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PHASE I LAND CONTAMINATION ASSESSMENT

Land at Lime Walk
Long Sutton
Lincolnshire
PE12 9HG

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Executive Summary

Reports 4 Planning have been instructed by HA Architectural Services, on behalf of Stinders Developments Ltd, to undertake a Phase I Land Contamination Assessment of a residential development site at Lime Walk, Long Sutton, Lincolnshire, PE12 9HG. Planning permission for the development of the site has been phased and is being sought in two separate applications. The first phase already has outline planning permission and will be a reserved matters application, the second phase will require full planning permission to be obtained.

The site extends to approximately 3.8 hectares and forms an expanse of former arable land, previously associated with Lime Walk Farm, which is located to the north west across Lime Walk. No obvious evidence of previous potentially contaminative activities were evident during the site reconnaissance. New residential housing borders the site to the south, with the remaining area in the site's vicinity predominately rural in nature, characterised by arable farmland and dwellings of varying ages and design.

The historical evidence indicates that the site has supported an exclusively agricultural use since at least the late nineteenth century. Previous industrial activity in the site's vicinity is considered unlikely to have impacted upon the subject site. No significant historical issues with the potential to have affected the subject site have been identified.

The geology beneath the site consists of superficial Tidal Flat Deposits (clay and silt) overlying the Ampthill Clay Formation. Both superficial and bedrock strata are classified by the Environment Agency as unproductive aquifers. The Lutton Drain runs along the western boundary of the site. As such the site setting is considered to be of moderate environmental sensitivity.

No significantly contaminative activities are associated with the current or former uses of the site and its immediate surroundings. The conceptual model of the site demonstrates that potential pollutant linkages are generally of low risk to human health and to the natural environment.

No evidence has been found to suggest that potentially contaminative materials are present beneath the site to deleteriously affect its development and future use. As such, no further intrusive investigation of the site is considered necessary at this stage.

The report is based on the assumption by the author that should instances of previously unreported contamination be found during the proposed works, then appropriate assessment of the risks and proposed remediation scheme will be required.

The report is supplied subject to our standard terms and conditions and these should be read alongside the report.

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1.0 INTRODUCTION

Reports 4 Planning have been instructed by HA Architectural Services, on behalf of Stinders Developments, to undertake a Phase I Land Contamination Assessment of a residential development site at Lime Walk, Long Sutton, Lincolnshire, PE12 9HG.

Planning permission for the residential development of the site is being sought in two separate applications. The first phase already has outline planning permission and will be a reserved matters application, the second phase will require full planning permission to be obtained.

The purpose of this Phase I Desk study and Preliminary Risk Assessment report is to gather information on the site to develop an initial conceptual site model (CSM) and establish whether or not there are any potentially unacceptable risks posed by either current or historical use of the land or the surrounding area which may affect the proposed development. The consultant who has prepared this report is an environmental risk specialist, with over twenty-five years' experience in environmental liability appraisal, contaminated land assessment, brownfield development and risk assessment.

The Phase I Land Contamination Assessment was undertaken based on Desk Study findings utilising publicly available data, along with data sourced directly and indirectly from various providers including the Environment Agency, the Local Authority, the British Geological Survey, The Coal Authority and Ordnance Survey. This has allowed characterisation of the site with respect to its geology, hydrology, hydrogeology, history and environmental setting. The site characterisation has been undertaken in general accordance with the procedures of the new LCRM methods as released in October 2020.

Predominantly these procedures relate to 'past' contamination, and assume that legislative controls such as Pollution Prevention and Control authorisations control current potentially polluting activities. Emphasis is therefore upon historical site use and how this may affect potential future users of the site should the proposed development plans be realised. A Preliminary Environmental Risk Assessment contained in this report has considered all the relevant receptors, potential pathways, and sources of contamination and assessed these for the level of risk posed to the site and future site users.

In accordance with current guidance the information has been used to develop a Conceptual Site Model (CSM) for the site. Pollutant linkages must be present, and the consequent linkage must be established in order to determine the requirement and scope of any future geo-environmental investigation.

Reasonable skill and care have been exercised in preparation of this report in accordance with the technical requirements of the brief. Notwithstanding the efforts made by the professional team in undertaking this contamination assessment, it is possible that ground conditions other than that potentially indicated by this report may exist at the site.

2.0 SOURCES OF INFORMATION

This report draws upon many different information sources in order to gain a full understanding of the environmental setting of the site. These are summarized below:

2.1 Internet Sources

- British Geological Survey Borehole Database
- Environment Agency Pollution Inventory Database
- Multi-Agency Geographic Information for the Countryside Database
- 1:50,000 British Geological Survey Digital Map of Great Britain
- Information retained on the LPA planning portal

2.2 Reports

- Groundsure Dataset Report, GS-8760988.
- Groundsure Historical Maps, GS-8760987.

2.3 Site Observations

- Site observations have been made during a site reconnaissance completed on 20th May 2022 and photographic evidence is provided in Appendix A.

3.0 SITE RECONNAISSANCE

3.1 Site Location

The site comprises two former agricultural fields, located immediately adjacent to the built-up northern edge of Long Sutton, Lincolnshire. A public footpath runs diagonally between the two fields. The larger southern field extends to approximately 2.2ha and the northern field approximately 1.6ha.

New residential housing borders the site to the south, with the remaining area in the site's vicinity predominately rural in nature, characterised by arable farmland and dwellings of varying ages and design.

The site is located at Grid Reference TF 431 236 (543088, 323589).

Figure 1 and 2 Site Location Plan Small and Large Scale, Figure 3 – Site Aerial Photograph and Figure 4 - Proposed Site Plan shows the location of the site in relation to its surrounding land uses.

3.2 Site Access

The access to the site is currently via the public footpath and a farmers track off Lime Walk. Other informal access points to the site and evidence of preferential paths around the site are evident.

3.3 Site Description

The site has until recently been used for arable farming. Ruderal plant species are currently evident at the site suggesting the suspension of agricultural management of the site over the course of the last year or so.

An aerial photograph showing the site is provided as Figure 3, with photographs taken during the site reconnaissance visit provided in Appendix A.

3.3.1 Site Topography

The topography of the site is relatively flat.

3.3.2 Structures

The only structure on the site is a corrugated metal shed located in the north west corner of the site to the north of the existing house (outside the site).

3.3.3 Surfacing

No hard surfacing was evident across the site.

3.3.4 Vegetation

Primary colonising scrub vegetation encroachment is evident across the site.

3.3.5 Underground and Aboveground Fuel Storage Tanks

No obvious evidence of current above ground or below ground storage of fuel was evident.

3.3.6 Raw Material and Chemical Use and Storage

No evidence of potentially harmful chemical storage and/or use at the site was observed.

3.3.7 Solid Wastes

No significant solid waste accumulations were evident across the site. Some wind-blown litter accumulations were evident around the periphery of the site.

3.3.8 Hazardous and Industrial Waste

No evidence of hazardous and/or industrial wastes was evident during the site reconnaissance.

3.3.9 Wastewater and stormwater

Given the recent exclusive agricultural use of the site, it is not believed to be served by dedicated sewerage systems.

3.3.10 Asbestos Containing Materials (ACM)

No obvious asbestos-containing materials were observed during the site reconnaissance.

3.3.11 Polychlorinated Biphenyls (PCBs)

PCBs were historically used as a dielectric filler liquid in some types of transformers, switchgear, capacitors and the starter units in some fluorescent lights and fractional horsepower motors. PCBs are known to harm the environment and can damage health. No such potential sources were observed at the site.

3.3.12 Ionising Radiation

No evidence of ionising radiation sources was made at the site.

3.3.13 Spills and Releases

No obvious evidence of previous spills and/or releases was noted.

3.4 Surrounding Land Use

3.4.1 North

The site is bordered to the north by agricultural fields.

3.4.2 East

The site is bordered to the east by agricultural fields and a sports ground (beyond a linear row of *Leylandii* trees).

3.4.3 South

The site is bordered to the south by recently constructed residential housing.

3.4.4 West

The site is bordered to the west by the Lutton Drain, beyond which is Lime Walk and further agricultural/residential development.

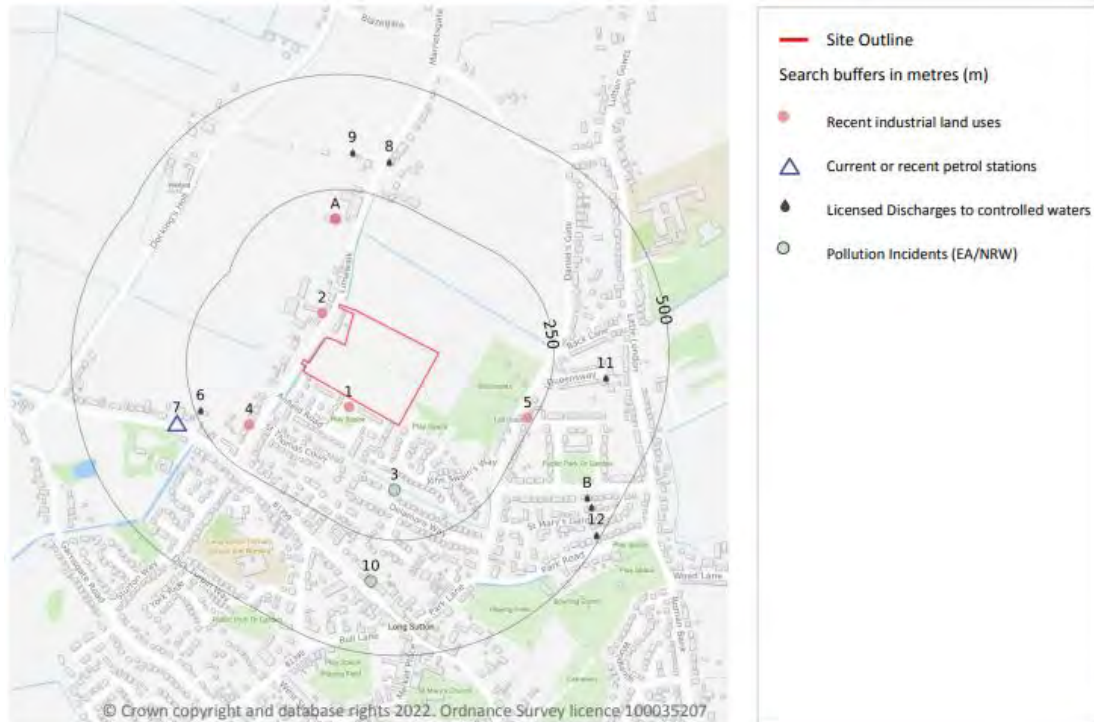
4.0 CURRENT LAND USES

4.1 Current Site Use

The site currently supports undeveloped former agricultural land.

4.2 Potentially Contaminative Current Surrounding Land Use

The following records of potentially contaminative sites are made within 500m of the site:



There are 6no. records of potentially contaminative industrial operations within 250m of the subject site:

Table 1: Potentially Contaminative Current Surrounding Land Use

Reference	Distance	Company	Activity
1	20m South West	Anglian Water	Water Pumping
2	40m West	Hallgate Timber	Garden Goods Manufacture and Sale
4	165m South West	G&W Produce Ltd	Fruit, Flower & Vegetable Growers
A	190m North	AMR Autos	Vehicle Repair & Testing
A	190m North	Self-Storage	Container and Storage
5	215m South East	WPD	Electricity Substation

4.3 Petrol and Fuel Sites

There are no petrol and/or fuel sites within 250m of the subject site. A closed petrol station was previously located on Gedney Road, 300m north west of the site.

4.4 Underground HV Electricity Cables & High Pressure Gas Transmission Pipelines

There are no records of any such features within 500m of the site.

4.5 Sites Determined as Contaminated Land

There are reportedly no records of sites identified as potentially contaminated under Part IIA of the Environmental Protection Act 1990.

4.6 Control of Major Accident Hazards

There are no records of any current Control of Major Accident Hazards (COMAH) sites at or within 500m of the site.

4.7 Regulated Explosive Sites

There are no records of any sites registered and licensed by the HSE under the Manufacture and Storage of Explosives Regulations 2005 within 500m of the site.

4.8 Hazardous Substance Storage/Usage Sites

There are no records of any sites with consents issued under the Planning (Hazardous Substances) Regulations 2015 at or within 500m of the subject site.

4.9 Historical Licensed Industrial Activities

There are no records of operators holding historical Integrated Pollution Control (IPC) permits within 500m of the site.

4.10 Licensed Industrial Activities

There are no records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 within 500m of the site.

4.11 Licensed Pollutant Release

There are no records of licensed pollutant releases from processes authorised under Part A(2)/B within a 500m radius of the site.

4.12 Radioactive Substance Authorisations

There are no recorded permits relating to the storage, use, accumulation or disposal of radioactive substances within 500m of the site.

5.0 HISTORICAL LAND USES

5.1 Site Observational Evidence

The site appears to have supported an arable farming use until the recent past.

5.2 Historical Maps Assessment

A number of historical maps have been reviewed for evidence which may indicate potentially contaminative land uses for either the site or surrounding land within at least 500m of the site. Copies of the historical maps are provided in Appendix C and are discussed below:

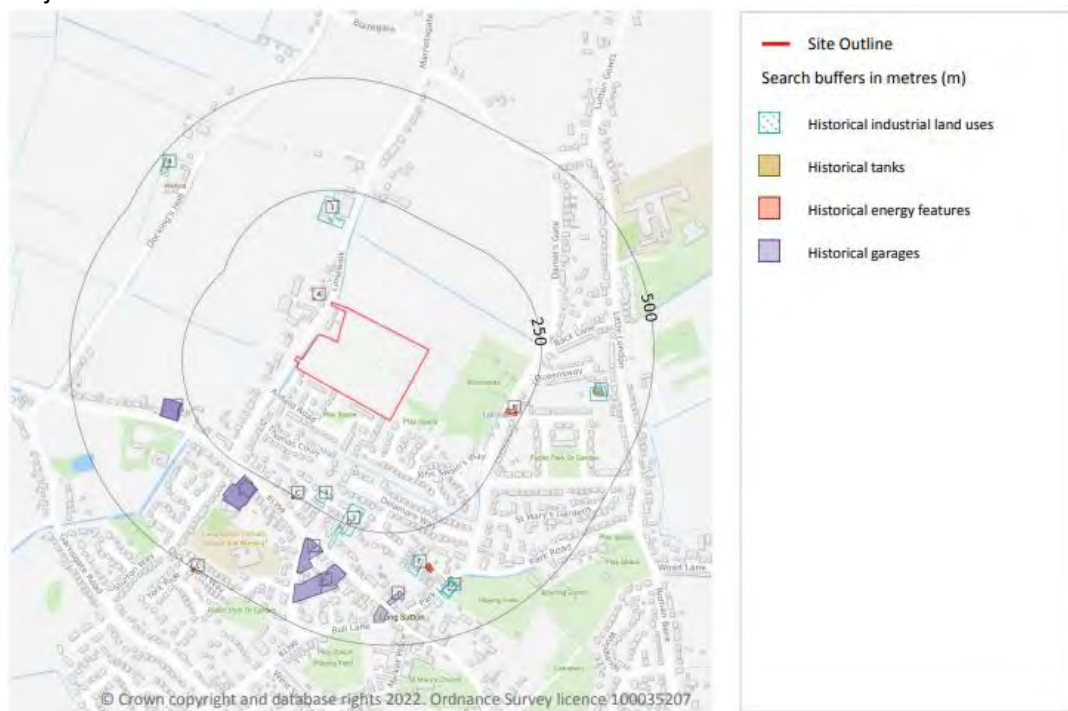
Table 2: Historical Land Use

Map Year (Scale)	Site Use	Surrounding Land Use
1888 (1:2500)	The site forms two distinct agricultural fields, with the public footpath separating them already evident at this time.	The following notable features are observed: West: Apparent agricultural buildings adjoin the north west corner of the site (in the current day location of "Four Acres"). The roadway along the site boundary is referred to as <i>Marriots Gate</i> . South: The <i>Phoenix Brewery</i> is located 200m south of the site.
1904 (1:2500)	No significant changes shown.	The following notable changes are observed: North: Allotment gardens border the site to the north at this time. South: The <i>Phoenix Brewery</i> is no longer present and buildings marked as <i>Phoenix House</i> . South East: A Smithy is shown 550m from the site.
1929 (1:10560)	Additional barns evident in the western half of the site.	The following notable changes are observed: South East: <i>Delamore Slaughter House</i> marked at 400m from the site.
1938 (1:10560)	No significant changes shown.	The following notable changes are observed: West: The adjacent road now shown as <i>Lime Walk</i> . Residential and commercial development along the western side of <i>Lime Walk</i> is evident, with a n above ground storage tank identified at Lime Walk Farm 40m from the site. South: A large warehouse is located 200m from the site. A garage is marked 280m from the site.
1950 (1:10560)	No significant changes shown.	No significant changes shown.
1972 (1:2500)	No significant changes shown.	The following notable changes are observed: West: The adjacent residential property is marked as <i>Thisledo</i> .
1989	No significant changes shown.	The following notable changes are observed: South: Residential development along Delamore Way and St Thomas Court extends to within 120m of the site. South West: A playing field borders the site.
1994 (1:2500)	No significant changes shown.	No significant changes shown.
2003 (1:1250)	No significant changes shown.	No significant changes shown.

Map Year (Scale)	Site Use	Surrounding Land Use
2010 (1:10000)	No significant changes shown.	No significant changes shown.
2022 (1:10000)	No significant changes shown.	The following notable changes are observed: South: New residential development now extends to the southern boundary of the site.

5.3 Potentially Contaminative Historical Uses

The following records potentially contaminative historical land uses within 500m of the subject site:



There are 7no. records of potentially contaminative historical uses within 500m of the site:

Table 3: Potentially Contaminative Historical Land Uses

Distance (m)	Direction	Activity	Date
167m	North	Depot	1991
200m	South West	Brewery	1887
210m	South West	Unspecified Pit	1887
310m	South	Telephone Exchange	1974
370m	East	Sewage Works	1974
380m	South	Slaughter House	1929 - 1958
470m	North West	Depot	1991

5.3.1 Historical Tank Database

There are 6no. records relating to the presence of 2no. historical tanks within 500m of the subject site. The closest of these were located at Lime Walk Farm, 40m west of the site, identified in mapping from the 1960's to present.

5.3.2 Historical Energy Features Database

There are 5no. records of current and historical energy features (including electricity substations) within 500m of the subject site. The closest of these, present since the 1960's, is located 215m south east of the site.

5.3.3 Historical Petrol and Fuel Sites

There are no records of any sites with historical petrol and fuel features within 500m.

5.3.4 Historical Garage and Motor Vehicle Sites

There are no records of historical garage and motor vehicle premises within 250m of the site.

6.0 GEOLOGY

6.1 Artificial and Made Ground

There are no records of artificial and/or Made Ground in the vicinity of the subject site.

6.2 Superficial and Drift Geology

The British Geological Survey 1:50,000 Geological Map of Great Britain shows the underlying presence of Tidal Flat Deposits (clay and silt). The permeability of these deposits is considered to be low to very low.

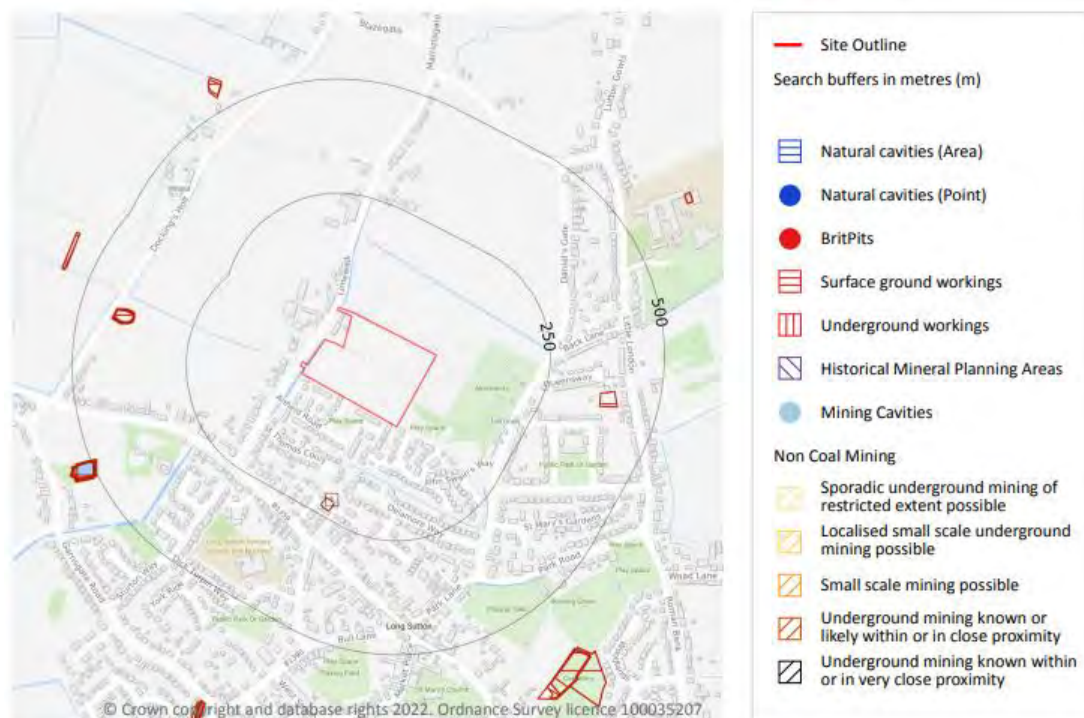
6.3 Solid Geology

The British Geological Survey 1:50,000 Geological Map of Great Britain shows that the solid geology beneath the entire area comprises mudstone strata of the Ampthill Clay Formation. This Formation is described as comprising mudstone, mainly smooth or slightly silty, pale to medium grey with argillaceous limestone (cementstone) nodules.

6.4 Coal Mining

The site does not lie in an area that has historically been subject to coal mining activity.

6.5 Non-coal Mining



There are no records of current or historical surface or underground workings that have the potential to impact upon the subject site.

6.6 Brine Affected Areas

There are no brine affected areas within the vicinity of the site.

6.7 Shrink Swell

The shrink swell hazard for strata beneath the site has been rated by the BGS as low, with superficial ground conditions predominantly of medium plasticity.

6.8 Landslip/Slide

The on-site potential for landsliding (slope instability) is considered to be very low.

6.9 Soluble Rocks

There is a negligible risk from soluble rocks beneath the site. Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

6.10 Compressible Ground

The compressible ground hazard for the site has been rated by the BGS as moderate. Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

6.11 Collapsible Rocks

The collapsible rocks hazard for the site has been rated by the BGS as negligible, as deposits with the potential to collapse when loaded and saturated are not believed to be present.

6.12 Running Sands

There is a moderate risk associated with running sand issues beneath the site. Running sand conditions are probably present beneath the site. Constraints may apply to land uses involving excavation or the addition or removal of water.

6.13 Radon

The Indicative Atlas of Radon in England and Wales as prepared by both the Health Protection Agency and the British Geological Survey shows that the site is located in a radon area where less than 1% of properties are above the Radon Action Level. No radon protection measures are required.

6.14 BGS Estimated Background Soil Chemistry

It is recorded by the BGS that on site there is the potential for the following natural contaminants to be present: arsenic 15-25mg/kg, lead 100mg/kg, cadmium 1.8mg/kg, chromium 60-90 mg/kg, nickel 15-30mg/kg.

7.0 HYDROGEOLOGY

7.1 Groundwater Vulnerability and Soil Classification

Both the superficial and the bedrock aquifers beneath the site are classified as unproductive. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.



7.2 Groundwater Abstraction Licences

There are no licensed groundwater abstractions within 2,000m of the site.

7.3 Licensed Discharges to Controlled Waters

There are currently no recorded licensed discharges to controlled waters within 250m of the site.

7.4 Pollutant Release to Surface Waters (Red List)

There are no records of any licenses issued to sites at or within 500m of the site for a pollutant release to a surface water (Red List).

7.5 Pollutant Release to a Public Sewer

There are no records of any pollutant releases to a public sewer within 500m of the site.

7.6 List 1 and List 2 Dangerous Substances

There are no records of any discharges of substances as identified on Lists 1 and 2 of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015 within 250m of the site.

7.7 Pollution Incidents

There has reportedly been 1no. recorded and substantiated pollution incident within 250m of the subject site. This incident occurred in August 2001 and involved the uncontrolled release of unidentified oil 140m south of the site, resulting in a minor impact to water.

7.8 Pollution Inventory Substances

There are no records of any pollution inventory (substances) including reporting on annual emission of certain regulated substances to air, controlled waters and land at or within 500m of the site.

7.9 Pollution Inventory Waste Transfers

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. There are no records of such transfers within 500m of the site.

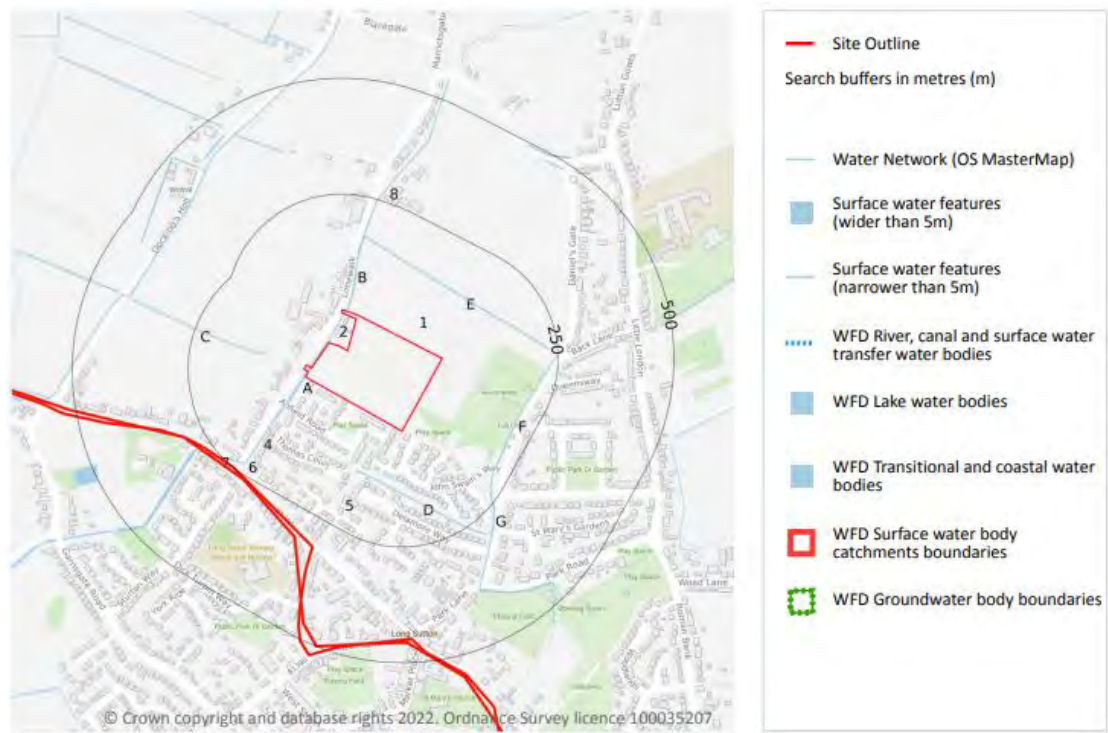
7.10 Pollution Inventory Radioactive Waste

There are no records of any pollution inventory (radioactive wastes) including reporting on annual releases of radioactive substances from a site within 500m of the site.

7.11 Source Protection Zones

The site does not lie within a designated Groundwater Source Protection Zone.

8.0 HYDROLOGY



8.1 Surface Waters

The Lutton Drain runs in a north easterly direction along the western boundary of the site.

8.2 Surface Water Abstraction Licenses

There are no active licensed surface water abstractions within 1,000m of the site. the closest is reportedly at GH Hoyles Ltd, 1900m north east of the site.

8.3 Flooding

8.3.1 Risk of Flooding from Rivers and Seas (RoFRaS)

The subject site is located on ground which is considered to have a low risk of flooding.

8.3.2 Historical Flood Events

No historical flood events in the site's vicinity are recorded.

8.3.3 River and Coastal Flooding (Flood Zones)

The Environment Agency Flood map (from rivers and the sea) shows that the entire Long Sutton area is located in Flood Zone 3 (fluvial/tidal models).

8.3.4 Surface Water Flooding

The highest on-site risk associated with surface water flooding, is reported to be between 0.1m – 0.3m in the 1 in 30 year return period.

8.3.5 Groundwater Flooding

There is reported to be a negligible risk of groundwater flooding across the site.

9.0 WASTE

9.1 Landfill Sites

There are no records of any active or recent landfill sites subject to Environment Agency regulation within 500m of the site.

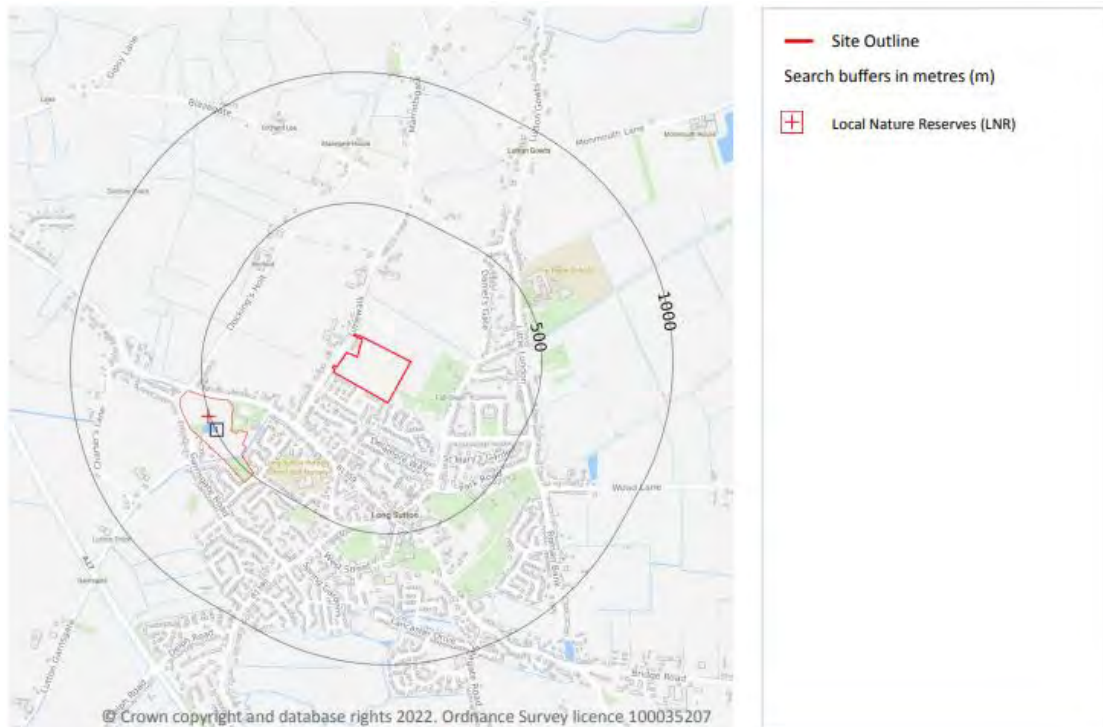
Neither the Environment Agency, local authority nor BGS hold records of historical (closed) landfill site within the vicinity of the subject site.

9.2 Waste Sites

There are no records of current or historical waste sites (Local Authority records and Environment Agency registered licensed waste sites) within 500m of the site.

There are reportedly 2no. licensed waste exemptions for the storage, treatment or use of waste within 500m of the site. The closest of these is held by MRK Plant Hire, 200m north of the site, for the storage and use of waste in construction.

10.0 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES



10.1 Sites of Special Scientific Interest (SSSI)

There are no Sites of Special Scientific Interest within 2,000 metres of the subject site.

The subject site does lie within a SSSI Impact Risk Zone, whereby developments that involve certain developments (including infrastructure and specified discharges) require consultation to be held with Natural England.

10.2 Other Designated Sites

There are reportedly no other nationally designated sites within 2,000m of the subject site.

10.3 Locally Designated Sites

There is 1no. Local Nature Reserves within 2,000m of the subject site. This is The Shrubberies Nature Reserve, 400m south west of the site, which supports former parkland and pasture of a type now rare in the Fens.

10.4 Cultural Designations

The Grade II Listed Number 18, Formerly The Cock and Magpie Public House, Lutton, South Holland, is located 230m south west of the site.

There are no other buildings or other properties/areas with sensitive environmental, visual and/or cultural designations within the vicinity of the subject site.

11.0 CONCEPTUAL SITE MODEL

The model assessment has been made on the understanding that the site is to be redeveloped for **Residential Purposes**. Those potential pathways which may give rise to unacceptable contaminative risk under this scheme have been brought forward and form part of the Model as discussed below.

Table 4: Conceptual Site Model

Consideration of Potential Contaminants:	
On-Site Contaminants	No significant on-site contamination sources associated with the site's current or historical agricultural land use have been identified.
Off-Site Contaminants	No obvious off site potential contamination sources with the potential to have impacted the subject site have been identified.

Consideration of Potential Receptors:	
Controlled Waters	- The Lutton Drain runs along the western boundary of the site. - The underlying Tidal Flat Deposits and Ampthill Clay Formation are both classified as unproductive aquifers.
Human Health	- Future residents of the proposed dwellings. - Construction workers primarily those involved in groundworks excavation. - Neighbouring residents subject to disturbed vapours and dusts arising from on-site development.
Other	Existing and new underground service infrastructure.

Potential contaminant pathways and pollutant linkages:	
On-Site Contaminants	No obvious pollutant linkages have been identified.
Off-Site Contaminants	No obvious pollutant linkages have been identified.

Other Considerations	
Public access	Informal public use of the site (away from the existing right of way across the middle) is evident, with some minor litter accumulations around the site's periphery.

12.0 PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

12.1 Introduction

The current contaminated land regime is explained in Part IIA of the Environmental Protection Act 1990 and was introduced on the 1st April 2000 in England. Also, this assessment has been completed taking into account the advice and guidance contained in the NPPF and particularly paragraphs 109 (fourth and fifth bullet points) and the new LCRM regulations which is the latest guidelines issued by Government Environment Agency Published on 08/10/2020. In general, the purpose of these aspects of the legislation is to achieve the identification of contaminated land and the remediation of contaminated land to ensure the such land poses no significant risk to human health and/or the environment.

Contaminated Land is defined as:

‘any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason or substances in, on, or under the land, that: significant harm is being caused or there is a significant possibility of such harm being caused; or pollution of controlled water is being or is likely to be caused.’

For land to be classified as contaminated land a significant pollutant linkage must be identified.

Statutory Definitions	
Contaminant Source (Hazard)	A substance which is in, on or under the land and which has the potential to cause harm or cause pollution of controlled waters
Receptor (Target)	A living organism or group of organisms, an ecological system or property, controlled waters which are or could be polluted by a contaminant
Pathway (Route)	One or more routes or means which either allows the contaminant to cause significant harm to that receptor, or that there is a significant possibility of such harm being caused to the receptor, or that pollution of controlled waters is being or likely to be caused.

A Preliminary Environmental Risk Assessment involves assessing the likely probability and consequence of a Pollutant Linkage and determining a consequent level of risk.

The term ‘risk’ is widely used in different contexts and situation but a prescriptive definition is provided by the Guidelines for Environmental Risk Assessment and Management (DEFRA et al, 2000):

Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequence of the occurrence’.

A hazard is defined as *‘a property or situation that in particular circumstance could lead to harm’.*

The risk category for a particular scenario can be assessed in terms of the consequences and probability of an occurrence which can be defined as follows (Ref: CIRIA C552):

Classification of a Consequence

Classification	Definition
Severe	1 – short term (acute) risk to human health likely to result in significant harm 2 – short term risk to controlled waters 3 – catastrophic damage to buildings / structures 4 – short term risk to an ecosystem or organism within the particular ecosystem.
Medium	1 – chronic damage to human health (long term risk) 2 – pollution of a sensitive water resource 3 – a significant change in an ecosystem or organism within the ecosystem
Mild	1 – pollution of non-sensitive water resources 2 – significant damage to buildings / structures
Minor	1 – harm (not necessarily significant) which may result in financial loss; 2 – non permanent health effects to humans (easily prevented by PPE for example) 3 – easily repairable effects of structural (building damage).

Classification of a Probability

Classification	Definition
High Likelihood	1 – there is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term 2 – evidence of harm to the receptor
Likely	1 – there is a complete pollution linkage which means that it is probable that an event will occur 2 – the event is not inevitable but possible in the short term and likely in the long term
Low Likelihood	1 – there is a complete pollution linkage and circumstance are possible under which an event could occur 2 – it is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Unlikely	1 – there is a complete pollution linkage but circumstance are such that is improbable that an event would occur even in the long term.

The consequences of a risk and the probability of an event taking place can be assessed and the likely risk category can be determined as follows:

		Consequence			
Probability		Severe	Medium	Mild	Minor
	High	Very High	High	Medium	Medium / Low
	Likely	High	Medium	Medium / Low	Low
	Low	Medium	Medium / Low	Low	Very Low
	Unlikely	Medium / Low	Low	Very Low	Very Low

High Risk – there is a high probability that severe harm could risk a receptor, or there is evidence that a receptor is being harmed. The risk is realised is likely to result in liability and/or significant harm, and urgent investigation or remediation will be required.

Medium Risk - it is probable that harm will arise to a receptor. However it is relatively unlikely that such harm would be severe, or if harm does occur then the harm is likely to be

relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk – it is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

Very Low Risk – There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.

12.2 Potential Sources

The current and historical use of the site has been carefully assessed. Potential risks have been determined and assessed as part of this study.

The risk of contaminant source material located on site is low. The site has been used exclusively for agricultural crops, with no current sources identified.

A number of potential off-site contaminant sources are recorded in the general vicinity of the site but these are considered unlikely to have impacted the subject site.

12.3 Potential Pathways

Exposure pathways link any contamination to the receptor. All or any of the following potential pathways may apply:

Future Site Workers, including Construction Workers

<i>Oral Pathway (W-O)</i>	Indoor /outdoor ingestion of dust Indoor/outdoor ingestion of soil Indoor/outdoor ingestion of Flora/Fauna Ingestion of tainted mains water
<i>Inhalation Pathway (W-I)</i>	Indoor/outdoor inhalation of fugitive dust Indoor/outdoor inhalation of soil vapour
<i>Dermal Pathway (W-D)</i>	Indoor/Outdoor exposure to soil through dermal contact

Future Site Users, Occasional Visitors and Neighbouring Residents including Children

<i>Oral Pathway (O-O)</i>	Indoor ingestion of dust (post construction) Outdoor ingestion of soil (post construction) Indoor/outdoor ingestion of Flora/Fauna
<i>Inhalation Pathway (O-I)</i>	Outdoor inhalation of fugitive dust Indoor inhalation of fugitive dust (post construction) Outdoor inhalation of soil vapour Indoor inhalation of soil vapour (post construction)
<i>Dermal Pathway (O-D)</i>	Outdoor exposure to soil through dermal contact Indoor exposure to soil dust through dermal contact

Flora (potential new on-site or off-site flora affected by potential contamination on the site, or migrating onto or from the site).

<i>Plant Uptake (FI-PU)</i>	General uptake of contaminants by plants growing in the vicinity of, or on, the site
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Fauna (on-site or off-site affected by potential contamination on the site, or migrating from the site)

<i>Oral Pathway (Fa-OP)</i>	Consumption of contaminated flora located on site
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Water Resources

Surface Water Mobilisation (SWM) Surface water run-off from site, migrating off site
Also infiltration into the site from site.

Groundwater Mobilisation (Leaching Potential) (GWM)

Percolation and mobilisation of contaminants within the soil into any waters held locally within pore space beneath the site.

12.4 Potential Receptors

The following potential receptors have been identified and considered in the risk assessment:

Human Receptors (H): Site workers (W), Future site residents

Water Resources (SW, GW): Adjacent Lutton Drain

Site Infrastructure (SI): Existing and future foundations and drainage services

Buildings and Services (BS): Site and neighbouring buildings

Flora and Fauna (FL, FA) Future, on and off-site fauna and flora

Archaeological (A): Designations in vicinity of the site

Cultural (C): Designations in vicinity of the site

Under the proposals, the site is to be developed for residential purposes. The Critical Human Receptor for this site will be a **young female child who may reside at the site.**

12.5 Qualitative Risk Assessment

A qualitative risk assessment has been undertaken to provide an initial assessment of the potential risks caused by contaminant sources identified during this assessment to construction workers, future users of the site, building structures and the aquatic environment. **The assessment has been made on the understanding that the site is to be redeveloped for residential purposes.**

Table 5: Risk Assessment

Hazard Identification			Hazard Assessment		Risk Estimation			Risk Evaluation	
Sources	Location	Potential Contaminants	Pathway	Receptor	Magnitude of Consequence	Probability Occurrence	Risk Appraisal	Rationale	
Historical use of the site Agricultural farmland	On site	Made Ground, inorganic and organic contaminants	W-O, W-I, W-D, O-O, O-I, O-D, FLPU, FaOP SWM, GWM	H, FL, FA, SI	Mild	Low	Low	- No significant contaminative sources associated with historical agricultural use of the site. - Limited evidence of the site’s use for agricultural storage over the years. - No further assessment required.	
Current use of surrounding land Pumping Station	20m South West	Made Ground, inorganic and organic contaminants	W-O, W-I, W-D, O-O, O-I, O-D, FLPU, FaOP, SWM	H, SW, SI, FL, FA	Minor	Low	Very Low	- Recently constructed infrastructure, with no evidence of impact on subject site. - Absence of known issues associated with activities. - No further assessment required.	
Current use of surrounding land Commercial activities along Lime Walk	West of site	Organic and inorganic contaminants	SWM	SW, SI	Minor	Low	Very Low	- No significantly contaminative activities identified. - Absence of known issues associated with these activities. - No further assessment required.	
Historical use of surrounding land Various industrial activities south of the site	More than 200m South	Organic and inorganic contaminants	SWM, GWM	SW, SI	Minor	Low	Very low	- Considerable distance from the subject site. - Absence of known issues associated with activities. - No obvious pathway to link to subject site. - No further assessment required.	

13.0 CONCLUSIONS AND RECOMMENDATIONS

13.1 Conclusions

A Phase I Land Contamination Assessment has been completed of a residential development site at Lime Walk, Long Sutton, Lincolnshire, PE12 9HG. Following review of geo-environmental data for the site and a site reconnaissance, a full Preliminary Risk Assessment has been undertaken to assess potentially contaminative sources and applicable pollutant pathways which may give rise to adverse impact to future users of the site.

The site extends to approximately 3.8 hectares and forms an expanse of former arable land, previously associated with Lime Walk Farm, which is located to the north west across Lime Walk. No obvious evidence of previous potentially contaminative activities were evident during the site reconnaissance. New residential housing borders the site to the south, with the remaining area in the site's vicinity predominately rural in nature, characterised by arable farmland and dwellings of varying ages and design.

The historical evidence shows that the site has formed undeveloped agricultural land since at least 1884. No obvious evidence of historical contaminative activity, either on-site or within its immediate vicinity, with the potential to have deleteriously impacted the subject site has been identified.

The geology beneath the site consists of superficial Tidal Flat clay and silt deposits overlying the Amphill Clay Formation. Both superficial and bedrock strata are classified by the Environment Agency as unproductive aquifers. The Luton Drain runs along the western boundary of the site. As such the site setting is considered to be of moderate environmental sensitivity.

No significantly contaminative activities are associated with the current or former uses of the site and its immediate surroundings. The conceptual model of the site demonstrates that potential pollutant linkages are generally of low and very low risk to human health and to the natural environment.

13.2 Recommendations

No evidence has been found to suggest that potentially contaminative materials are present beneath the site to deleteriously affect its development and future use. As such, no further investigation of the site is considered necessary at this stage.

The report is based on the assumption by the author that should instances of previously unreported contamination be found during the proposed works, then appropriate assessment of the risks and proposed remediation scheme will be required.

The report is supplied subject to our standard terms and conditions and these should be read alongside the report.

FIGURES



FIGURE 1

SITE LOCATION PLAN
SMALL SCALE

LAND AT LIME WALK
LONG SUTTON
LINCOLNSHIRE
PE12 9HG

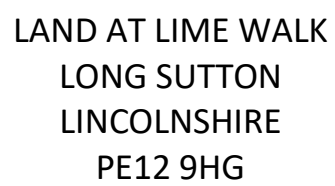




FIGURE 3

SITE AERIAL PHOTOGRAPH

LAND AT LIME WALK
LONG SUTTON
LINCOLNSHIRE
PE12 9HG



LAND AT LIME WALK
LONG SUTTON
LINCOLNSHIRE
PE12 9HG

APPENDICES

APPENDIX A

SITE PHOTOGRAPHS



Photograph 1: View looking east from south east corner of site



Photograph 2: View east across centre of site



Photograph 3: View looking west across centre of site from eastern boundary



Photograph 4: View along south east boundary adjoining play area



Photograph 5: View looking south east from north west corner of site



Photograph 6: View looking south from north west corner of site



Photograph 7: Typical ruderal and scrub vegetation



Photograph 8: Luton Drain running along the western site boundary

APPENDIX B

DATA REPORT

LIME WALK FARM, LIME WALK, LONG SUTTON, SPALDING, PE12 9HG

Order Details

Date: 19/05/2022

Your ref: CLR-5773

Our Ref: GS-8760988

Site Details

Location: 543098 323597

Area: 3.84 ha

Authority: [South Holland District Council](#)



Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.13 groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	0	0	3	7	-
15	1.2	Historical tanks	0	5	0	1	-
16	1.3	Historical energy features	0	0	2	8	-
16	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	16	-
18	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
19	2.1	Historical industrial land uses	0	0	3	7	-
20	2.2	Historical tanks	0	5	0	1	-
20	2.3	Historical energy features	0	0	5	15	-
21	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	27	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
25	3.7	Waste exemptions	0	0	2	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	Recent industrial land uses	0	2	4	-	-
28	4.2	Current or recent petrol stations	0	0	0	1	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
30	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	1	6	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
32	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	1	-
33	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
34	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
35	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
36	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
37	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
37	5.5	Groundwater vulnerability- local information	None (within 0m)				
38	5.6	Groundwater abstractions	0	0	0	0	0
39	5.7	<u>Surface water abstractions</u>	0	0	0	0	1
39	5.8	Potable abstractions	0	0	0	0	0
39	5.9	Source Protection Zones	0	0	0	0	-
40	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
41	6.1	<u>Water Network (OS MasterMap)</u>	2	1	22	-	-



44	6.2	<u>Surface water features</u>	1	1	8	-	-
44	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
44	6.4	WFD Surface water bodies	0	0	0	-	-
45	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	<u>Risk of flooding from rivers and the sea</u>	Low (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
49	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
50	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
52	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	1	0
55	10.7	Designated Ancient Woodland	0	0	0	0	0
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	Green Belt	0	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0



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

68	14.4	Landslip (10k)	0	0	0	0	-
69	14.5	Bedrock geology (10k)	0	0	0	0	-
69	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
70	15.1	<u>50k Availability</u>	Identified (within 500m)				
71	15.2	Artificial and made ground (50k)	0	0	0	0	-
71	15.3	Artificial ground permeability (50k)	0	0	-	-	-
72	15.4	<u>Superficial geology (50k)</u>	1	0	0	0	-
73	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
73	15.6	Landslip (50k)	0	0	0	0	-
73	15.7	Landslip permeability (50k)	None (within 50m)				
74	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
75	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
75	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
76	16.1	<u>BGS Boreholes</u>	0	0	1	-	-
Page	Section	Natural ground subsidence					
77	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
78	17.2	<u>Running sands</u>	Moderate (within 50m)				
79	17.3	<u>Compressible deposits</u>	Moderate (within 50m)				
80	17.4	<u>Collapsible deposits</u>	Negligible (within 50m)				
81	17.5	<u>Landslides</u>	Very low (within 50m)				
82	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
83	18.1	Natural cavities	0	0	0	0	-
84	18.2	BritPits	0	0	0	0	-
84	18.3	<u>Surface ground workings</u>	0	0	1	-	-
84	18.4	Underground workings	0	0	0	0	0
84	18.5	Historical Mineral Planning Areas	0	0	0	0	-



85	18.6	Non-coal mining	0	0	0	0	0
85	18.7	Mining cavities	0	0	0	0	0
85	18.8	JPB mining areas	None (within 0m)				
85	18.9	Coal mining	None (within 0m)				
85	18.10	Brine areas	None (within 0m)				
86	18.11	Gypsum areas	None (within 0m)				
86	18.12	Tin mining	None (within 0m)				
86	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
87	19.1	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
88	20.1	BGS Estimated Background Soil Chemistry	3	1	-	-	-
88	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
89	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
90	21.1	Underground railways (London)	0	0	0	-	-
90	21.2	Underground railways (Non-London)	0	0	0	-	-
90	21.3	Railway tunnels	0	0	0	-	-
90	21.4	Historical railway and tunnel features	0	0	0	-	-
90	21.5	Royal Mail tunnels	0	0	0	-	-
91	21.6	Historical railways	0	0	0	-	-
91	21.7	Railways	0	0	0	-	-
91	21.8	Crossrail 1	0	0	0	0	-
91	21.9	Crossrail 2	0	0	0	0	-
91	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 02/05/2021

Site Area: 3.84ha



Recent site history - 2018 aerial photograph



Capture Date: 05/05/2018

Site Area: 3.84ha



Recent site history - 2015 aerial photograph



Capture Date: 06/04/2015

Site Area: 3.84ha



Recent site history - 2007 aerial photograph

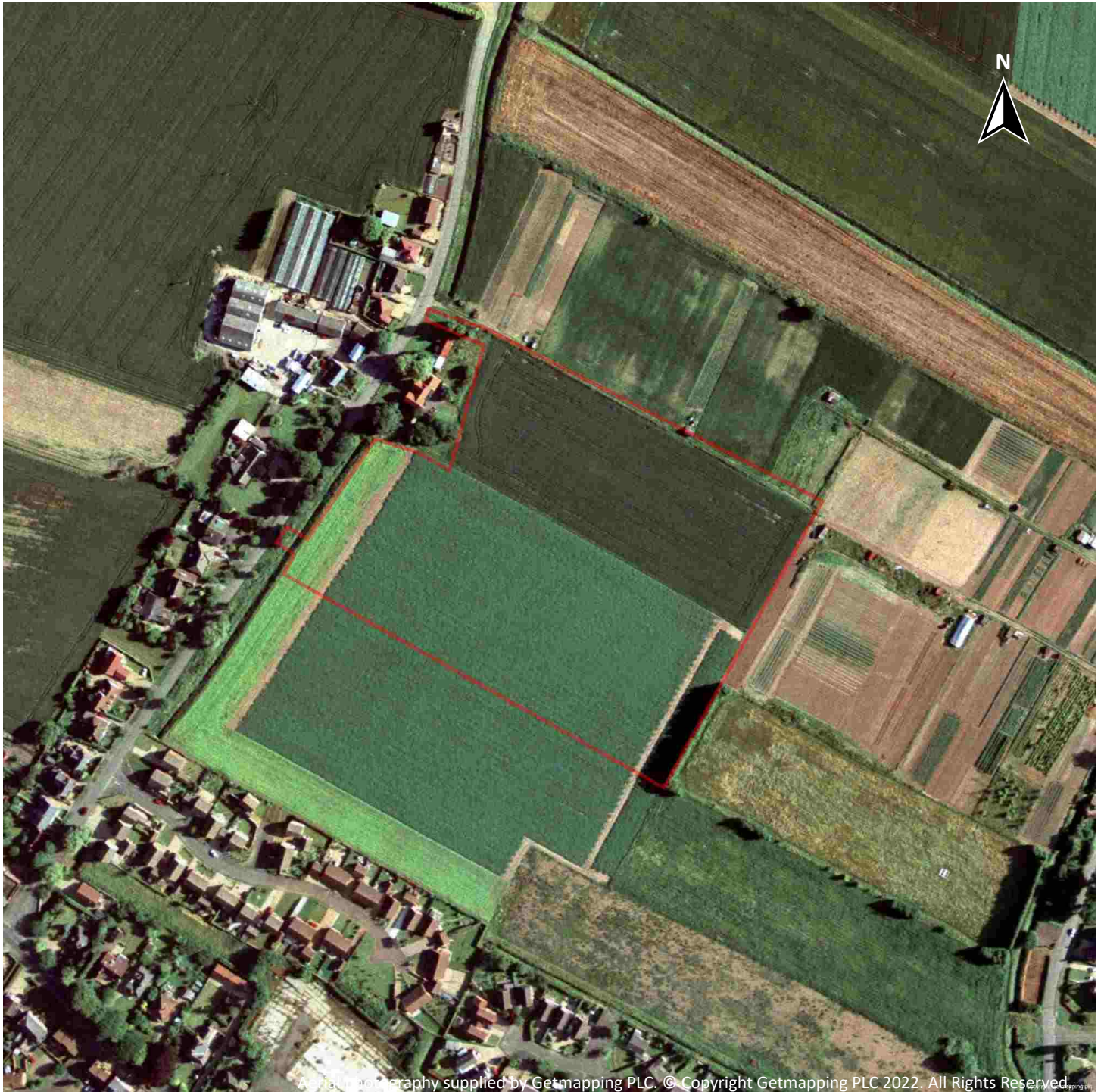


Capture Date: 10/08/2007

Site Area: 3.84ha



Recent site history - 1999 aerial photograph



Capture Date: 21/06/1999

Site Area: 3.84ha



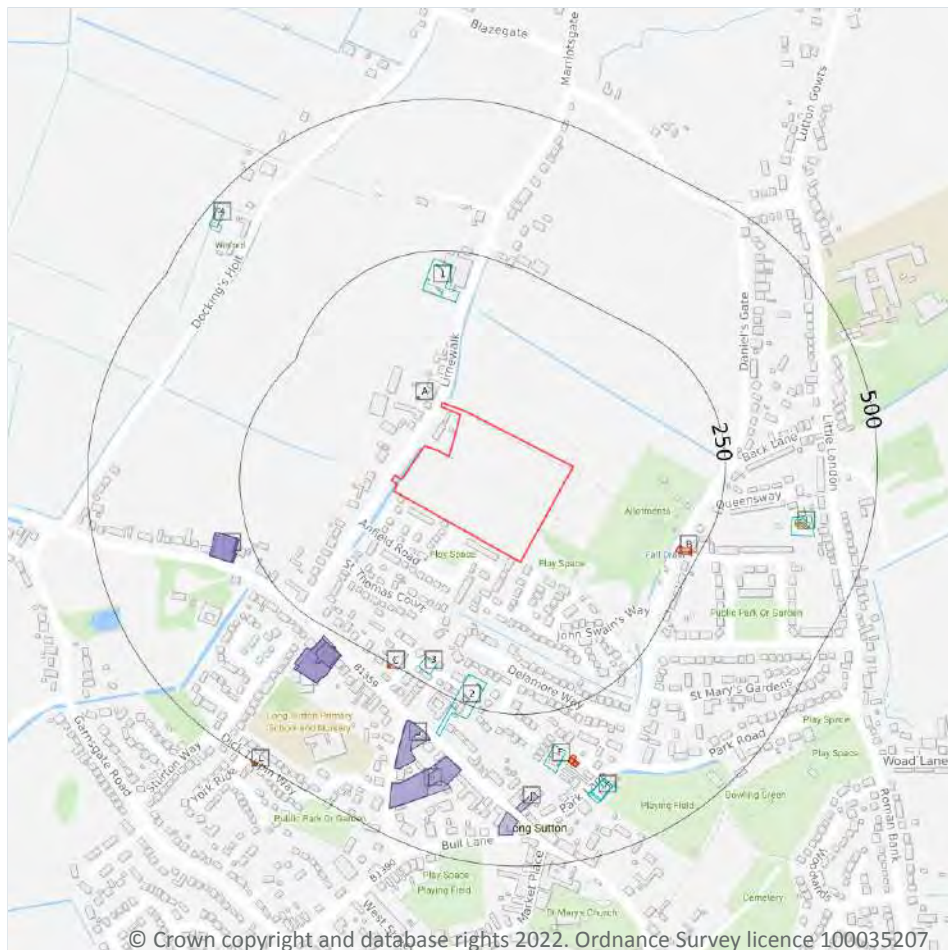
OS MasterMap site plan



Site Area: 3.84ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

10

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

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

ID	Location	Land use	Dates present	Group ID
1	167m N	Unspecified Depot	1991	2005939



ID	Location	Land use	Dates present	Group ID
2	203m SW	Brewery	1887	2008458
3	211m SW	Unspecified Pit	1887	2002418
F	306m S	Telephone Exchange	1974	2008980
I	370m E	Sewage Works	1974	2005605
I	376m E	Unspecified Tanks	1974	2009162
K	381m S	Slaughter House	1929	2036901
K	382m S	Slaughter House	1938	2025721
K	383m S	Slaughter House	1958	2030019
4	468m NW	Unspecified Depot	1991	2005941

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

6

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

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

ID	Location	Land use	Dates present	Group ID
A	38m W	Unspecified Tank	1971	340437
A	39m W	Unspecified Tank	1983	340595
A	39m W	Unspecified Tank	1965	340959
A	39m W	Unspecified Tank	1983	341189
A	39m W	Unspecified Tank	1983	341633
I	376m E	Tanks	1965	339385

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

10

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

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

ID	Location	Land use	Dates present	Group ID
B	214m SE	Electricity Substation	1965 - 1990	223692
B	235m SE	Electricity Substation	1971 - 1987	224009
C	252m SW	Electricity Substation	1971 - 1990	222382
C	252m SW	Electricity Substation	1965	223647
F	328m S	Electricity Substations	1987	221463
F	332m S	Electricity Substation	1965 - 1981	223314
F	338m S	Electricity Substation	1990	221012
F	338m S	Electricity Substations	1987	221464
L	499m SW	Electricity Substation	1983 - 1987	221984
L	499m SW	Electricity Substation	1965	224186

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

16

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

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

ID	Location	Land use	Dates present	Group ID
D	263m SW	Garage	1971	68288
E	267m W	Garage	1965	68390
E	267m W	Garage	1983	68906
E	268m W	Garage	1971 - 1987	69046
D	269m SW	Garage	1965	68194
D	269m SW	Garage	1983	69109
E	270m W	Garage	1990	68446
D	270m SW	Garage	1987	68341
G	316m SW	Garage	1965 - 1983	69042
G	317m SW	Garage	1971	68496
G	325m SW	Garage	1965	68608
H	341m S	Garage	1987	68532
H	343m S	Garage	1965 - 1990	68746
H	372m SW	Garage	1990	68541
J	379m S	Garage	1971	67961
J	411m S	Garage	1971	67962

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

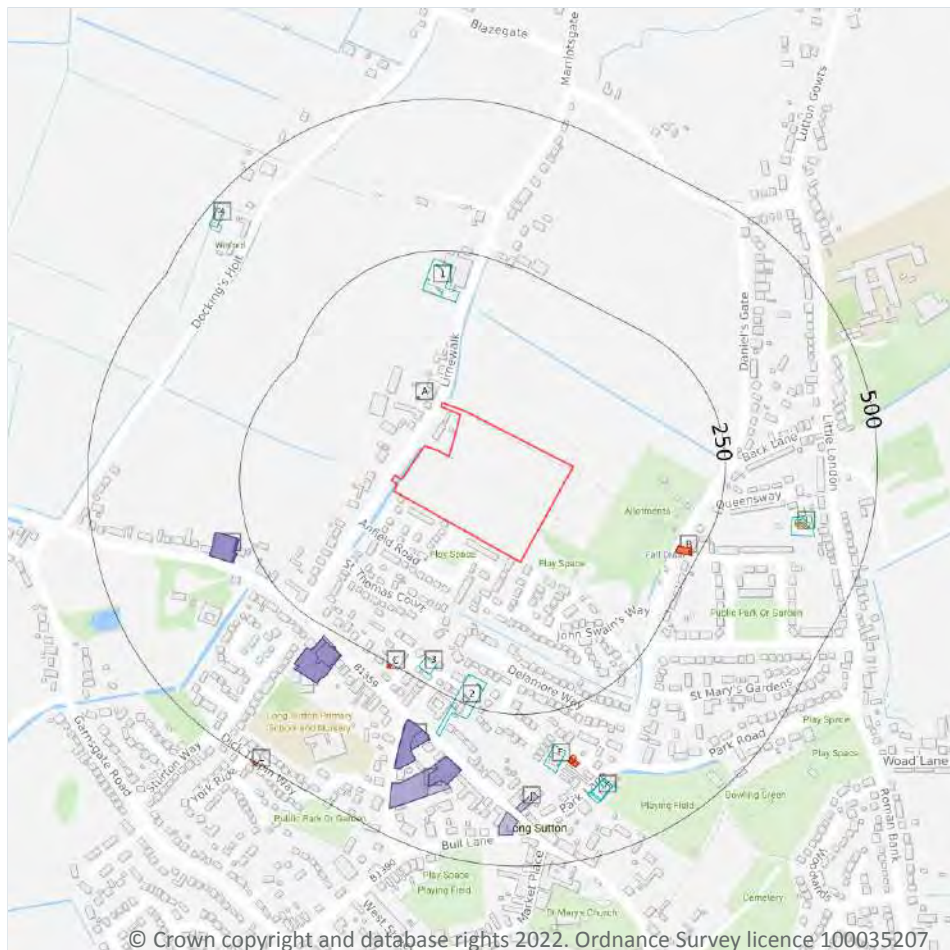
0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

10

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 19**

ID	Location	Land Use	Date	Group ID
1	167m N	Unspecified Depot	1991	2005939
2	203m SW	Brewery	1887	2008458
3	211m SW	Unspecified Pit	1887	2002418



ID	Location	Land Use	Date	Group ID
F	306m S	Telephone Exchange	1974	2008980
I	370m E	Sewage Works	1974	2005605
I	376m E	Unspecified Tanks	1974	2009162
K	381m S	Slaughter House	1929	2036901
K	382m S	Slaughter House	1938	2025721
K	383m S	Slaughter House	1958	2030019
4	468m NW	Unspecified Depot	1991	2005941

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

6

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
A	38m W	Unspecified Tank	1971	340437
A	39m W	Unspecified Tank	1983	341633
A	39m W	Unspecified Tank	1965	340959
A	39m W	Unspecified Tank	1983	340595
A	39m W	Unspecified Tank	1983	341189
I	376m E	Tanks	1965	339385

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

20

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 19**

ID	Location	Land Use	Date	Group ID
B	214m SE	Electricity Substation	1965	223692
B	214m SE	Electricity Substation	1981	223692
B	214m SE	Electricity Substation	1990	223692
B	235m SE	Electricity Substation	1971	224009
B	235m SE	Electricity Substation	1987	224009
C	252m SW	Electricity Substation	1983	222382
C	252m SW	Electricity Substation	1965	223647
C	252m SW	Electricity Substation	1983	222382
C	252m SW	Electricity Substation	1983	222382
C	252m SW	Electricity Substation	1990	222382
C	252m SW	Electricity Substation	1971	222382
C	252m SW	Electricity Substation	1987	222382
F	328m S	Electricity Substations	1987	221463
F	332m S	Electricity Substation	1965	223314
F	332m S	Electricity Substation	1981	223314
F	333m S	Electricity Substation	1971	223314
F	338m S	Electricity Substation	1990	221012
F	338m S	Electricity Substations	1987	221464
L	499m SW	Electricity Substation	1983	221984
L	499m SW	Electricity Substation	1965	224186

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

27

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
D	263m SW	Garage	1971	68288
E	267m W	Garage	1983	68906
E	267m W	Garage	1965	68390
E	267m W	Garage	1983	68906
E	267m W	Garage	1983	68906
E	268m W	Garage	1971	69046
E	268m W	Garage	1987	69046
D	269m SW	Garage	1983	69109
D	269m SW	Garage	1965	68194
D	269m SW	Garage	1983	69109
D	269m SW	Garage	1983	69109
E	270m W	Garage	1990	68446
D	270m SW	Garage	1987	68341
G	316m SW	Garage	1983	69042
G	316m SW	Garage	1965	69042
G	316m SW	Garage	1983	69042
G	316m SW	Garage	1983	69042
G	317m SW	Garage	1971	68496
G	325m SW	Garage	1965	68608
G	325m SW	Garage	1981	69042
H	341m S	Garage	1987	68532
H	343m S	Garage	1965	68746
H	343m S	Garage	1981	68746



ID	Location	Land Use	Date	Group ID
H	343m S	Garage	1990	68746
H	372m SW	Garage	1990	68541
J	379m S	Garage	1971	67961
J	411m S	Garage	1971	67962

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

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**4**

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

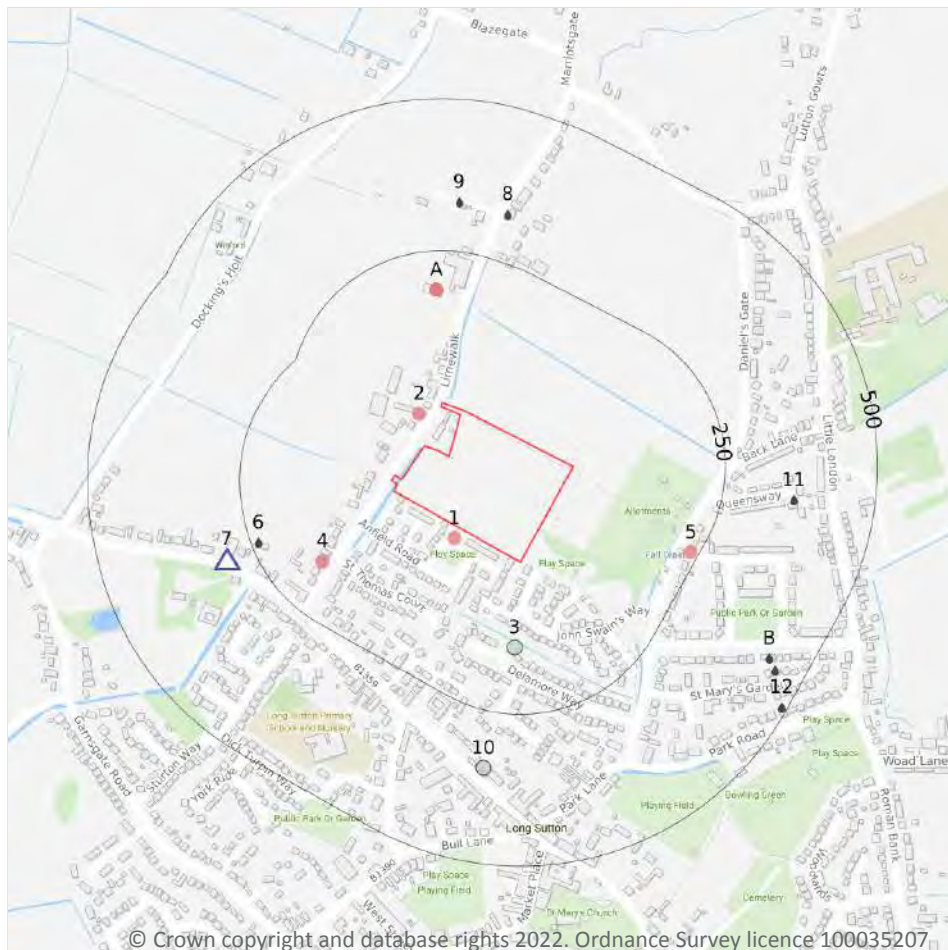
Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	195m N	MRK Plant Hire, 53 Lime Walk, Long Sutton, Spalding, PE12 9HQ	WEX284244	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	195m N	MRK Plant Hire, 53 Lime Walk, Long Sutton, Spalding, PE12 9HQ	WEX284244	Using waste exemption	Not on a farm	Use of waste in construction
B	479m NW	UNIT 2, DOCKINGS HOLT, LUTTON, SPALDING, PE12 9HL	WEX140007	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	479m NW	UNIT 2, DOCKINGS HOLT, LUTTON, SPALDING, PE12 9HL	WEX140007	Treating waste exemption	Not on a farm	Sorting mixed waste

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
- △ Current or recent petrol stations
- ◆ Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

6

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
1	19m SW	Pumping Station	Lincolnshire, PE12	Water Pumping Stations	Industrial Features
2	38m W	Hallgate Timber & Joinery	Lime Walk Farm, Lime Walk, Long Sutton, Spalding, Lincolnshire, PE12 9HG	Garden Goods	Consumer Products

ID	Location	Company	Address	Activity	Category
4	165m SW	G & W Produce Ltd	7, Lime Walk, Long Sutton, Spalding, Lincolnshire, PE12 9HG	Fruit, Flower and Vegetable Growers	Farming
A	186m N	A M R Autos	53, Lime Walk, Long Sutton, Spalding, Lincolnshire, PE12 9HQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	186m N	Self Storage in Long Sutton	53, Lime Walk, Long Sutton, Spalding, Lincolnshire, PE12 9HQ	Container and Storage	Transport, Storage and Delivery
5	237m SE	Electricity Sub Station	Lincolnshire, PE12	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	LPG	Status
7	297m W	CLOSED	Gedney Road, Long Sutton, Spalding, Lincolnshire, PE12 9JN	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

7

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 27**

ID	Location	Address	Details	
6	238m W	BUNGALOW AT LONG SUTTON, LONG SUTTON, SPALDING, PE12	Effluent Type: UNSPECIFIED Permit Number: PR5LF3273 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 17/11/1975 Effective Date: 17/11/1975 Revocation Date: 01/10/1996
8	328m N	LINE WALK, LONG SUTTON, SPALDING, Lincs	Effluent Type: UNSPECIFIED Permit Number: PR5LF5242 Permit Version: 1 Receiving Water: -	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 27/11/1986 Effective Date: 27/11/1986 Revocation Date: 01/10/1996



ID	Location	Address	Details	
9	331m N	PLOT 1, LIME WALK, LONG SUTTON, SPALDING, Lincs, PE12 9HG	Effluent Type: UNSPECIFIED Permit Number: PRNLF02529 Permit Version: 1 Receiving Water: Land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 25/04/1990 Effective Date: 25/04/1990 Revocation Date: 01/10/1996
11	366m E	ADDERLEY HOUSE, LONDON ROAD, LONG SUTTON, Lincs, PE12 9EA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PR5LF3105 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 06/08/1969 Effective Date: 06/08/1969 Revocation Date: 04/08/1997
B	434m SE	PLOT 22, PARK ROAD ESTATE, LONG SUTTON	Effluent Type: UNSPECIFIED Permit Number: PR5LF3311 Permit Version: 1 Receiving Water: land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 18/02/1976 Effective Date: 18/02/1976 Revocation Date: 01/10/1996
B	452m SE	PLOT 23, PARK ROAD ESTATE, LONG SUTTON	Effluent Type: UNSPECIFIED Permit Number: PR5LF3312 Permit Version: 1 Receiving Water: land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 18/02/1976 Effective Date: 18/02/1976 Revocation Date: 01/10/1996
12	490m SE	PLOT 8, PARK ROAD ESTATE, LONG SUTTON	Effluent Type: UNSPECIFIED Permit Number: PR5LF3310 Permit Version: 1 Receiving Water: land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 18/02/1976 Effective Date: 18/02/1976 Revocation Date: 01/10/1996

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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



4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Details	
3	140m S	Incident Date: 23/08/2001 Incident Identification: 26192 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	343m S	Incident Date: 27/06/2001 Incident Identification: 11967 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m**0**

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

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

4.21 Pollution inventory radioactive waste

Records within 500m**0**

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

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

5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

1

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 34**

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

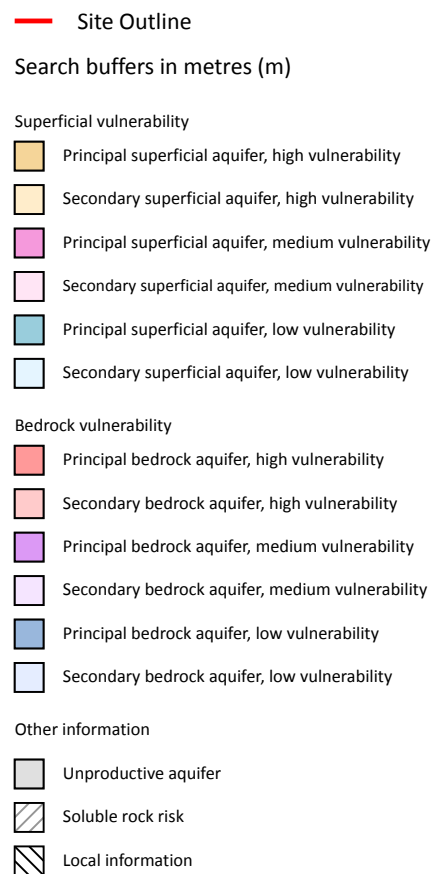
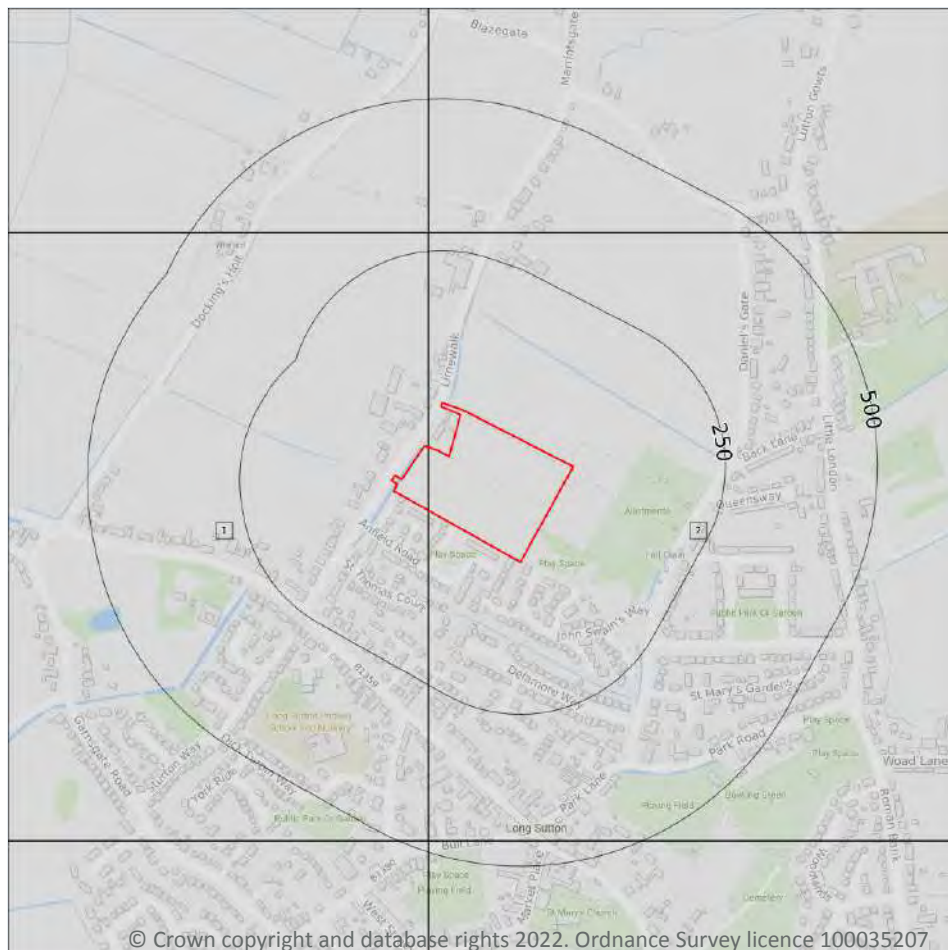
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35**

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



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on **page 36**

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
2	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

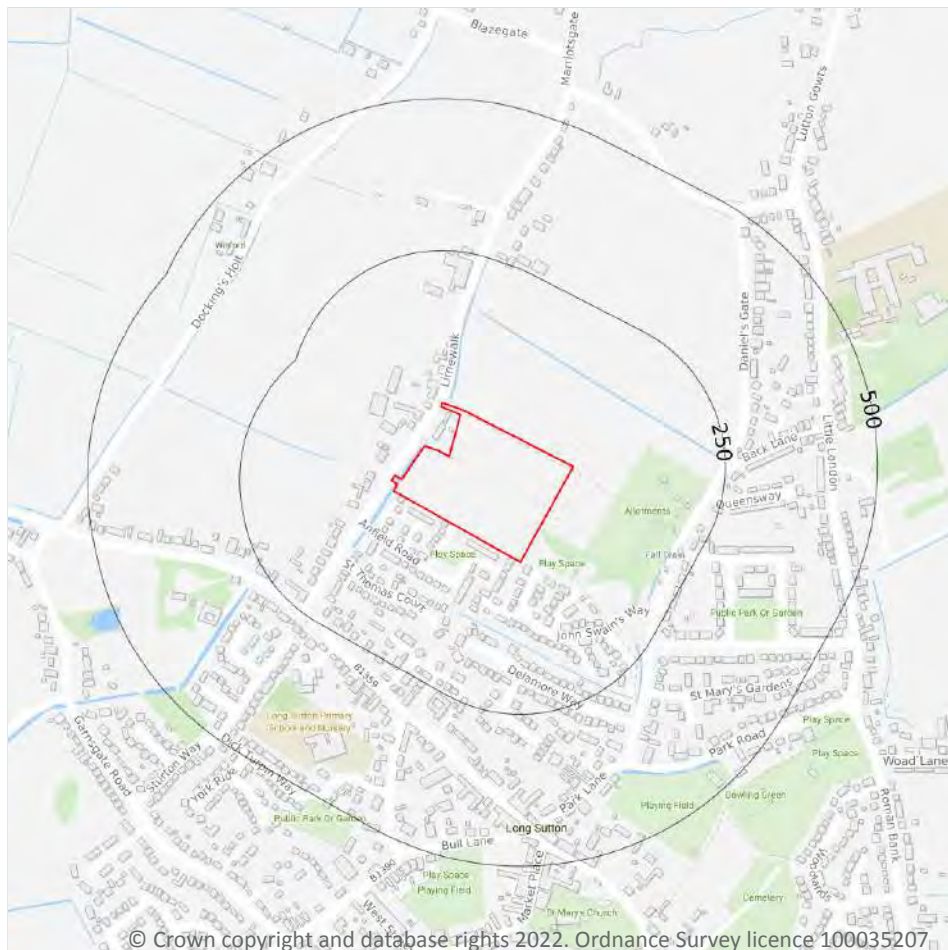
Records on site	0
------------------------	----------

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
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

1

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 38**

ID	Location	Details	
-	1933m NE	Status: Active Licence No: AN/032/0011/015 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: LUTTON LEAM AT SOUTH HOLLAND IDB, LUTTON Data Type: Point Name: G H HOYLES LIMITED Easting: 544571 Northing: 325016	Annual Volume (m ³): 85,000 Max Daily Volume (m ³): 864 Original Application No: NPS/WR/017503 Original Start Date: 20/10/2014 Expiry Date: 31/03/2029 Issue No: 2 Version Start Date: 01/04/2016 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

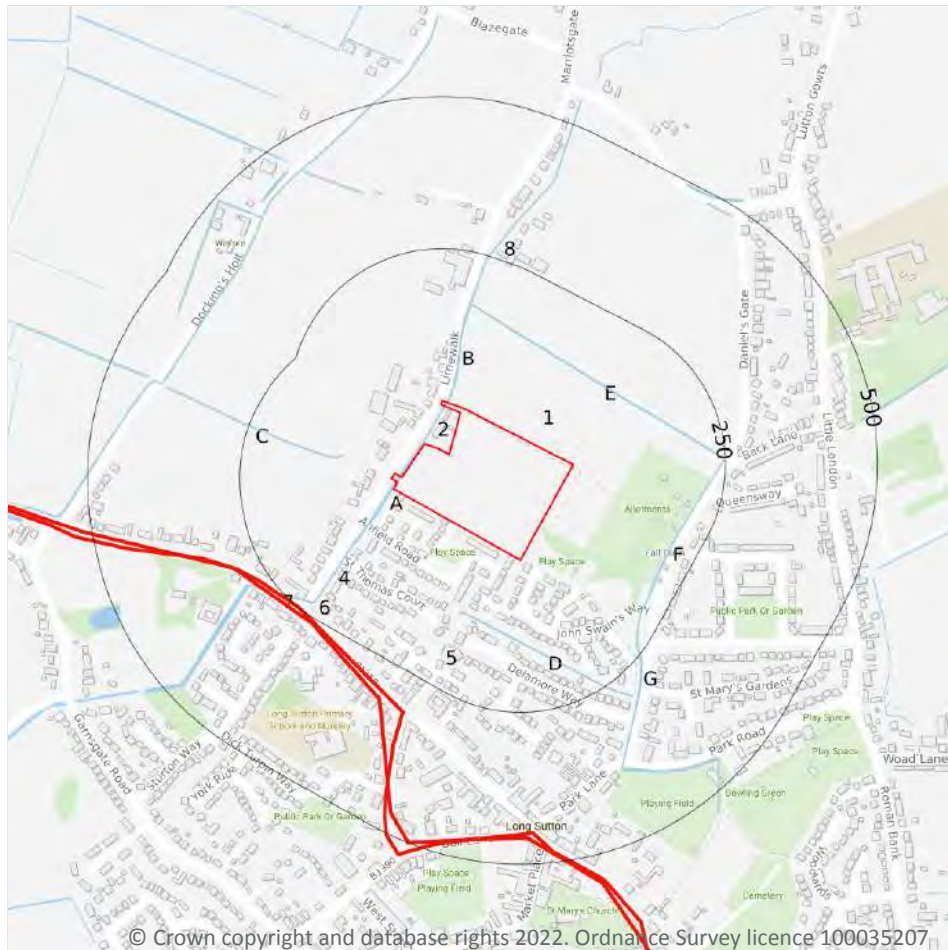
0

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

25

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

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Lutton Drain

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)	Lutton Drain
B	9m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lutton Drain
C	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	113m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Lutton Drain
D	119m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	136m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
B	162m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
B	166m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lutton Drain
5	179m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	205m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	205m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	206m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	207m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
F	208m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	211m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
6	212m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Lutton Drain
F	212m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	214m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	215m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	226m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
7	229m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Lutton Drain
G	234m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fall Drain
F	241m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fall Drain
8	245m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Lutton Drain

This data is sourced from the Ordnance Survey.



6.2 Surface water features

Records within 250m

10

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

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	Coastal Catchment	Not part of a river WB catchment	116	Lower Nene	Nene

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

6.4 WFD Surface water bodies

Records identified

0

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.

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

6.5 WFD Groundwater bodies

Records on site

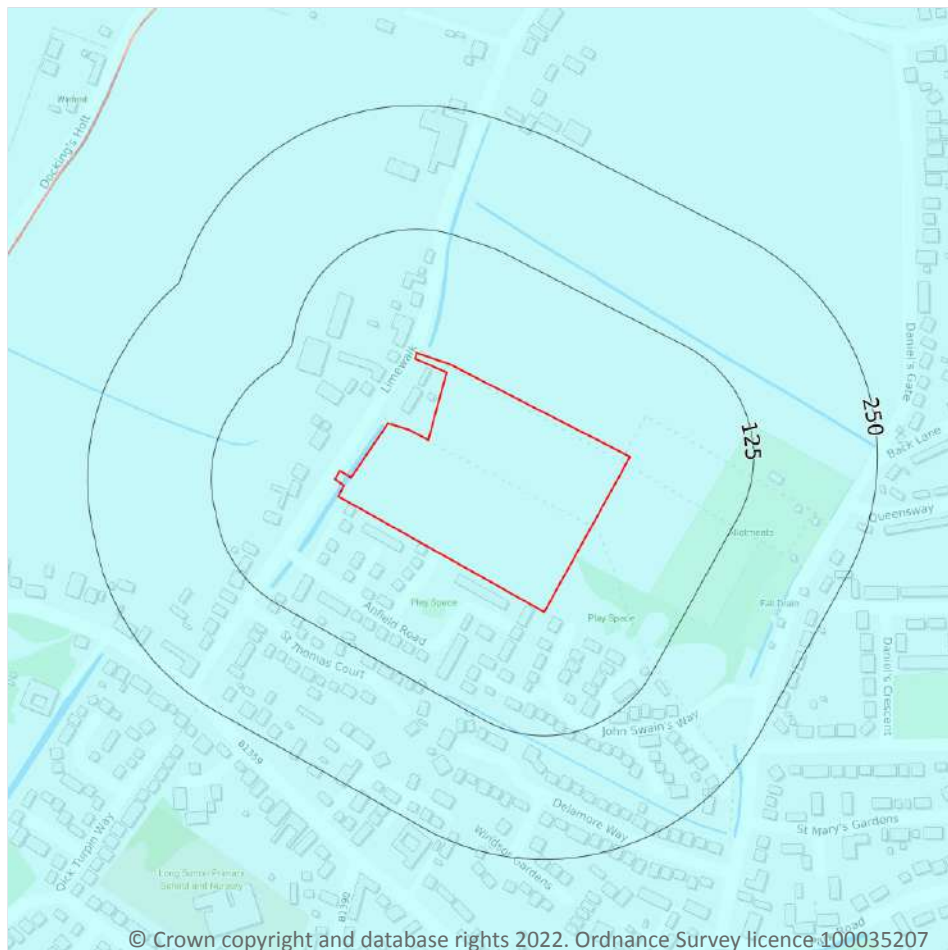
0

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

1

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 46**

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

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

7.2 Historical Flood Events

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

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

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

7.3 Flood Defences

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

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

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

7.4 Areas Benefiting from Flood Defences

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

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

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

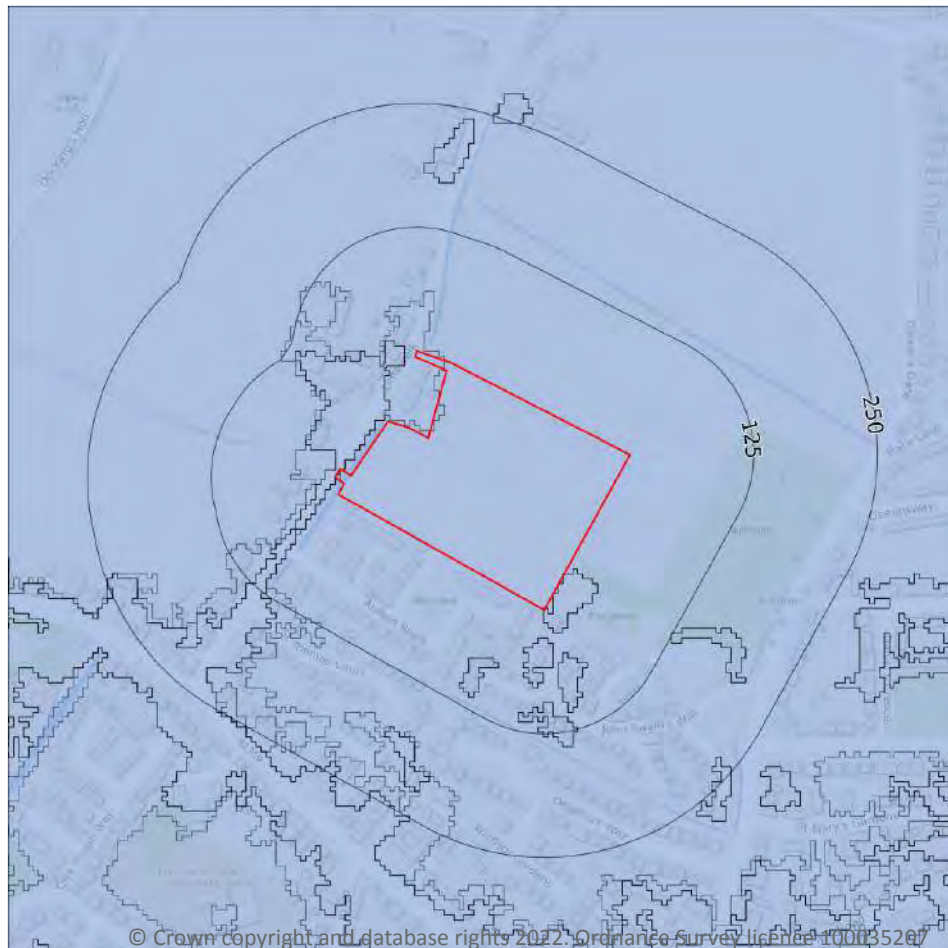
7.5 Flood Storage Areas

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

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

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

River and coastal flooding - Flood Zones



- 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 46**

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.

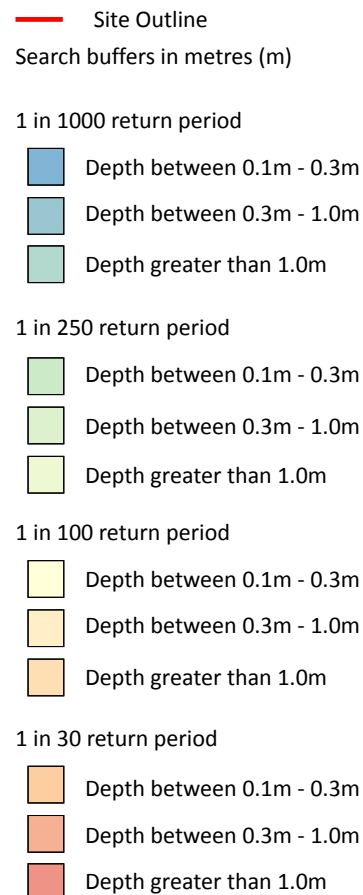
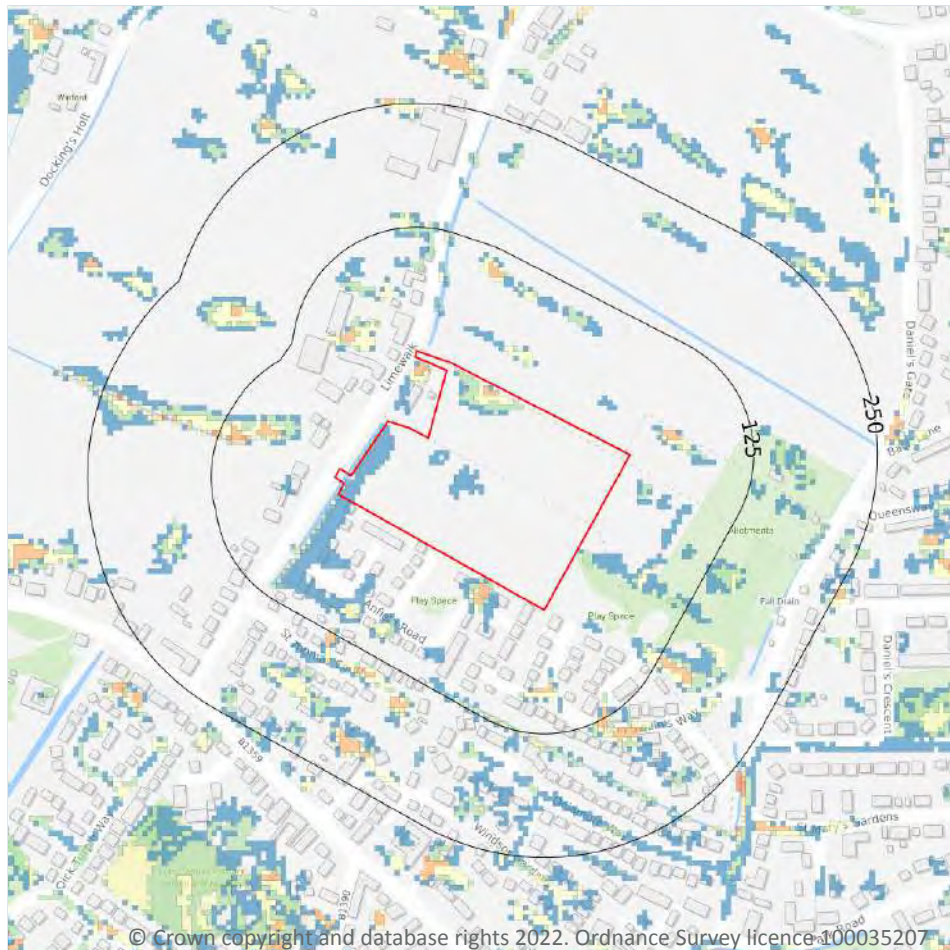
Features are displayed on the River and coastal flooding map on **page 46**

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 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 50**

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

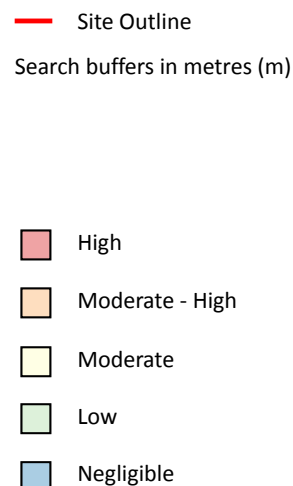
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



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 52**

This data is sourced from Ambient Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Data source
1	401m SW	The Shrubberies	Natural England

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

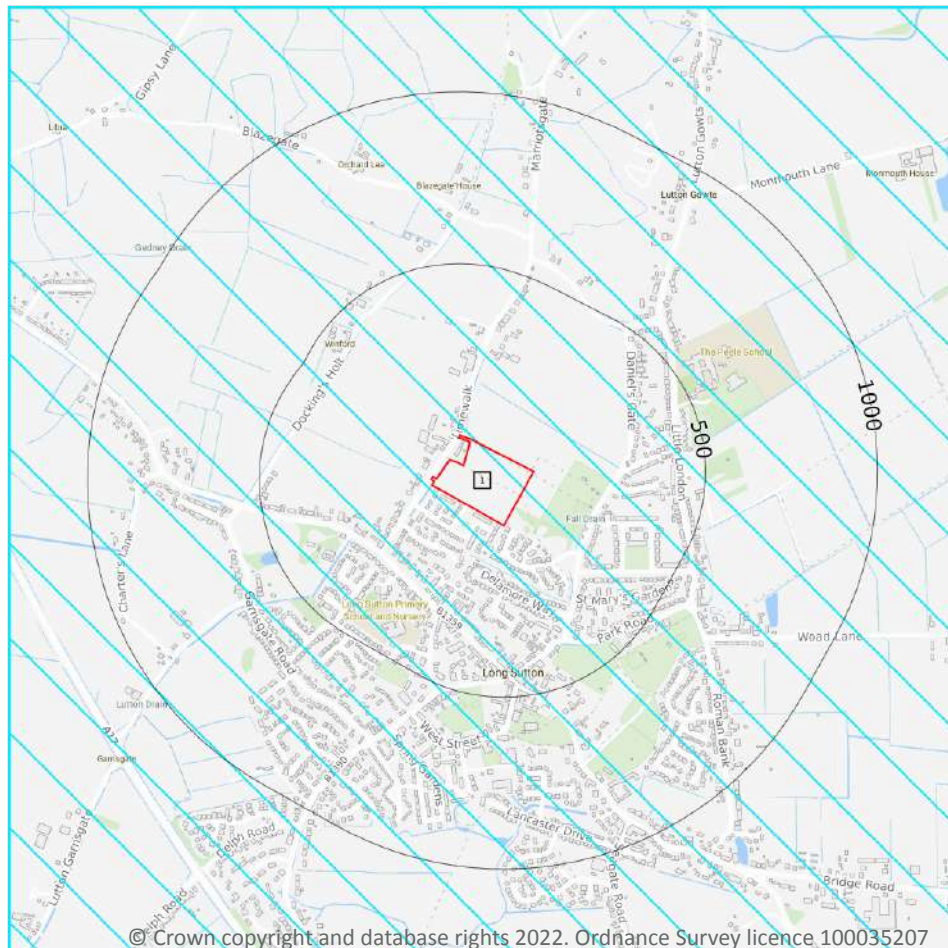
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Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle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

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



SSSI Impact Zones and Units



- 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 58**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

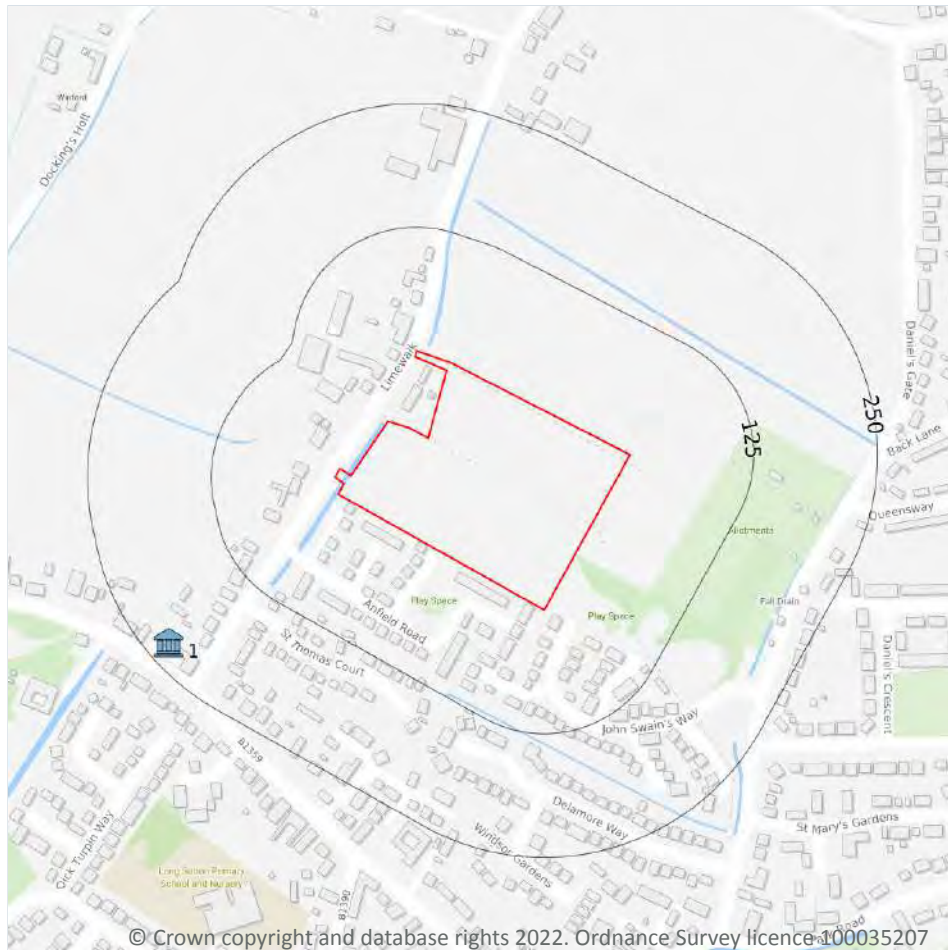
0

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

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

1

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

Features are displayed on the Visual and cultural designations map on **page 60**

ID	Location	Name	Grade	Reference Number	Listed date
1	228m SW	Number 18, Formerly The Cock and Magpie Public House, Lutton, South Holland, Lincolnshire, PE12	II	1204685	26/11/1987

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

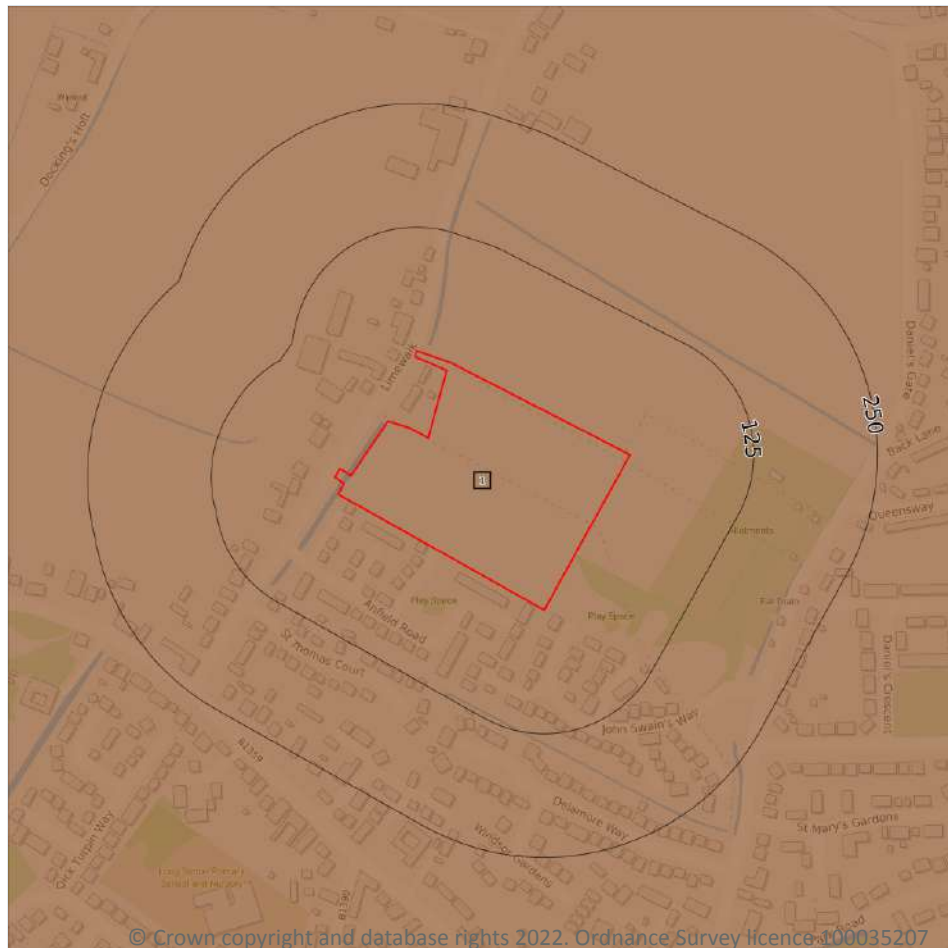
Records within 250m

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 63**

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

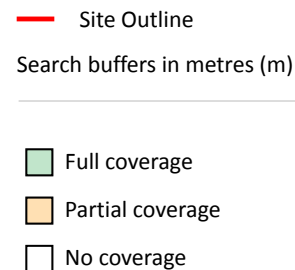
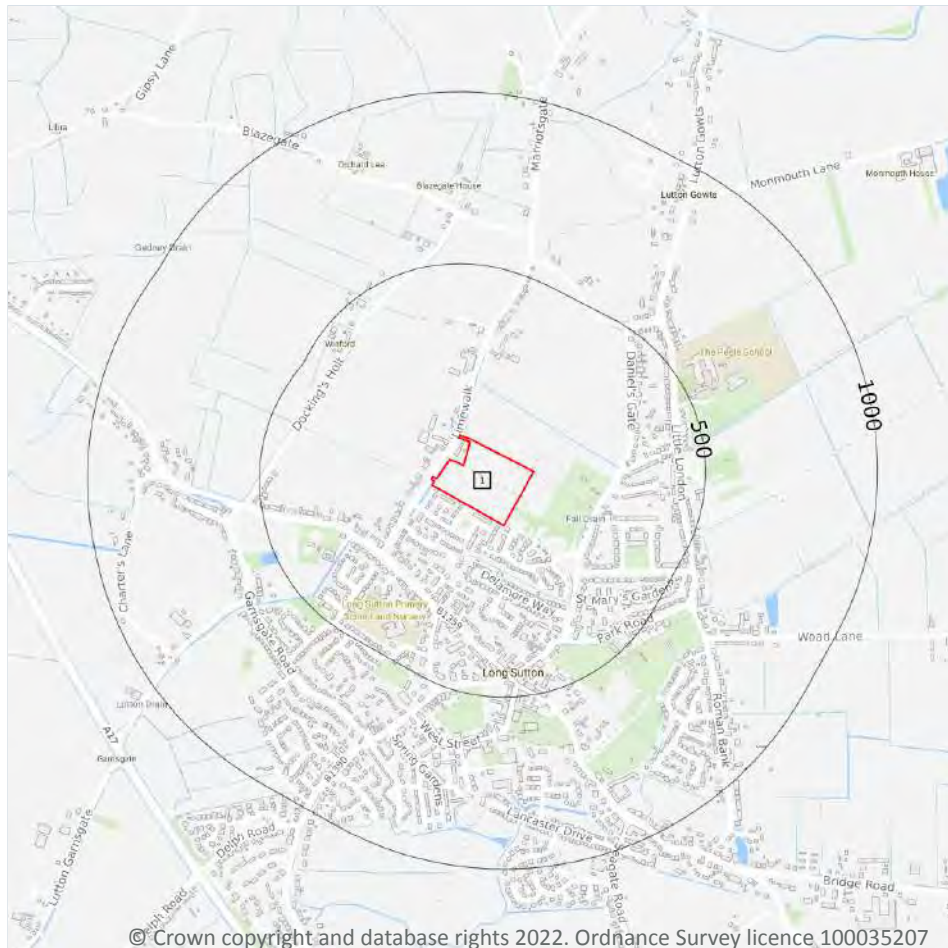
0

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



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 66**

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

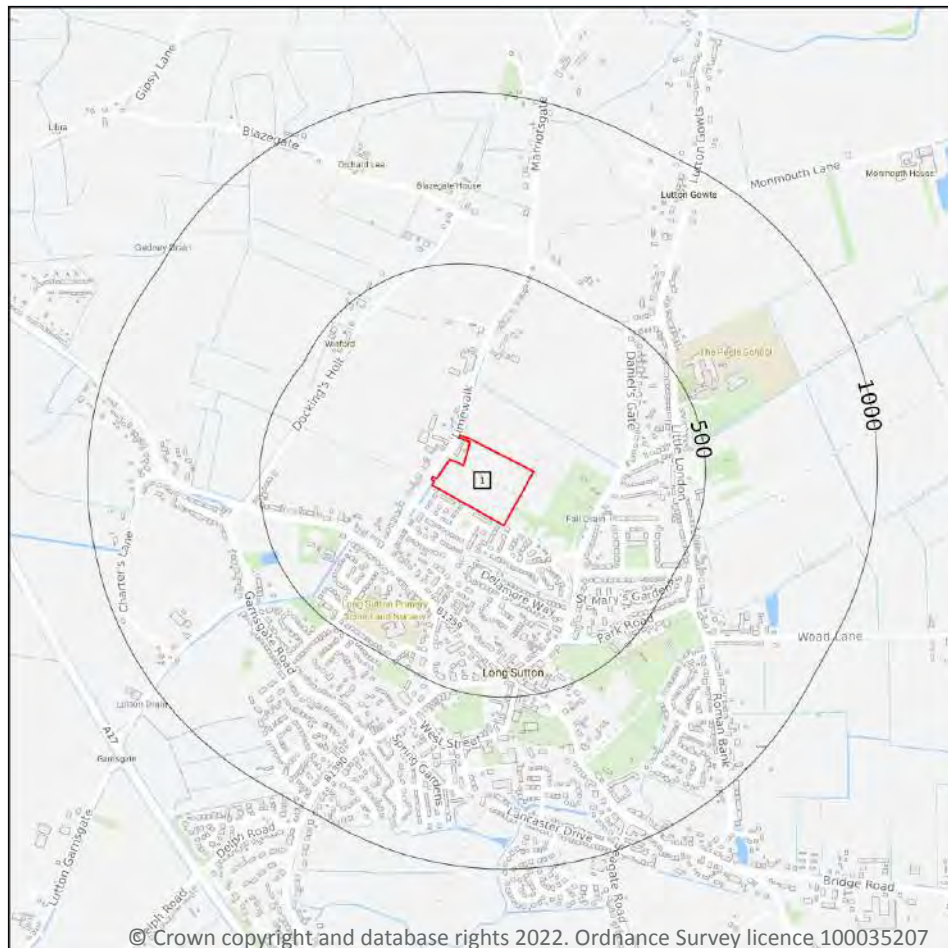
0

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 70**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW145_kings_lynn_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

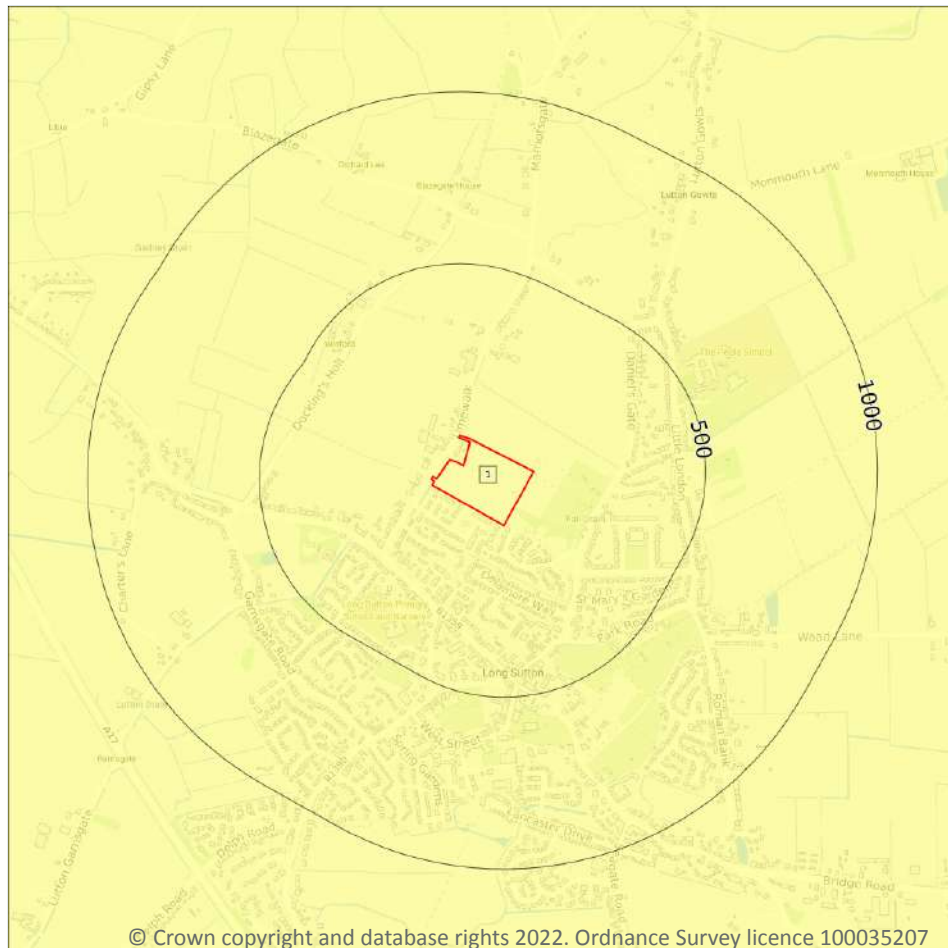
0

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 72**

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)

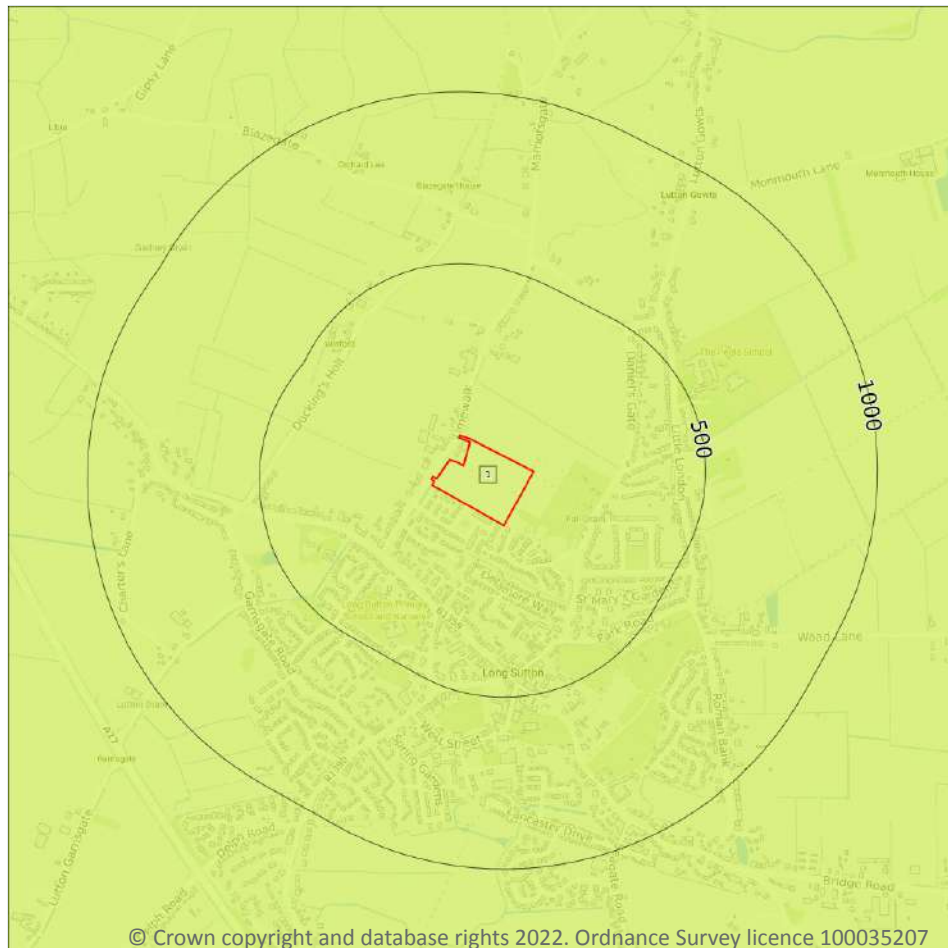
Records within 50m**0**

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 74**

ID	Location	LEX Code	Description	Rock age
1	On site	AMC-MDST	AMPTHILL CLAY FORMATION - MUDSTONE	OXFORDIAN

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

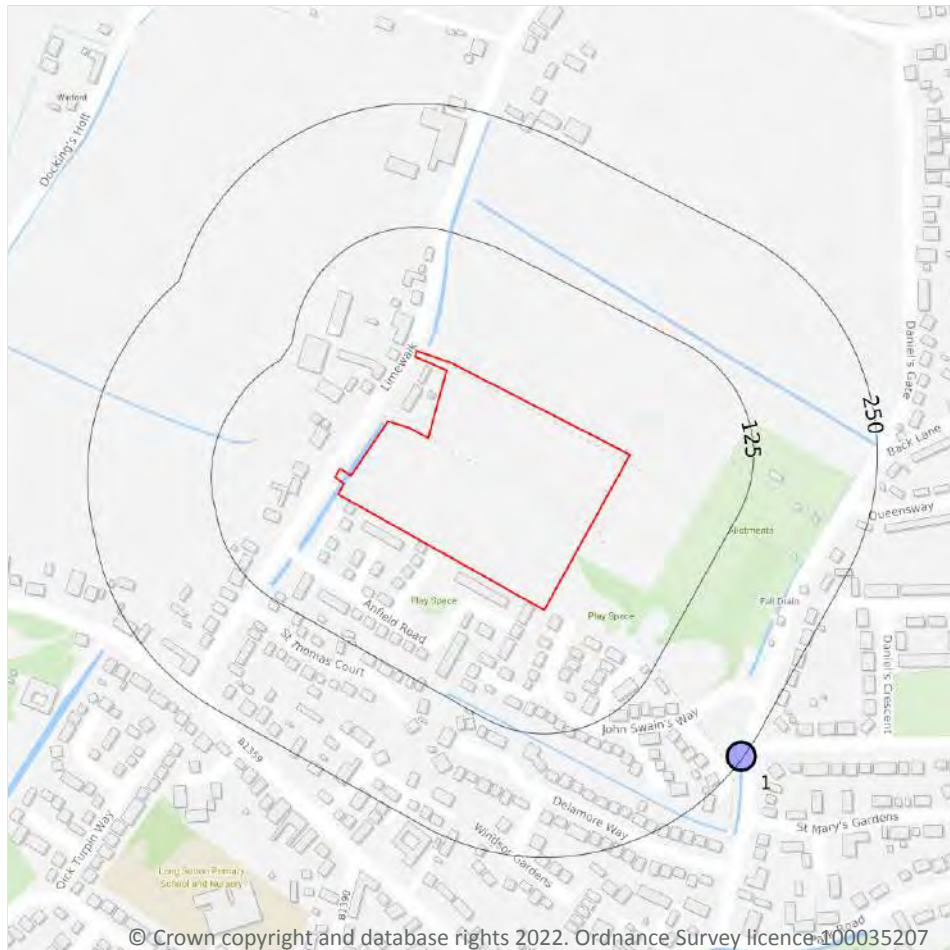
0

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



Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

1

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

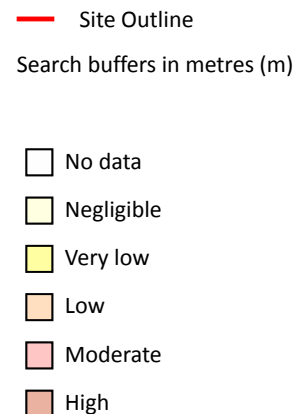
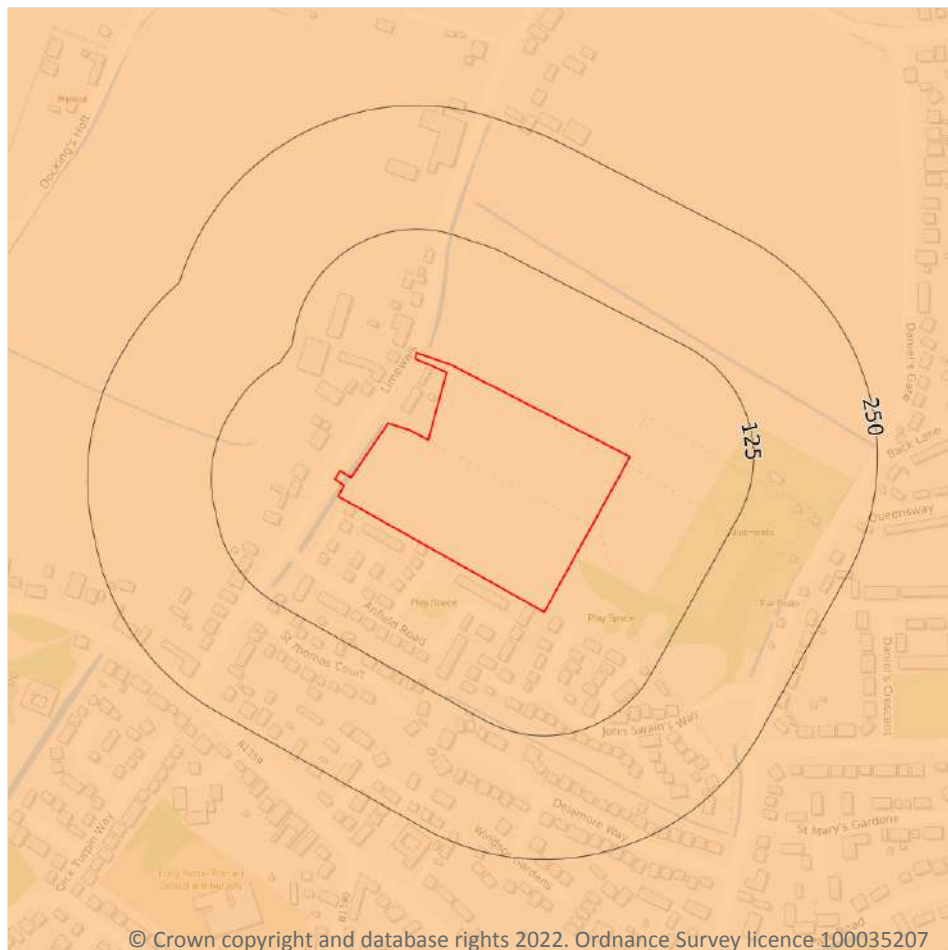
Features are displayed on the Boreholes map on **page 76**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	248m SE	543350 323310	BUCK LANE (NR DRAIN) 145/55	3.13	N	506007

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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).

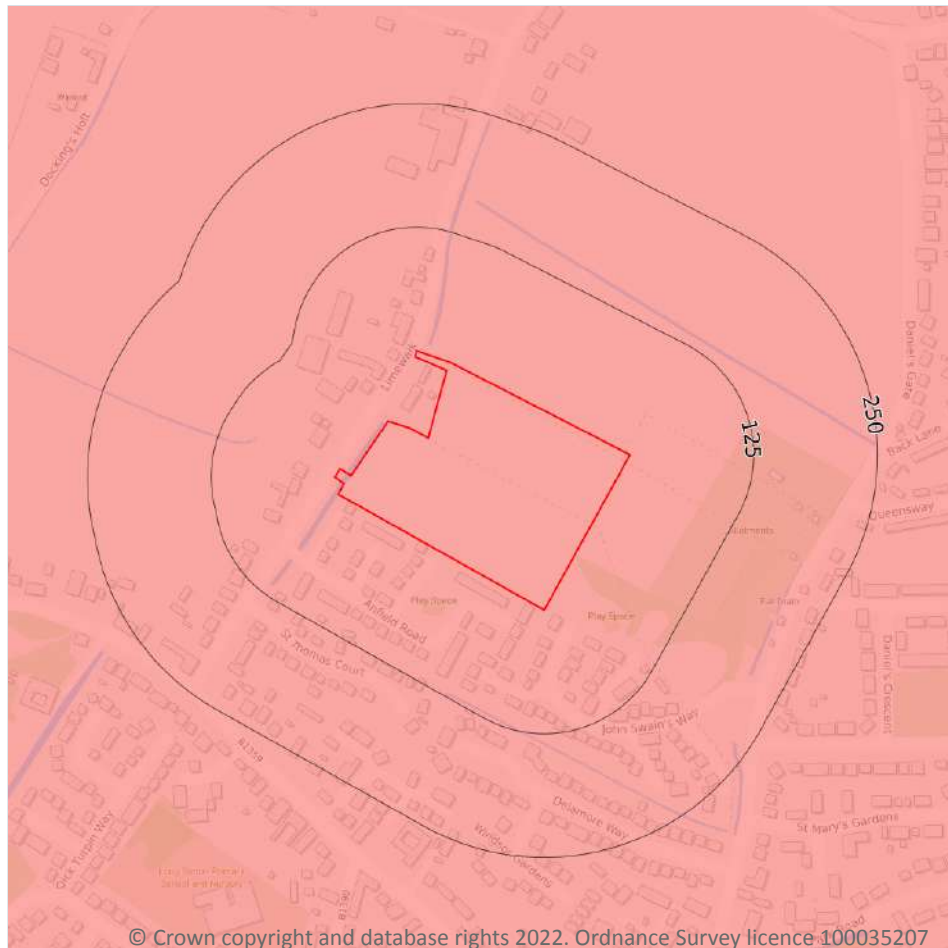
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 77**

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.

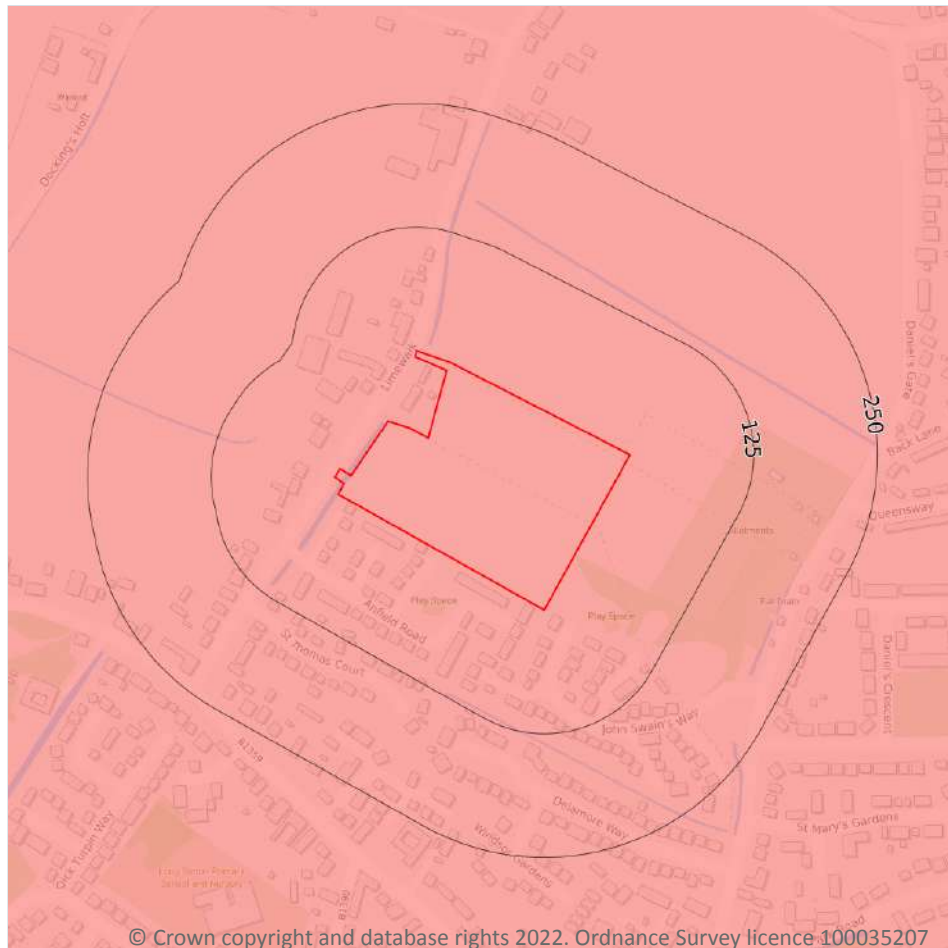
Features are displayed on the Natural ground subsidence - Running sands map on **page 78**

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.

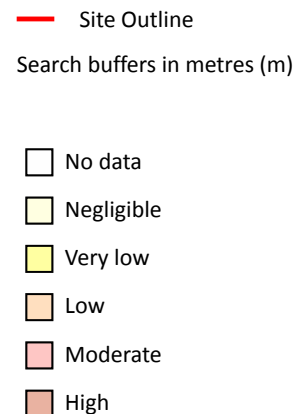
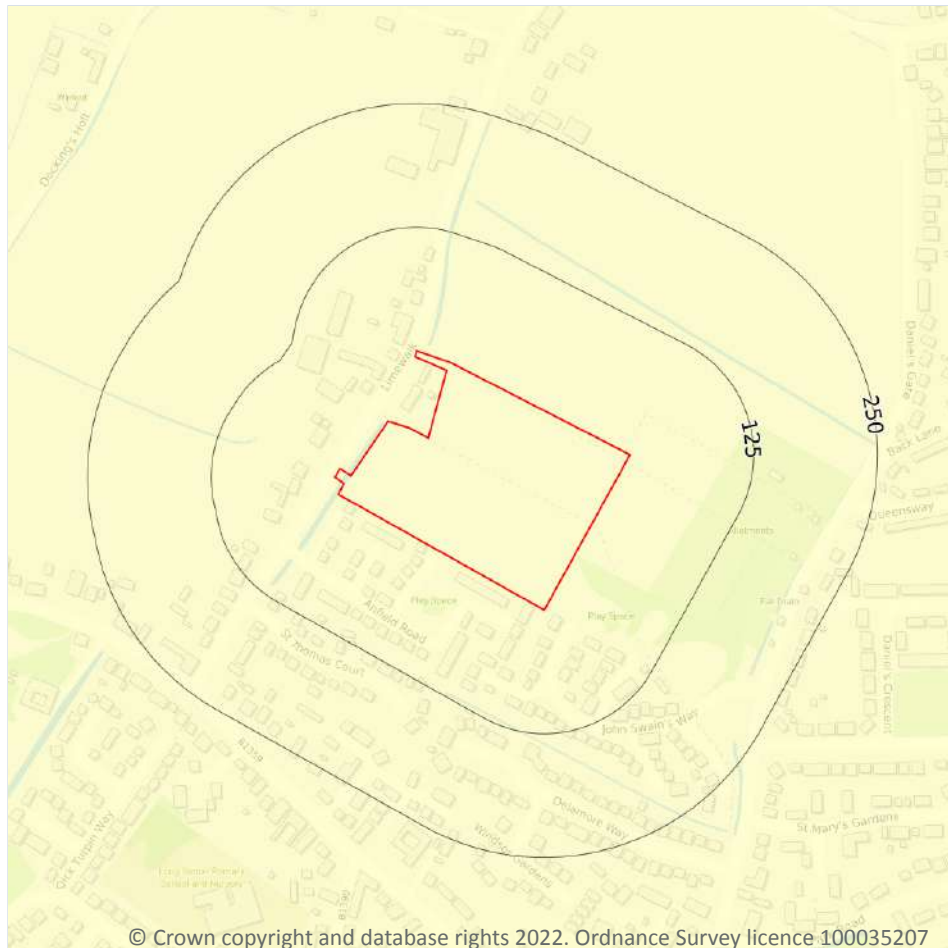
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 79**

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



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.

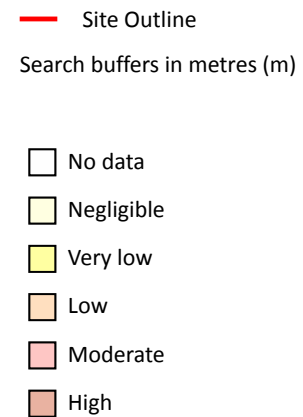
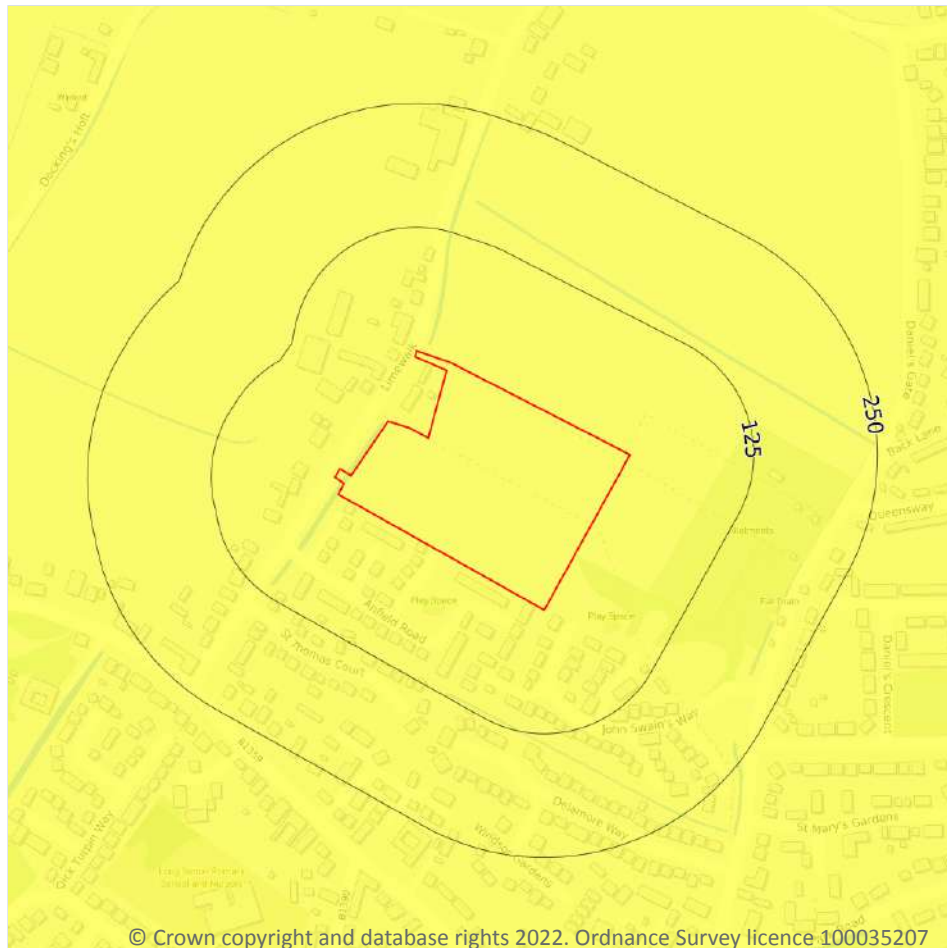
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 80**

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



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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.

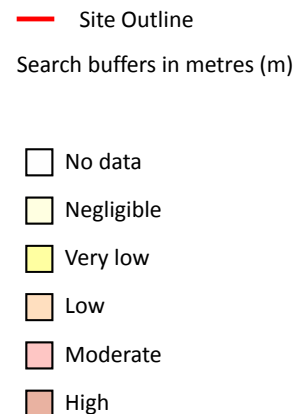
Features are displayed on the Natural ground subsidence - Landslides map on **page 81**

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



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.

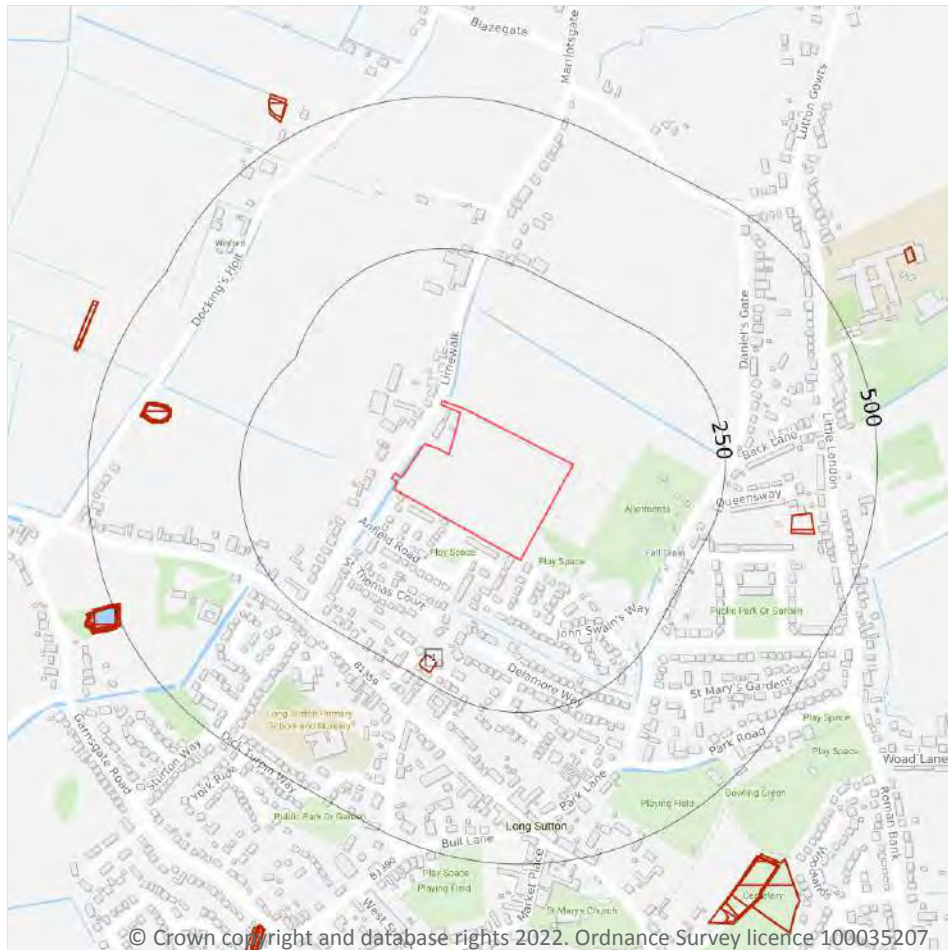
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 82**

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, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- 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 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.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

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, ground workings and natural cavities map on **page 83**

ID	Location	Land Use	Year of mapping	Mapping scale
1	211m SW	Unspecified Pit	1887	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

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 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

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

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



18.11 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

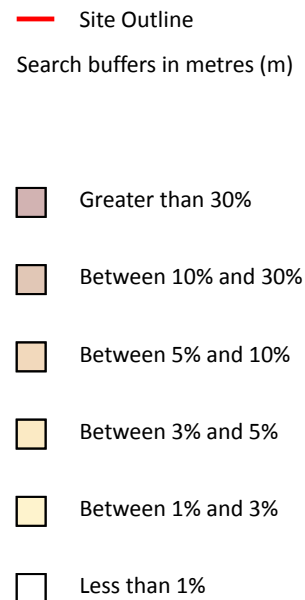
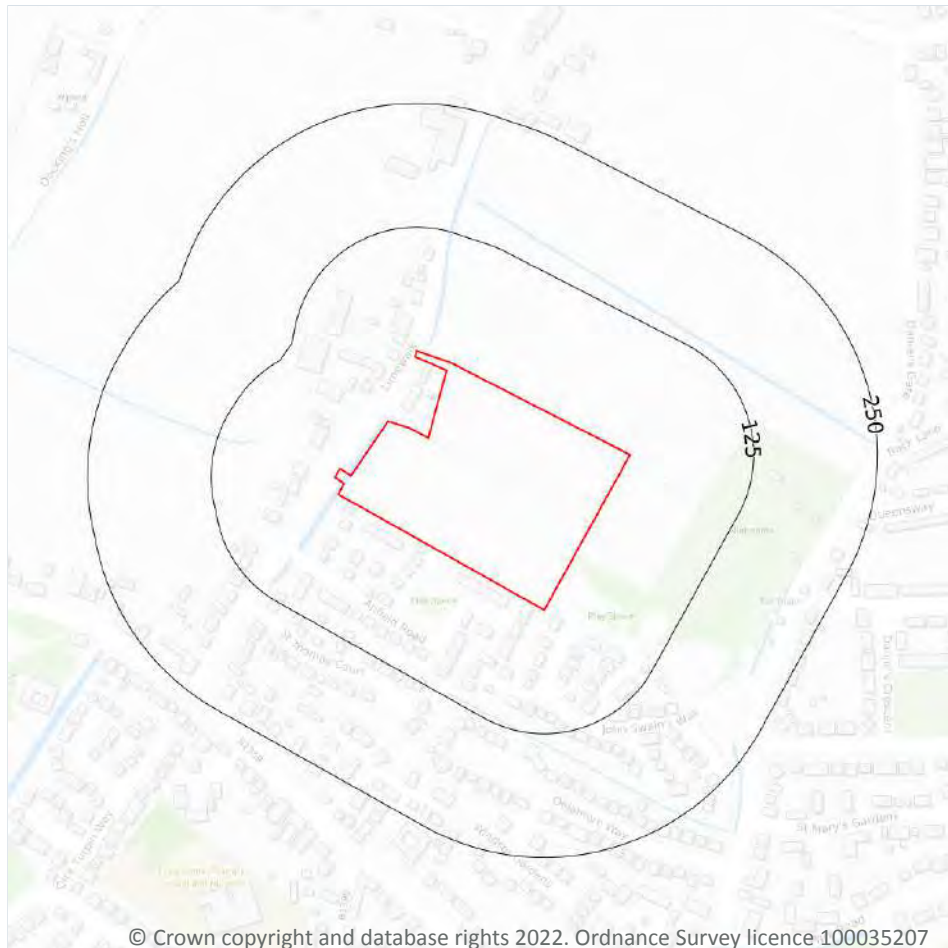
18.13 Clay mining

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

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

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

19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 87**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

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 km². 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 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
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
38m SW	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.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0
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Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

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

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

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

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

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

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

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

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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APPENDIX C

HISTORICAL MAPPING

Site Details:

LIME WALK FARM, LIME WALK,
LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1904

Scale: 1:2,500

Printed at: 1:2,500



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

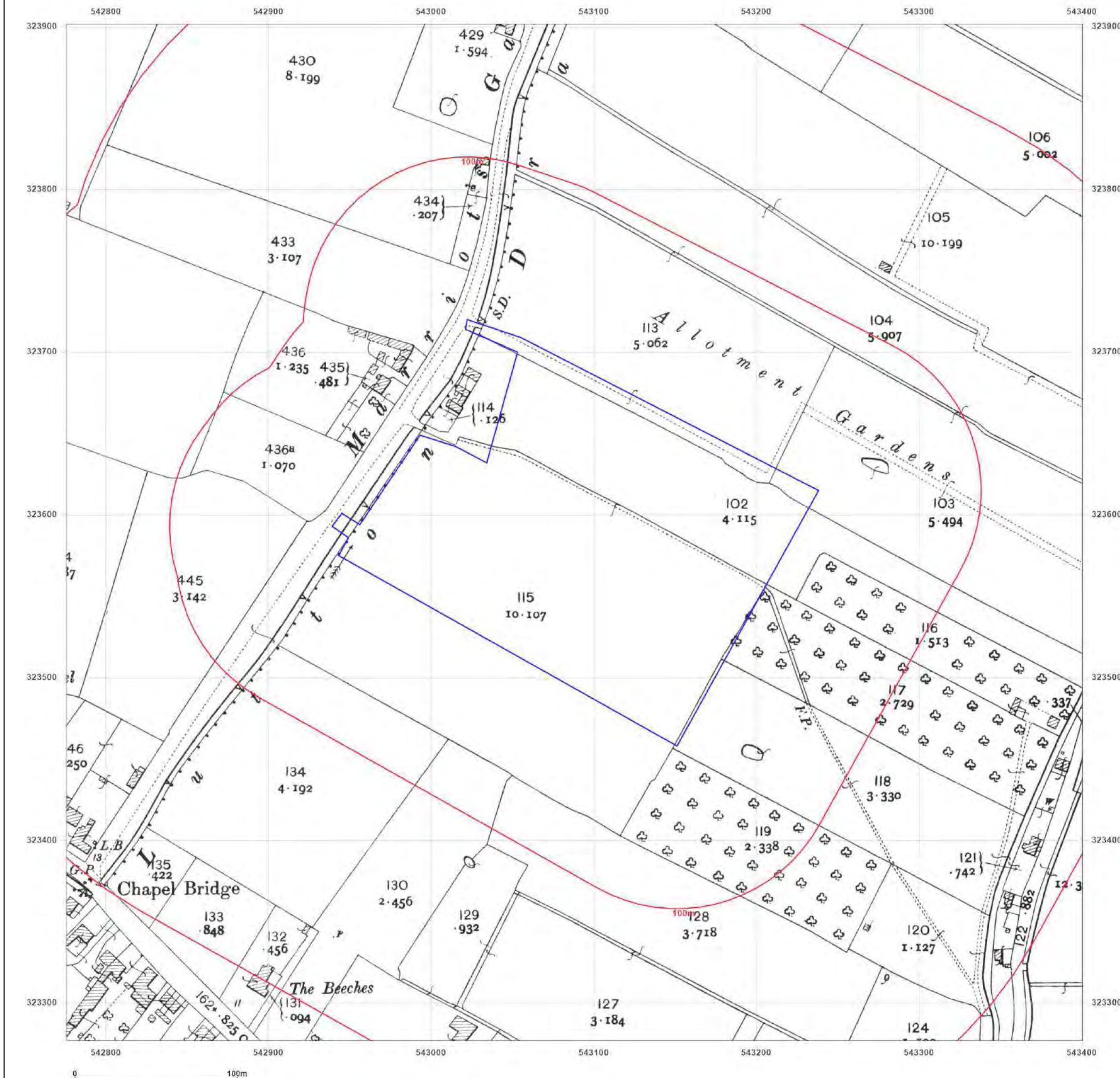


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Production date: 19 May 2022

Map legend available at:
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Site Details:

LIME WALK FARM, LIME WALK,
LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1965

Scale: 1:2,500

Printed at: 1:2,500



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

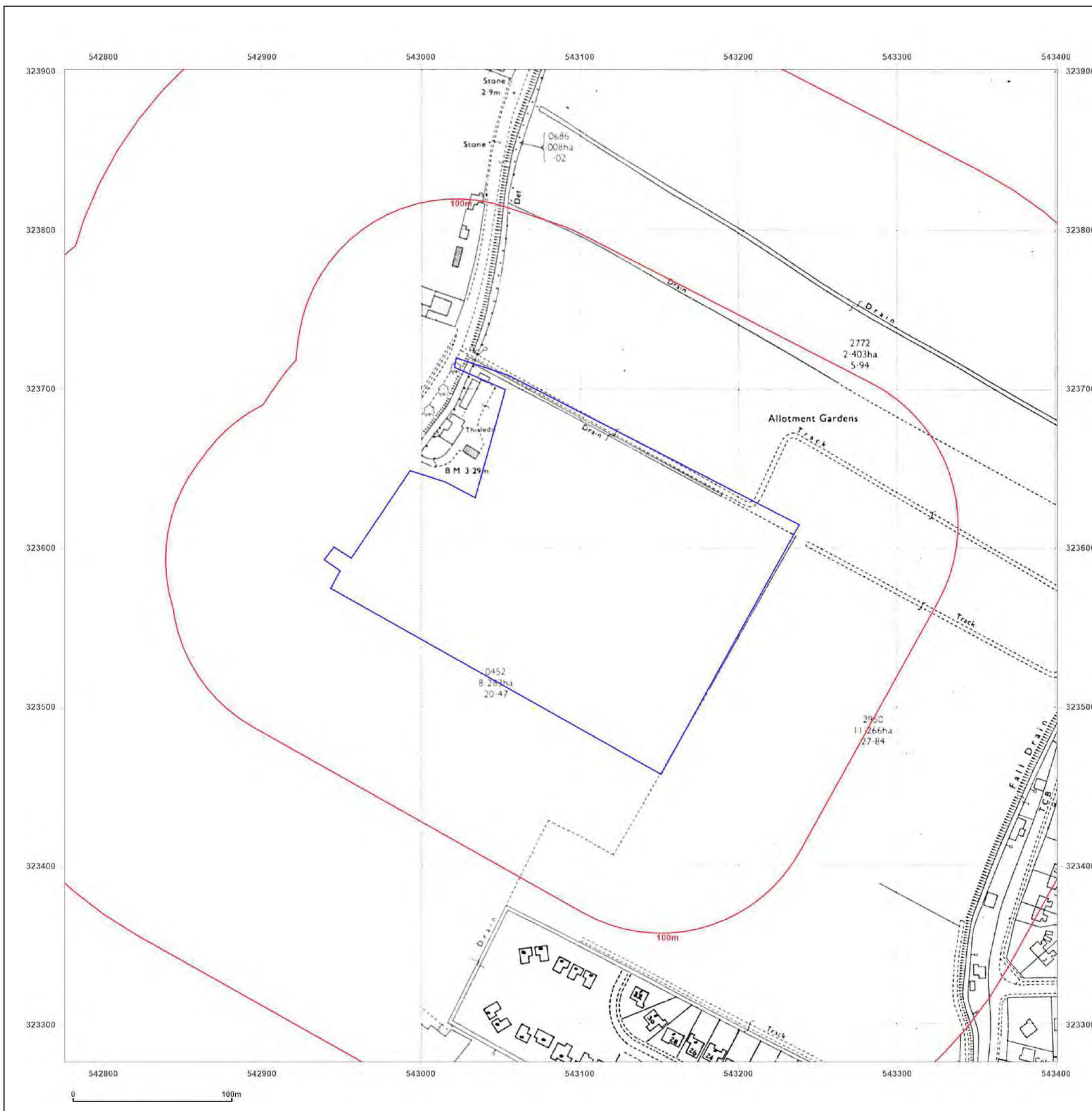


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1972

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1971
Revised 1971
Edition N/A
Copyright 1972
Levelled 1965

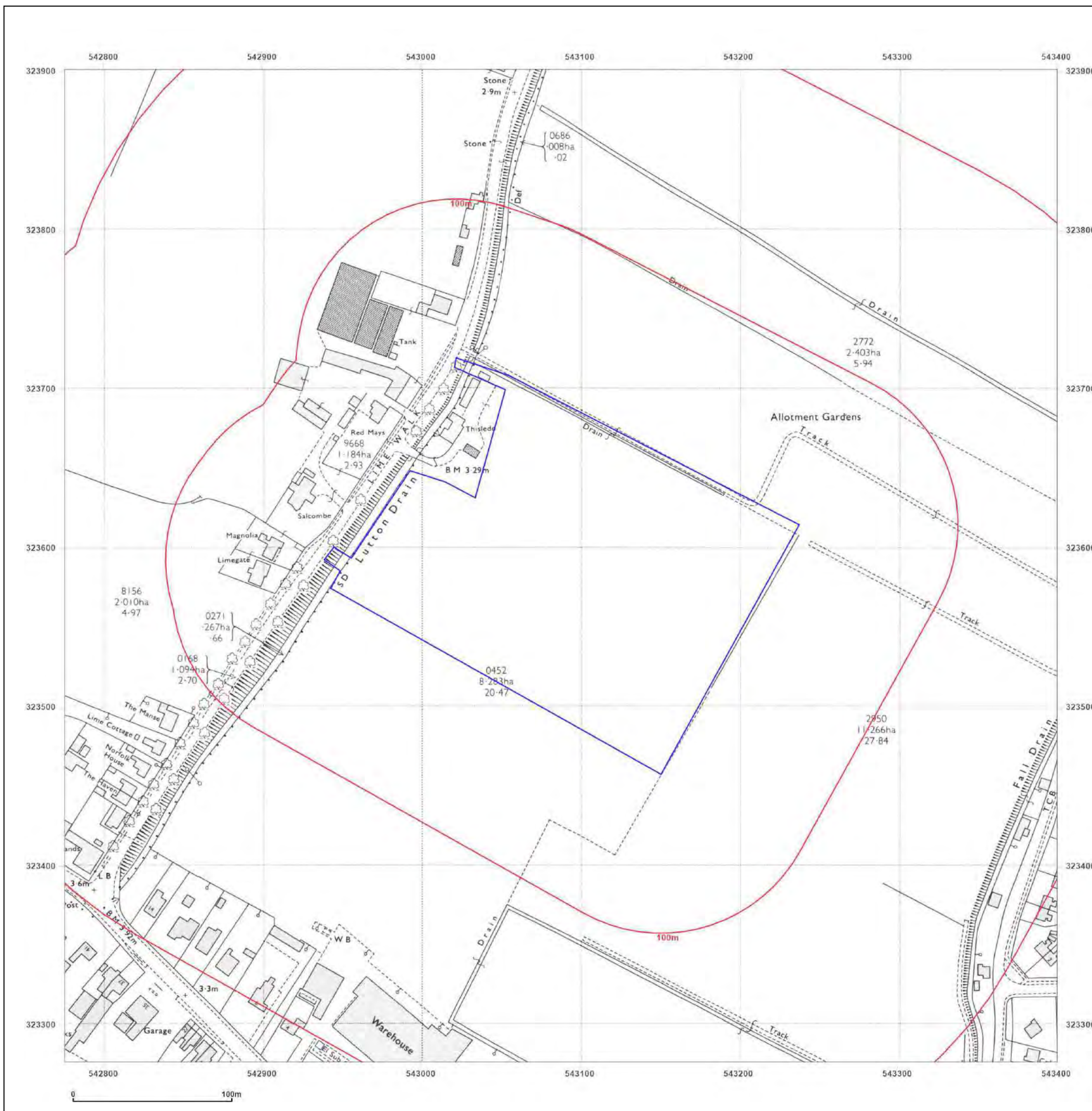


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1972

Scale: 1:2,500

Printed at: 1:2,500



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

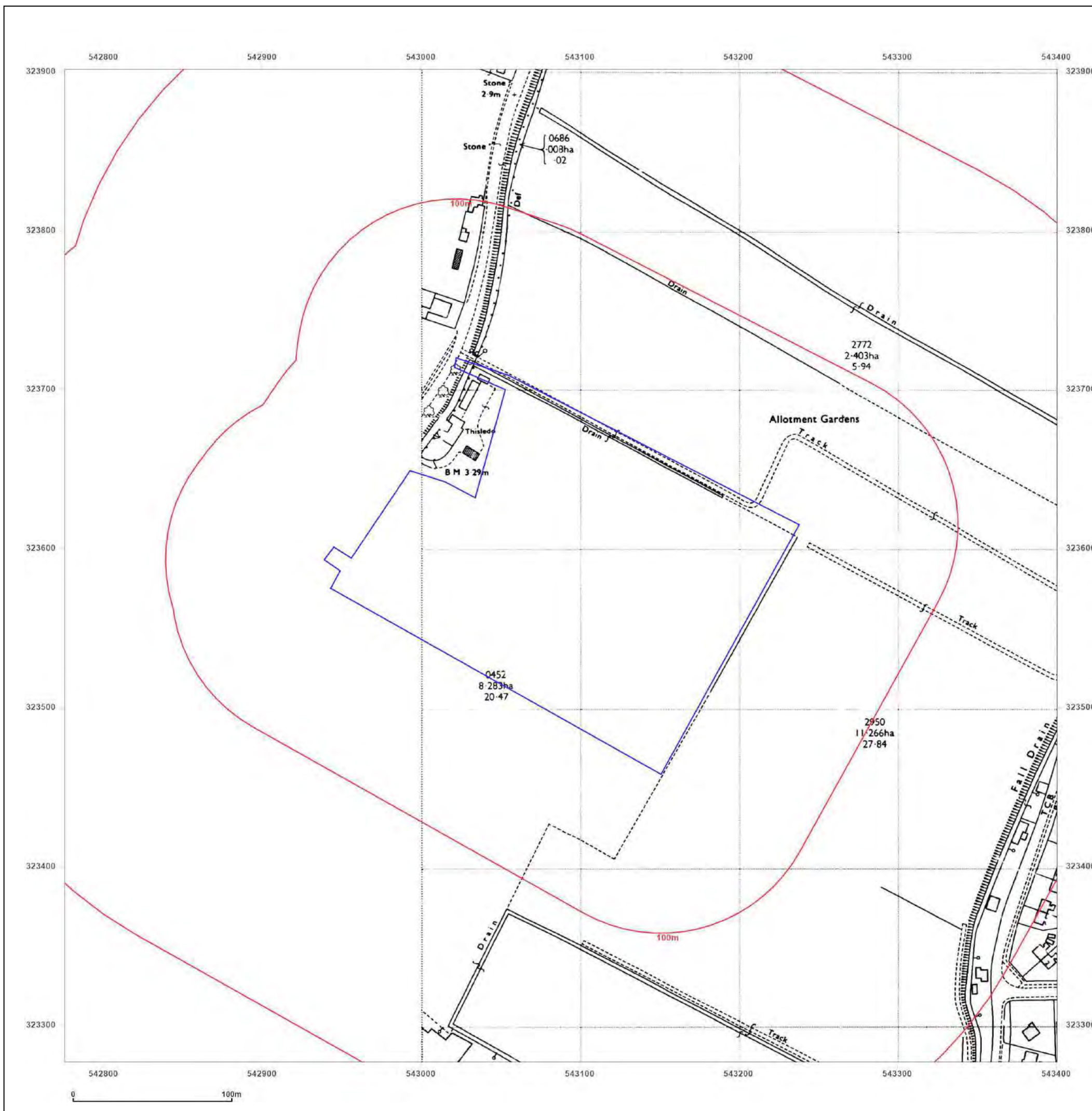


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

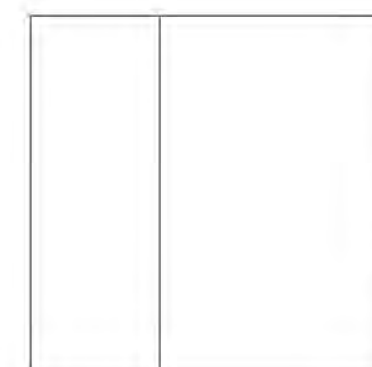
Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1974

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1979-1983

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1965
Revised 1983
Edition N/A
Copyright 1983
Levelled 1965

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

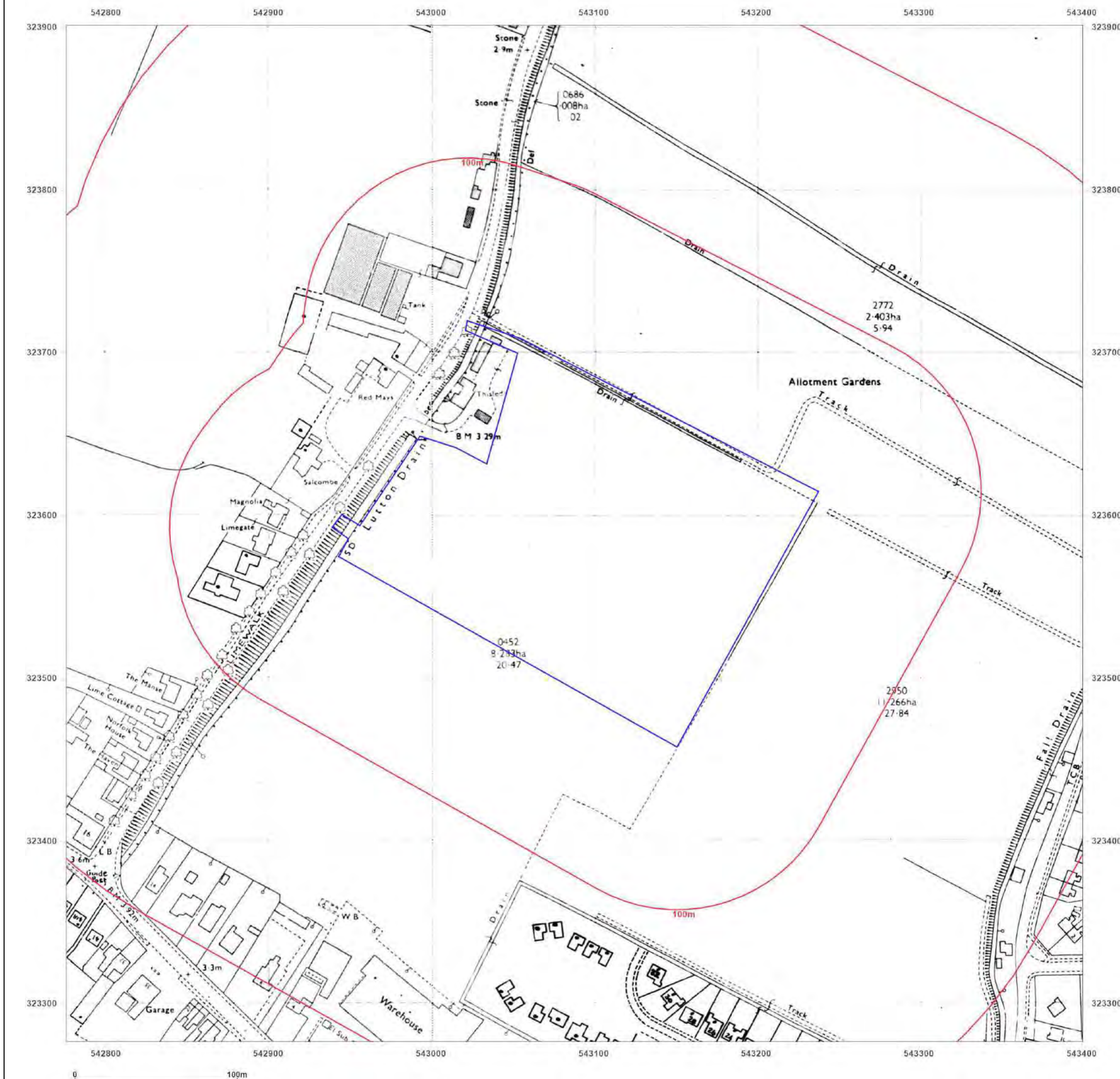


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1981-1983

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1965
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Surveyed 1985
Revised 1981
Edition N/A
Copyright 1981
Levelled 1965



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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1983

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1965
Revised 1983
Edition N/A
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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1985-1990

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1985
Revised 1990
Edition N/A
Copyright 1990
Levelled 1965

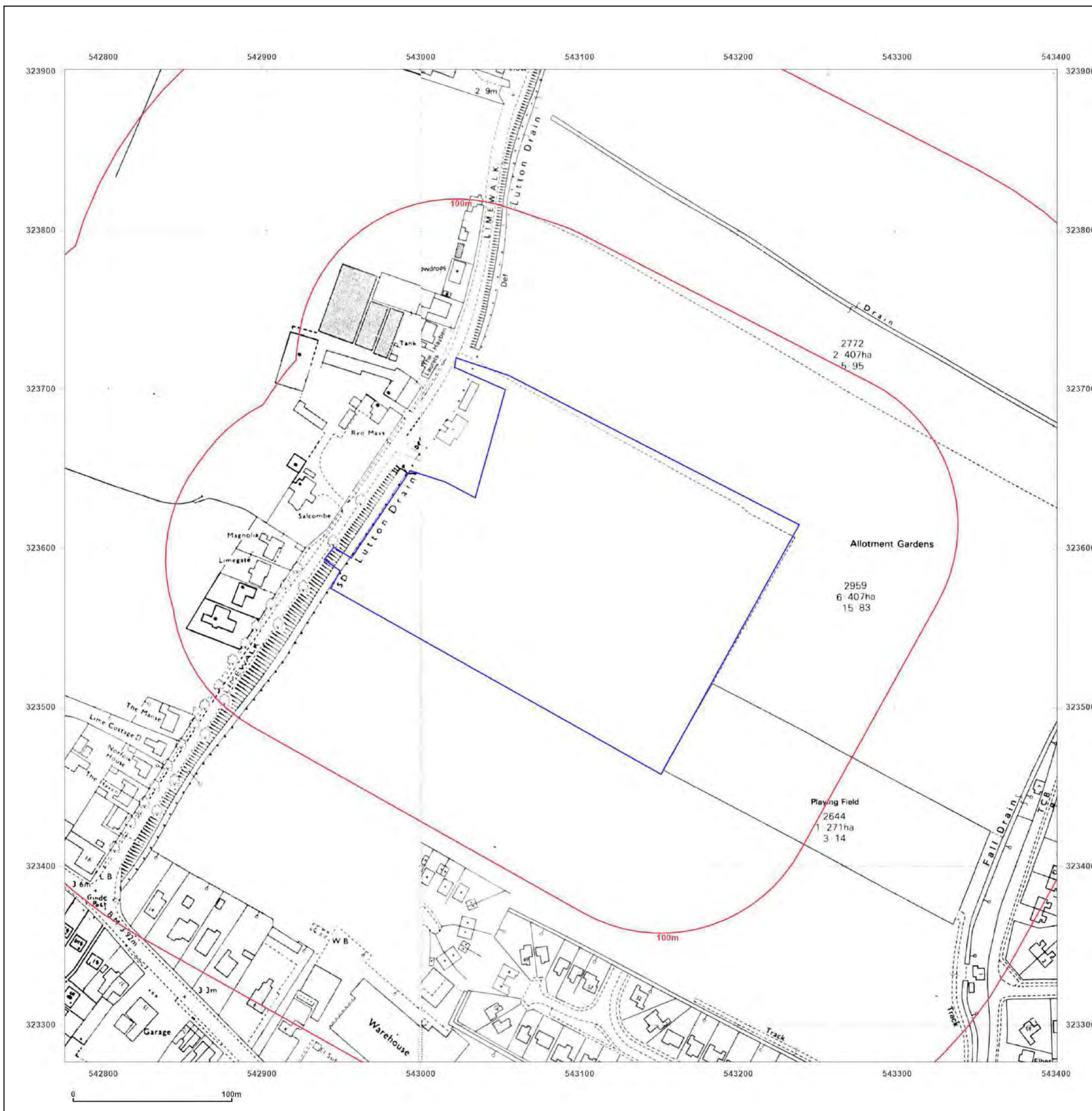


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Site Details:

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PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1990-1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1965
Revised 1990
Edition N/A
Copyright 1990
Levelled 1965

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelled N/A

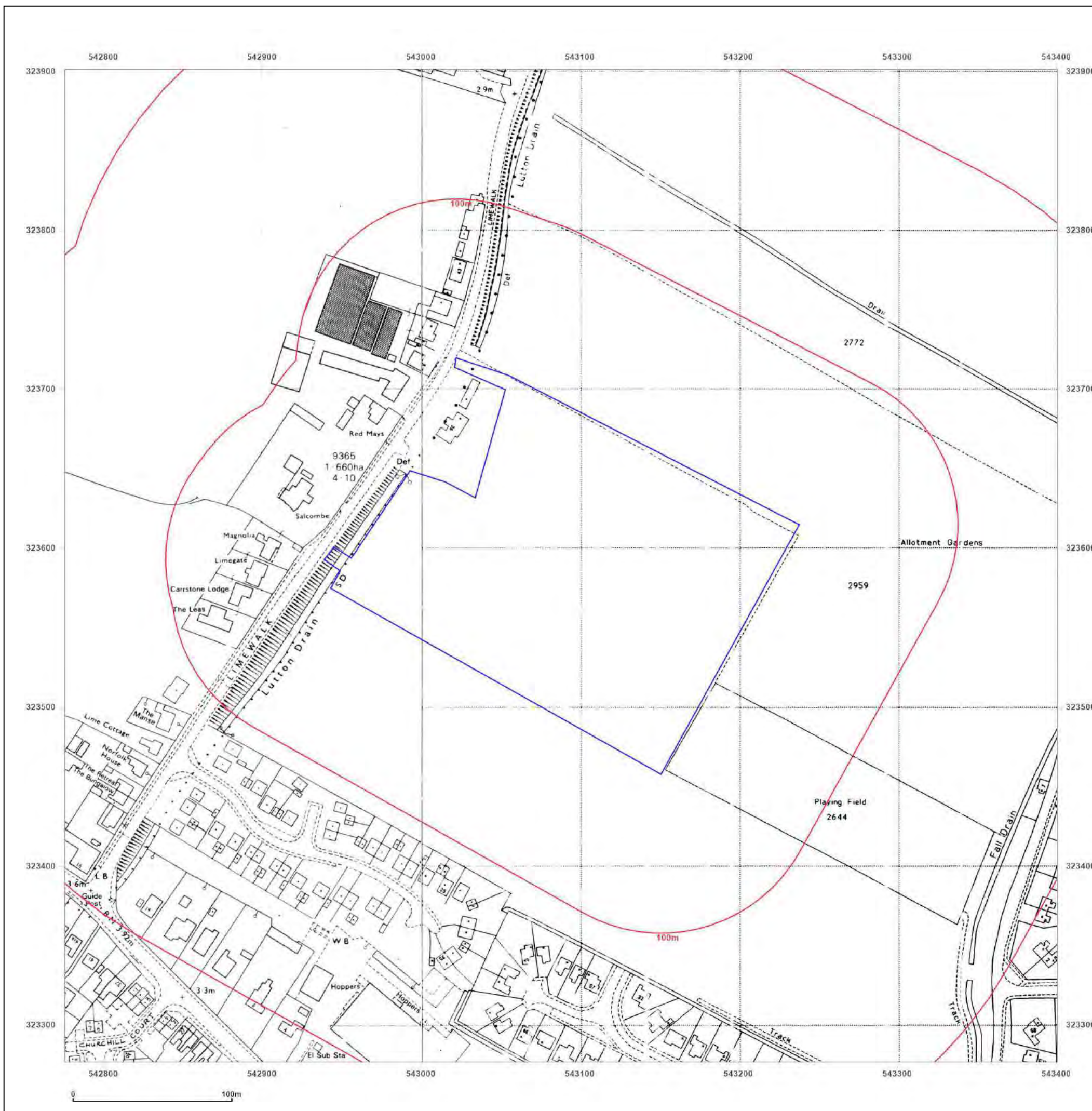


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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

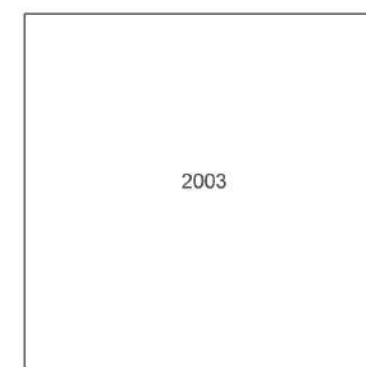
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Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

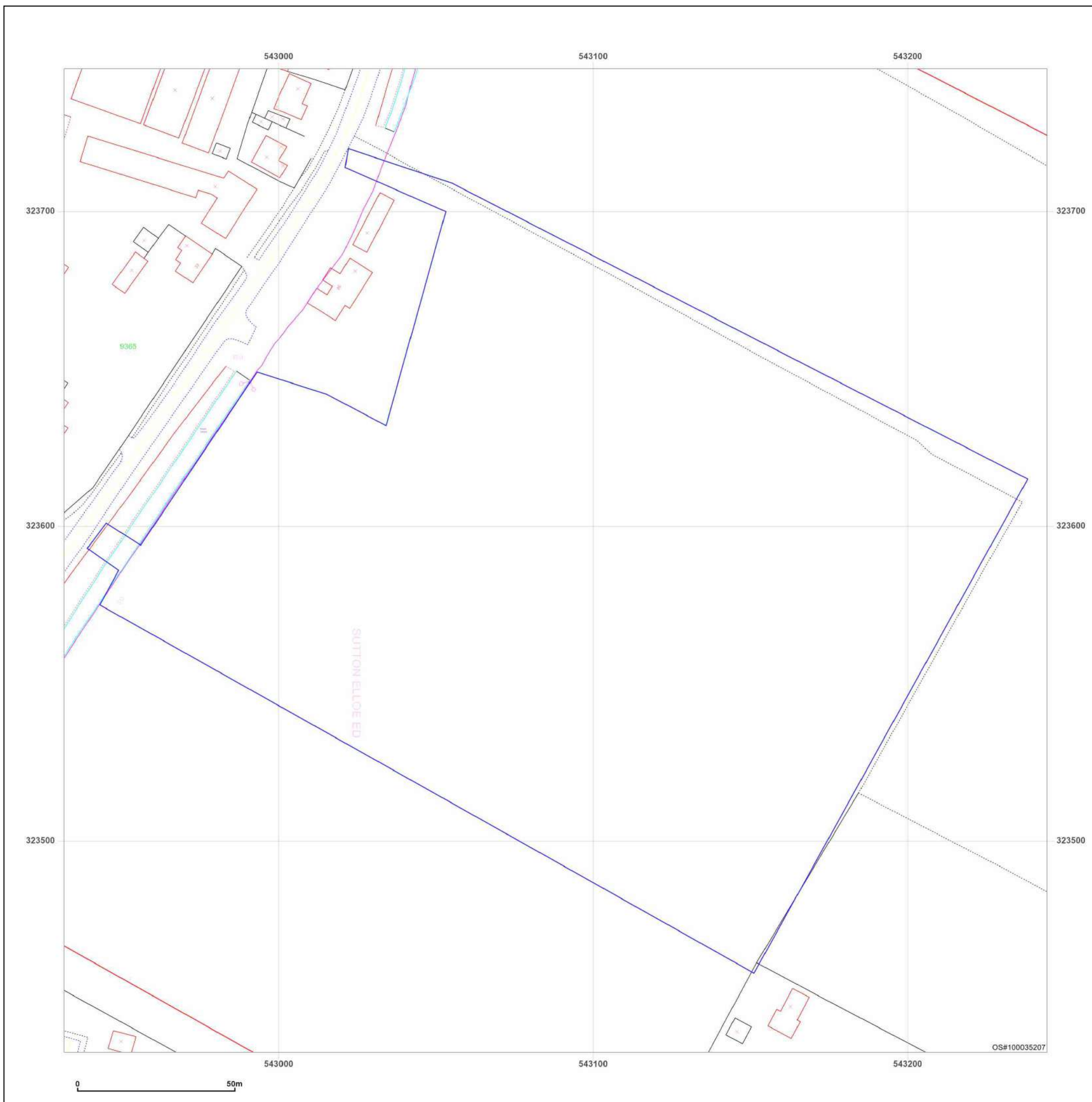


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Site Details:

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PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1887

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1887
Revised 1887
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1887
Revised 1887
Edition N/A
Copyright N/A
Levelled N/A

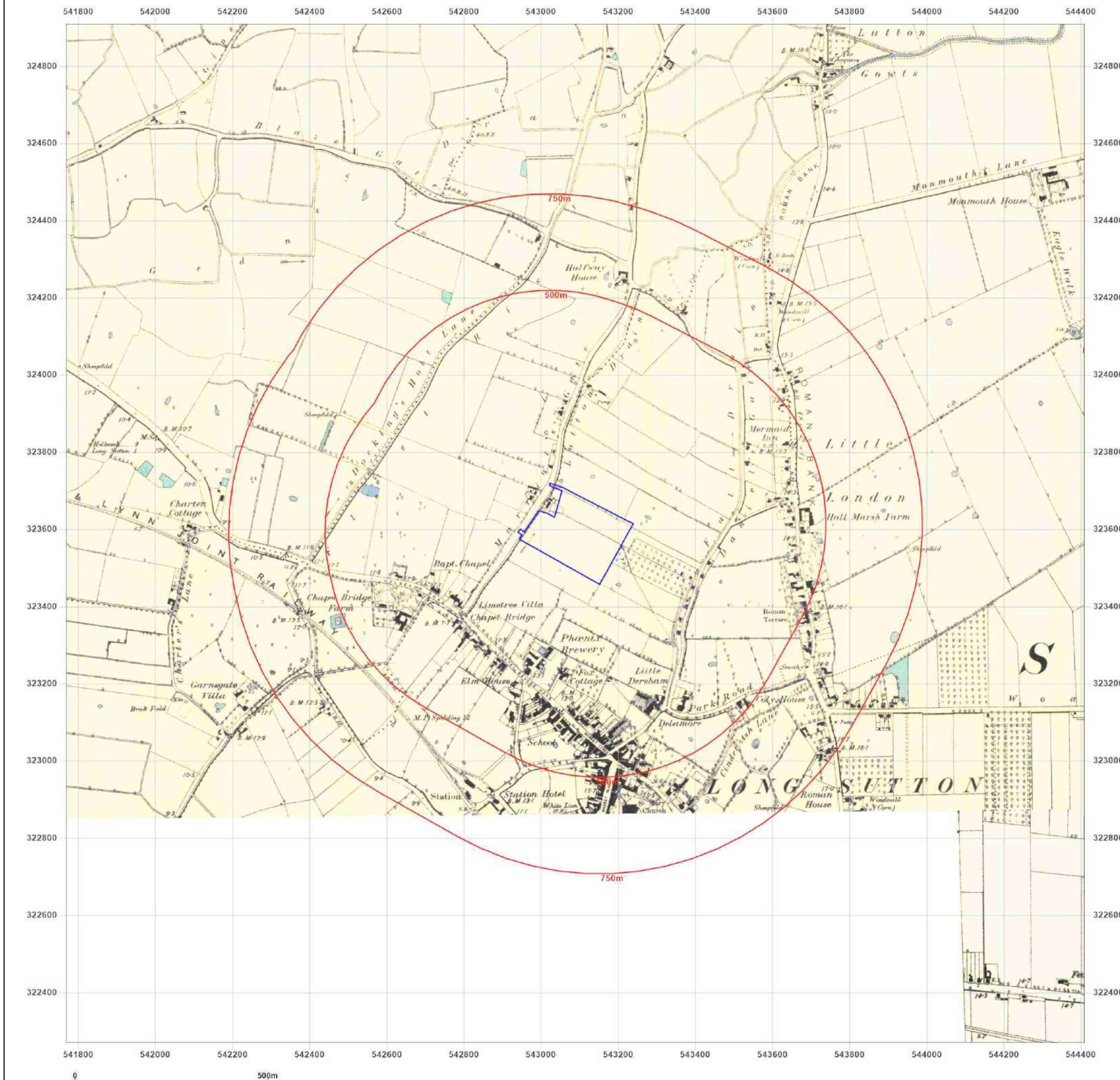


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1903

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1886
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1886
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

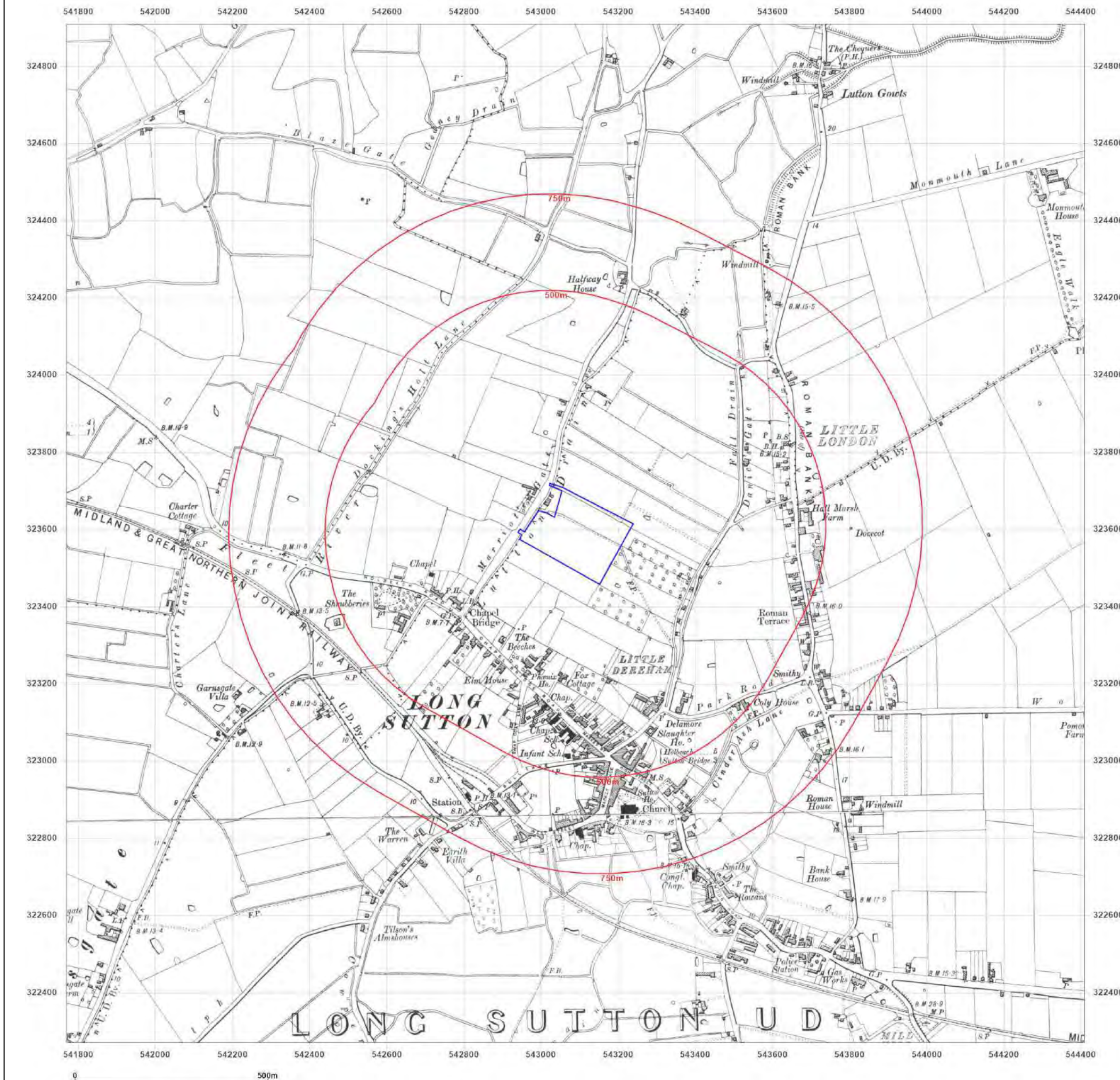


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Site Details:

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PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1929

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1886
Revised 1929
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1886
Revised 1929
Edition N/A
Copyright N/A
Levelled N/A

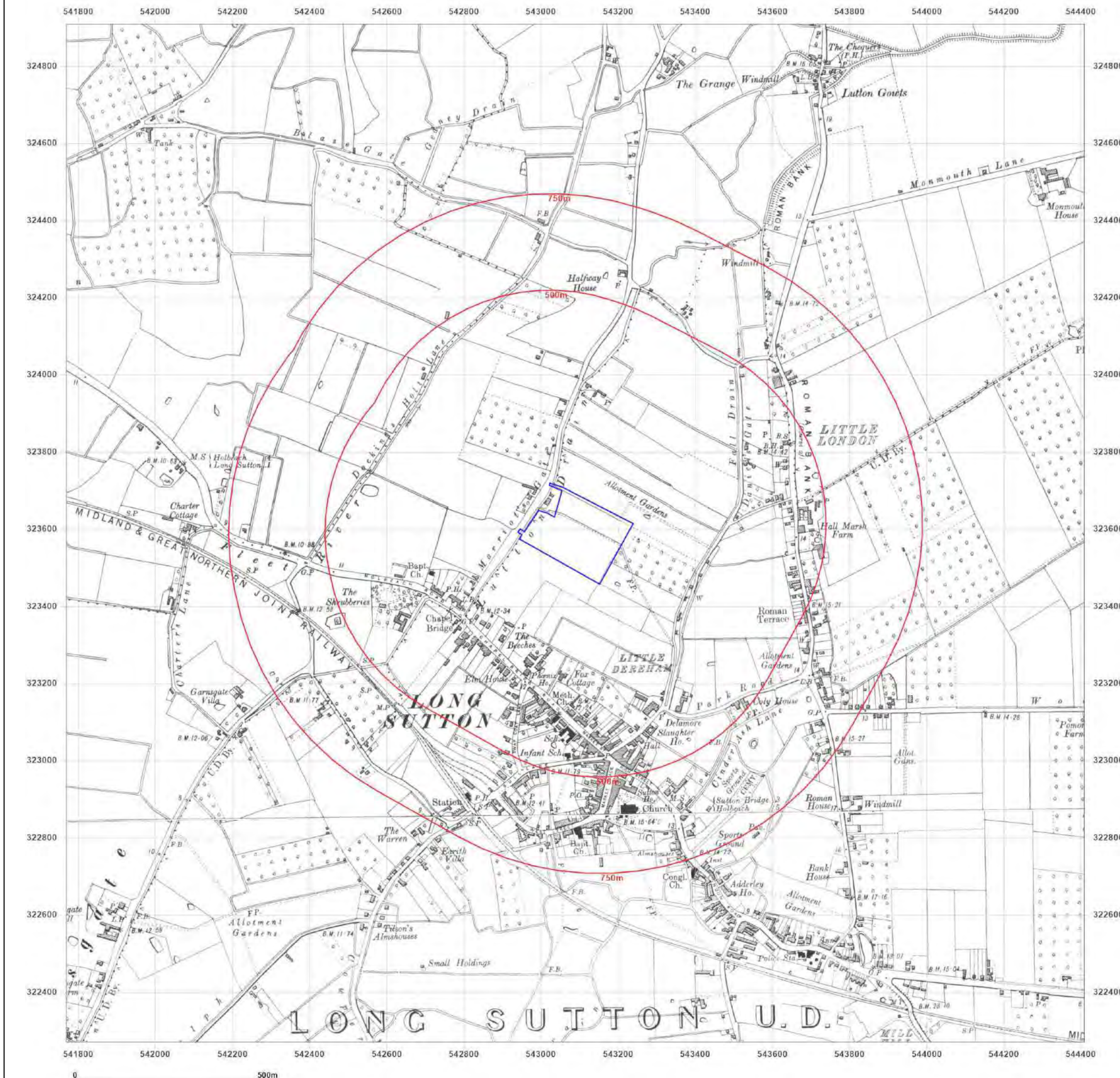


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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1886
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

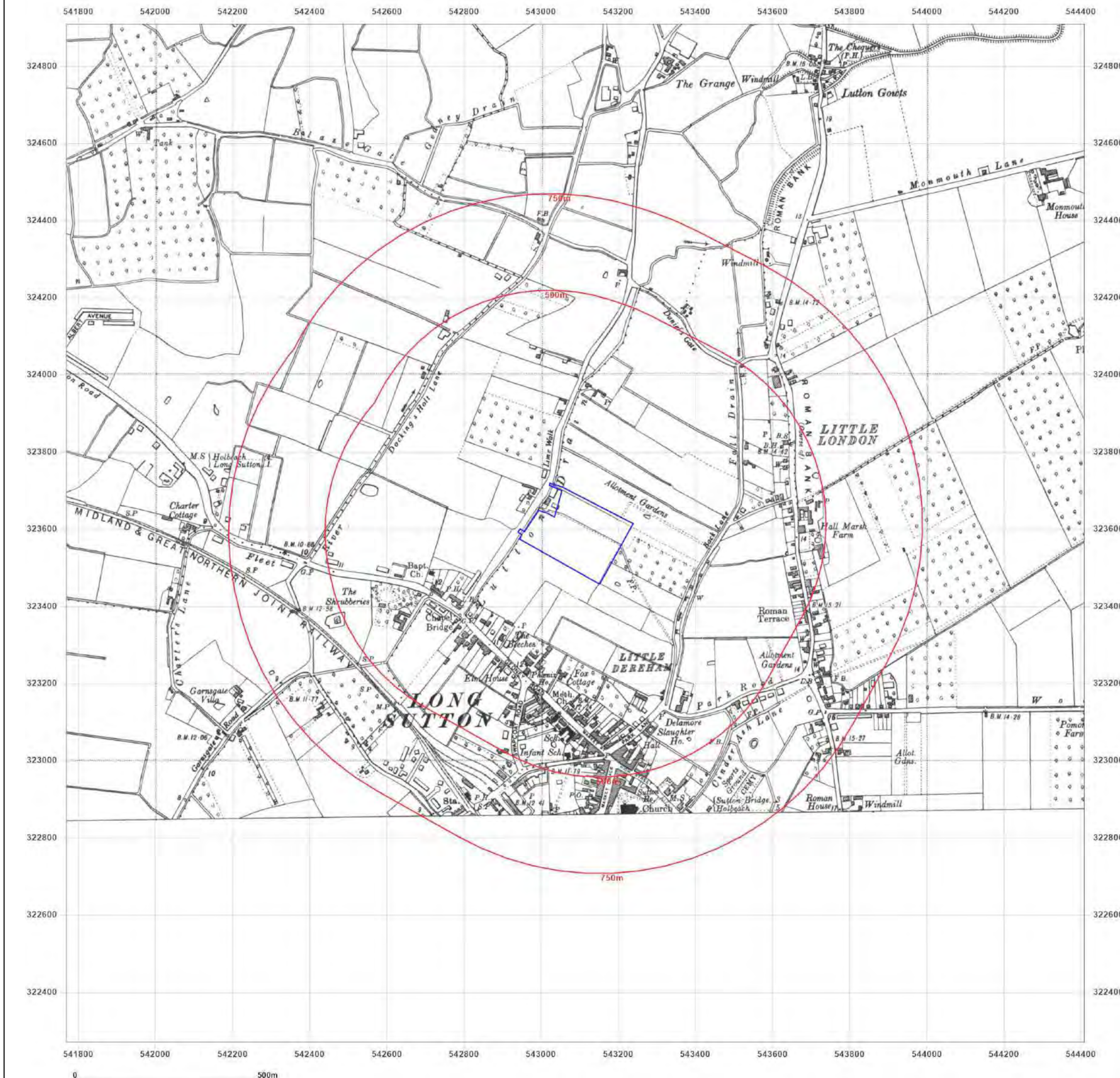


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Site Details:

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PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: County Series

Map date: 1950

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1886
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1886
Revised 1950
Edition 1950
Copyright N/A
Levelled N/A

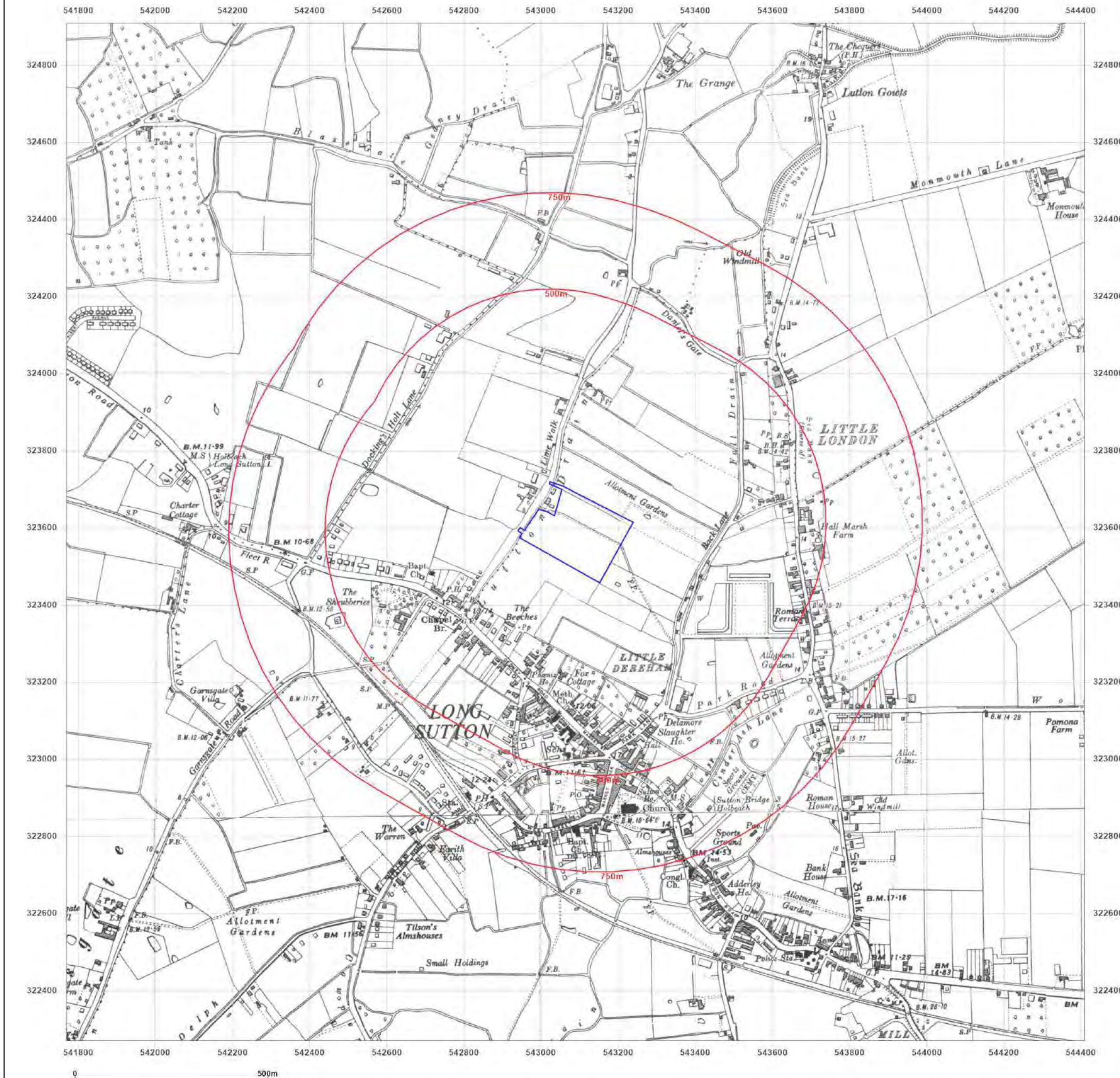


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: Provisional

Map date: 1958

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1950
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A

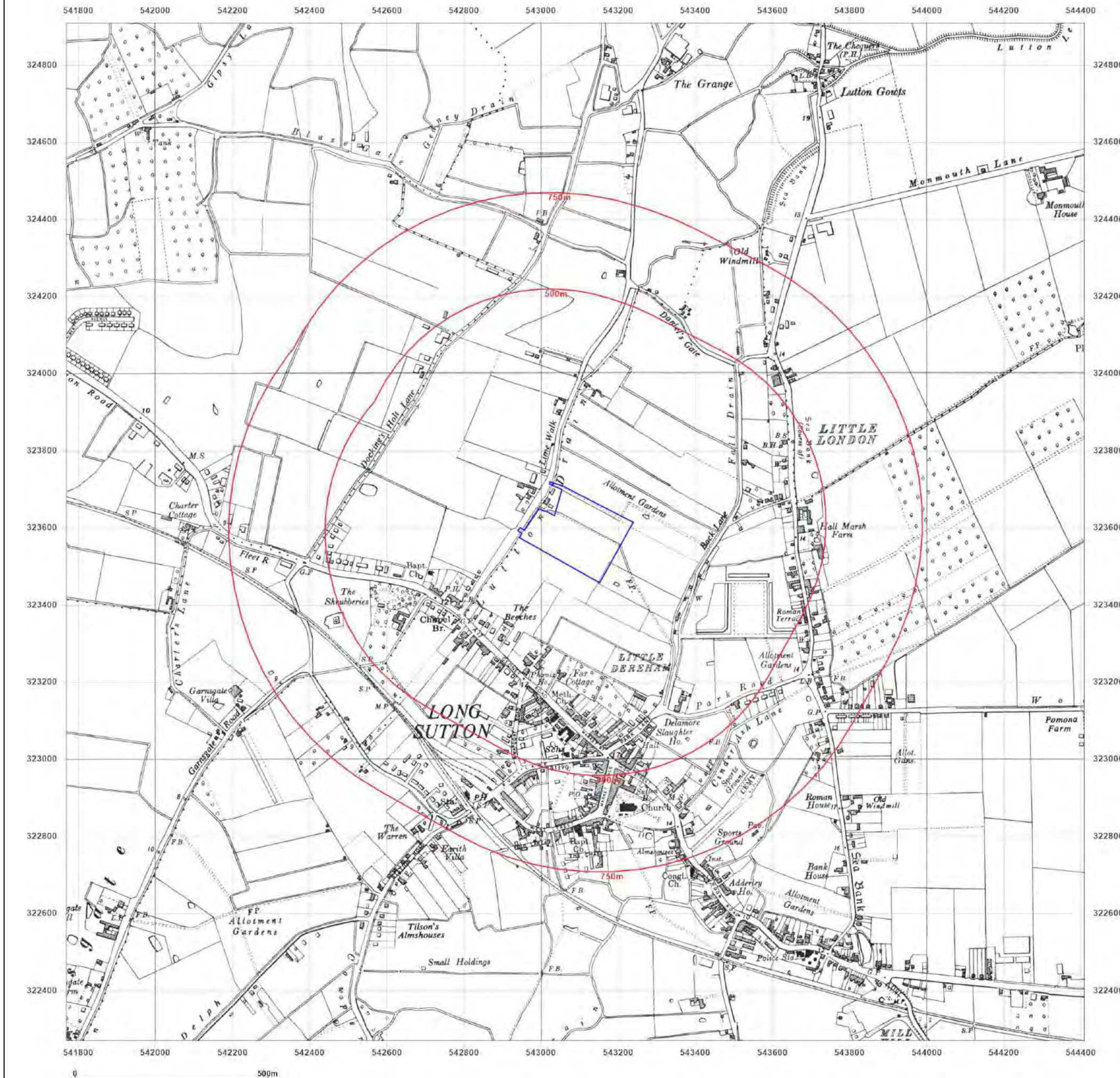


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 1991

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1990
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

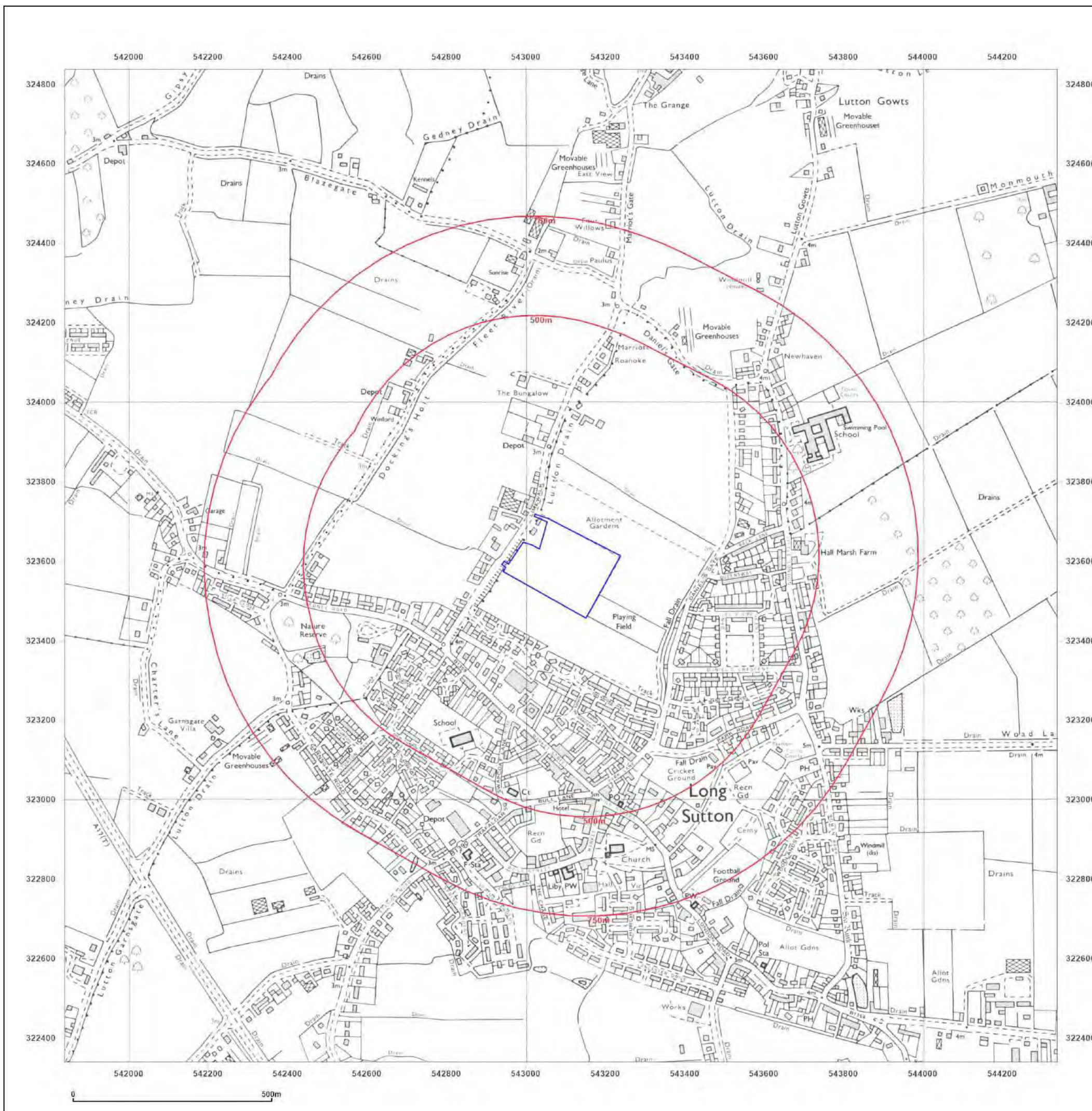


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Site Details:

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PE12 9HG

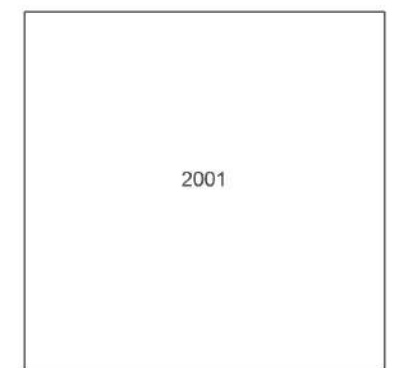
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Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

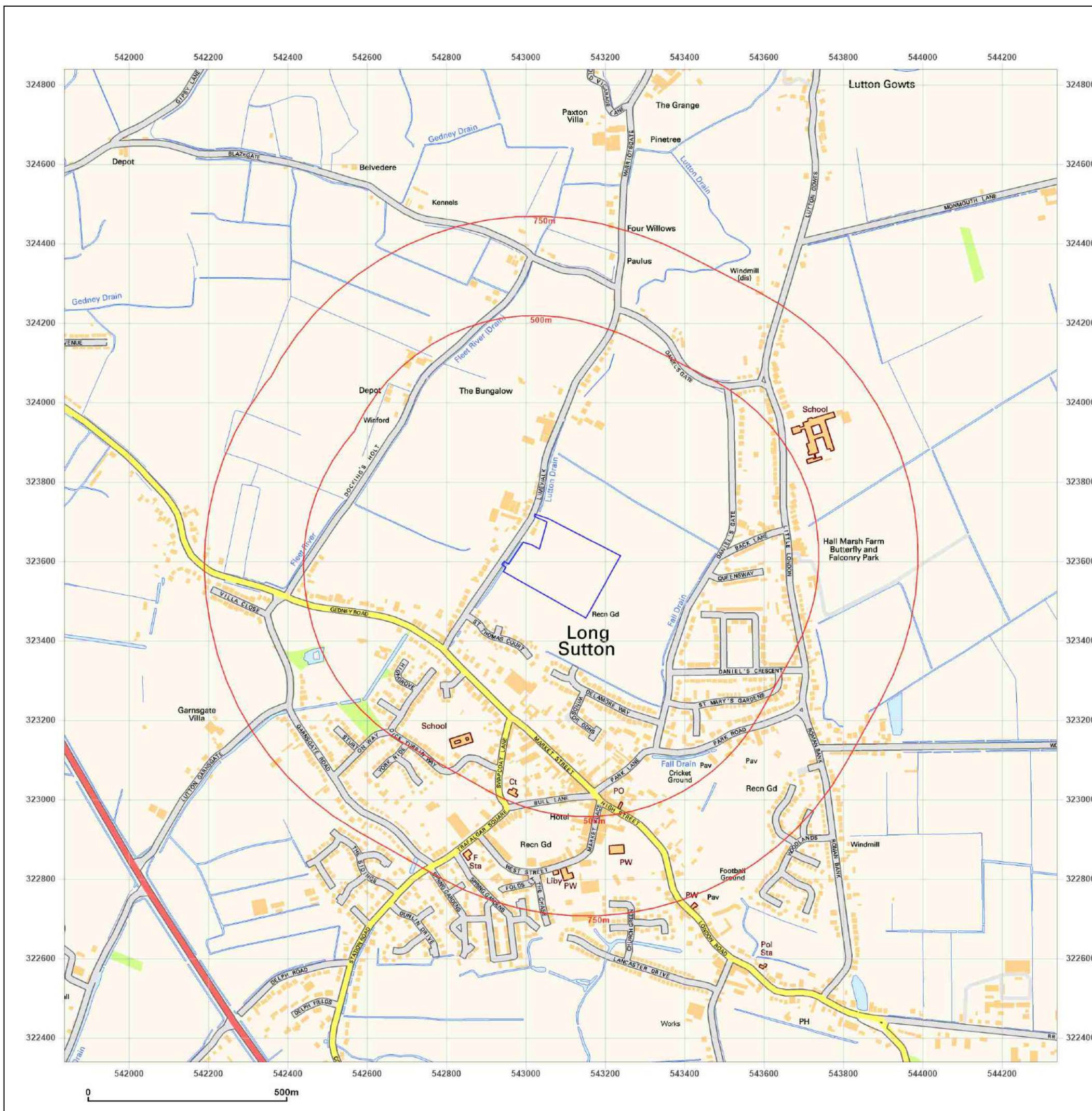


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

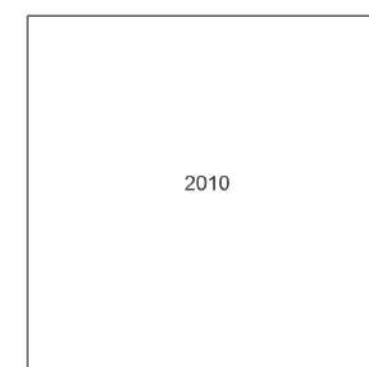
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Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

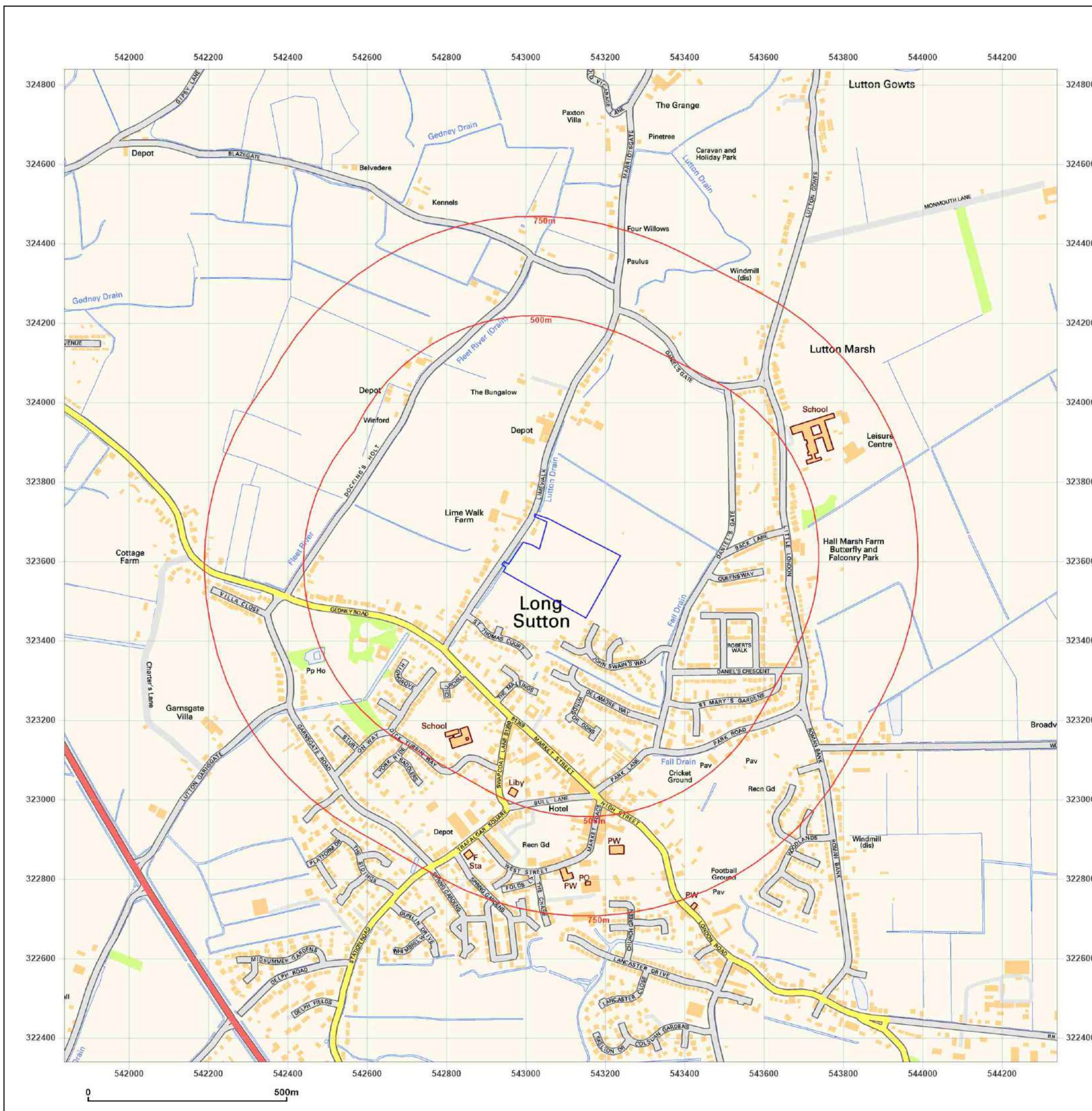


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Site Details:

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LONG SUTTON, SPALDING,
PE12 9HG

Client Ref: CLR-5773
Report Ref: GS-8760987
Grid Ref: 543088, 323589

Map Name: National Grid

Map date: 2022

Scale: 1:10,000

Printed at: 1:10,000



2022



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