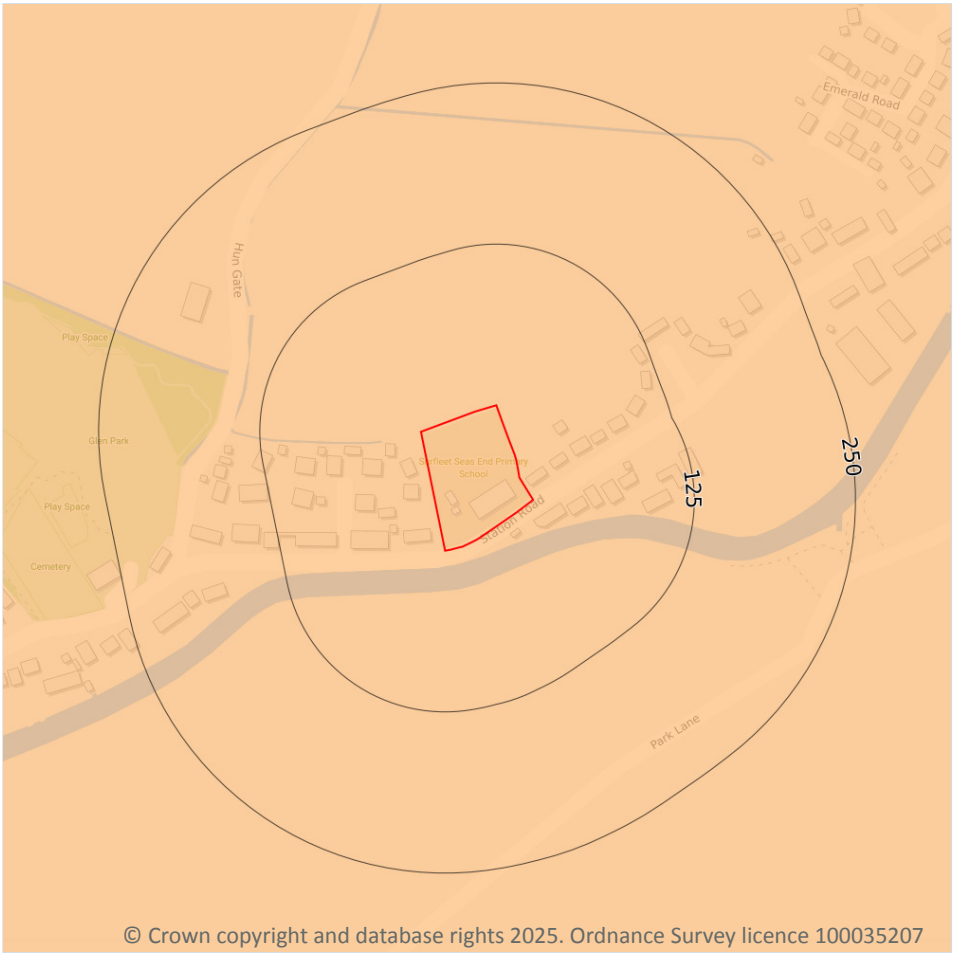
16.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

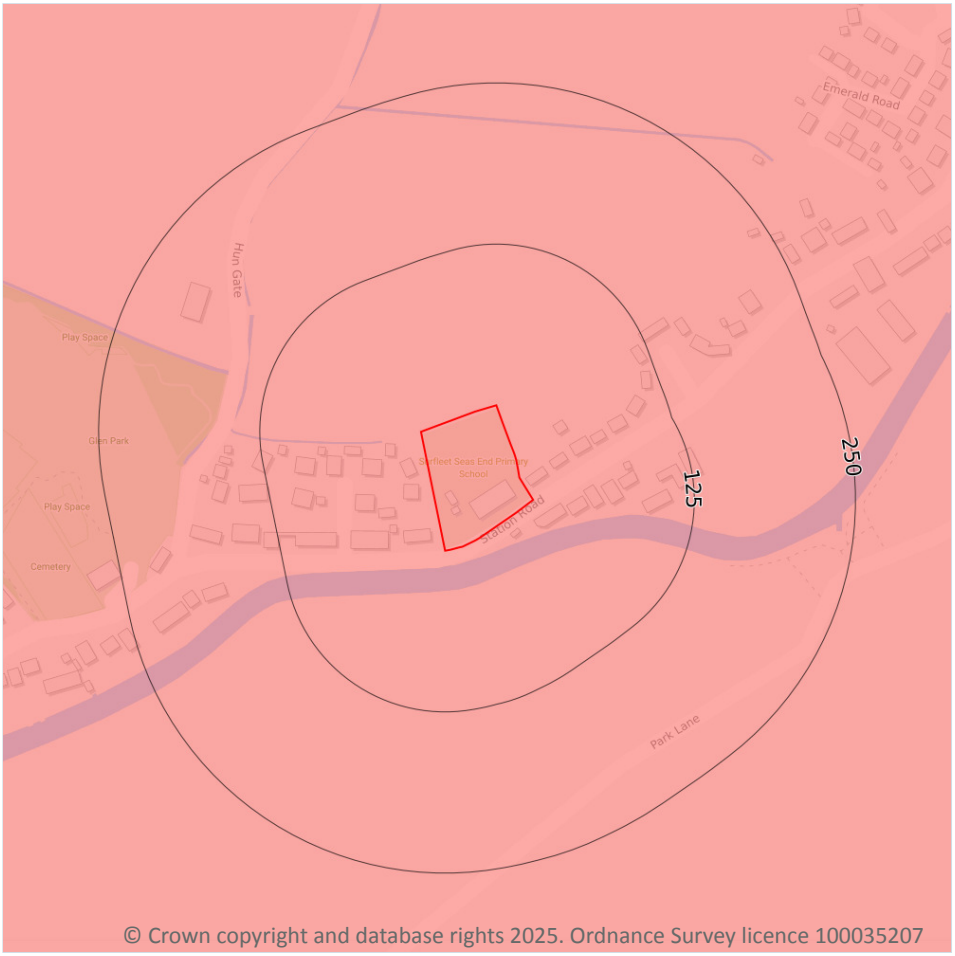
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

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

Location	Hazard rating	Details
On site	**Low**	**Ground conditions predominantly medium 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	1

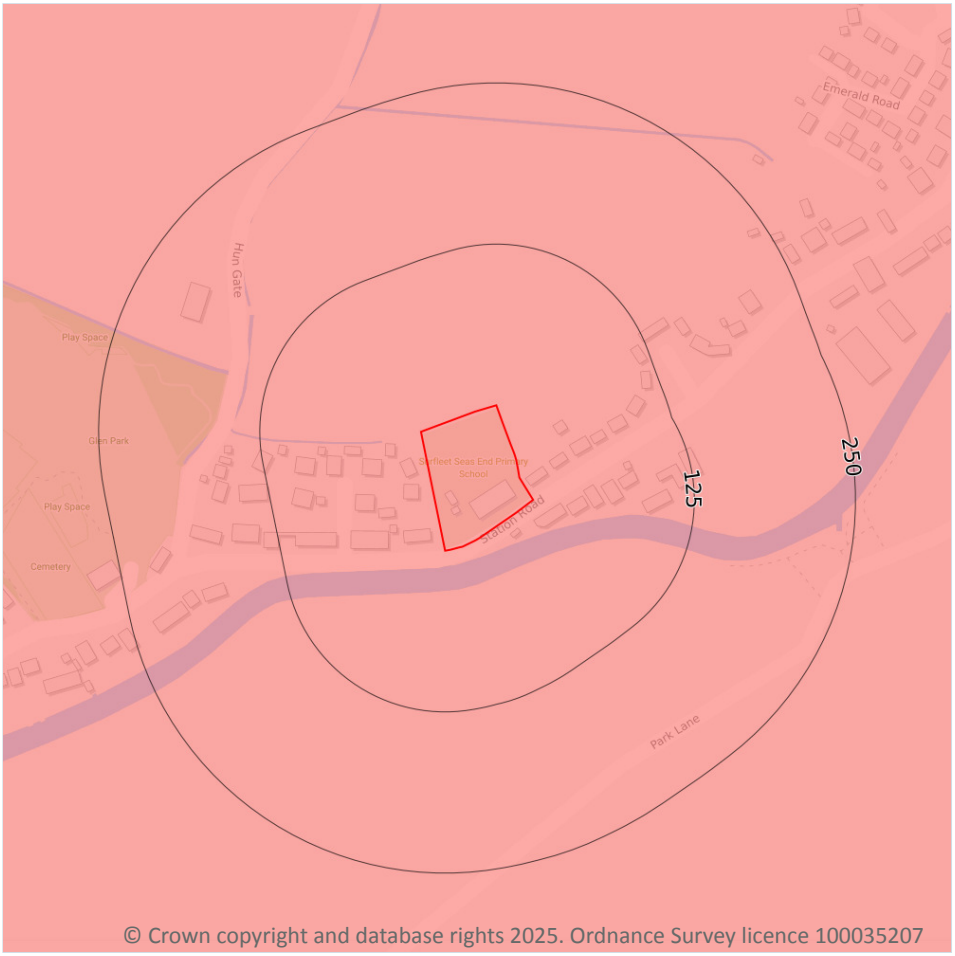
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 79 >**

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

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	1

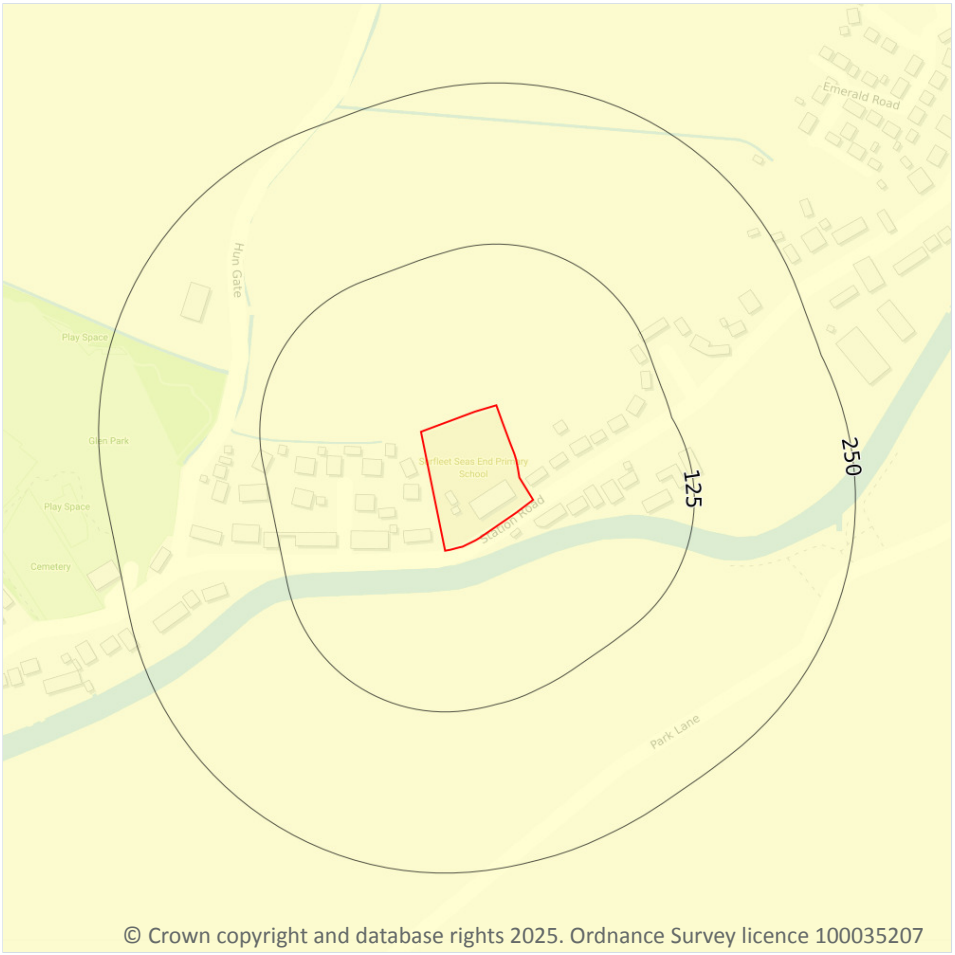
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 80 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

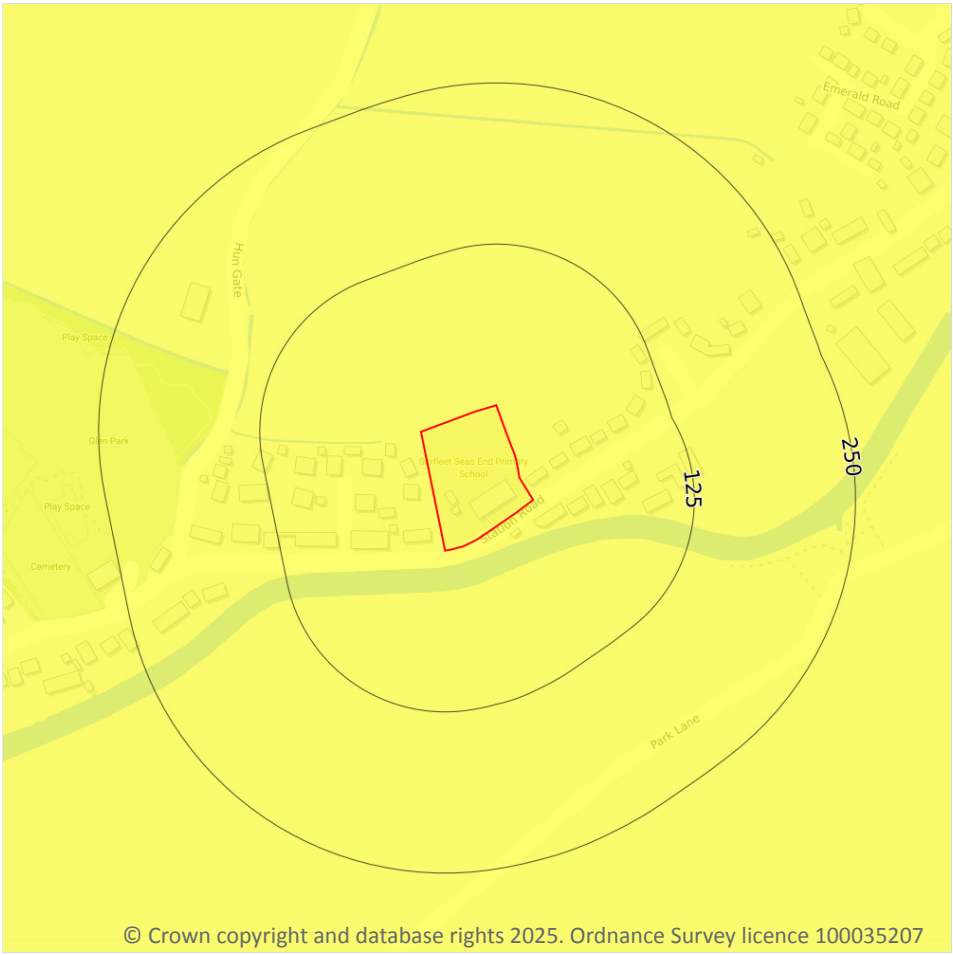
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not 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	1

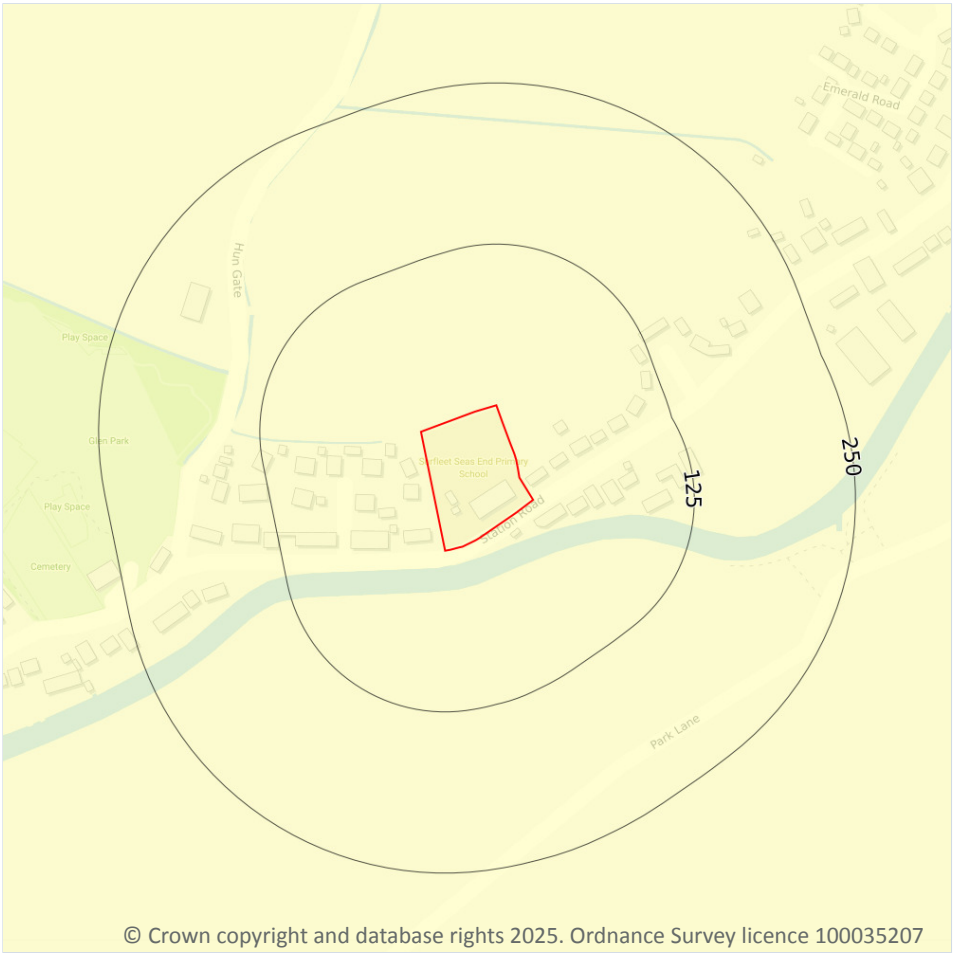
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 82 >**

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.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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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	1

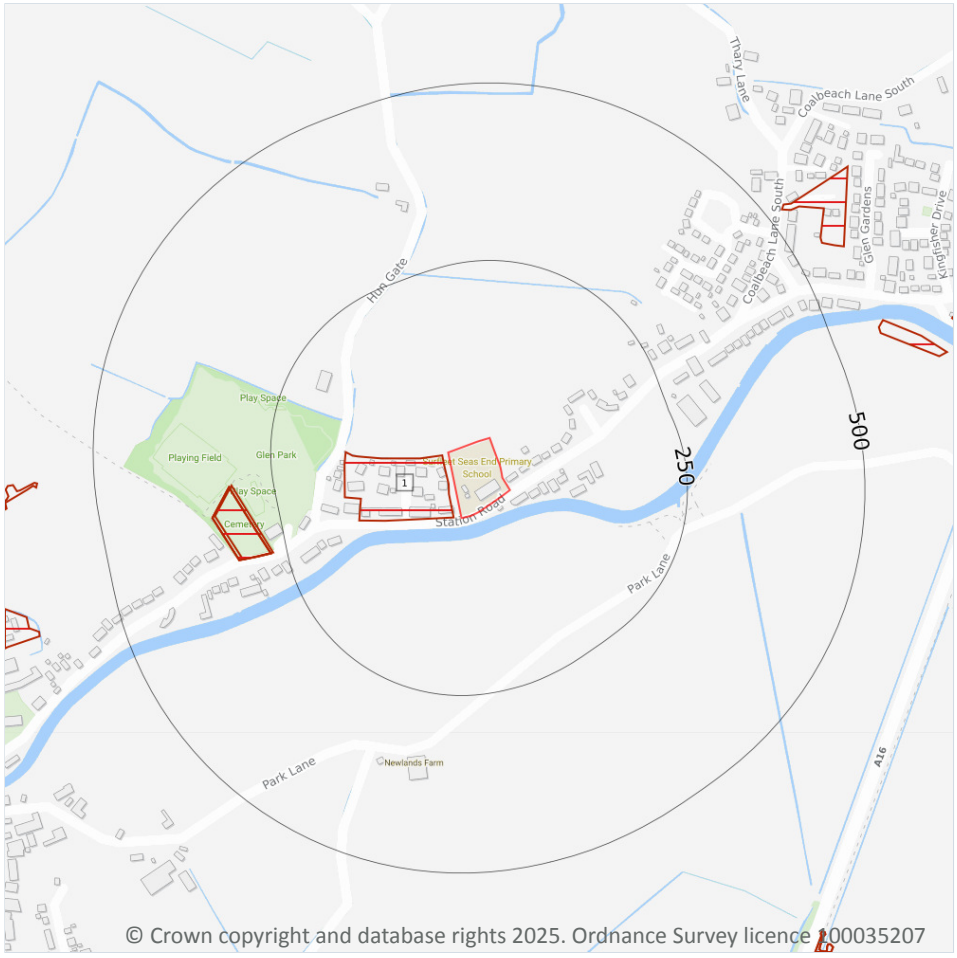
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 83 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

BritPits

Surface ground workings

Underground workings

Underground mining extents

Historical mineral planning areas

TCA non-coal mining

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	1

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 85 >**

ID	Location	Land Use	Year of mapping	Mapping scale
1	8m W	Sewage Works	1989	1:10000

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	0

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

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

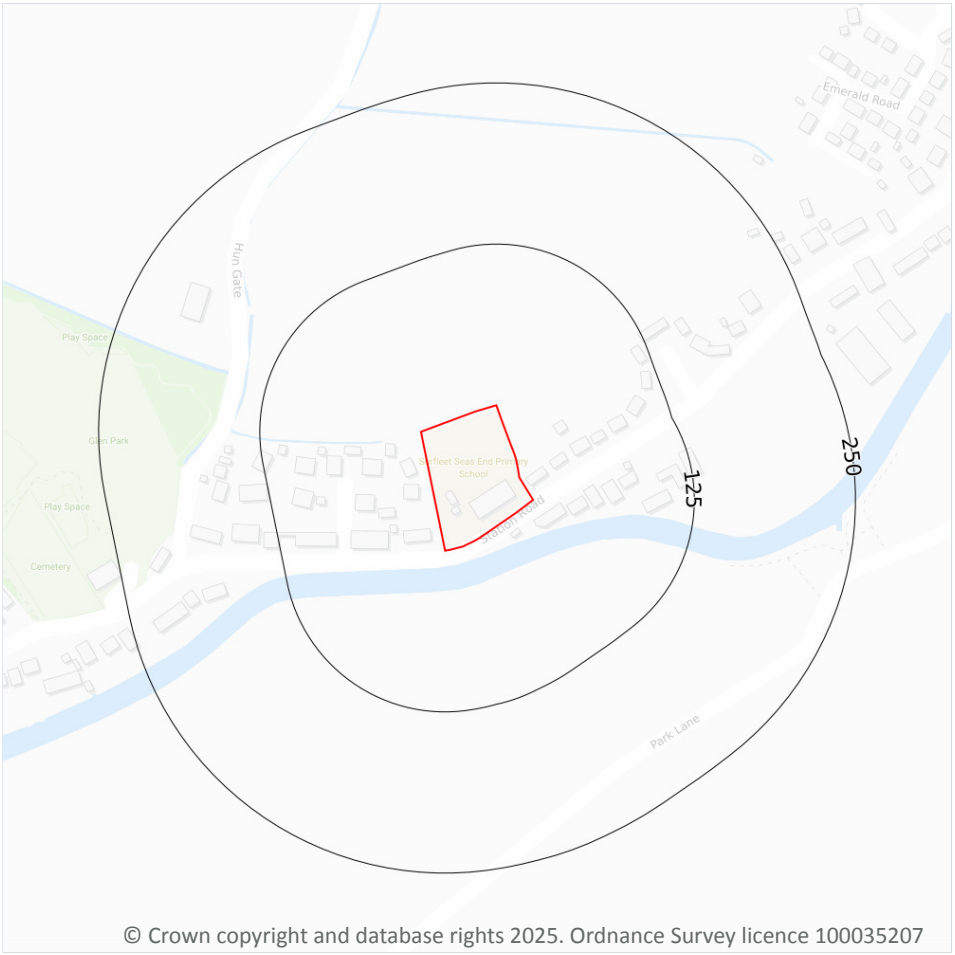
Records within 500m	0

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.

20 Radon



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Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

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 92 >**

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	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^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 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
15m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 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

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	0

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

This data is sourced from Ordnance Survey/Groundsure.

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 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.

22.9 HS2

Records within 500m	0

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

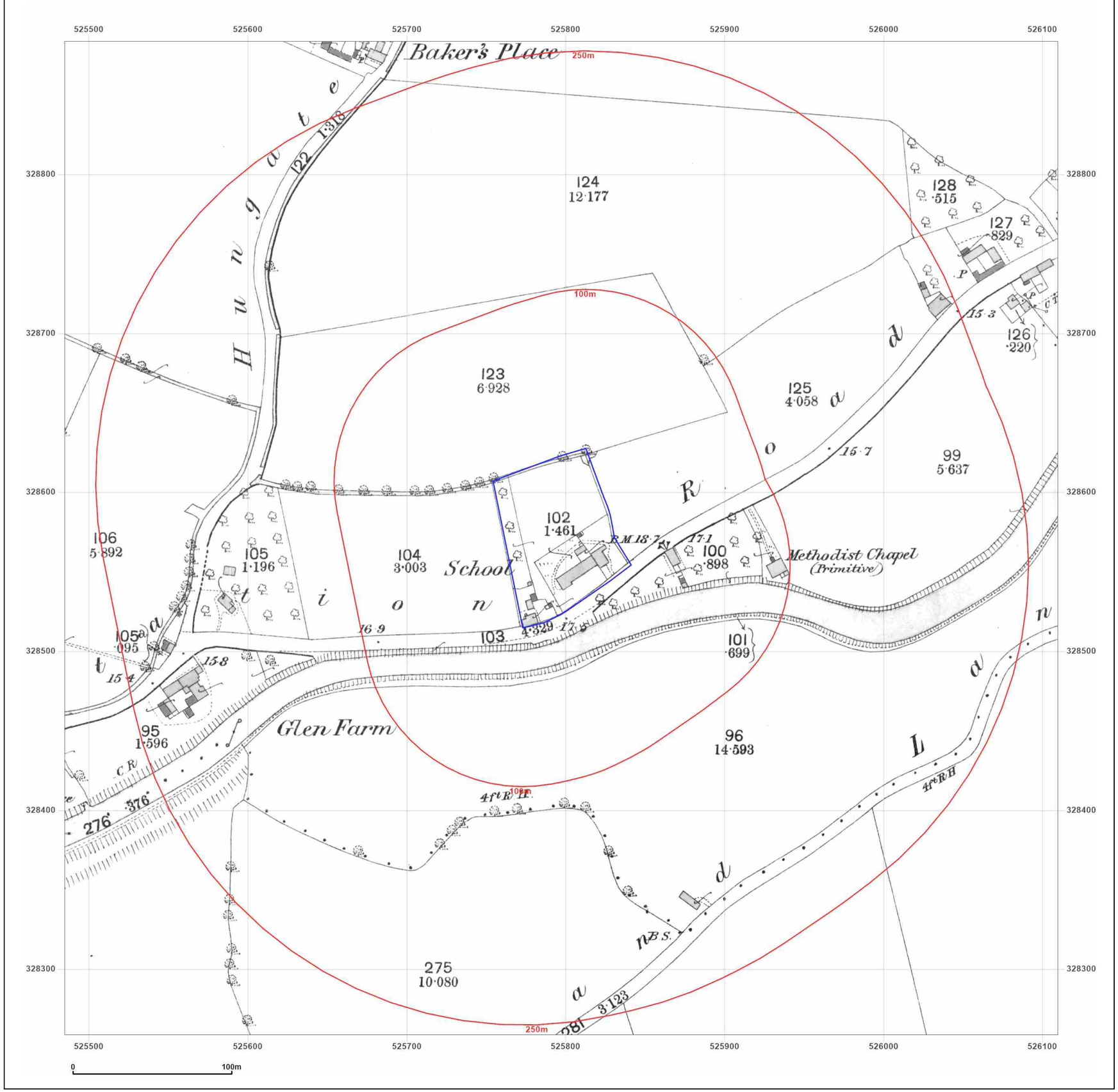
This data is sourced from HS2 ltd.

Data providers

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

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Client Ref: 25.09.007/386
Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

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

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Surveyed 1888
Revised 1888
Edition N/A
Copyright N/A
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Grid Ref: 525797, 328571

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

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

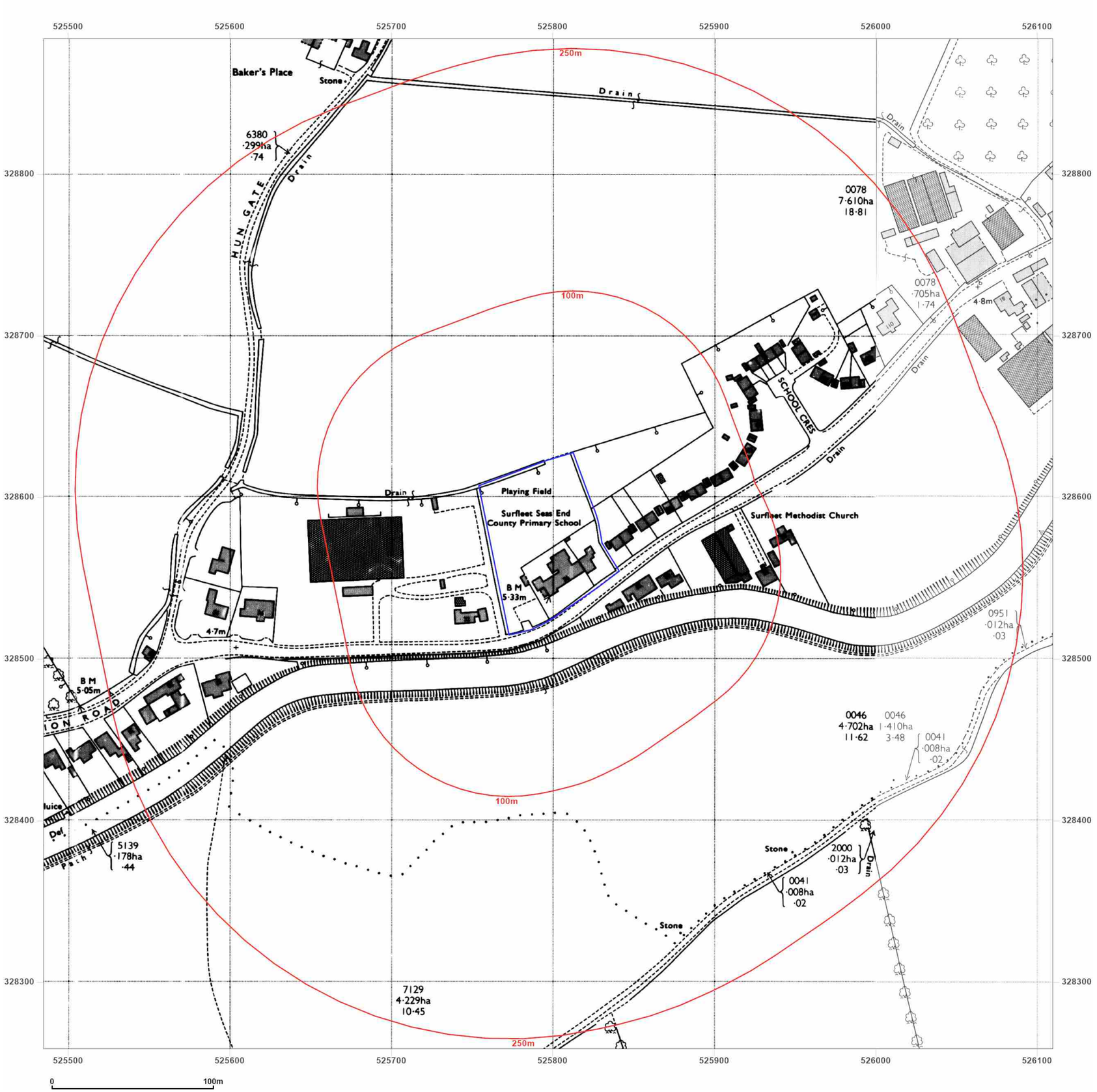
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Client Ref: 25.09.007/386
Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1973**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
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Revised 1972
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Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1973**

Scale: 1:2,500

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Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1985-1987**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1985
Levelled 1965

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Revised N/A
Edition N/A
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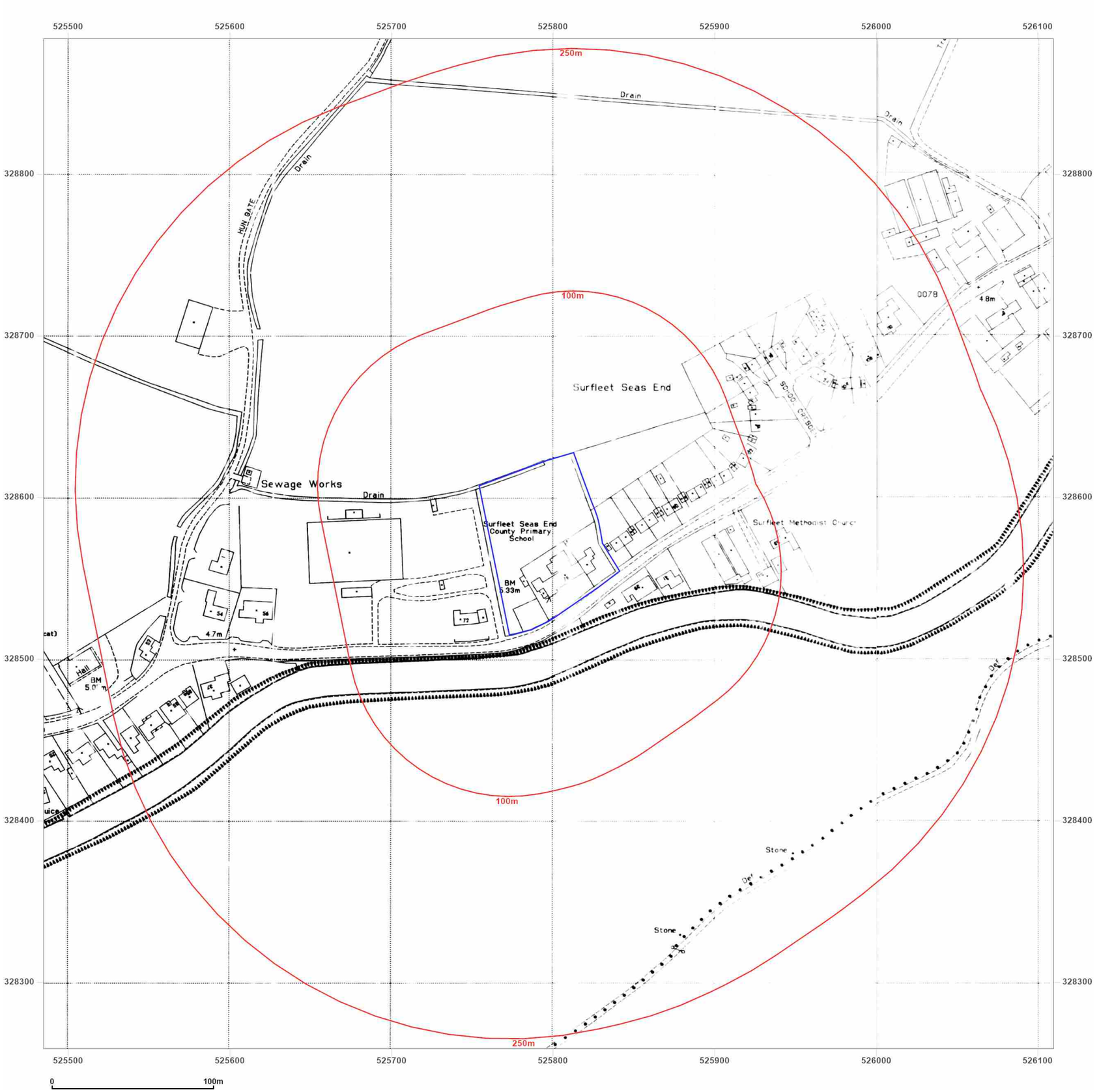
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Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1995**

Scale: 1:2,500

Printed at: 1:2,500

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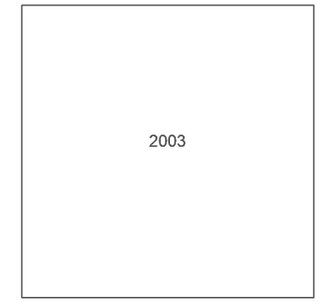
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Client Ref: 25.09.007/386
Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

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

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Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

Map Name: County Series

Map date: **1886-1887**

Scale: 1:10,560

Printed at: 1:10,560

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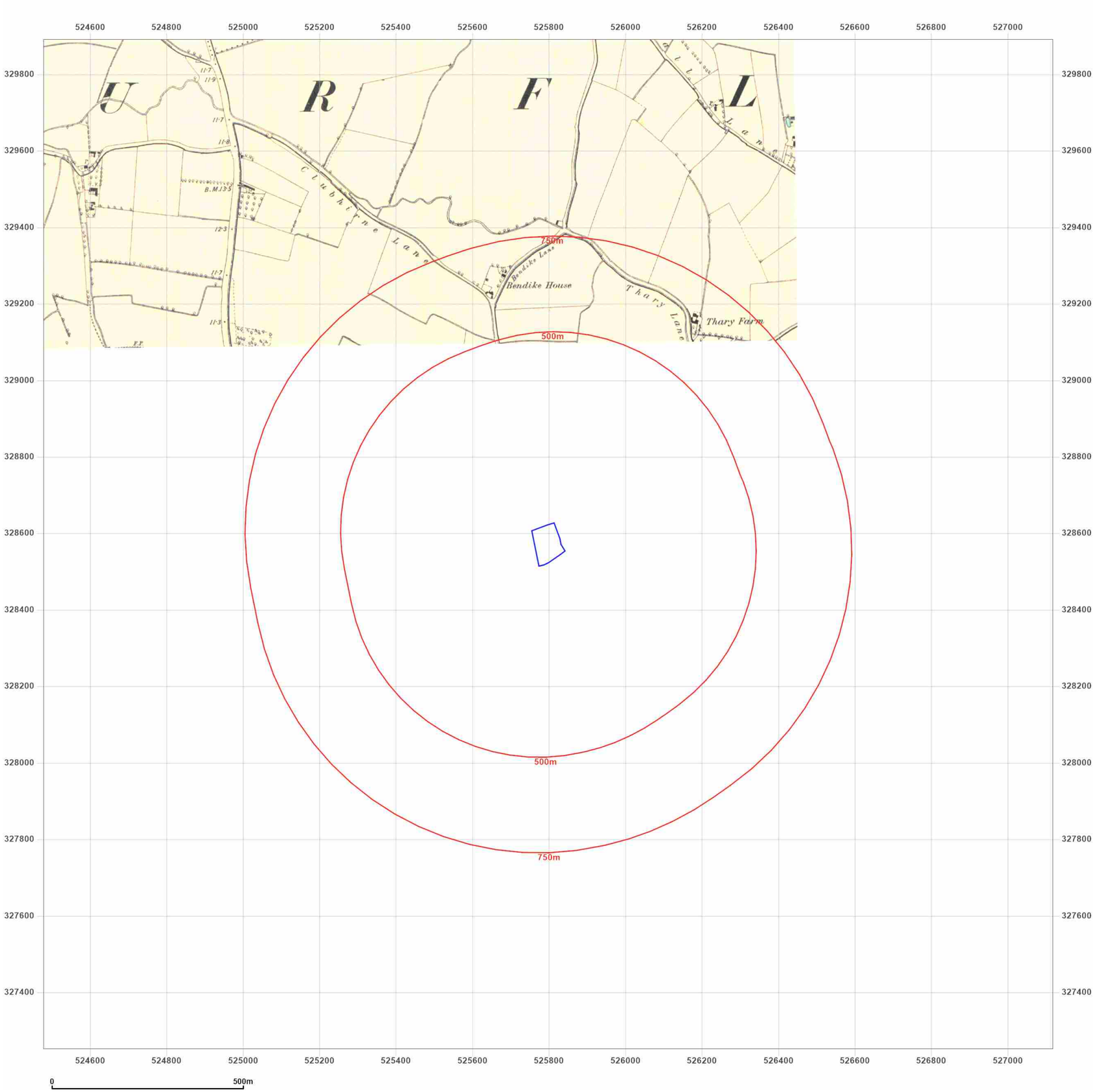
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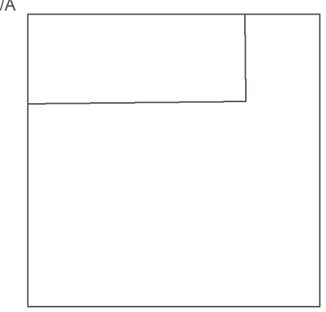
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Edition N/A
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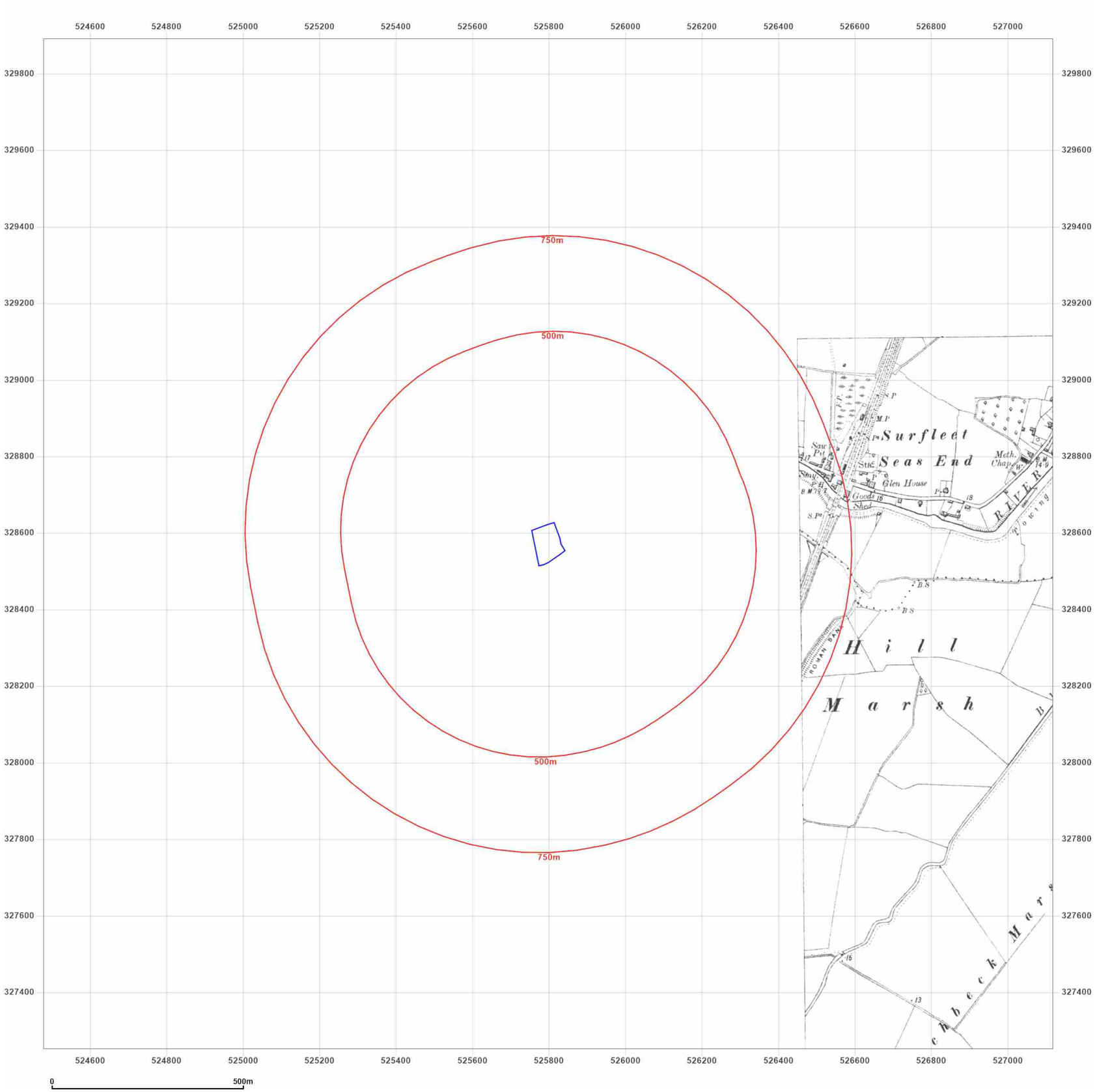
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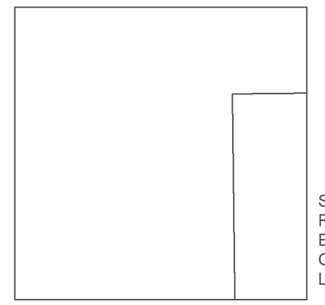
Map Name: County Series

Map date: **1903**

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Revised 1903
Edition N/A
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Levelled N/A

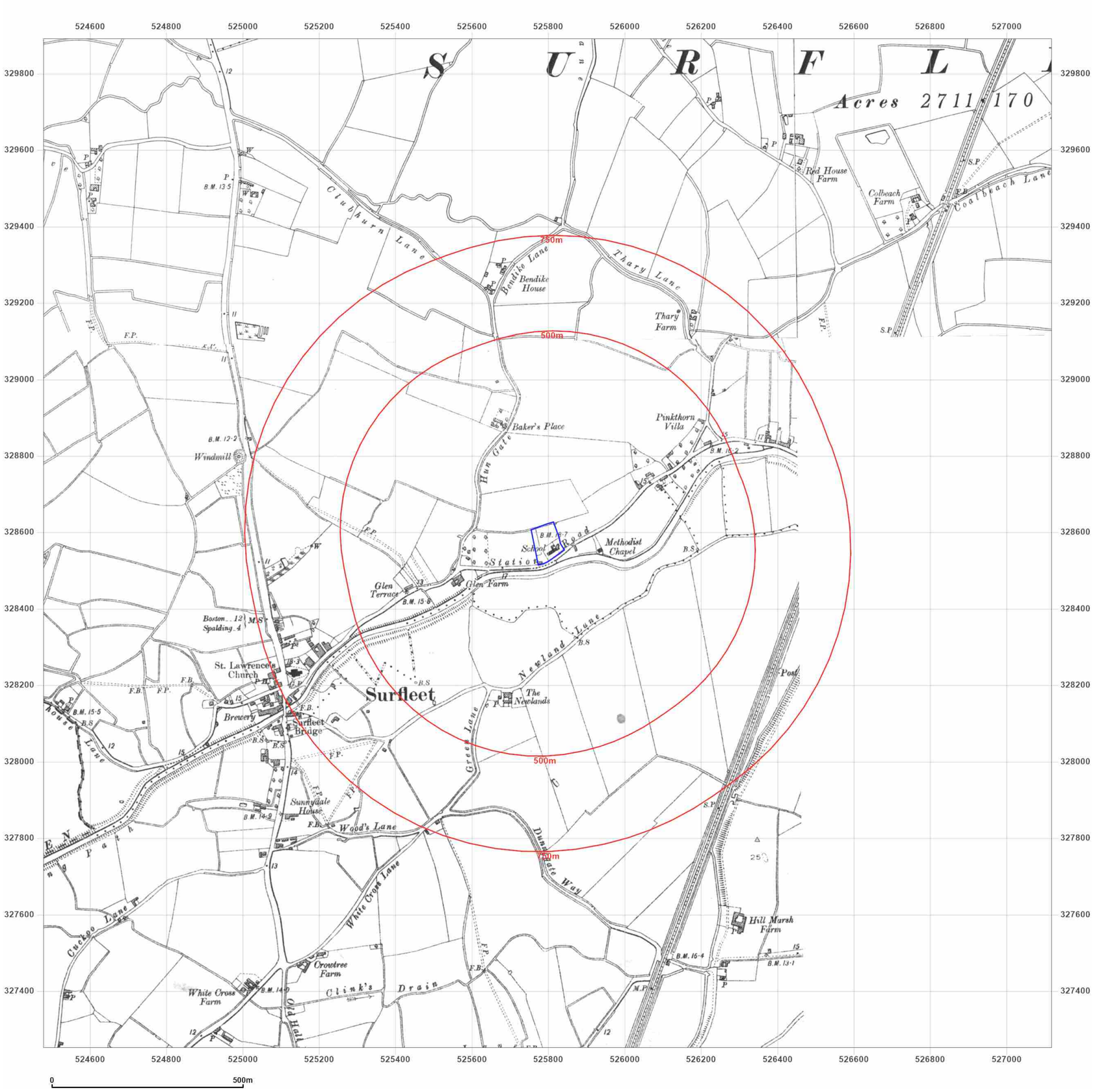
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Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

Map Name: County Series

Map date: **1903**

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Surveyed 1887
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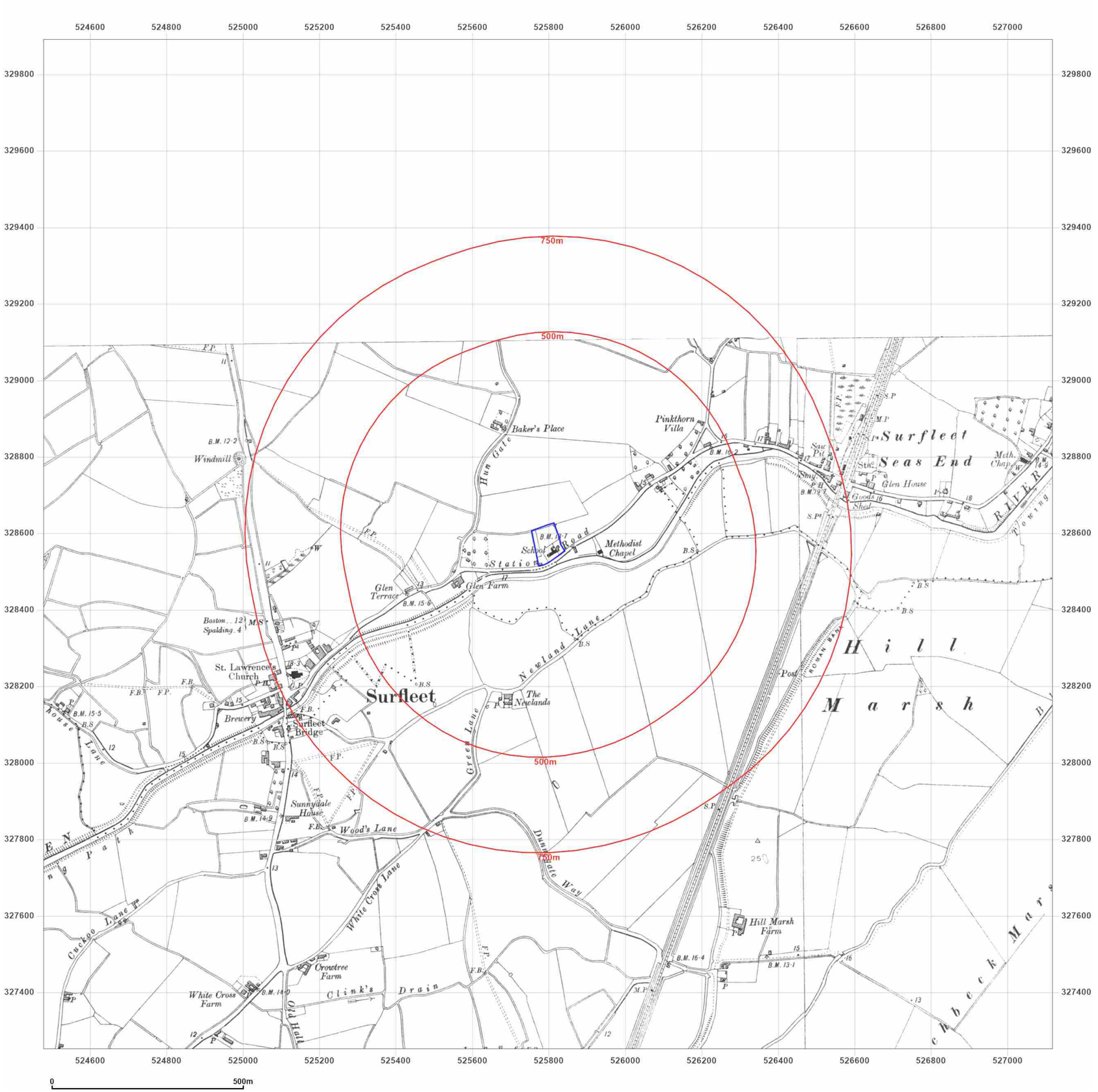
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Report Ref: GS-MZ1-BQ5-HZH-LTH
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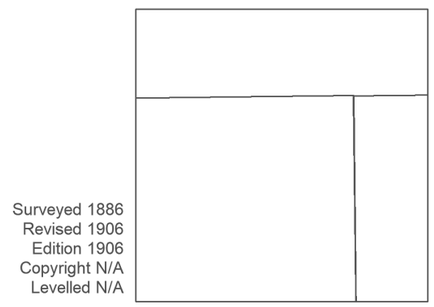
Map Name: County Series

Map date: **1903-1906**

Scale: 1:10,560

Printed at: 1:10,560

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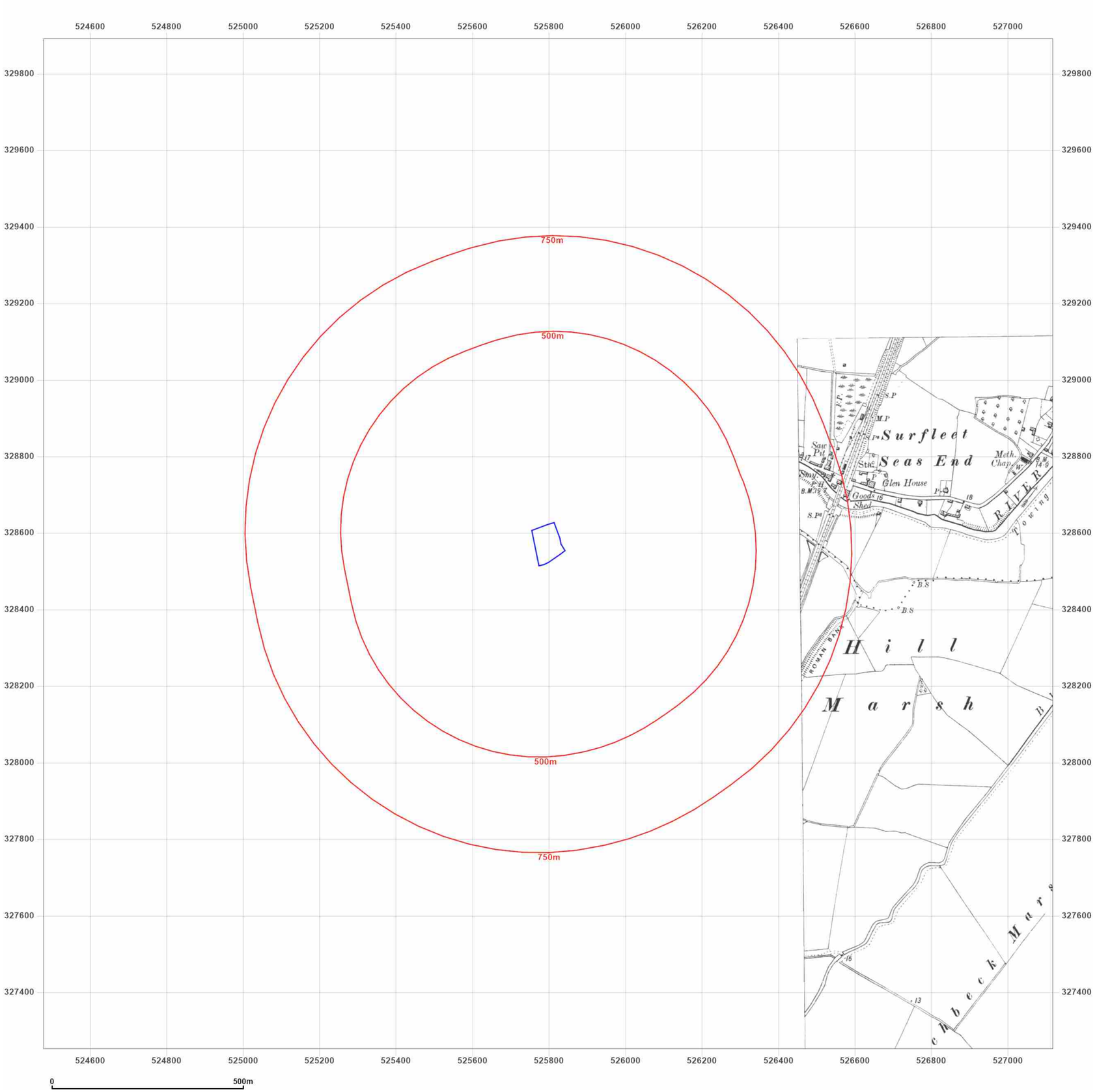
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Report Ref: GS-MZ1-BQ5-HZH-LTH
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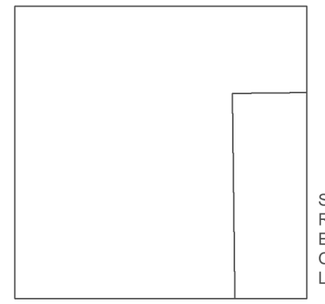
Map Name: County Series

Map date: **1906**

Scale: 1:10,560

Printed at: 1:10,560

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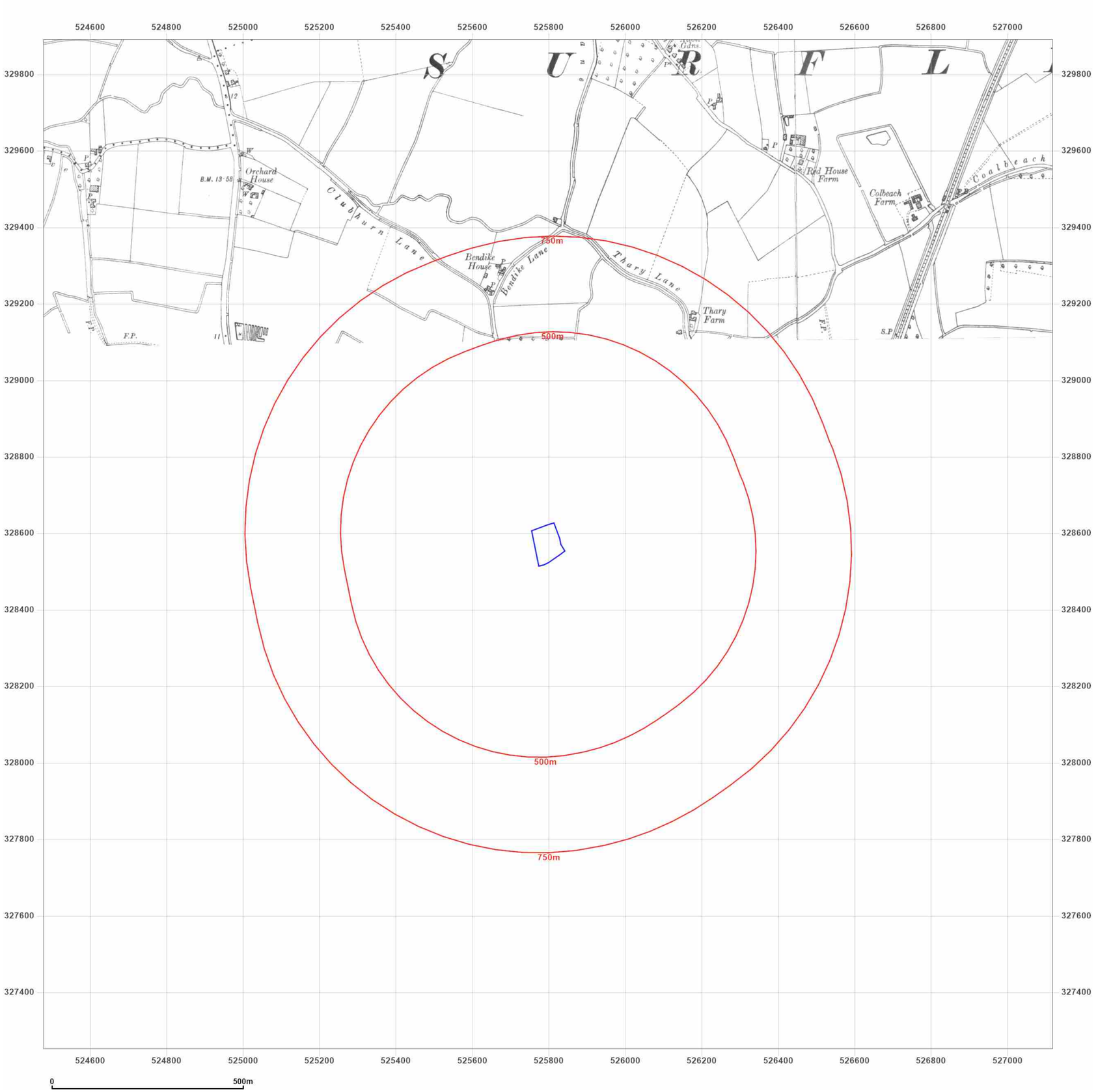
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Grid Ref: 525797, 328571

Map Name: County Series

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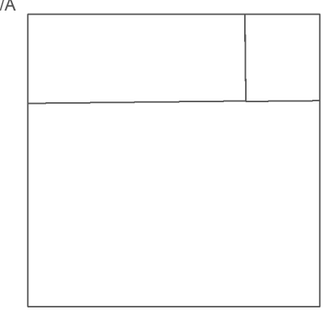
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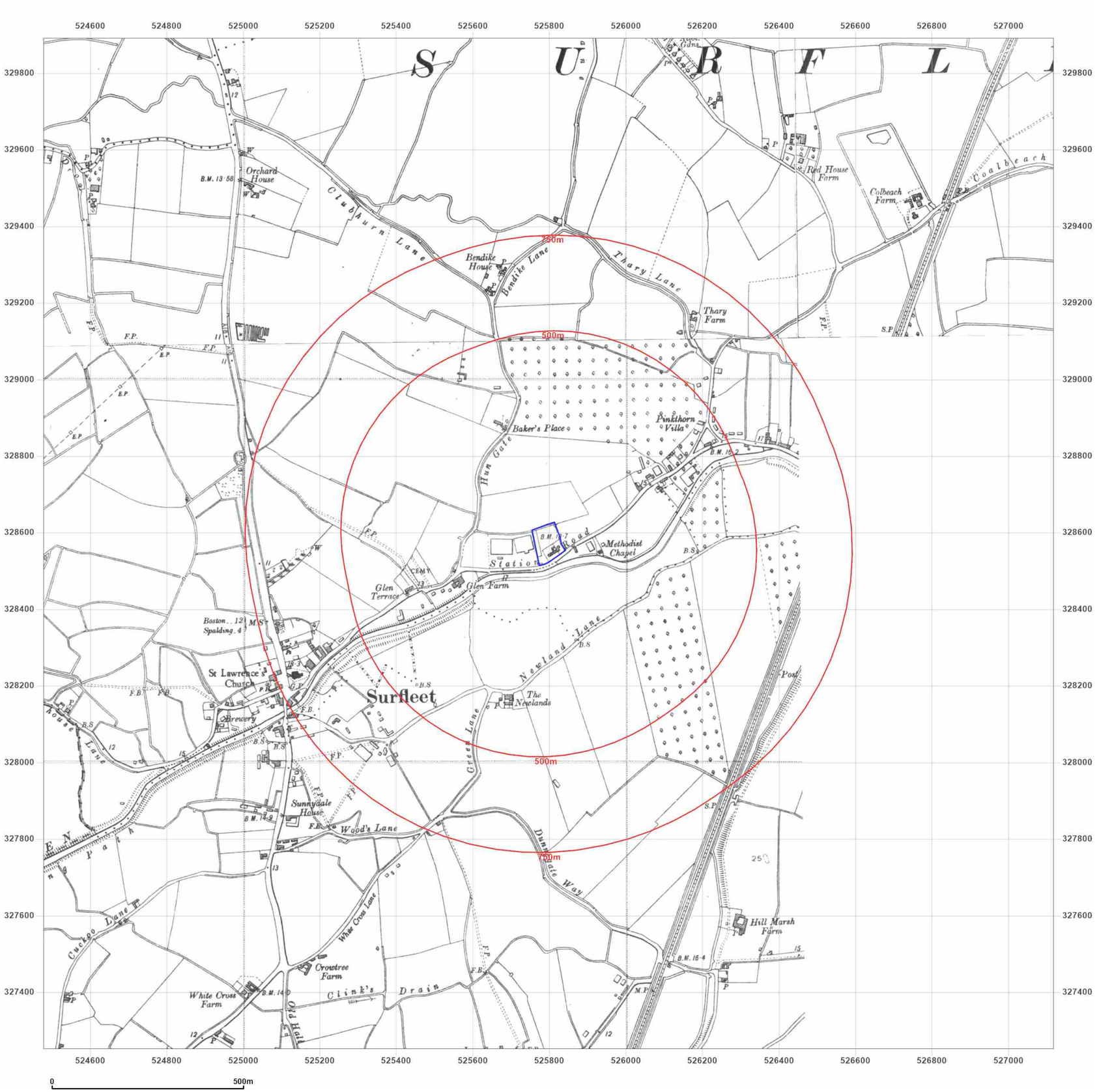
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Grid Ref: 525797, 328571

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Map date: **1947-1950**

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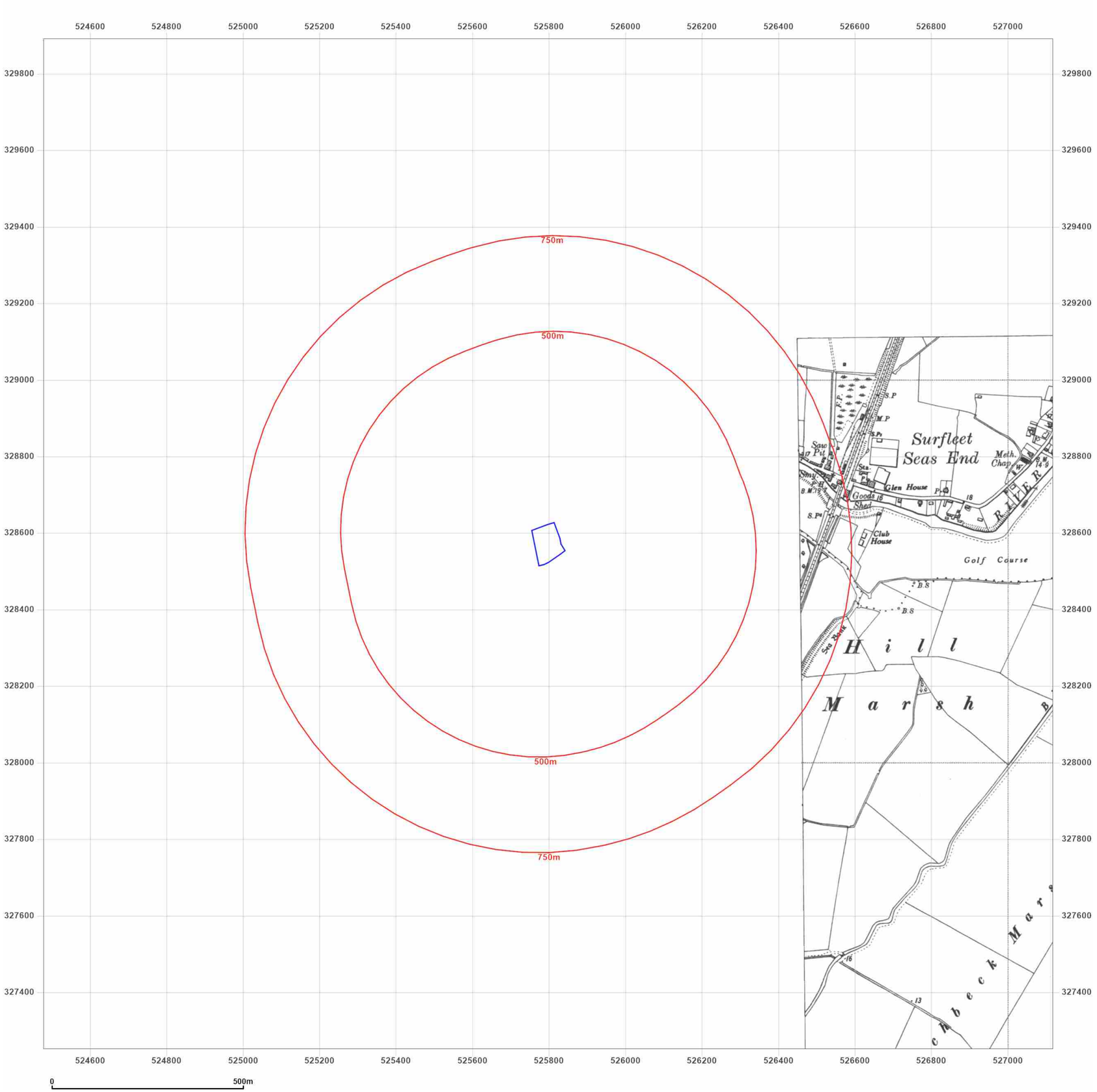
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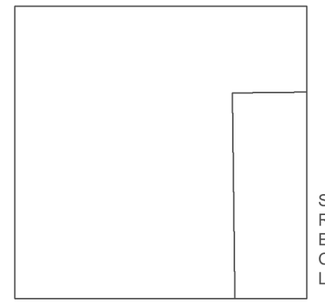
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Revised 1950
Edition N/A
Copyright N/A
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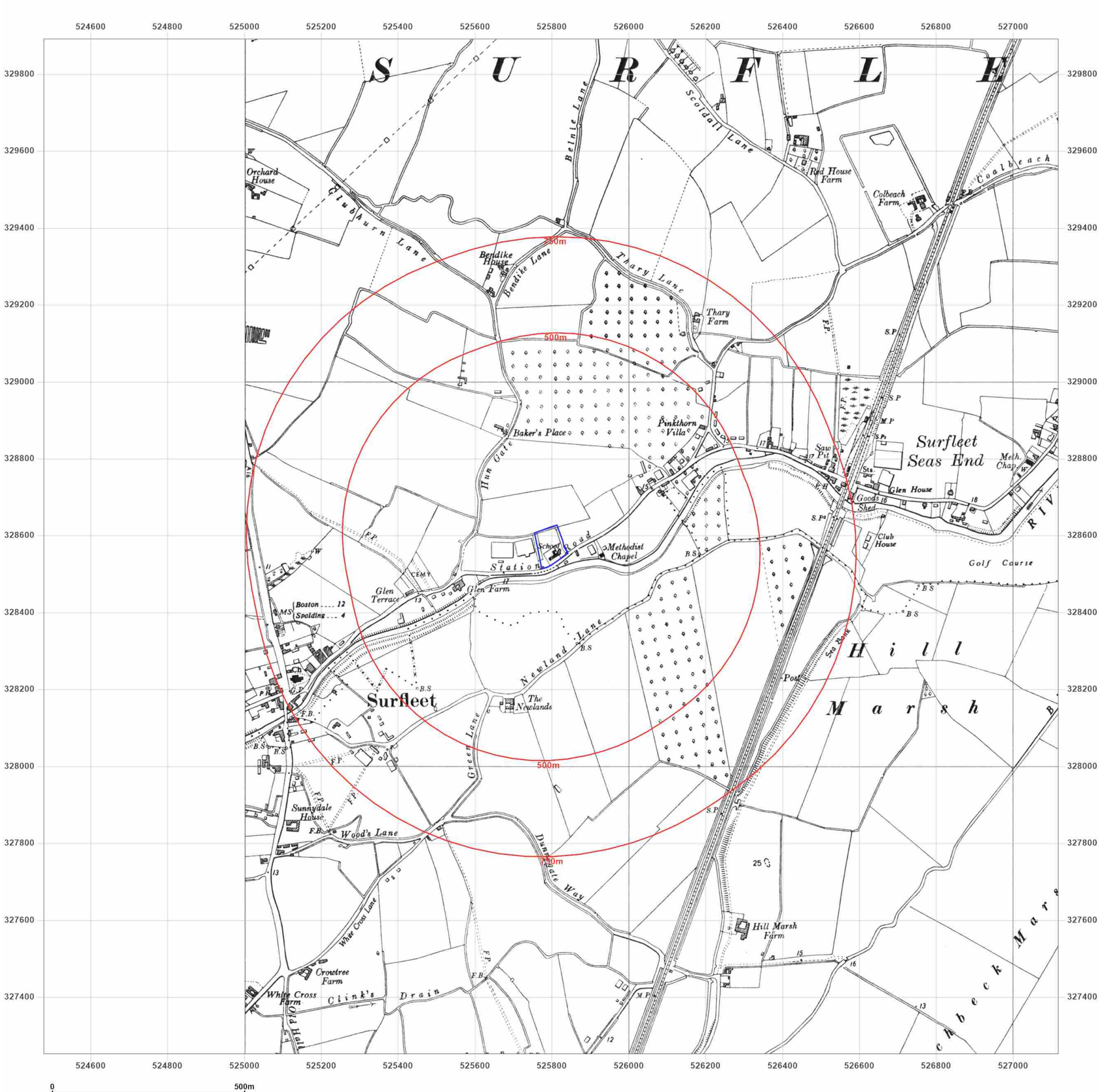
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Grid Ref: 525797, 328571

Map Name: Provisional

Map date: **1956**

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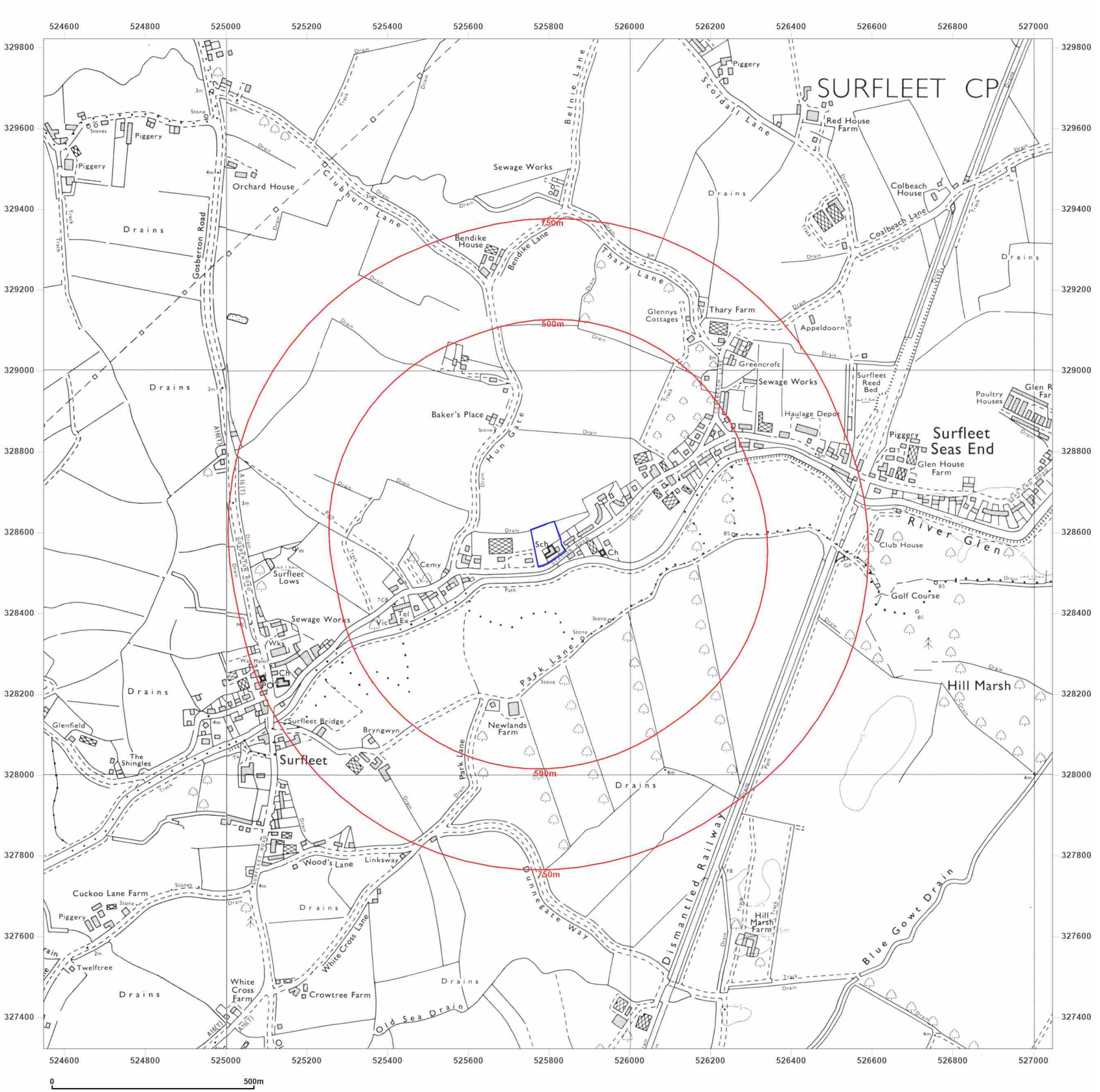
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Report Ref: GS-MZ1-BQ5-HZH-LTH
Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1975**

Scale: 1:10,000

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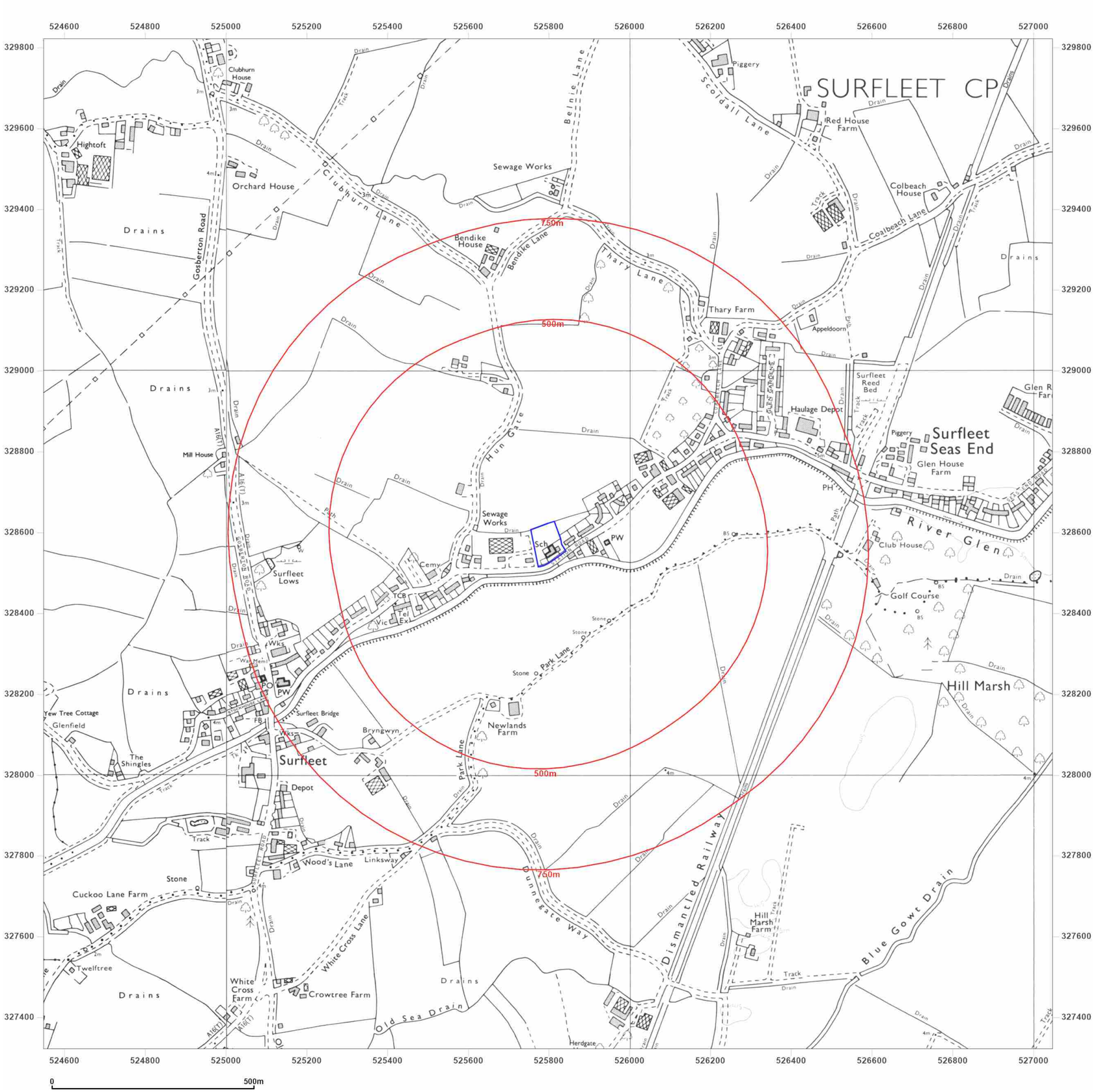
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Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **1989**

Scale: 1:10,000

Printed at: 1:10,000

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Levelled N/A

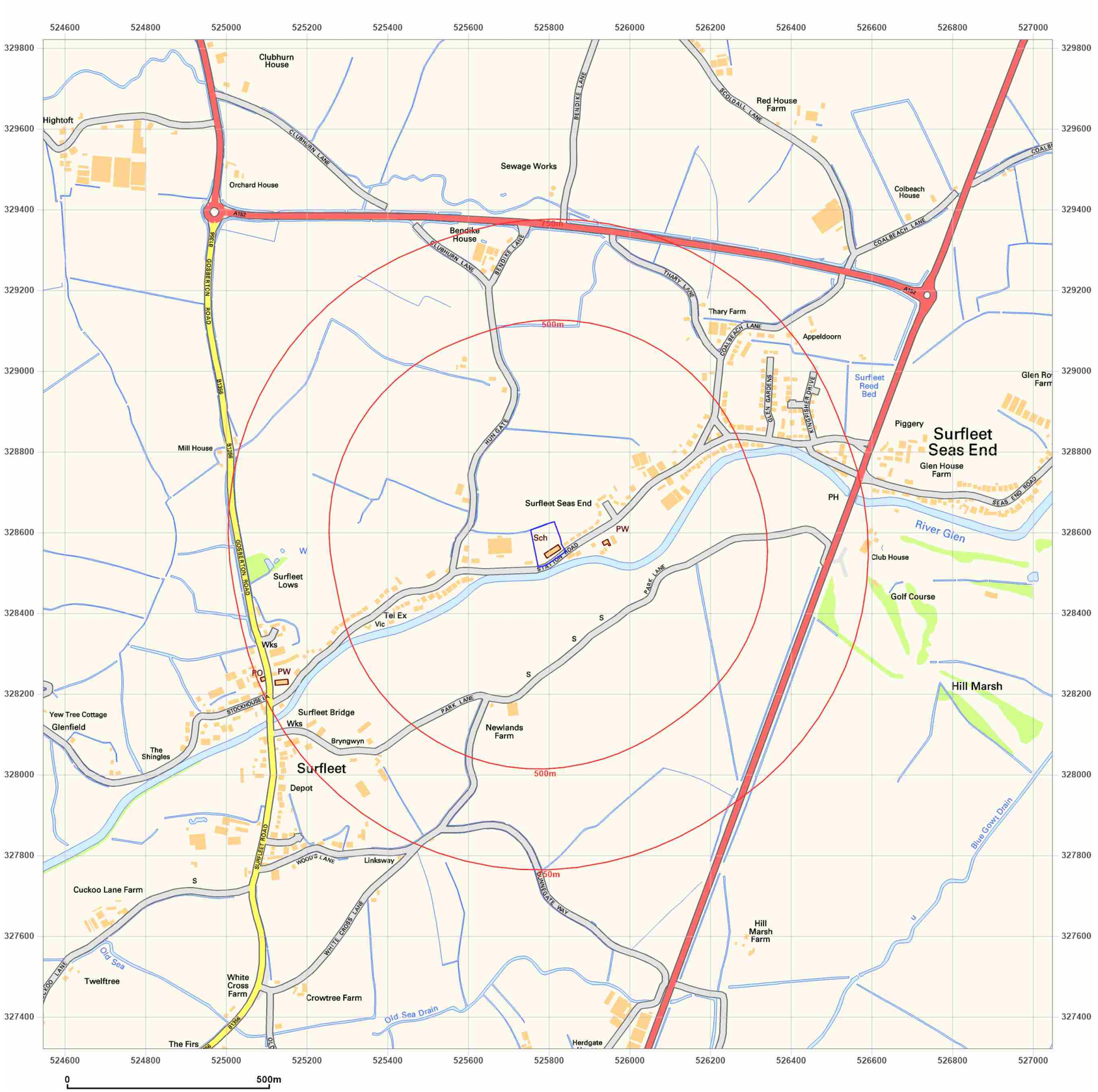
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Map Name: National Grid

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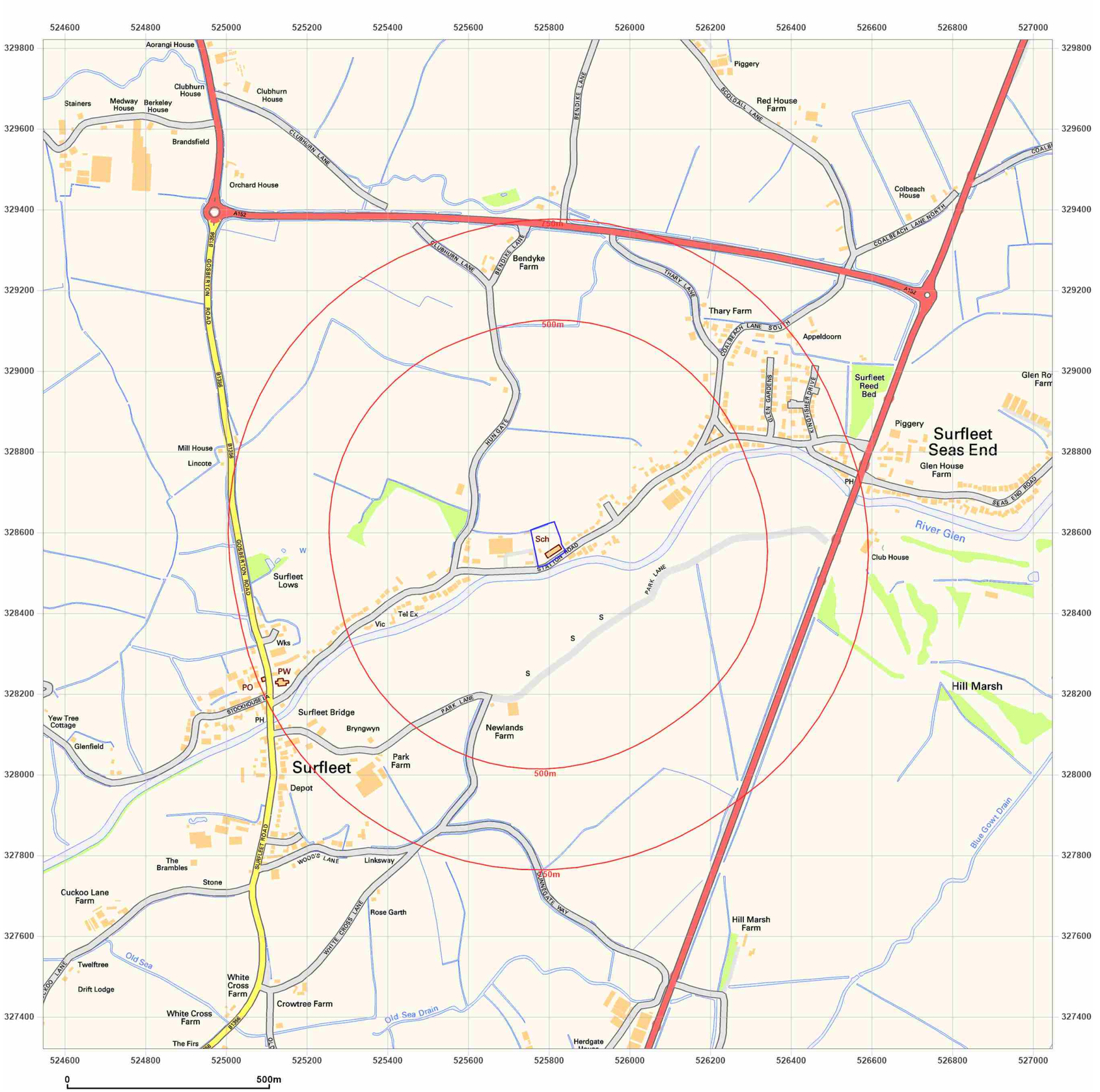
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Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **2010**

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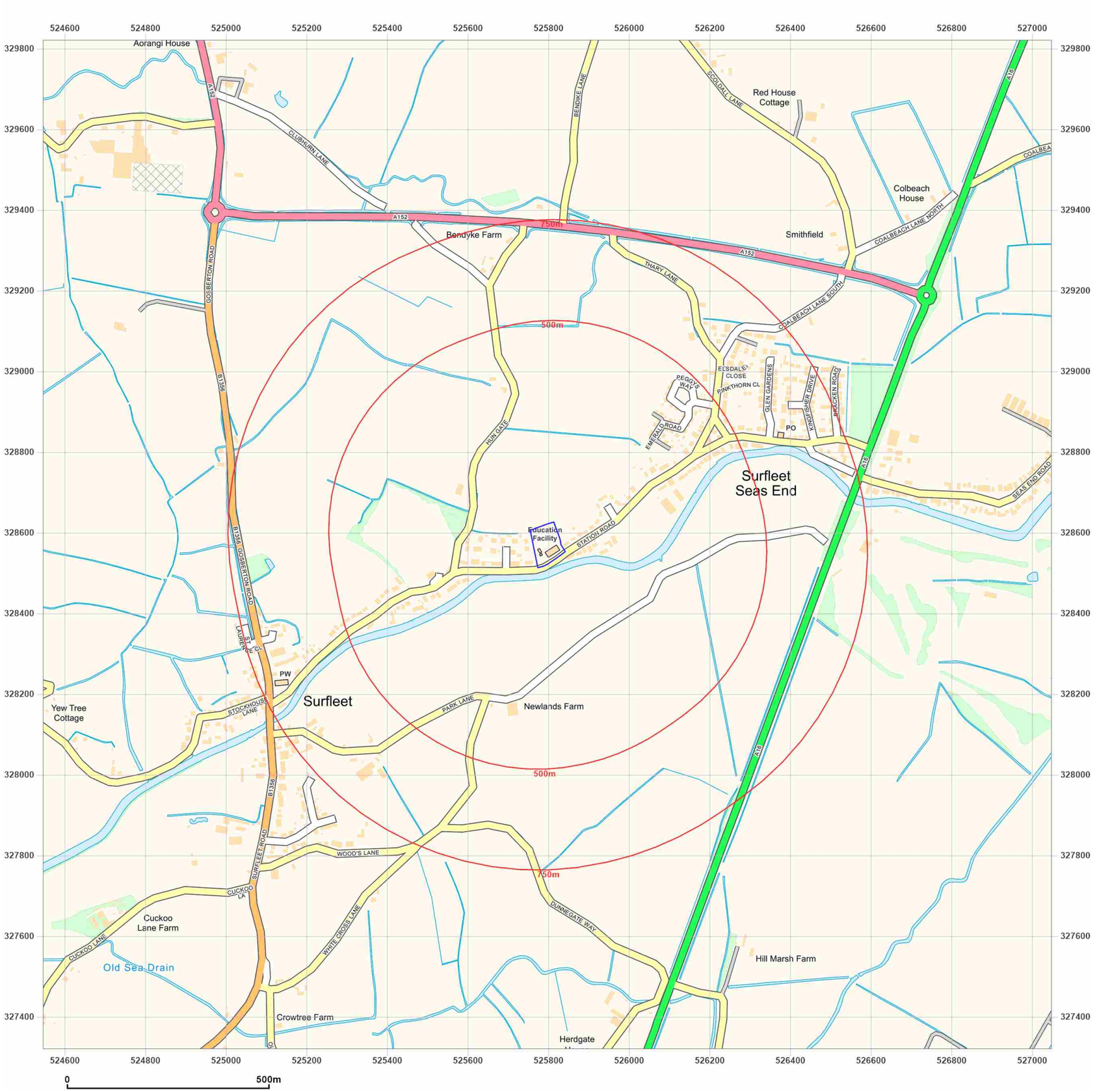
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Grid Ref: 525797, 328571

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

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APPENDIX C
CONTAMINATION RISK ASSESSMENT

Contaminated Land Risk Assessment – Definition of Methodology

The Contaminated Land Risk Assessment methodology followed in this report is based on Environment Agency's (EA) online guidance, Land Contamination: Risk Management (LCRM), published in June 2019. The new guidance is based upon the principles of the EA's CLR11 guidance, Model procedures for the management of land contamination, published in 2004.

The preliminary Conceptual Site Model (CSM) has been assessed using the methodology set out in CIRIA C552, Contaminated Land Risk Assessment - A Guide to Good Practice, published in 2001, as detailed below.

Risk evaluation determines the magnitude of risks present by assessing the likelihood of a particular risk being present alongside the severity of the consequence, should that event occur. The overall risk classification is a combination of the two and provides a qualitative assessment upon which to base any further work or remedial measures, where deemed necessary.

Where complete pollutant linkages are present, the probability of a contamination risk occurring at the site has been classified in accordance with the terms listed and defined in the table below.

Classification	Definition of Probability
High Likelihood	An event appears very likely in the short term and almost inevitable in the long term; or there is evidence at the receptor that harm or pollution is occurring.
Likely	It is probable that an event will occur, however, the event is not inevitable. It is possible in the short term and is likely over the long term.
Low Likelihood	Circumstances are possible under which an event could occur. However, it is uncertain that the event would occur even over a longer period and even less likely in the short term.
Unlikely	Circumstances are such that it is improbable that an event would occur even in the very long term.

The magnitude of the consequence of a contamination event occurring at this site is classified in accordance with the definitions listed in the following table. The classification of the consequence does not take into account the probability of the consequences being realised.

Classification	Definition of Consequence	Examples
Severe	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environment protection Act (1990), Part IIA. Short term risk of pollution of controlled waters. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion causing building collapse (can also equate to a short-term human health risk if buildings are occupied.).
Medium	Chronic damage to Human Health ("significant harm"). Pollution of controlled waters. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of contaminants from site exceeding generic or site-specific screening criteria. Leaching of contaminants into a major or minor aquifer. Death of species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy. (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by measures such as protective clothing etc). Easily reparable effects of damage to buildings, structures and services	The presence of contaminants at such concentration that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

Once the probability and consequence of each pathway has been classified, the potential overall risk classification can be evaluated using the following matrix.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

The definitions of the risk categories provided in CIRIA C552, together with actions that are likely to be necessary, are presented below.

Classification	Definition of Risk and Likely Actions Required
Very high Risk	• High probability that severe harm could arise or that severe harm is already occurring • This risk, if realised, is likely to result in a substantial liability • Urgent investigation and remediation are likely to be required
High Risk	• Harm is likely to arise • The risk, if realised, is likely to present a substantial liability • Urgent investigation is required and remediation may be necessary in the short term and likely over the longer term
Moderate Risk	• It is possible that harm could arise, however, it is unlikely that any harm would be severe and more likely it would be relatively mild • Investigation is likely to be required to clarify the risk and determine potential liability • Some remediation may be required in the longer term
Low Risk	• It is possible that harm could arise, but is likely that this harm, if realised, would be mild at worst
Very low Risk	• There is a low possibility that harm could arise • If realised, such harm is not likely to be severe

Reference:

Rudland, D J, Lancefield, R M, Mayell, P N, Contaminated land Risk Assessment. A guide to Good Practice, CIRIA Report C552, 2001.