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DESK STUDY REPORT

LAND OFF
FLEET ROAD
FLEET
HOLBEACH
LINCOLNSHIRE

Report Reference C15102

On behalf of:-

Kaplan Property Group
Unit 6
Kibworth Business Park
Nursery Court
Kibworth
LE8 0EZ

August 2020

KAPLAN PROPERTY GROUP

DESK STUDY REPORT

FOR

PROPOSED RESIDENTIAL REDEVELOPMENT

AT

LAND OFF FLEET ROAD

FLEET

HOLBEACH

LINCOLNSHIRE

Report Reference No. C15102 **August 2020**

INTRODUCTION

The client, Kaplan Property Group, is proposing to construct a new residential development at land off Fleet Road, Fleet, Holbeach near Spalding in Lincolnshire. The proposed development layout is presented on a plan following this report text.

Ground Engineering Limited was instructed by the client to undertake a Phase 1 desk study. The purpose was to detail the site history and search available information for any potential environmental issues.

LOCATION, TOPOGRAPHY AND GEOLOGY OF THE SITE

The 2.2hectare site lies along the south side of Fleet Road (B1515), Fleet, Holbeach, near Spalding in Lincolnshire. The site is centred at National Grid Reference TF 3730 2481. The site location is shown on plans following this report text.

The site, within the north-western part of a field, was split into two areas by a north-south aligned drain. The western area was grass, and the eastern area had recently been cut for hay. The drain sub-dividing the site was overgrown. There was a small allotment area adjacent the northern boundary of the site. The site also included a detached house on the western side of a concrete surfaced access road from Fleet Road to the north of the site. The irregular shaped site was bounded by houses fronting Fleet Road and Chapman Mews to the north; by houses fronting Branchôs Lane to the west, and was undefined within the field to the south and east. Photographs from the site walkover are presented to the rear of this report.

There were trees along the western side of the access road, in the garden of the detached house, which were proposed to be cleared to make way for a new access road for the new development. There were also mature trees and hedges along the western and northern boundaries of the site, as well as in the adjacent gardens to the west and north.

The site stands at an elevation of approximately 3mOD, on level ground within the Lincolnshire Fens.

The geological map for the area, sheet 144 at 1:50,000 scale, shows the site to be underlain by a thick succession of Terrington Beds, more recently identified as Tidal Flat Deposits. These silt and fine sand soils are indicated to rest on the solid geology of the Ampthill Clay Formation at depth. Fleet Road to the north of the site is indicated to be location of the óprobable Saxon coastlineô. Previous work in the vicinity has found a Marine Sand and in turn glacial Boulder Clay or ôTillô beneath the surface layer of Tidal Flat Deposits.

HISTORY OF THE SITE

Research into the site history involved reference to historical Ordnance Survey (OS) maps, photographs and information obtained from the internet. The map extracts studied are presented in the desk study map section, Appendix 1, and are described below. Distances are approximate.

OS extract studied	*Description*
1887 Lincolnshire Sheet 135SE Scale 1:10,560 **Figure A**	The site is undeveloped within fields, with a field boundary aligned north-south crossing the site. The site is on the southern side of an east-west aligned road, and a drain is present along the southern edge of this road. Drains are also evident along field boundaries to the south of the site.
1888 Lincolnshire Sheet 135.11 Scale 1:2500 **Figure B**	The site and its immediate surrounding area appear unchanged. A pump is shown adjacent the field boundary beside the north-western corner of the site.
1904 Lincolnshire Sheet 135.11 Scale 1:2500 **Figure C**	The site appears generally unchanged, however a small pond is shown in the north-western corner of the site. A house and outbuildings have been cleared from two areas to the north and north-east of the site.
1931 Lincolnshire Sheet 135.11 Scale 1:2500 **Figure D**	The small pond is no longer shown in the north-western corner of the site. The eastern part of the site is within an orchard, with an outbuilding off-site to the north-east of the site. New houses have been built to the west of the site fronting Branchôs Lane; to the north-west fronting Fleet Road; and also to the north on the other side of Fleet Road.
1938 Lincolnshire Sheet 135SE Scale 1:10,560 **Figure E**	The site remained undeveloped within a field and orchard. New buildings are shown off-site to the north fronting Fleet Road.
1950 Lincolnshire Sheet 135SE Scale 1:10,560 **Figure F**	The site area remained undeveloped, with the eastern part no longer denoted as an orchard. New housing is shown to the north of the site fronting Fleet Road.
1968 Sheets TF3724 & TF3725 Scale 1:2500 **Figure G**	The site area appeared generally unchanged, however a north-south aligned drain is shown on the site. A depot is shown off-site bordering the northern site boundary. New housing is also shown to the north of the site fronting Fleet Road, which includes óJenmaricô within the site area. A garage is shown 20m west of the site.

OS extract studied	*Description*
1981 Sheets TF3724 & TF3725 Scale 1:2500 **Figure H**	The site and its immediate surrounding area appear generally unchanged. A new access road and building are shown to the north-west of the site on the other side of Fleet Road.
1991 Sheets TF3724 & TF3725 Scale 1:2500 **Figure I**	The site area remains undeveloped and generally unchanged, however the drain is now truncated within the southern part of the site. Fleet Road Industrial Estate has been built 100m to the north-west of the site.
1999 Aerial Photograph Page 11, Appendix 2	The site is within fields which are sub-divided growing a variety of crops. The line of the drain is evident through the site. The depot to the north, and houses to the north and west of the site are also evident. Trees are present along the western and northern boundaries.
2001 Sheets TF32SE & NE Scale 1:10,000 **Figure J**	The site and its immediate surrounding area appear unchanged.
2003 Sheet TF3724NW Scale 1:1250 **Figure K**	The site area appears unchanged. A nursery is shown 15m west of the site, in the rear part of the former garage site further to the north-west which is suspected to have been cleared.
2007 Aerial Photograph Page 10, Appendix 2	The central northern part of the site contains what appear to be cloches. The depot site to the north of the site has been redeveloped with houses (Chapman Mews). The garage site 20m to the north-west of the site has been redeveloped with houses and the nursery.
2010 Sheets TF32SE & NE Scale 1:10,000 **Figure L**	The site and its immediate surrounding area appear unchanged.
2015 Aerial Photograph Page 9, Appendix 2	The site area appears generally unchanged, however the crops within the eastern area are different.
2018 Aerial Photograph Page 8, Appendix 2	The site remains undeveloped within fields. Only one of the cloches was evident in the northern part of the site. A new road and houses are under construction on the northern side of Fleet Road.
2020 Sheet TF3724NW Not to Scale **Figure M**	The site and its immediate surrounding area appear unchanged.

Summary of Historical Information

The Ordnance Survey map of 1887 showed that the site was undeveloped within fields. A small pond was shown adjacent the north-western corner of the site on the 1904 map extract. The eastern part of the site was denoted to be an orchard in the 1930s, which was no longer denoted by the 1950s. The site has remained undeveloped to the present day, with the exception of the detached house ‘Jenmarico fronting Fleet Road, and cloches associated with a small allotment area in the northern part of the site. A north-south aligned drain was shown dissecting the site in the 1960s, and an overgrown truncated part of this drain remained on the site at the time of the site walkover in July 2020.

Off-site, the immediately surrounding area to the west was developed with housing in the 1930s; a house and depot had been built to the north by the late 1930s, with further housing constructed to the north in the 1950s and 1960s. The depot to the north had been extended to the site boundary by the late 1960s, by which time a garage was shown to the north-west of the site. The garage site to the north-west had been redeveloped with housing and a nursery by the early 2000s, and the depot site to the north redeveloped with housing off Chapman Mews by 2010.

SUMMARY OF ENVIRONMENTAL DATA

Appendix 2 contains information derived from Environmental Databases for a radius of up to 2,000m from the site. The information covers datasets held by Groundsure with contributors including the local authority, the Environment Agency (EA), British Geological Survey, Ordnance Survey and the Coal Authority and the results, within a radius of 250m, are summarised below:

1-2. Historical Industrial Sites	**On-Site**	**0 - 250m**
Potentially Contaminative Uses (1:10,000 mapping)	1	10
Historical Tank Database	0	1
Historical Energy Features Database	0	1
Historical Petrol & Fuel Site Database	0	0
Historical Garage & Motor Vehicle Repair Database	0	2
3. Landfill and Other Waste Sites	**On-Site**	**0 - 250m**
Landfill Sites	0	0
Historical Landfill and Other Waste Sites	0	0
Waste Exemptions	0	0
4. Current Land Use	**On-Site**	**0 - 250m**
Current Industrial Sites Data	0	15
Records of Petrol and Fuel Sites	0	1
Underground Electricity, High Pressure Oil and Gas Pipelines	0	0
Sites Determined as Contaminated Land under Part IIA EPA 1990	0	0
Records of COMAH and NIHHS Sites	0	1
Environmental permits/pollution incidents/registers	0	3
5-6. Hydrogeology and Hydrology	**On-Site**	**0 - 250m**
Productive strata within superficial geology beneath the site	No	
Productive strata within solid geology	No	
Groundwater Abstraction Licences	0	0
Surface Water Abstraction Licences	0	0
Potable Water Abstraction Licences	0	0
Source Protection Zones	0	0
Water Network Entries	1	7
Surface Water Features	1	5

7-9. Flooding		
Risk of flooding from rivers & the sea (RoFRaS) rating	Low	
Historical flood events	0	0
Flood defences within 250m of site	No	
Any areas benefitting from flood defences within 250m of site	No	
Flood storage areas within 250m of site	No	
Environment Agency indicative Zone 2 floodplains within 50m of site	Yes	
Environment Agency indicative Zone 3 floodplains within 50m of site	Yes	
Surface water flooding on site	1 in 30 year (0.10m to 0.30m)	
Groundwater flooding on site	Negligible	
10-13. Designated Environmentally Sensitive Sites	**On Site**	**0 - 250m**
Environmentally sensitive sites	1	1
14-16. Geology		
Artificial Ground or Made Ground records	0	0
Superficial Ground and Drift Geology records beneath the site	Yes	

17. Natural Hazards (on site)

Hazard	Negligible	Very Low	Low	Moderate	High
Shrinking or Swelling Clay	-	-	On-site	-	-
Running Sand	-	-	-	On-site	-
Compressible Ground	-	-	-	On-site	-
Collapsible Rocks	On-site	-	-	-	-
Landslides	-	On-site	-	-	-
Soluble rocks	On-site	-	-	-	-

18. Mining		
Surface ground workings	0	0
Underground workings	0	0
Non coal-mining areas within 50m of site	0	0
Mining cavities	0	0
Brine affected areas on study site	No	
19. Radon		
The property is not in a Radon Affected Area, as less than 1% of properties are above the action level. No Radon Protective Measures are required for new properties or extensions.		

Database Summary

Historical maps identify a depot on the site, was actually adjacent and off-site to the north. Historical maps also identify an industrial estate 84m to the north-west; workhouses 96m north-west and 155m west; and hospital/infirmary 155m west. An unspecified tank is recorded 68m west of the site at a former garage site. An electricity sub-station is recorded 156m west of the site. Historical garages are recorded 1m and 72m west of the site. No areas of potentially infilled land, landfills or waste sites are recognised within 250m of the site.

Current land uses around the site are businesses within the industrial estate to the north-west, and an electricity sub-station. An active petrol station is identified 79m west of the site. A historical COMAH site is identified within the industrial estate to the north-west, as well as a hazardous substance storage site although there are no further details available. A licensed waste oil burner is also recorded at a A&J Services 147m north-west of the site.

A pollution incident for ósmokeô was recorded 40m west of the site in 2003, which had a minor impact on air and no impact on water or land.

No made ground is recorded beneath the site. Superficial Tidal Flat Deposits are recorded beneath the site, which are classified by the EA as an óunproductiveô stratum. The underlying solid geology Ampthill Clay Formation is also classified by the EA as an óunproductiveô stratum. There are no groundwater abstractions within 250m of the site. The site is not within a source protection zone.

A surface water drain is identified crossing the site, and other drains are recorded along field and road edges around the site. The site is within a Zone 2 and Zone 3 floodplain, and has a low risk of flooding. The site is within a SSSI impact zone, an environmentally sensitive area.

There is a moderate hazard from running sand and compressible ground; a low hazard from shrinking and swelling clay; a very low hazard from landslides; and a negligible hazard from collapsible rocks and soluble rocks.

The site is not in a radon affected area and no radon protection measures are required for new dwellings on the site.

The site is not in an area where underground mining or brine extraction may have occurred.

PRELIMINARY RISK ASSESSMENT

Potential sources of contamination present on or beneath the site would relate primarily to; the historical use of the site; the presence of contaminated soil; and the potential presence of hazardous or ground gas beneath the site.

In order to assess the risks associated with the presence of ground contamination the linkages between the sources and potential receptors to contamination need to be established and evaluated. This is in accordance with the Environmental Protection Act 1990, which provides a statutory definition of Contaminated Land. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that;

- *Significant harm is being caused or there is a significant possibility of such harm being caused; or*
- *Pollution of controlled waters is being, or is likely to be, caused.*

There are three principal factors that are assessed whilst undertaking a qualitative risk assessment for any site. These are the presence of a contamination source, the existence of migration pathways and the presence of a sensitive target(s). It should be noted that it is necessary for each element of source, pathway and target to be present in order for exposure of a human or environmental receptor to occur.

UK Government guidance on the assessment of contaminated land, requires risk to human health and the environment to be reviewed using source ï pathway ï target relationships. If each of these elements is present, the linkage provides a potential risk to the identified targets.

Contaminants or ***potential pollutants*** identified as ***sources*** in relation to the identified previous uses are listed overleaf in Table 1.

Table 1: Identified Potential Contaminant Sources

Contaminant Source	*Comments*
Drainage/House	The drain could provide a contaminant source. The existing house may have asbestos containing materials.
Soil Beneath Site	Contamination may be present within any made ground on the site.
Soil Gas	Potential soil gas generated from made ground or natural soils.
Ground Contamination Outside Site Boundary	Ground contamination migrating from adjoining sites, such as the depot to the north or the garage to the west.

A ***Pathway*** is defined as one or more routes through which a receptor is being, or could be, exposed to, or affected by, a given contaminant.

Potential ***Target or Receptors*** fall within the categories of Human Health, Water Environment, Flora and Fauna, and Building Materials.

There are a number of possible pathways for the contaminants identified on the site to impact human and/or environmental receptors and these are summarised in Tables 2 and 3.

Table 2: Human Receptors and Pathways

Human Receptor-Mechanism	*Typical Exposure Pathway*
Human Inhalation	Breathing Dust and Fumes Breathing Gas emissions
Human Ingestion	Eating -contaminated soil, for example by small children -produce grown on contaminated soil Ingesting dust or soil on vegetables Drinking contaminated water
Human Contact	Direct skin contact with contamination Direct skin contact with contaminated liquids

Table 3: Water Receptors and Pathways

Receptor-Water Environment	*Typical Exposure Pathway*
Groundwater The superficial Tidal Flat Deposits are indicated to be an ôunproductiveô stratum. The underlying solid geology Ampthill Clay Formation is also indicated to be an ôunproductiveô stratum. The site is not within a Source Protection Zone.	Surface infiltration of atmospheric waters into the soils beneath the site could wash or dissolve potential contaminants and migrate to underlying groundwater. Contamination leads to restriction/prevention of use as a resource, for example, drinking water, and can have secondary impacts on other resources, which depend on it.
Surface Water/Watercourses A surface water drain crosses the site aligned north-south.	Surface infiltration of atmospheric waters into the soils beneath the site could wash or dissolve potential contaminants and laterally migrate. Contamination leads to a restriction/prevention of use: -as drinking water resource -for amenity use Effects on aquatic life.

Preliminary Conceptual Model

Assessment of the potential linkage between ground contamination sources, human and environmental receptors have been assessed based on the desk study research documented in the preceding sections of this report.

A generalised preliminary conceptual model is presented below in Table 4.

Table 4: Preliminary Conceptual Model Relative to Residential Development

Receptors	Pathway	Estimated Potential for Linkage with Contaminant Sources			
		Drainage/House	**Soil Beneath Site**	**Soil Gas**	**Ground Contamination Outside Site Boundary**
Human Health ï ground workers	Ingestion and Inhalation of contaminated Soil, Dust and Vapour	Low likelihood/ Likely (asbestos)	Low likelihood	Low likelihood	Low likelihood
Human Health ï end users	Ingestion and Inhalation of contaminated Soil, Dust and Vapour	Unlikely	Unlikely	Low likelihood	Low likelihood
Water Environment	Migration through ground into surface water or surrounding groundwater	Low likelihood	Low likelihood	Unlikely	Low likelihood
Flora	Vegetation on site growing on contaminated soil	Low likelihood	Low likelihood	Low likelihood	Unlikely
Building Materials	Contact with contaminated soil	Low likelihood	Low likelihood	Low likelihood	Low likelihood

Key to Table 4 **Estimated Potential for Linkage with Contaminant Source**	**Definition**
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.
N/A	Not Applicable.

CONCLUSIONS

Anticipated exposure scenarios relating to the existing site, and the proposed residential end use, in the context of the preliminary conceptual model, are discussed as follows. The proposed development was understood to comprise construction of new residential dwellings, with associated gardens and access road.

Drainage & Building

Redundant foul or surface water drain runs, if present, should be removed where encountered from beneath the site and precautions should ensure that any remaining effluent or sediment is directly disposed off-site. The integrity of the existing drains should be checked, and where they are to be retained, any damaged sections should be replaced prior to development.

The ditch crossing the site should be cleared of debris and culverted prior to the proposed development.

The existing building within the site may have asbestos containing materials within it and an asbestos survey should be undertaken prior to the proposed redevelopment. Suitable precautions, in line with current best practice, should be put in place to protect workers from the effects of asbestos material, during the site clearance and redevelopment phases.

Contaminated Soil

The site generally comprised fields, with a detached house and garden and small allotment area in its northern part. A drain crossing the site has been partly infilled at its southern end which indicates locally thick made ground, with a likely thick succession of naturally deposited Tidal Flat Deposit soils beneath. The site will have a reworked (ploughed) surface layer, however no significant contaminants are anticipated. It is considered a low likelihood that groundworkers could be affected by contaminants, and unlikely that contaminants would affect end users of the completed development.

Soil Gas

The site lies within an area where less than 1% of homes are above the BRE action level for radon, and where radon protection measures are not required.

The site is generally expected to have a thin covering of made ground, resting on Tidal Flat Deposits likely to include clay, silt and sand soils. It is considered a low likelihood that groundworkers could be affected by ground gases. There is also a low likelihood of soil gases affecting end users of the completed development.

Water Environment

The site is underlain by superficial Tidal Flat Deposits and the solid geology Ampthill Clay Formation at depth, which are indicated by the EA to be óunproductiveô strata. The anticipated Marine Sand below the Tidal Flat Deposits is likely to be a óSecondary Aquiferô. There is a surface water drain crossing the site. The site does not lie within a source protection zone.

Groundwater would be anticipated within the Tidal Flat Deposits.

Based on the available evidence, it is considered that there would be a low likelihood of any sources of contamination on the site affecting the groundwater environment.

Ground Contamination Outside Site Boundary

There are potentially contaminative uses which could be considered close enough to affect the site, such as the former depot to the north, and former garage to the west, however it is considered a low likelihood that any contamination from beyond the site would affect groundworkers or end users of the development.

Foundations

The details of the foundations for the existing house in the northern part of the site, constructed in the 1960s, are not known. The anticipated generally thin layer of made ground, and Tidal Flat Deposits at shallow depth beneath the site, could mean that traditional strip and pad

strip and pad foundations were used. The presence of mature trees close to the western and northern site boundaries, and possible presence of clay soils beneath the site, would indicate that locally deepened foundations may be required for some of the new buildings. Groundwater could present an issue if it is found to be at shallow depth beneath the site together with the suspected Marine Sand. The underlying strata and their bearing properties would need to be assessed by an intrusive investigation.

Further Works

It is recommended that an intrusive ground investigation is undertaken to determine the nature of the ground conditions, and establish the geotechnical properties of the ground in relation to the proposed building loads. This could be achieved by means of machine excavated trial pits and/or window sampled boreholes.

Chemical testing of the near surface made ground would determine levels of contaminants within the soils in relation to the proposed residential development. The testing should include a suite of tests which should encompass a wide range of potential contaminants. Soil gas and groundwater monitoring within installations would inform if gas precautions measures are necessary.

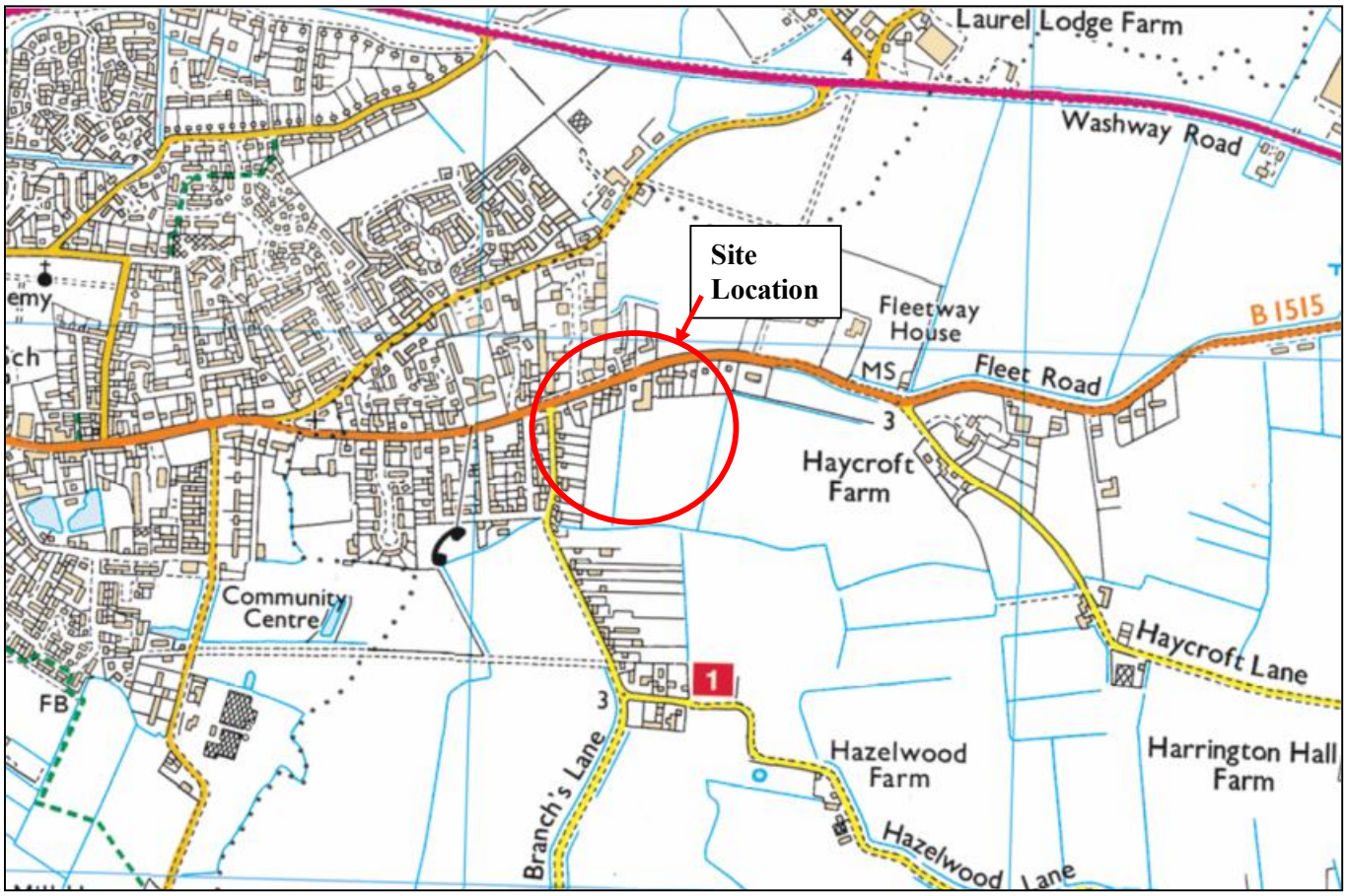
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Site Location Plan

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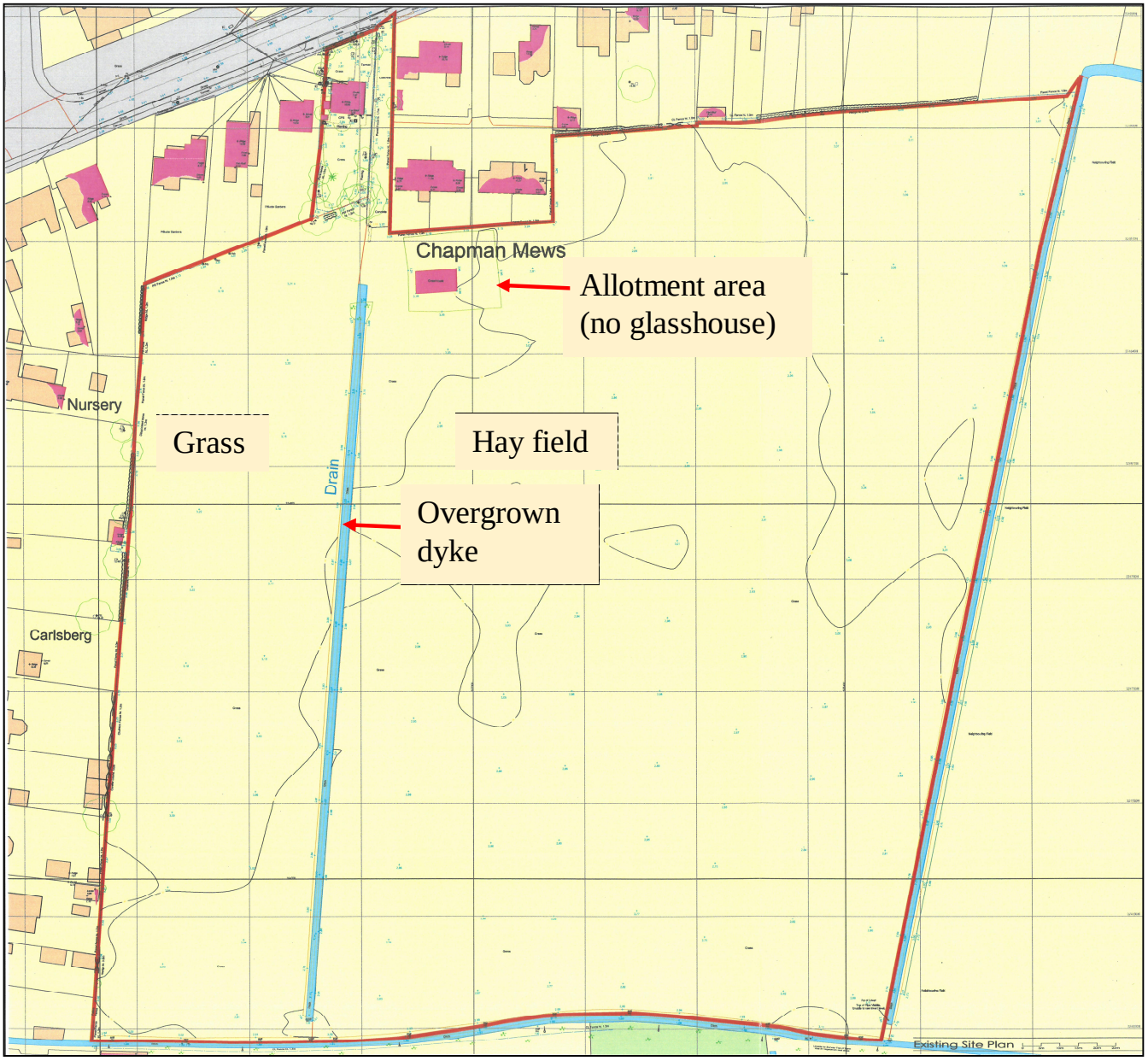


Not To Scale

Project : Land off Fleet Road, Fleet, Holbeach **Client : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site Walkover Plan

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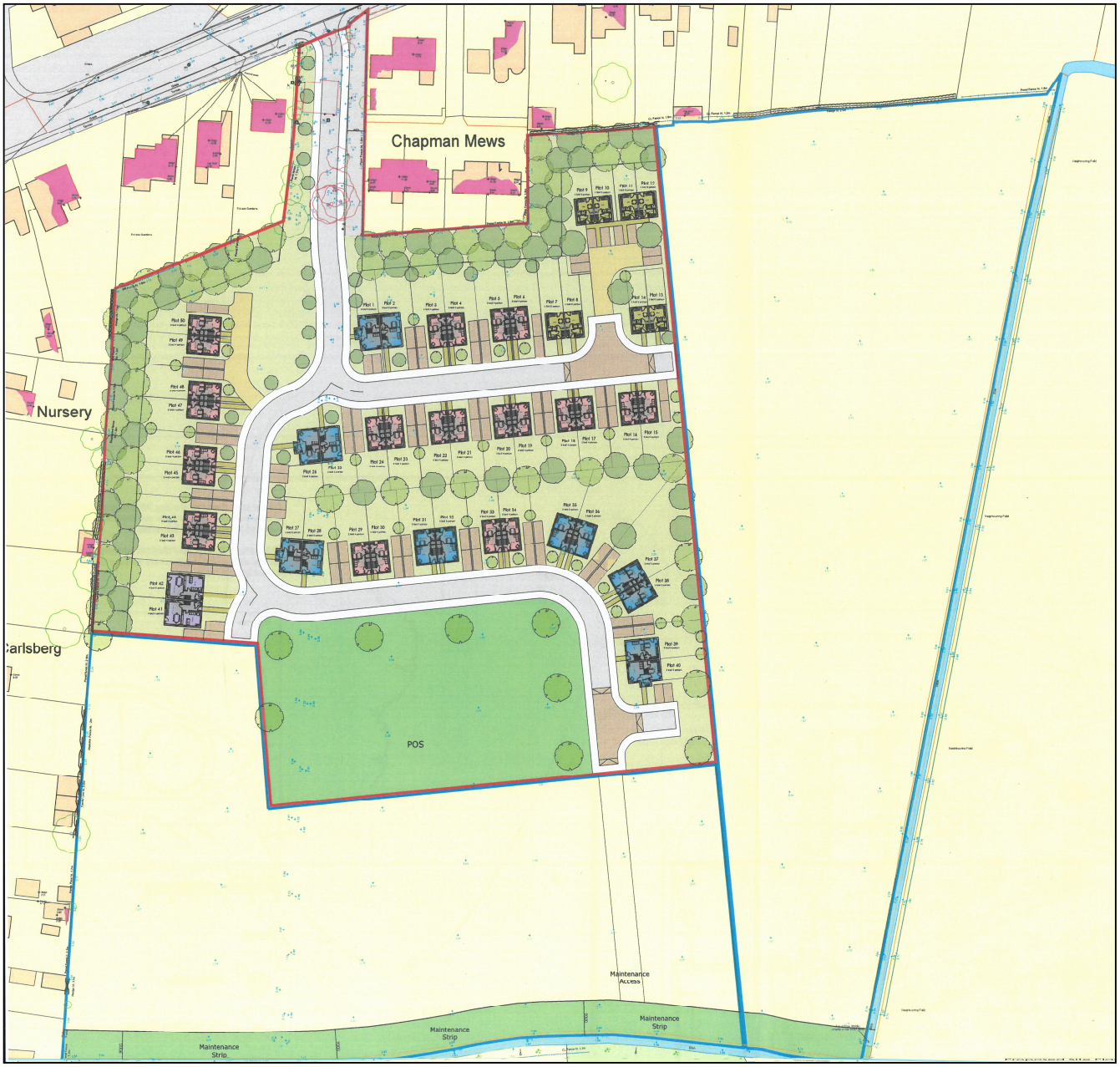


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Proposed Site Plan

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Client : Kaplan Property Group

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Project No. C15102

Site Photographs

Site Walkover on 6th July 2020



Access Road



North-West Area



West Side



Dyke



East Side



Allotment

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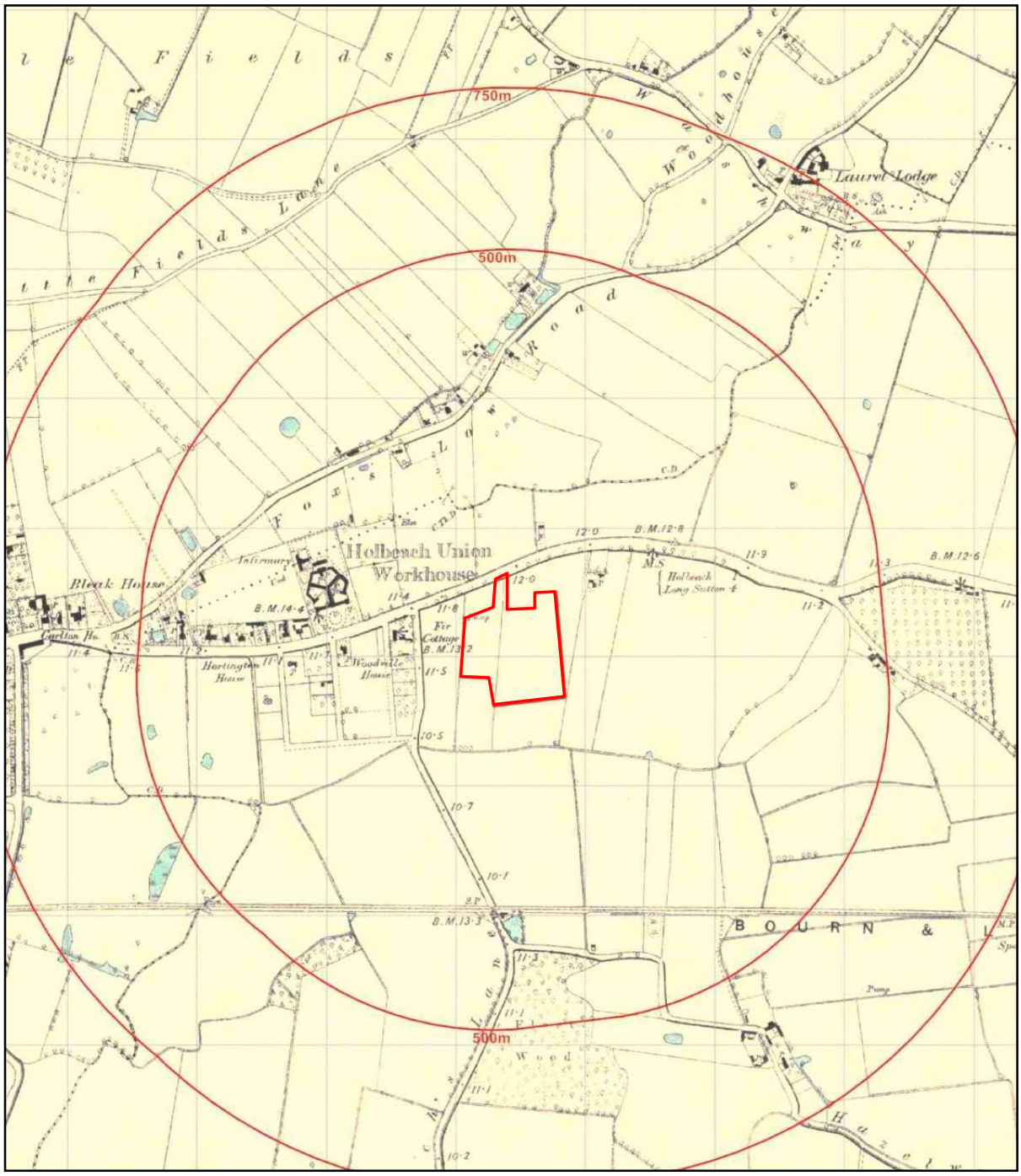
APPENDIX 1

HISTORICAL MAP EXTRACTS

Site History

Figure A

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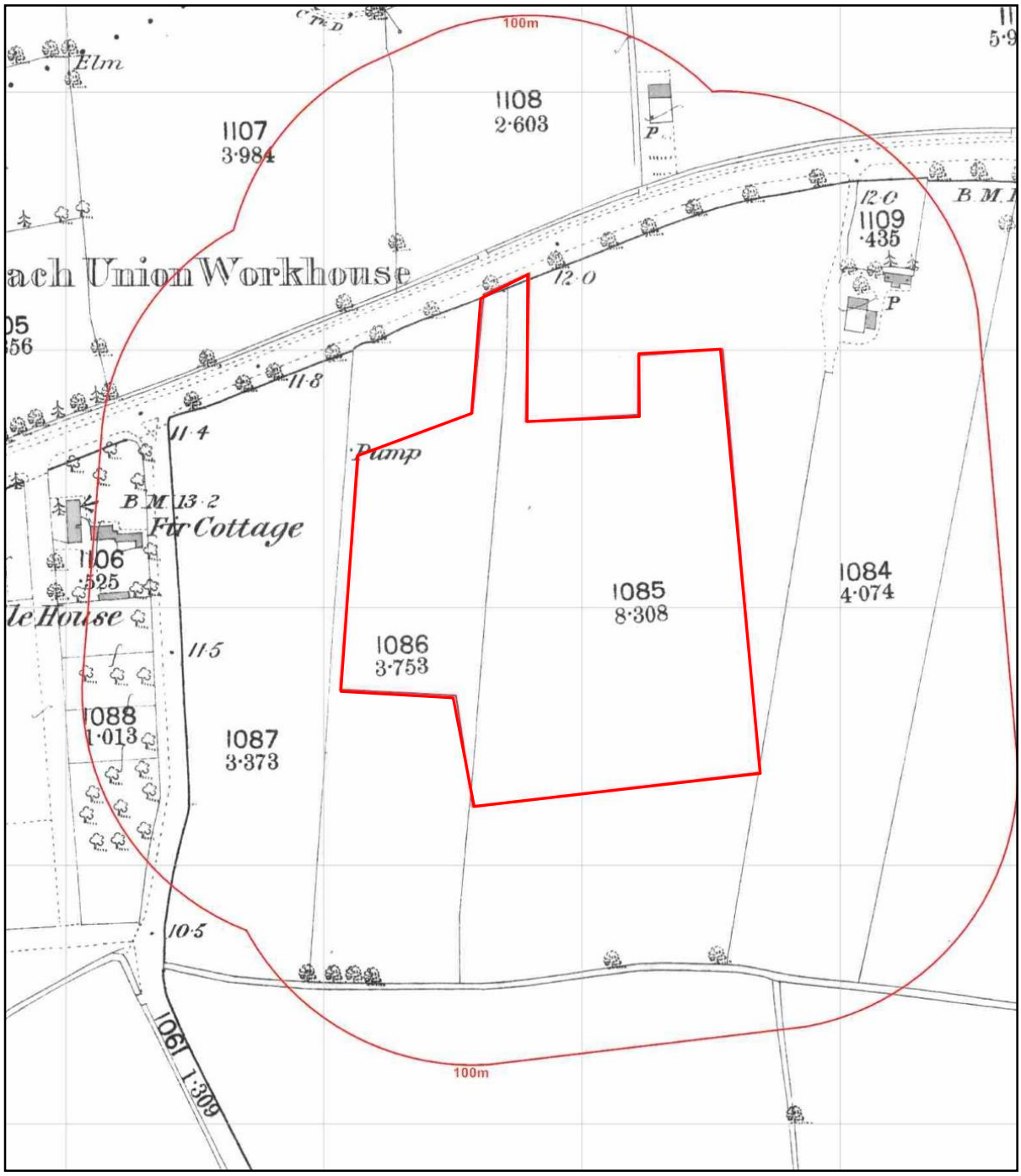


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Site History

Figure B

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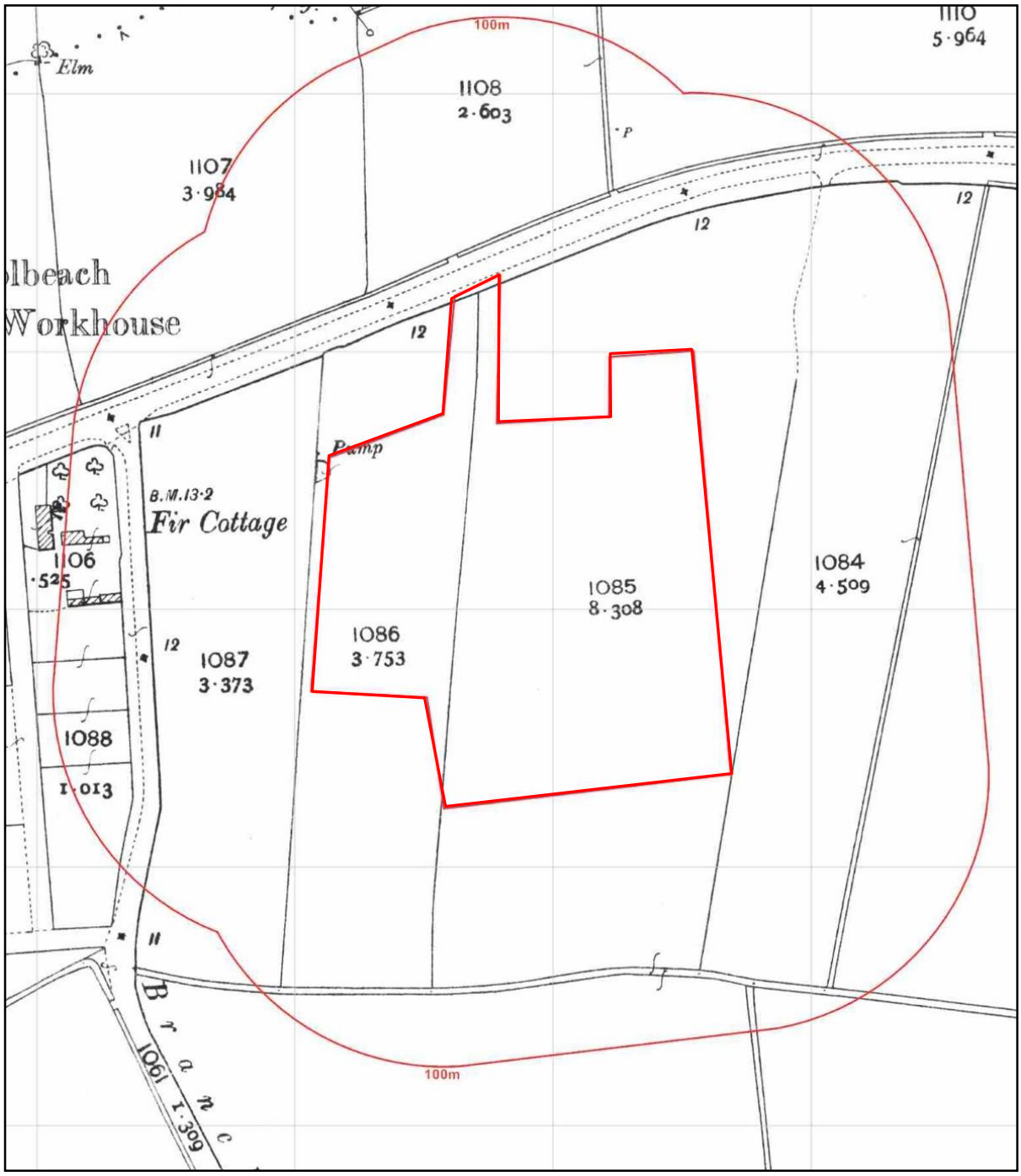


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Site History

Figure C

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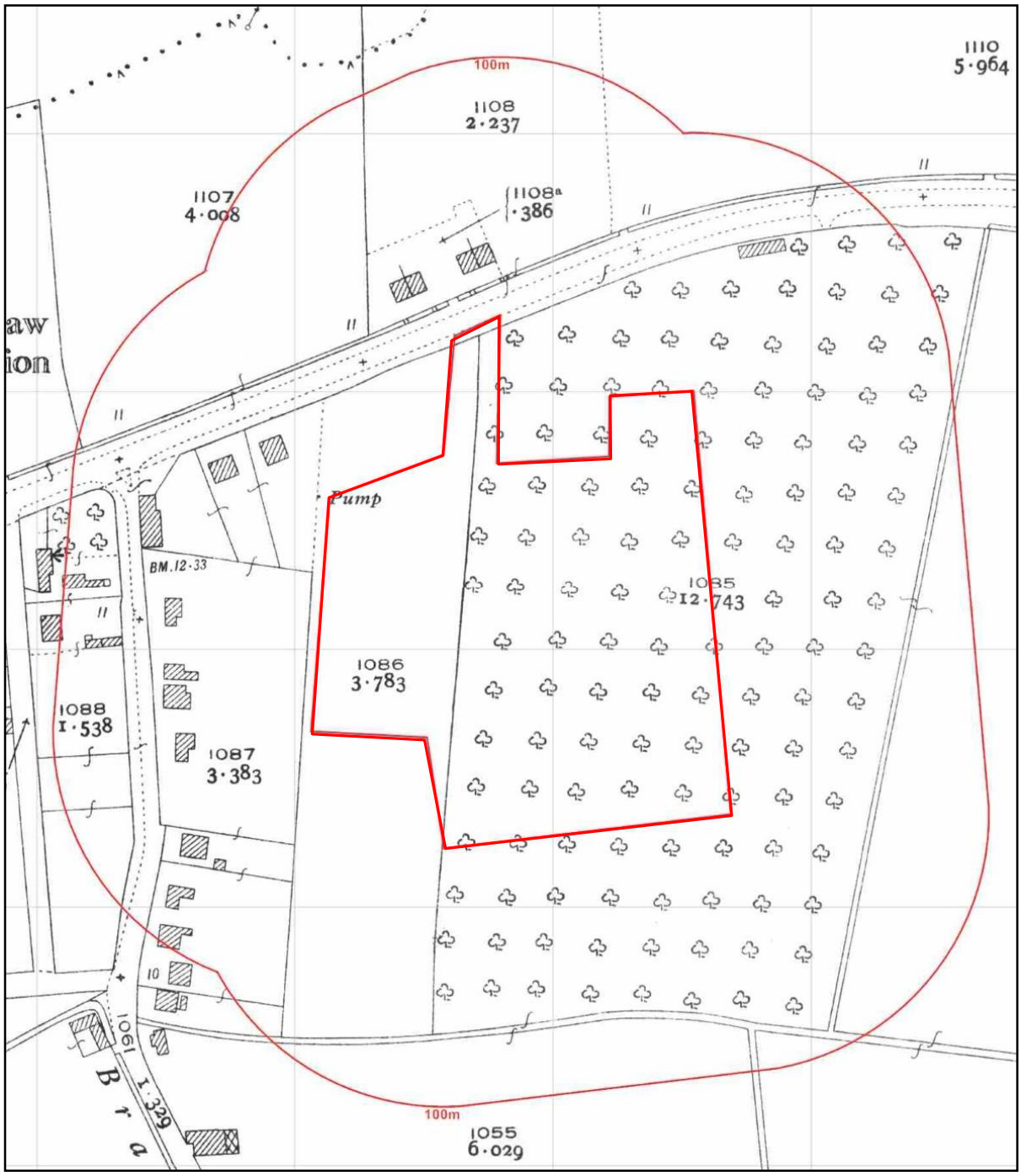


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Site History

Figure D

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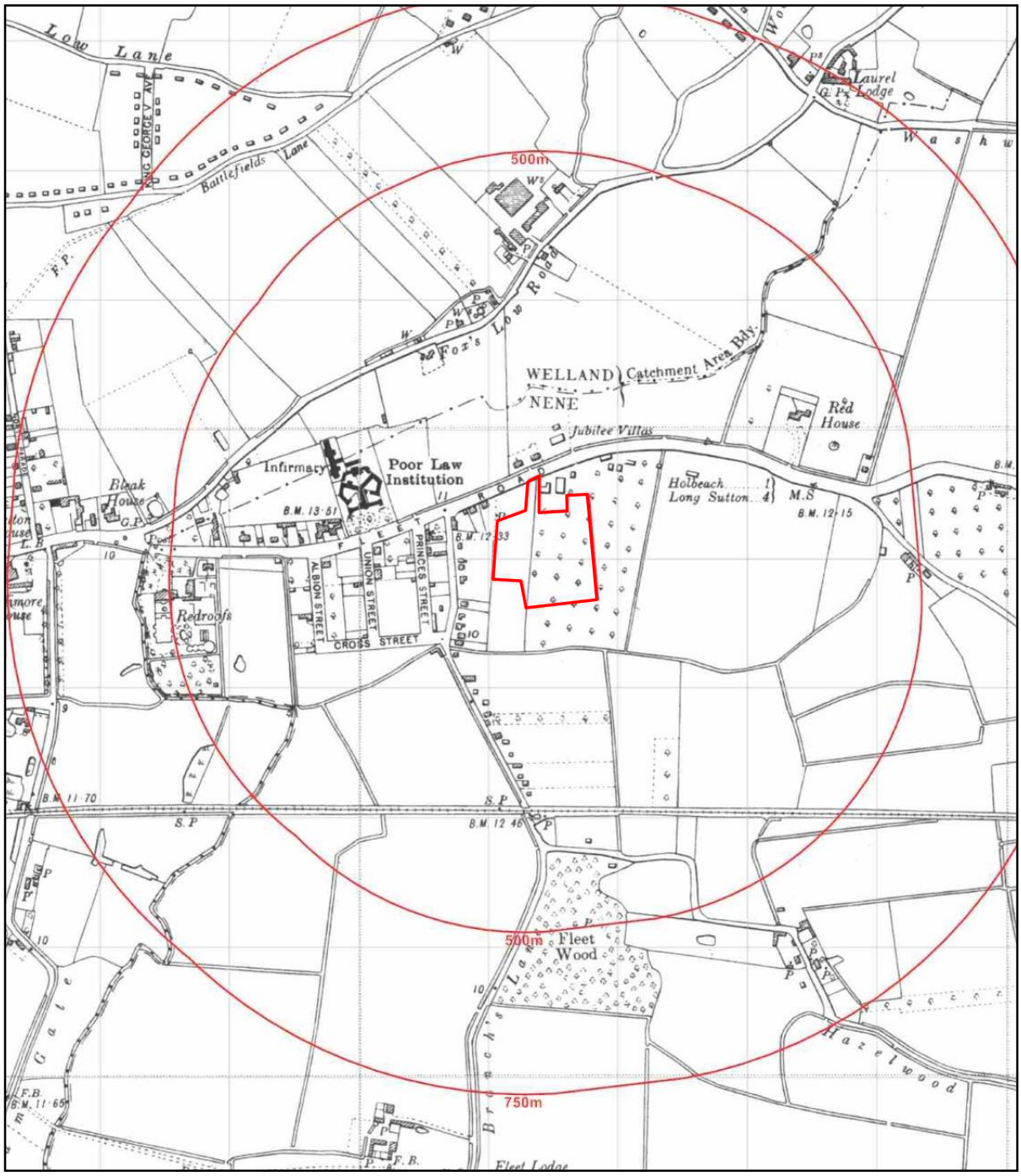


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Site History

Figure E

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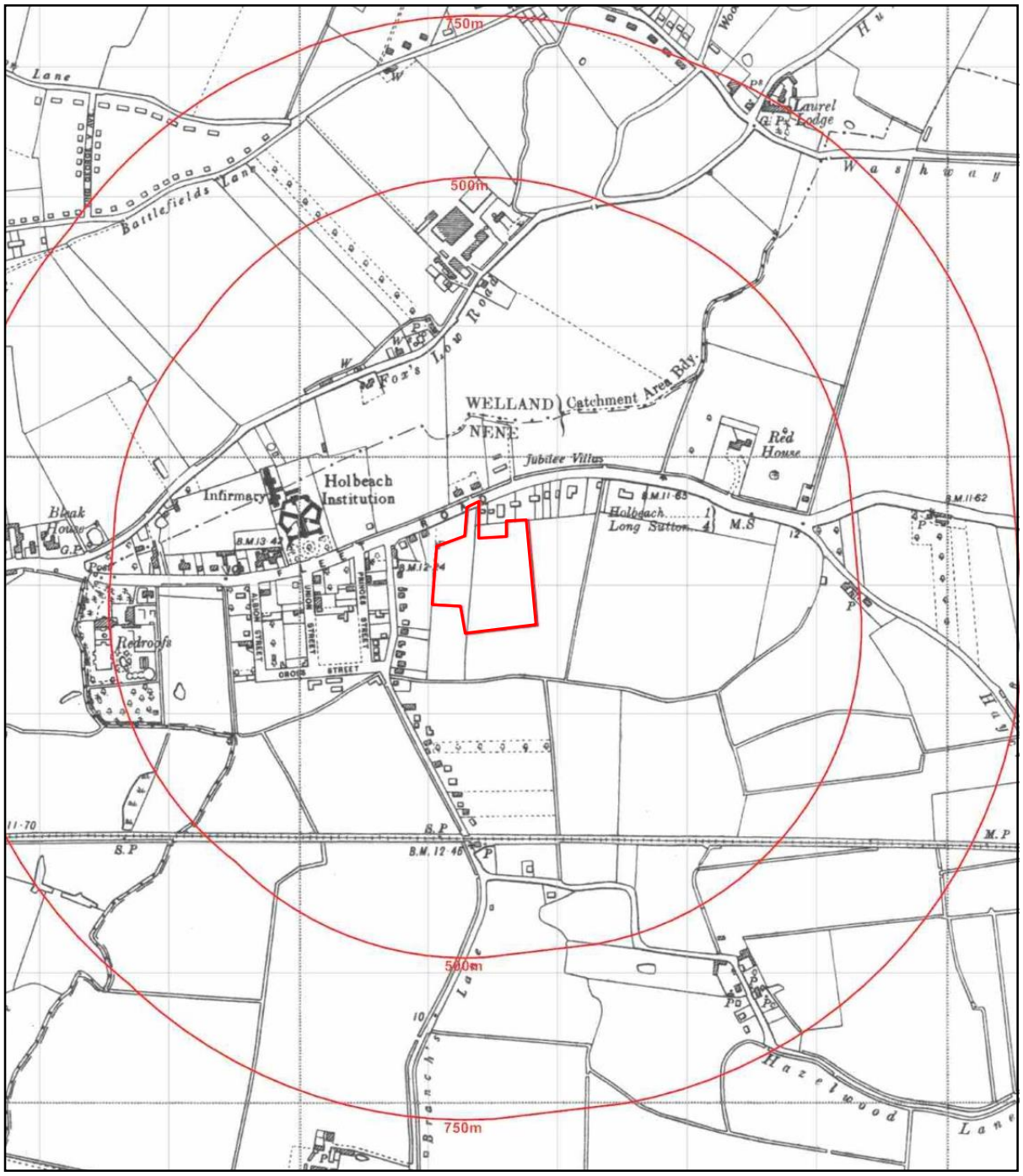


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure F

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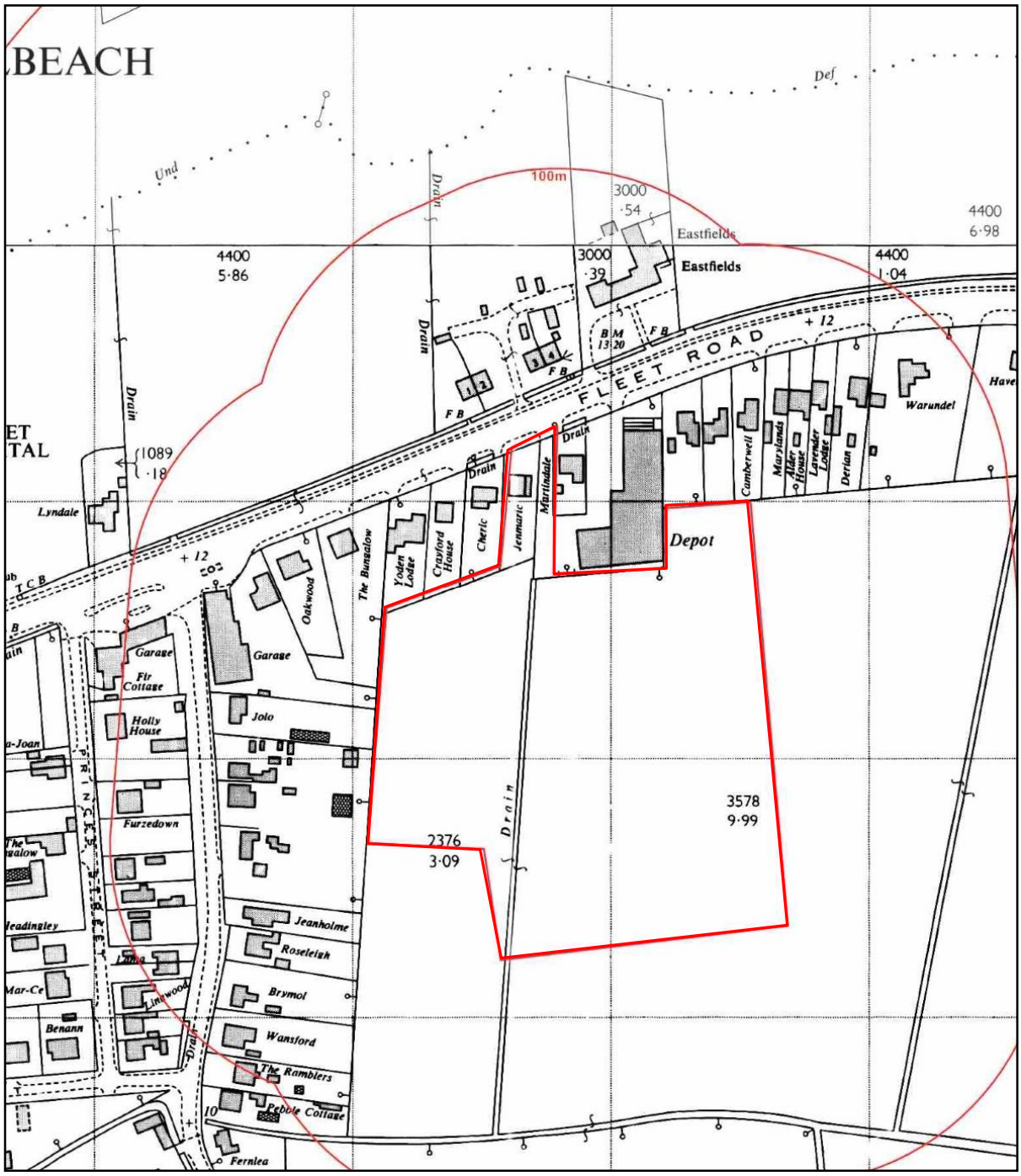


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure G

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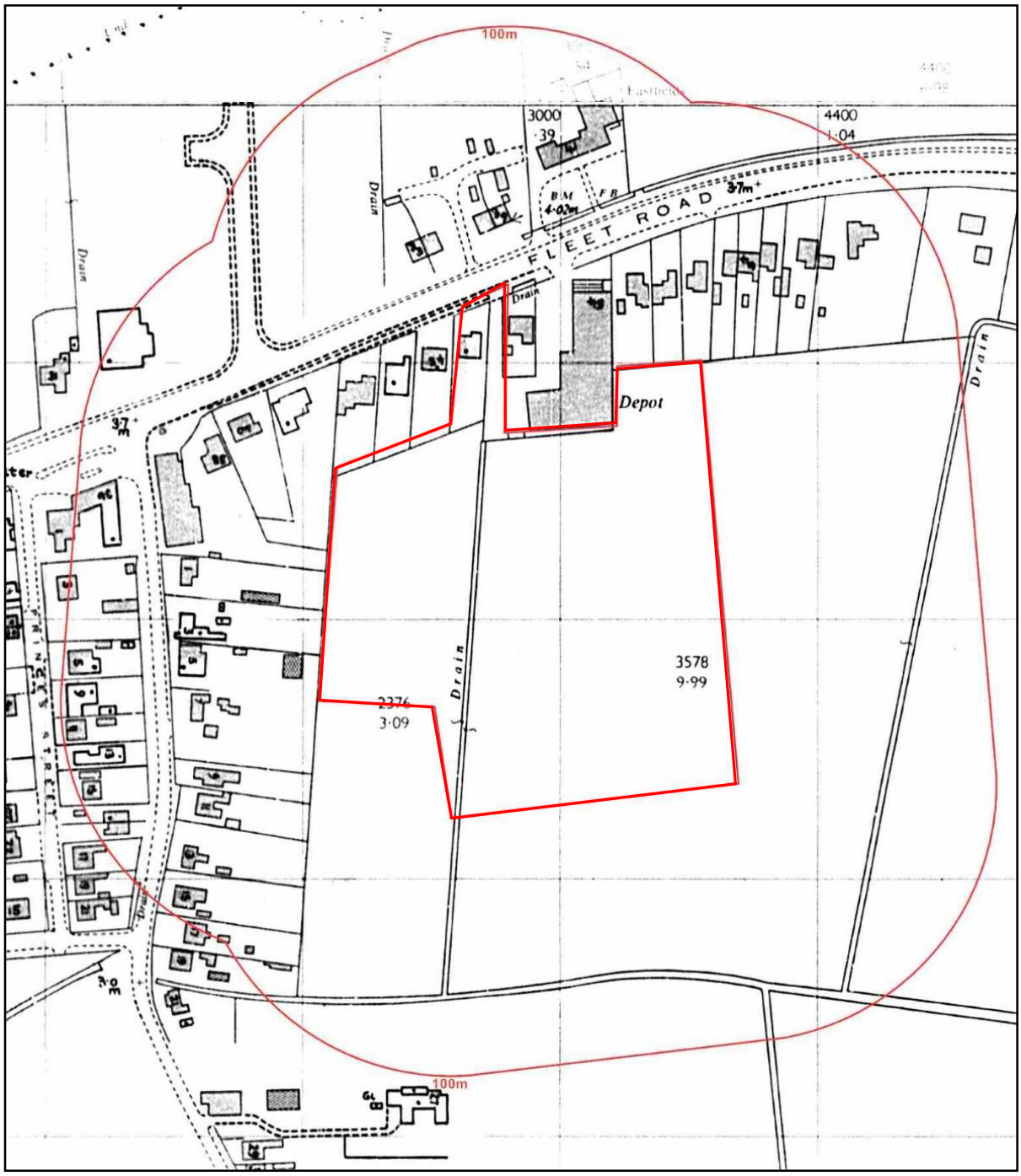


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure H

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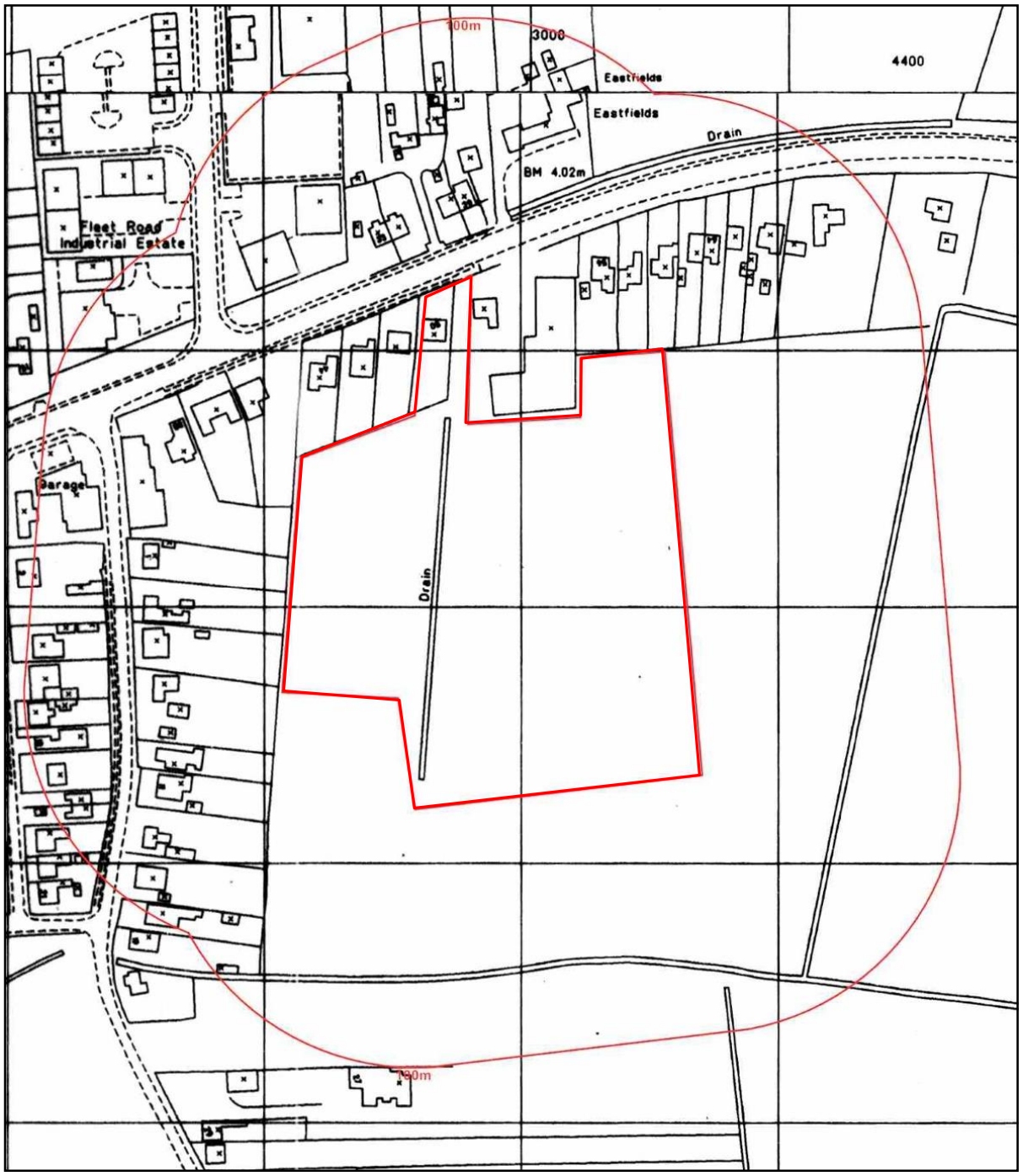


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure I

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Project : Land off Fleet Road, Fleet, Holbeach

Clients : Kaplan Property Group

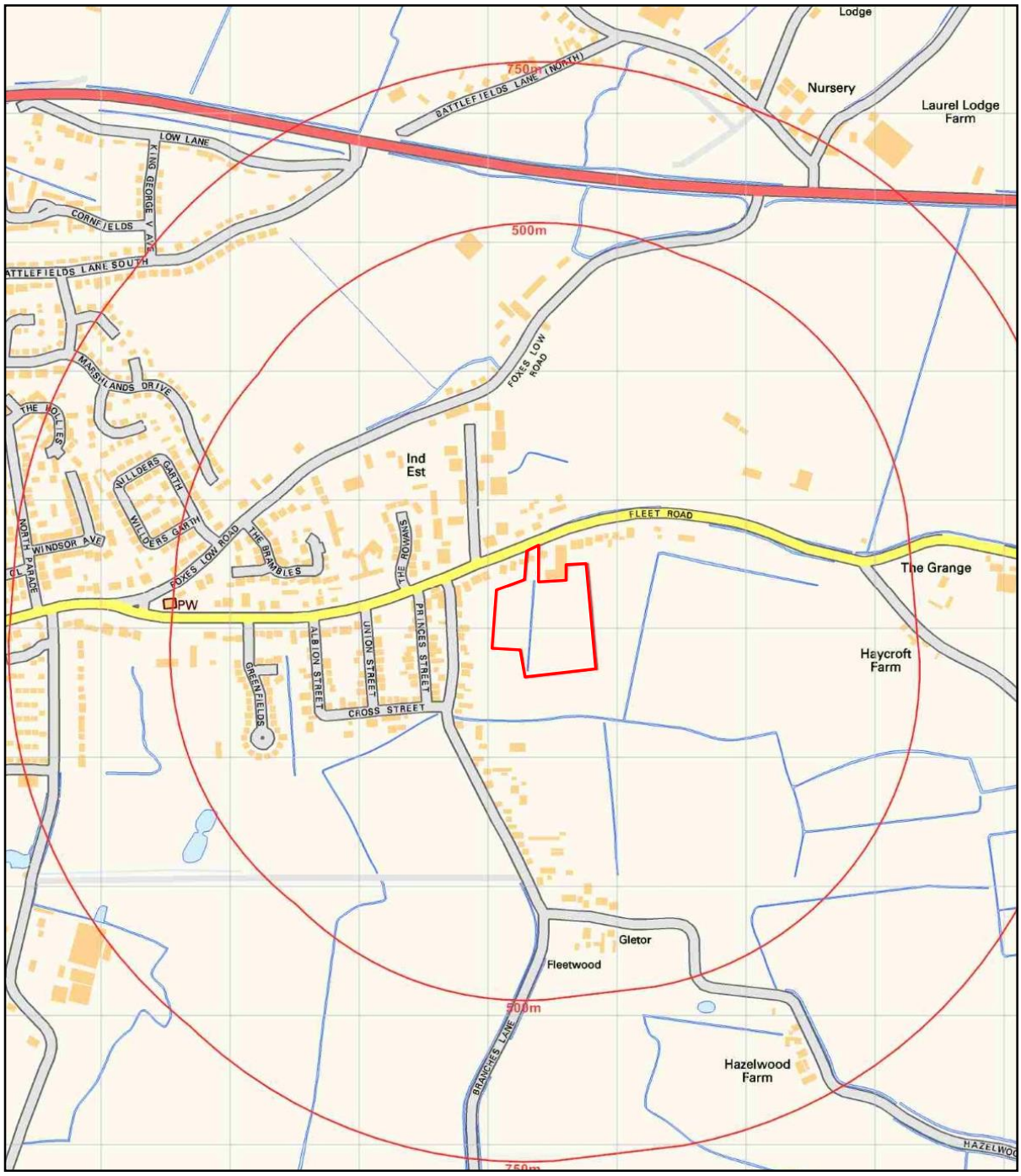
GROUND ENGINEERING LIMITED
Peterborough Tel : 01733 566566

Project No.
C15102

Site History

Figure J

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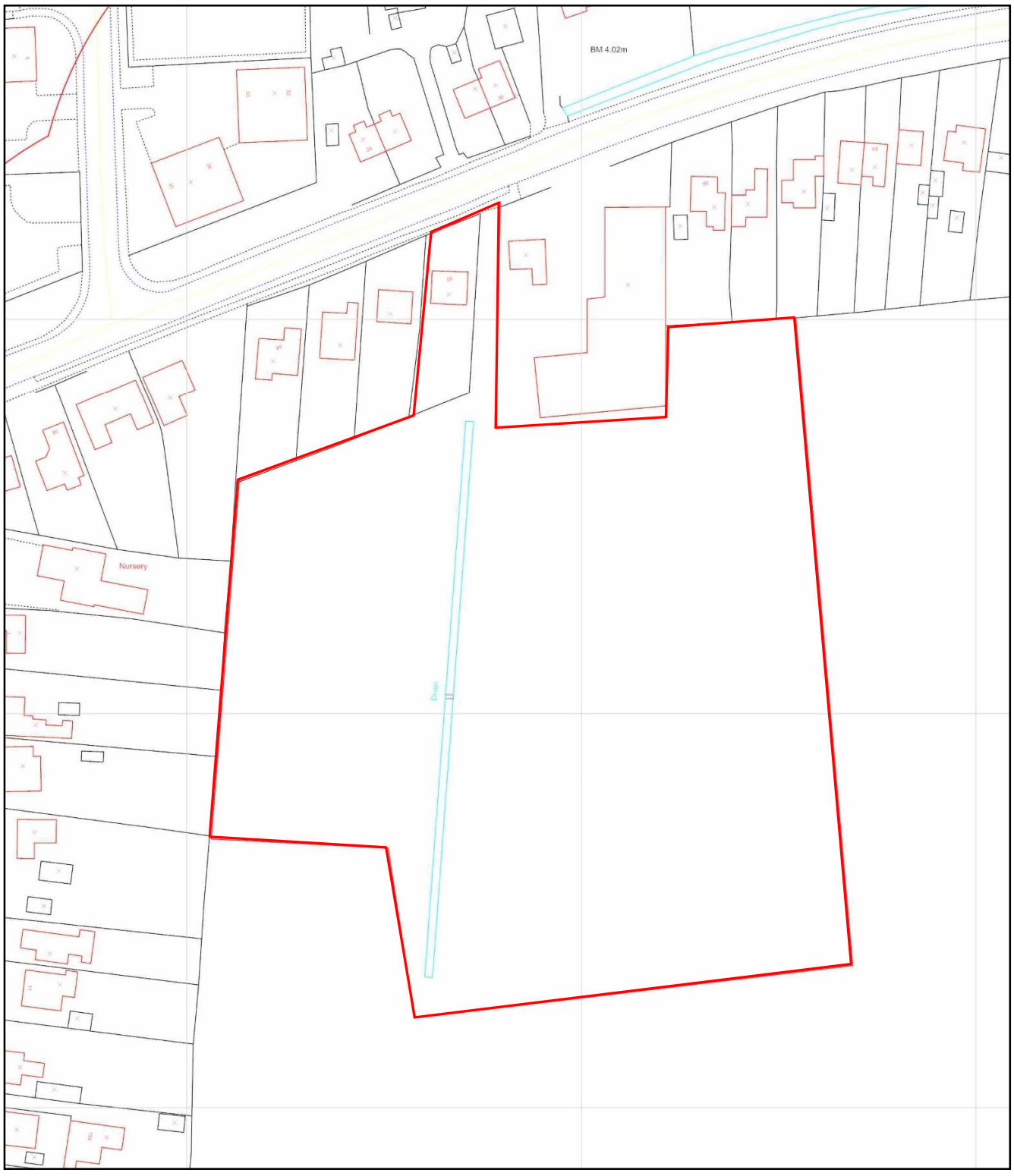


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure K

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Project : Land off Fleet Road, Fleet, Holbeach

Clients : Kaplan Property Group

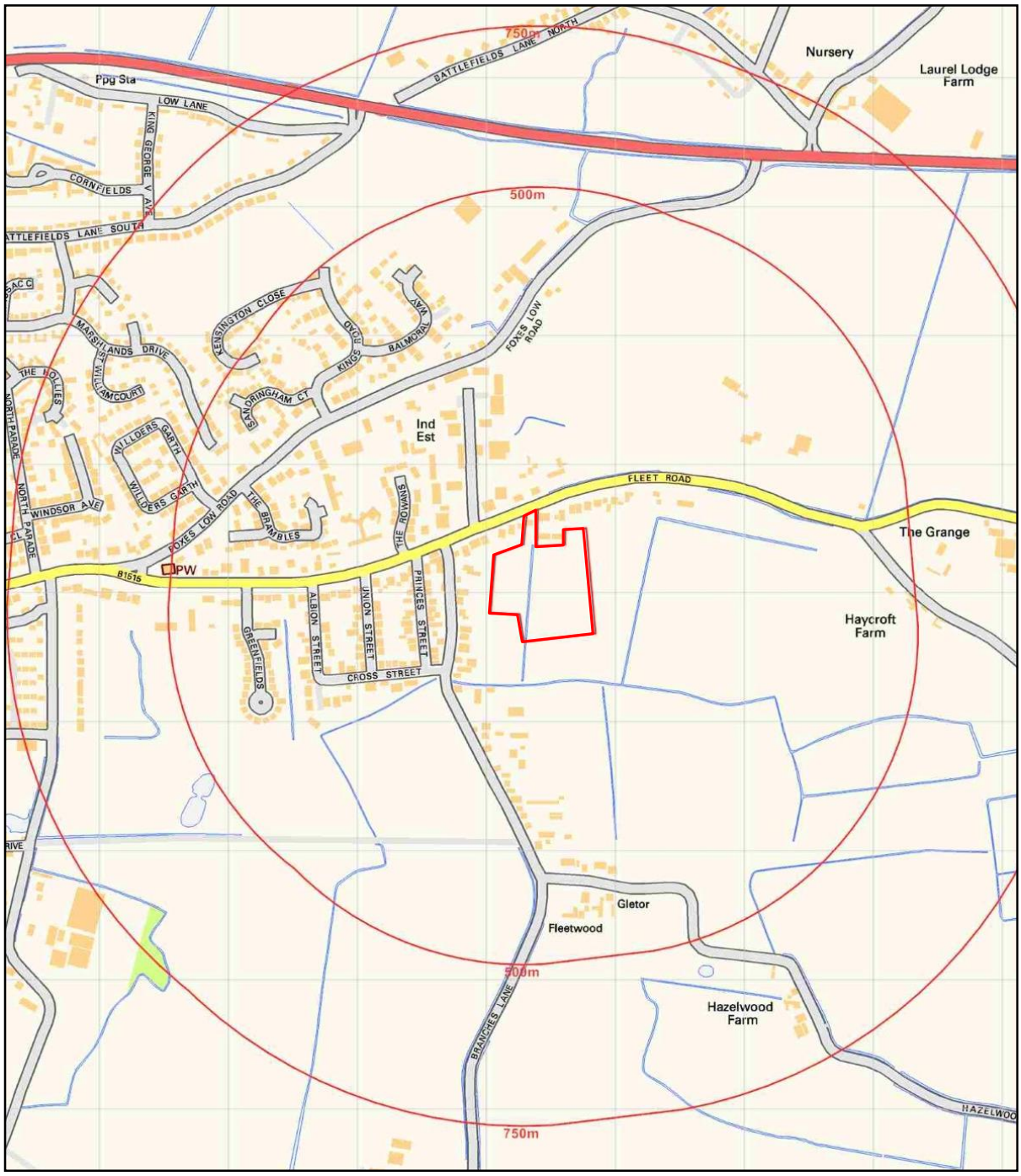
GROUND ENGINEERING LIMITED
Peterborough Tel : 01733 566566

Project No.
C15102

Site History

Figure L

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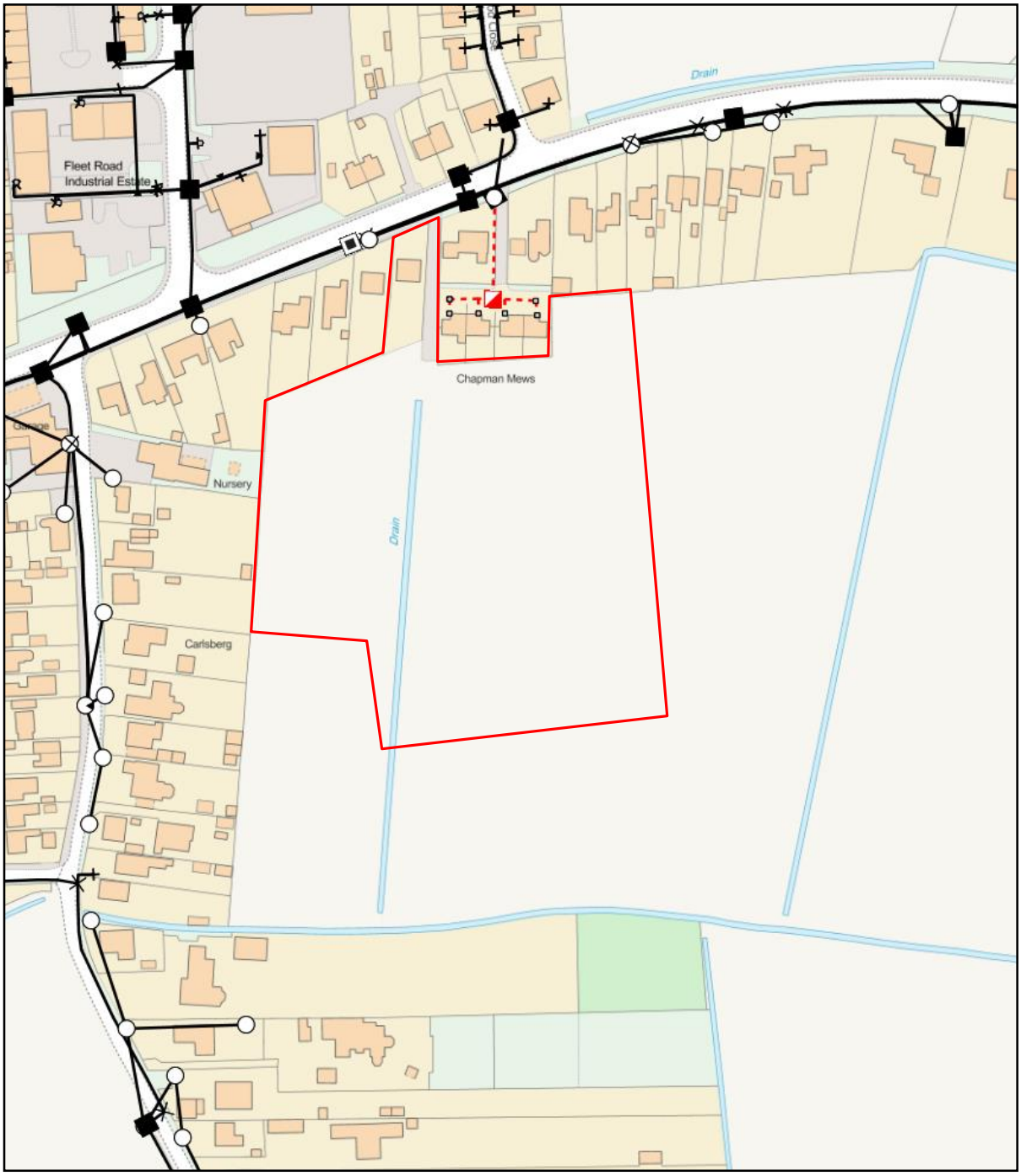


Project : Land off Fleet Road, Fleet, Holbeach **Clients : Kaplan Property Group**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C15102**

Site History

Figure M

Reproduced from the **2020** edition Ordnance Survey sheet **BT Plan** Not to scale with the permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright. All rights reserved. Licence number AL100005523



Project : Land off Fleet Road, Fleet, Holbeach

Clients : Kaplan Property Group

GROUND ENGINEERING LIMITED
Peterborough Tel : 01733 566566

Project No.

C15102

APPENDIX 2

ENVIRONMENTAL DATABASE SEARCH

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

LAND OFF FLEET ROAD, FLEET, SPALDING, PE12 8LA

Order Details

Date: 03/07/2020

Your ref: SWC15102

Our Ref: GS-6833461

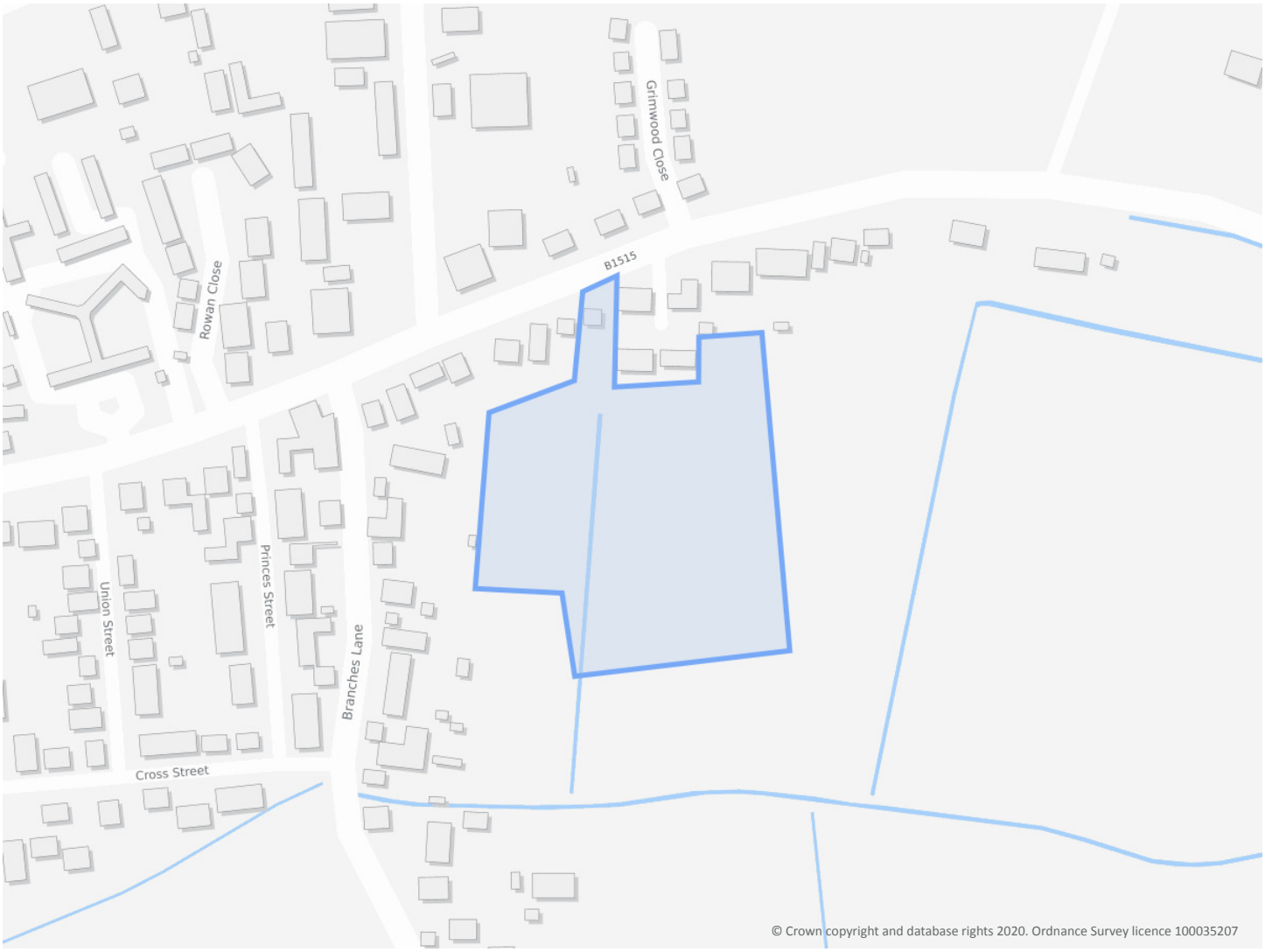
Client: Ground Engineering Limited

Site Details

Location: 537302 324813

Area: 2.2 ha

Authority: South Holland District Council



Summary of findings p. 2

OS MasterMap site plan p.12

Aerial image p. 8

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
13	1.1	Historical industrial land uses	1	0	10	6	-
14	1.2	Historical tanks	0	0	1	5	-
15	1.3	Historical energy features	0	0	1	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	1	1	0	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
17	2.1	Historical industrial land uses	2	0	12	8	-
18	2.2	Historical tanks	0	0	1	6	-
19	2.3	Historical energy features	0	0	2	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	1	2	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
22	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
22	3.7	Waste exemptions	0	0	0	5	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
24	4.1	Recent industrial land uses	0	0	15	-	-
26	4.2	Current or recent petrol stations	0	0	1	0	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-

26	**4.6**	**Control of Major Accident Hazards (COMAH)**	0	0	1	0	-
27	4.7	Regulated explosive sites	0	0	0	0	-
27	**4.8**	**Hazardous substance storage/usage**	0	0	1	0	-
27	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
28	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	1	0	-
28	4.12	Radioactive Substance Authorisations	0	0	0	0	-
28	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	6	-
29	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30	**4.18**	**Pollution Incidents (EA/NRW)**	0	1	0	0	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
31	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
32	**5.1**	**Superficial aquifer**	Identified (within 500m)				
33	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
34	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
35	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
35	5.5	Groundwater vulnerability- local information	None (within 0m)				
36	5.6	Groundwater abstractions	0	0	0	0	0
37	**5.7**	**Surface water abstractions**	0	0	0	0	1
37	5.8	Potable abstractions	0	0	0	0	0
37	5.9	Source Protection Zones	0	0	0	0	-
37	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
39	**6.1**	**Water Network (OS MasterMap)**	1	0	7	-	-

40	6.2	Surface water features	1	0	5	-	-
40	6.3	WFD Surface water body catchments	1	-	-	-	-
41	6.4	WFD Surface water bodies	0	0	0	-	-
41	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
42	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	Low (within 50m)				
43	7.2	Historical Flood Events	0	0	0	-	-
43	7.3	Flood Defences	0	0	0	-	-
43	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
43	7.5	Flood Storage Areas	0	0	0	-	-
44	7.6	Flood Zone 2	Identified (within 50m)				
45	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
46	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
48	9.1	Groundwater flooding	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
49	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
49	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
49	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
49	10.4	Special Protection Areas (SPA)	0	0	0	0	0
50	10.5	National Nature Reserves (NNR)	0	0	0	0	0
50	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
50	10.7	Designated Ancient Woodland	0	0	0	0	0
50	10.8	Biosphere Reserves	0	0	0	0	0
51	10.9	Forest Parks	0	0	0	0	0
51	10.10	Marine Conservation Zones	0	0	0	0	0
51	10.11	Green Belt	0	0	0	0	0
51	10.12	Proposed Ramsar sites	0	0	0	0	0

51	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
52	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
52	10.15	Nitrate Sensitive Areas	0	0	0	0	0
52	**10.16**	**Nitrate Vulnerable Zones**	0	0	1	0	1
53	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
54	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
55	11.1	World Heritage Sites	0	0	0	-	-
56	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
56	11.3	National Parks	0	0	0	-	-
56	**11.4**	**Listed Buildings**	0	0	1	-	-
57	11.5	Conservation Areas	0	0	0	-	-
57	11.6	Scheduled Ancient Monuments	0	0	0	-	-
57	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
58	**12.1**	**Agricultural Land Classification**	Grade 1 (within 250m)				
59	12.2	Open Access Land	0	0	0	-	-
59	12.3	Tree Felling Licences	0	0	0	-	-
59	**12.4**	**Environmental Stewardship Schemes**	0	0	1	-	-
59	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
60	**13.1**	**Priority Habitat Inventory**	0	0	2	-	-
61	13.2	Habitat Networks	0	0	0	-	-
61	13.3	Open Mosaic Habitat	0	0	0	-	-
61	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
62	**14.1**	**10k Availability**	Identified (within 500m)				
63	14.2	Artificial and made ground (10k)	0	0	0	0	-
64	14.3	Superficial geology (10k)	0	0	0	0	-

64	14.4	Landslip (10k)	0	0	0	0	-
65	14.5	Bedrock geology (10k)	0	0	0	0	-
65	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
66	**15.1**	**50k Availability**	Identified (within 500m)				
67	15.2	Artificial and made ground (50k)	0	0	0	0	-
67	15.3	Artificial ground permeability (50k)	0	0	-	-	-
68	**15.4**	**Superficial geology (50k)**	1	0	0	0	-
69	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
69	15.6	Landslip (50k)	0	0	0	0	-
69	15.7	Landslip permeability (50k)	None (within 50m)				
70	**15.8**	**Bedrock geology (50k)**	1	0	0	0	-
71	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
71	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
72	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
73	**17.1**	**Shrink swell clays**	Low (within 50m)				
74	**17.2**	**Running sands**	Moderate (within 50m)				
75	**17.3**	**Compressible deposits**	Moderate (within 50m)				
76	**17.4**	**Collapsible deposits**	Negligible (within 50m)				
77	**17.5**	**Landslides**	Very low (within 50m)				
78	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
79	18.1	Natural cavities	0	0	0	0	-
79	18.2	BritPits	0	0	0	0	-
79	18.3	Surface ground workings	0	0	0	-	-
79	18.4	Underground workings	0	0	0	0	0
80	18.5	Historical Mineral Planning Areas	0	0	0	0	-

80	18.6	Non-coal mining	0	0	0	0	0
80	18.7	Mining cavities	0	0	0	0	0
80	18.8	JPB mining areas	None (within 0m)				
80	18.9	Coal mining	None (within 0m)				
81	18.10	Brine areas	None (within 0m)				
81	18.11	Gypsum areas	None (within 0m)				
81	18.12	Tin mining	None (within 0m)				
81	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
82	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
83	**20.1**	**BGS Estimated Background Soil Chemistry**	1	0	-	-	-
83	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
83	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
84	21.1	Underground railways (London)	0	0	0	-	-
84	21.2	Underground railways (Non-London)	0	0	0	-	-
84	21.3	Railway tunnels	0	0	0	-	-
84	21.4	Historical railway and tunnel features	0	0	0	-	-
84	21.5	Royal Mail tunnels	0	0	0	-	-
85	21.6	Historical railways	0	0	0	-	-
85	21.7	Railways	0	0	0	-	-
85	21.8	Crossrail 1	0	0	0	0	-
85	21.9	Crossrail 2	0	0	0	0	-
85	21.10	HS2	0	0	0	0	-

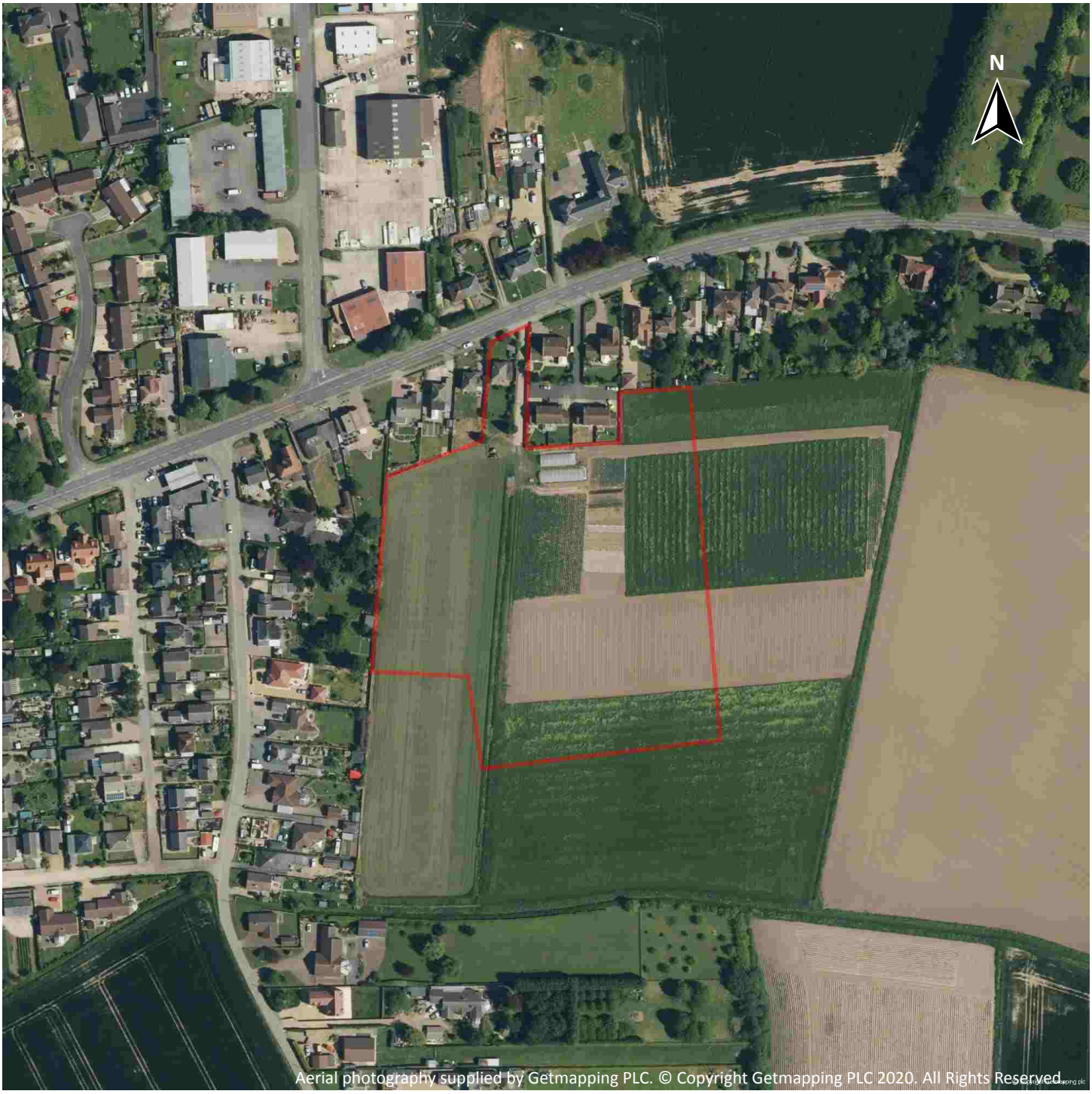
Recent aerial photograph



Capture Date: 06/05/2018

Site Area: 2.2ha

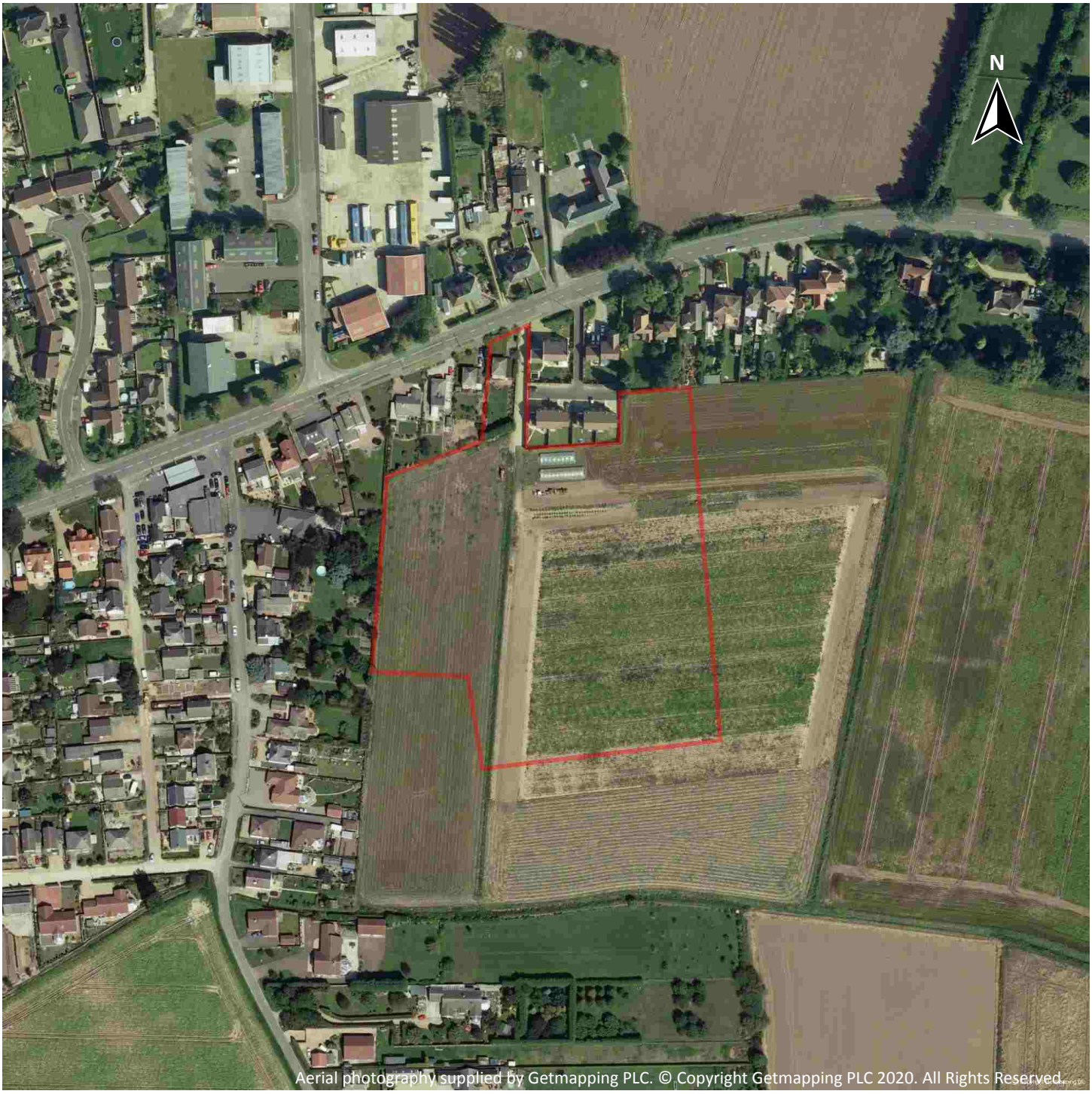
Recent site history - 2015 aerial photograph



Capture Date: 06/04/2015

Site Area: 2.2ha

Recent site history - 2007 aerial photograph

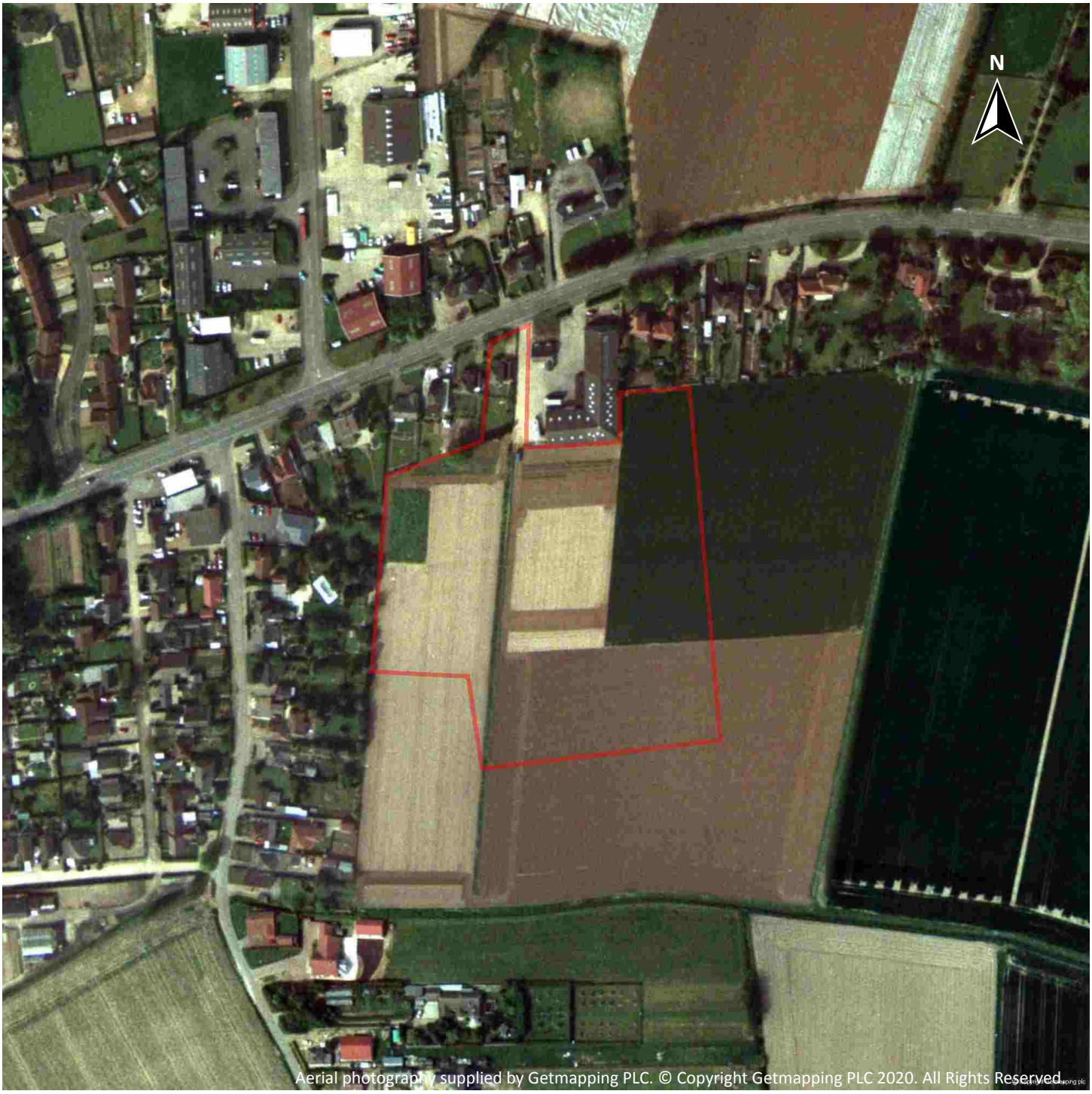


Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 10/08/2007

Site Area: 2.2ha

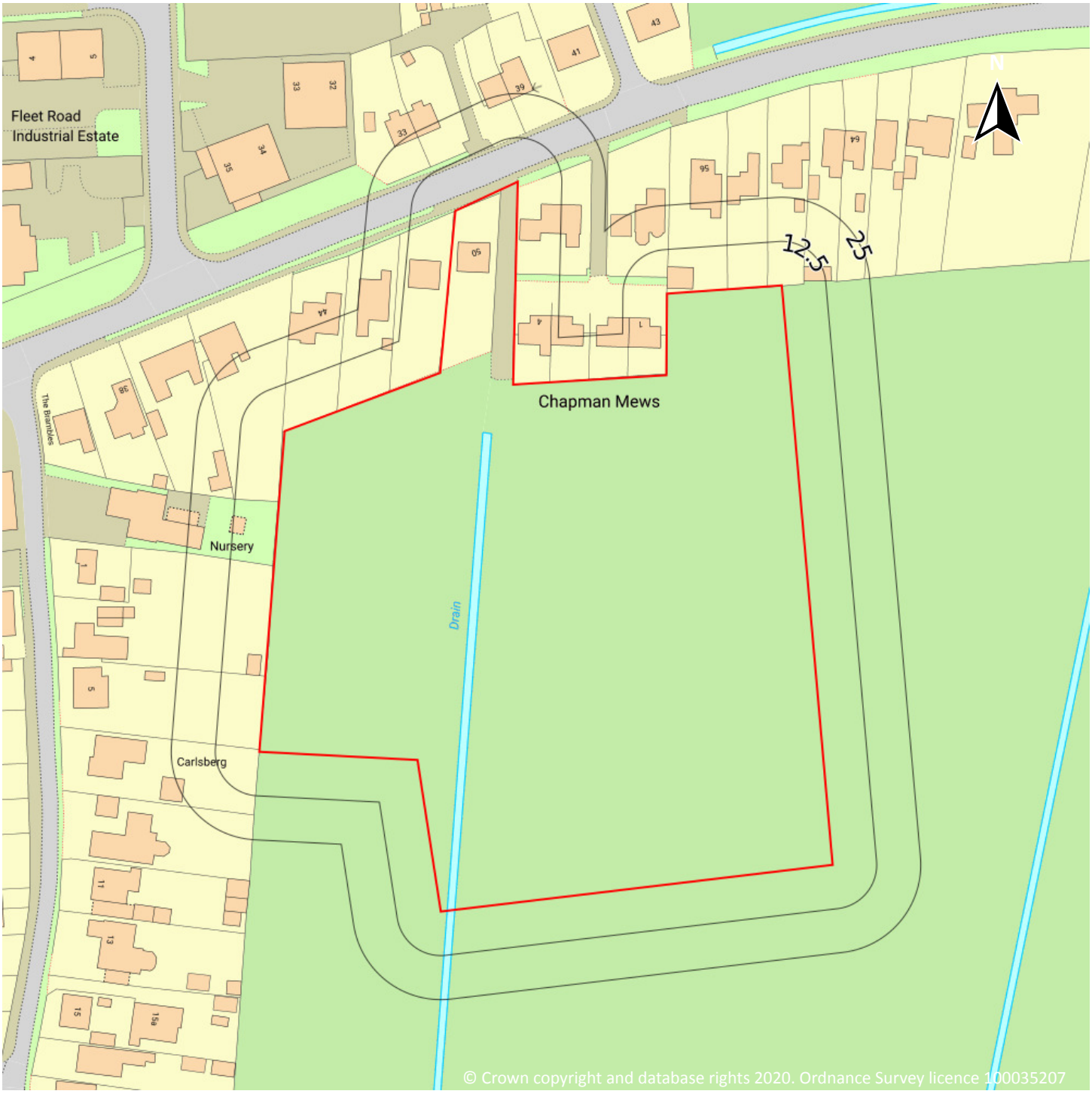
Recent site history - 1999 aerial photograph



Capture Date: 18/06/1999

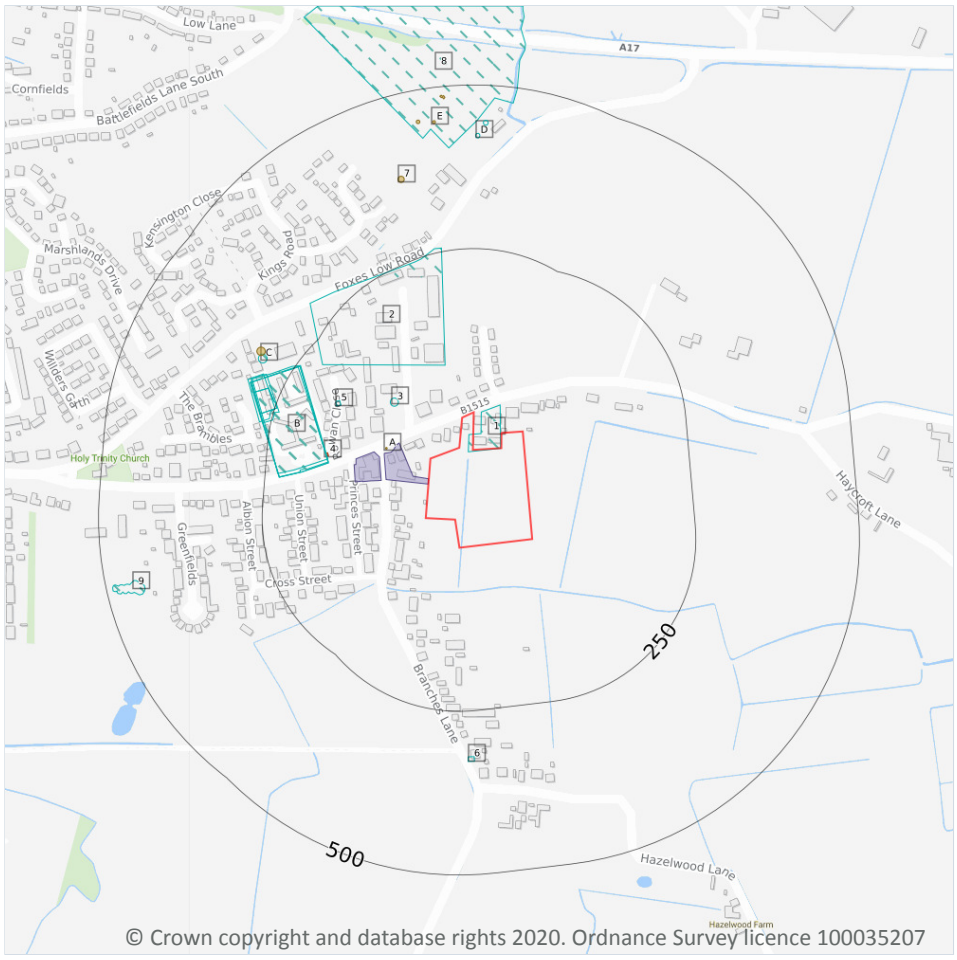
Site Area: 2.2ha

OS MasterMap site plan



Site Area: 2.2ha

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	17

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 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Depot**	**1970 - 1992**	**2017241**

ID	Location	Land use	Dates present	Group ID
2	84m NW	Industrial Estate	1992	2007488
3	96m NW	Unspecified Workhouse	1887	2006229
B	155m W	Union Workhouse	1903	2011034
B	155m W	Infirmary	1887 - 1903	2036399
B	155m W	Infirmary	1950	2036977
B	156m W	Hospital	1970	2011865
5	159m NW	Unspecified Workhouse	1903	2006225
B	242m W	Infirmary	1929 - 1938	2027707
B	247m W	Infirmary	1903	2017266
B	250m W	Infirmary	1958	2039824
C	292m NW	Unspecified Tank	1950	2004297
6	320m S	Railway Building	1903 - 1929	2023755
8	406m N	Nursery	1976	2008144
D	419m N	Unspecified Tank	1955	2004300
D	439m N	Unspecified Tank	1955	2004299
9	442m W	Unspecified Tanks	1950 - 1958	2028103

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 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 13**

ID	Location	Land use	Dates present	Group ID
A	68m W	Unspecified Tank	1968	338401
C	300m NW	Unspecified Tank	1968	337856

ID	Location	Land use	Dates present	Group ID
7	368m N	Unspecified Tank	1965 - 1991	341166
E	445m N	Unspecified Tank	1965	338400
E	449m N	Unspecified Tank	1991	338402
E	481m N	Tanks	1968	339390

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**1**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
4	156m W	Electricity Substation	1968 - 1981	224036

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	2

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
A	1m W	Garage	1968	67889
A	72m W	Garage	1968 - 1991	68709

This data is sourced from Ordnance Survey / Groundsure.

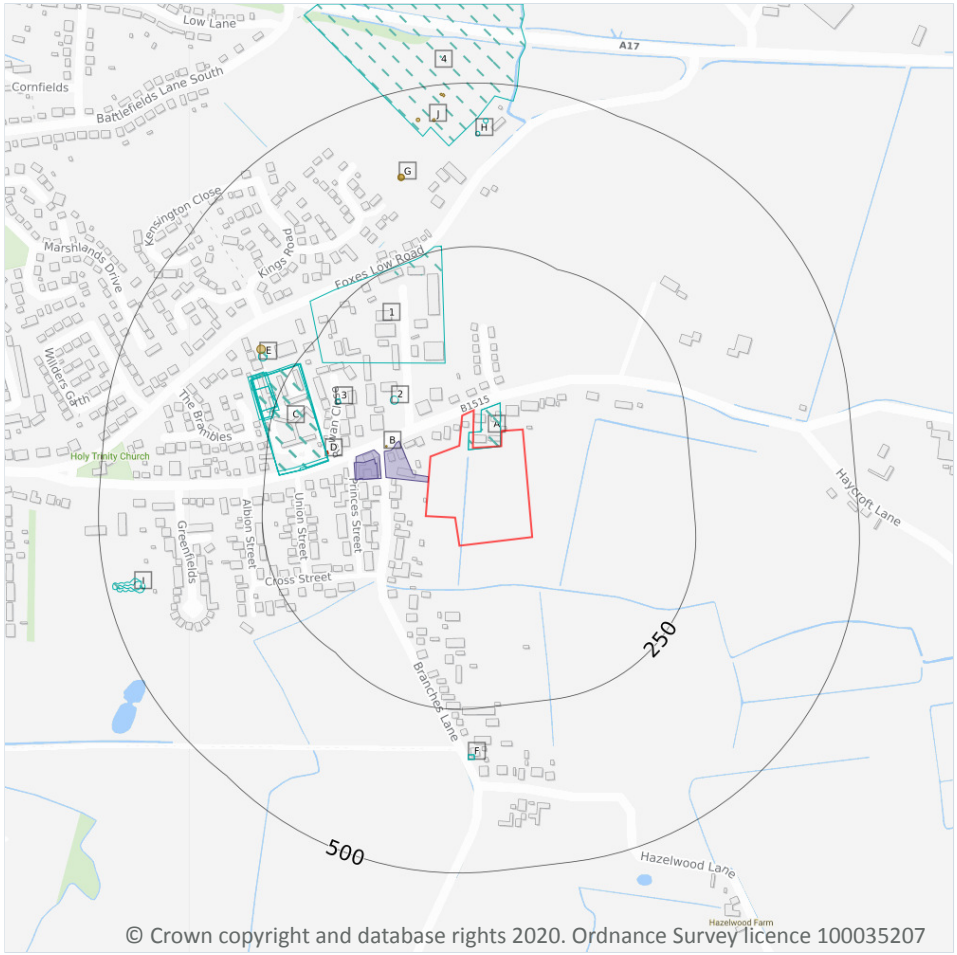
1.6 Historical military land

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	22

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

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

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Depot**	**1992**	**2017241**
A	**On site**	**Unspecified Depot**	**1970**	**2017241**
1	84m NW	Industrial Estate	1992	2007488

ID	Location	Land Use	Date	Group ID
2	96m NW	Unspecified Workhouse	1887	2006229
C	155m W	Infirmary	1950	2036977
C	155m W	Infirmary	1903	2036399
C	155m W	Infirmary	1887	2036399
C	155m W	Union Workhouse	1903	2011034
C	156m W	Hospital	1970	2011865
3	159m NW	Unspecified Workhouse	1903	2006225
C	242m W	Infirmary	1929	2027707
C	245m W	Infirmary	1938	2027707
C	247m W	Infirmary	1903	2017266
C	250m W	Infirmary	1958	2039824
E	292m NW	Unspecified Tank	1950	2004297
F	320m S	Railway Building	1929	2023755
F	320m S	Railway Building	1903	2023755
4	406m N	Nursery	1976	2008144
H	419m N	Unspecified Tank	1955	2004300
H	439m N	Unspecified Tank	1955	2004299
I	442m W	Unspecified Tanks	1950	2028103
I	446m W	Unspecified Tanks	1958	2028103

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**7**

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

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

ID	Location	Land Use	Date	Group ID
B	68m W	Unspecified Tank	1968	338401

ID	Location	Land Use	Date	Group ID
E	300m NW	Unspecified Tank	1968	337856
G	368m N	Unspecified Tank	1965	341166
G	368m N	Unspecified Tank	1991	341166
J	445m N	Unspecified Tank	1965	338400
J	449m N	Unspecified Tank	1991	338402
J	481m N	Tanks	1968	339390

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**2**

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 17**

ID	Location	Land Use	Date	Group ID
D	156m W	Electricity Substation	1981	224036
D	156m W	Electricity Substation	1968	224036

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	3

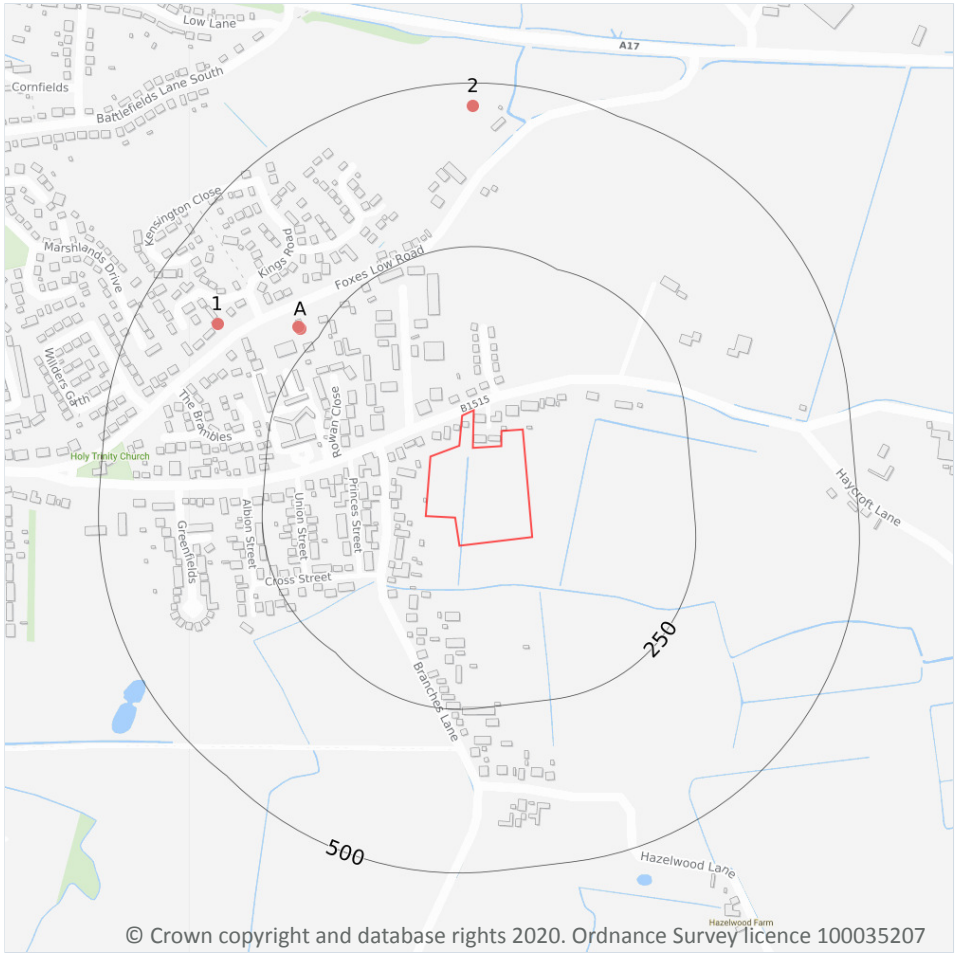
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land Use	Date	Group ID
B	1m W	Garage	1968	67889
B	72m W	Garage	1991	68709
B	77m W	Garage	1968	68709

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	5

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.

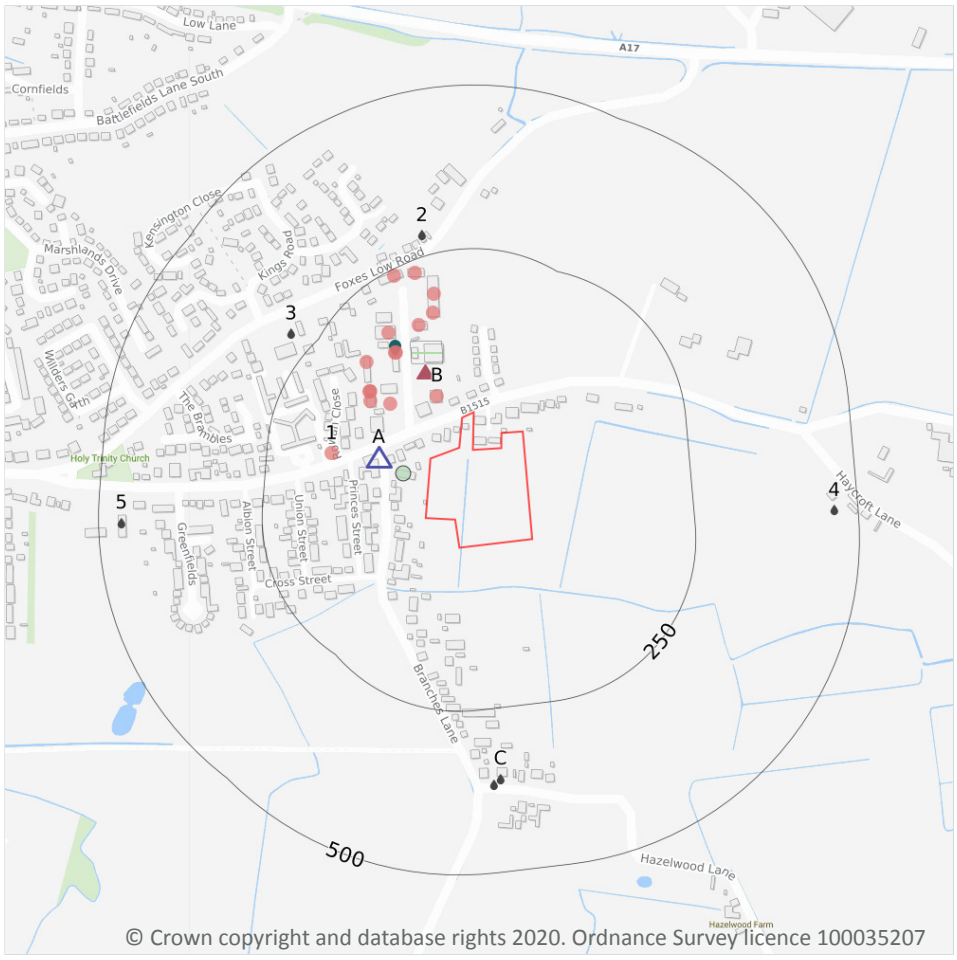
Features are displayed on the Waste and landfill map on **page 21**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	278m NW	FOXES LOWE ROAD, HOLBEACH, SPALDING, PE12 7PA	WEX021678	Storing waste exemption	Not on a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
A	278m NW	FOXES LOWE ROAD HOLBEACH SPALDING PE12 7PA	WEX020240	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	282m NW	South Holland Internal Drainage Board Marsh Reeves Holbeach Lincolnshire PE12 7PA	EPR/PE5755YU /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place
1	384m NW	-	WEX178236	Storing waste exemption	Not on a farm	Storage of waste in a secure place
2	464m N	South Holland Internal Drainage Board Marsh Reeves Holbeach PE12 7PA	EPR/XE5050YZ /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Current or recent petrol stations
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	15

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Company	Address	Activity	Category
B	51m NW	Frontier Agriculture Ltd	Unit 31, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Agricultural Machinery and Goods	Industrial Products
B	105m NW	Fleet Road Industrial Estate	Lincolnshire, PE12	Business Parks and Industrial Estates	Industrial Features

ID	Location	Company	Address	Activity	Category
B	127m NW	Miller Greetings	Unit 2, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Published Goods	Industrial Products
B	138m NW	Eu Ltd	Unit 3, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Vehicle Parts and Accessories	Motoring
B	139m NW	Exhausts Unlimited	Unit 3, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Vehicle Parts and Accessories	Motoring
B	142m NW	Extreme Quads	Unit 5, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	New Vehicles	Motoring
B	142m NW	J M L Henderson	Unit 13, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	General Construction Supplies	Industrial Products
1	151m W	Electricity Sub Station	Lincolnshire, PE12	Electrical Features	Infrastructure and Facilities
B	156m NW	A & J Services Spalding Ltd	Unit 30, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Electrical and Electronic Engineers	Engineering Services
B	165m N	Hargrave Agriculture	Unit 29, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Agricultural Machinery and Goods	Industrial Products
B	169m NW	T B C Ltd	Unit 10, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	General Construction Supplies	Industrial Products
B	172m NW	J T Ward Kitchens & Bedrooms Ltd	Unit 18, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	General Construction Supplies	Industrial Products
B	191m N	Control Freaks Ltd	Unit 27, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Electronic Equipment	Industrial Products
B	231m NW	Newtec Odense UK Ltd	Unit 21-23, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Measurement and Inspection Equipment	Industrial Products
B	241m NW	Tennyson Tyres Ltd	Unit 20, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY	Vehicle Parts and Accessories	Motoring

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 24**

ID	Location	Company	Address	LPG	Status
A	79m W	PACE	36, Fleet Road, Branches Lane, Fleet, Holbeach, Spalding, Lincolnshire, PE12 8LA	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Company	Address	Operational status	Tier
B	87m NW	Sidney Banks Plc	Sidney Banks Plc, (banks Agriculture), Fleet Road, Holbeach, Spalding, PE12 8LX	Historical NIHHS Site	-

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	**1**

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.

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Details	
B	89m NW	Application reference number: No Details Application status: Approved Application date: No Details Address: Frontier Agriculture Ltd, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, England, PE12 8LX	Details: No Details Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	1

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

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Address	Details	
B	147m NW	A&J Services, 30 Fleet Road, Enterprise Park, Spalding, PE12 8LY	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	6

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 24**

ID	Location	Address	Details	
2	281m N	BUNGALOW AT FOX'S LOW ROAD, HOLBEACH, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3799 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 13/10/1981 Effective Date: 13/10/1981 Revocation Date: 01/10/1996
3	286m NW	FOXES LOW HOUSE, FOXES LOW ROAD, FLEET, LINCOLNSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRNLF01861 Permit Version: 1 Receiving Water: land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 13/11/1989 Effective Date: 13/11/1989 Revocation Date: 21/02/1992
C	357m S	BRANCHES LANE, HOLBEACH, SPALDING	Effluent Type: UNSPECIFIED Permit Number: PR5LF3386 Permit Version: 1 Receiving Water: land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 09/12/1976 Effective Date: 09/12/1976 Revocation Date: 01/10/1996
C	366m S	HAZELDENE, HAZELWOOD LANE, HOLBEACH, SPALDING, LINCS, PE12 8PF	Effluent Type: UNSPECIFIED Permit Number: PR5LF5526 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 24/06/1988 Effective Date: 24/06/1988 Revocation Date: 23/09/1997
4	463m E	HAYCROFT LANE, FLEET, HOLBEACH, SPALDING, LINCS, PE12 8LB	Effluent Type: UNSPECIFIED Permit Number: PRNLF02905 Permit Version: 1 Receiving Water: land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 01/06/1990 Effective Date: 01/06/1990 Revocation Date: 01/10/1996
5	465m W	HOLBEACH MANOR, FLEET ROAD, HOLBEACH, SPALDING, LINCS, PE12 7AX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRNLF00368 Permit Version: 1 Receiving Water: -	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 01/01/1980 Effective Date: 01/01/1980 Revocation Date: 01/10/1996

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	1

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

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Details	
A	40m W	Incident Date: 22/04/2003 Incident Identification: 152744 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

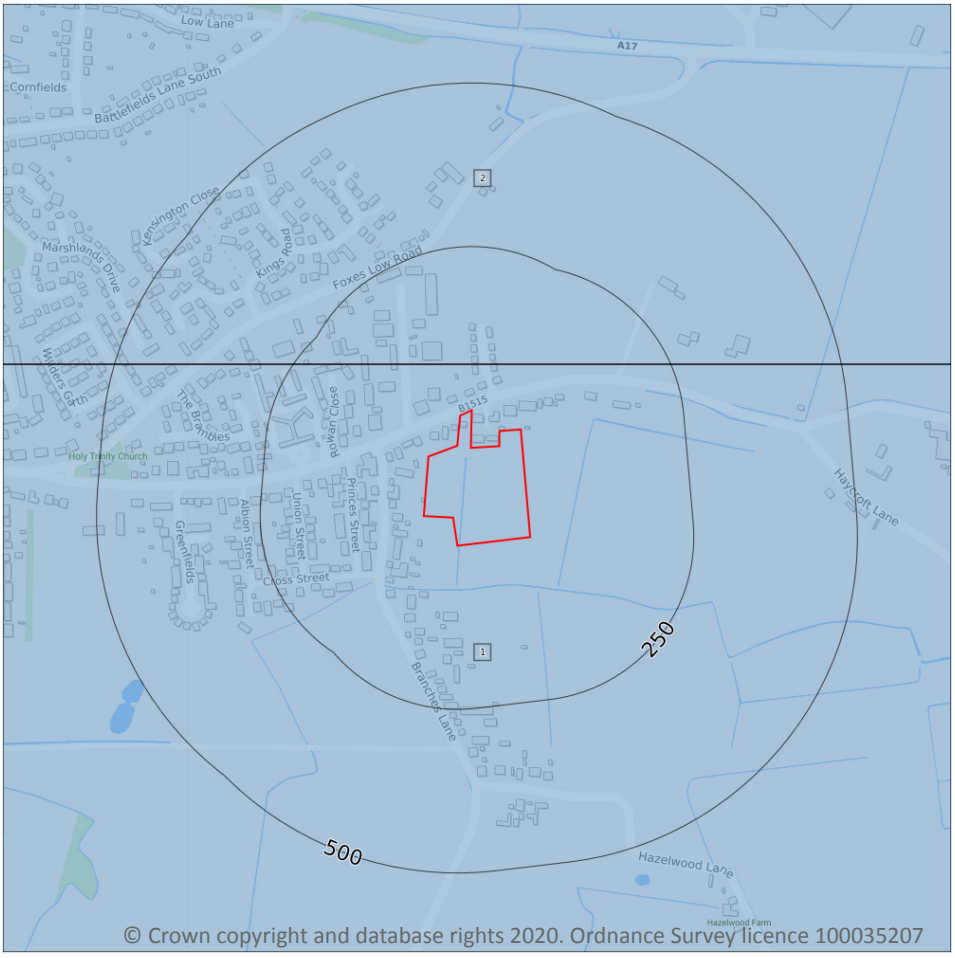
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

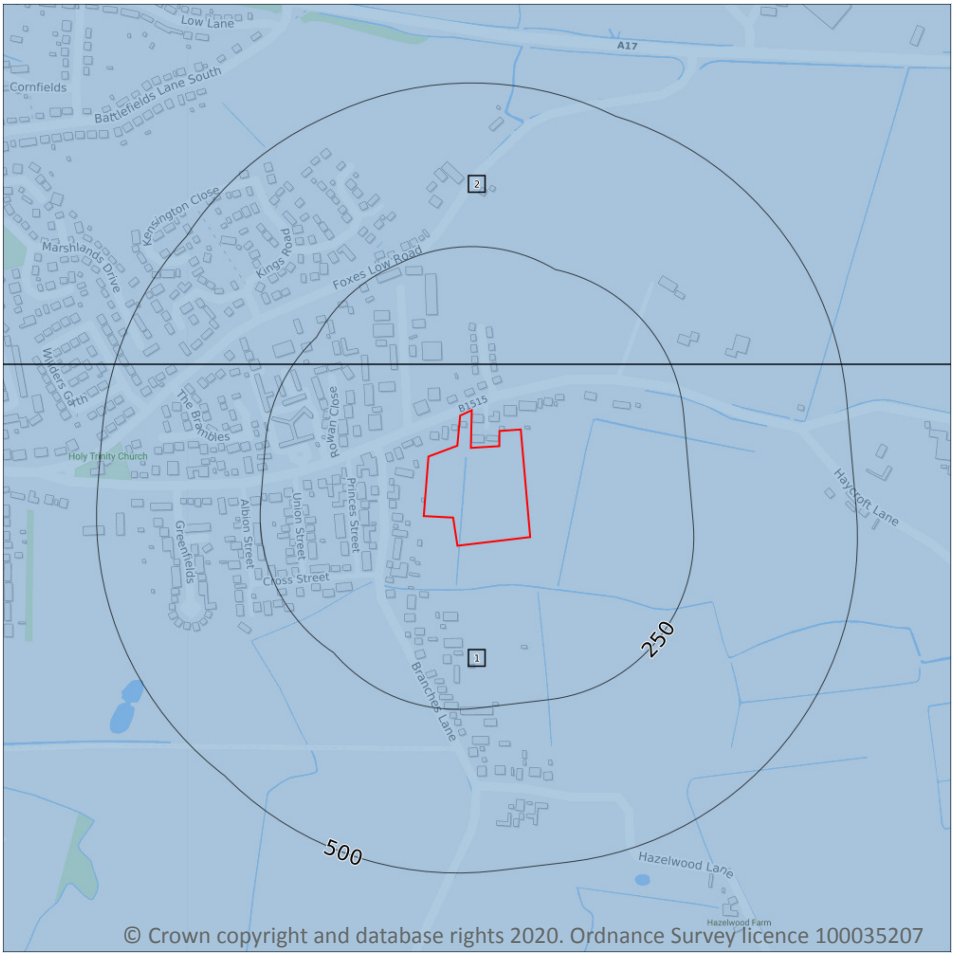
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 32**

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**
2	70m N	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	2

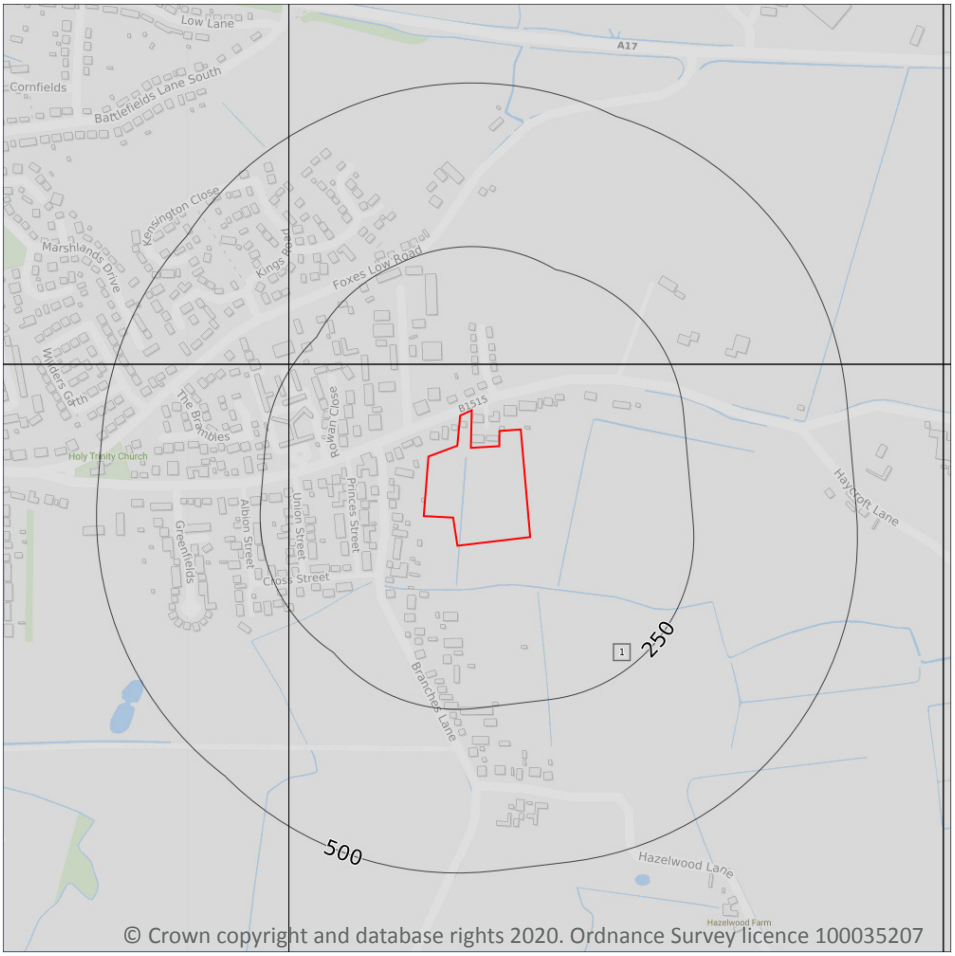
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 33**

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**
2	70m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

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

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

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

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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

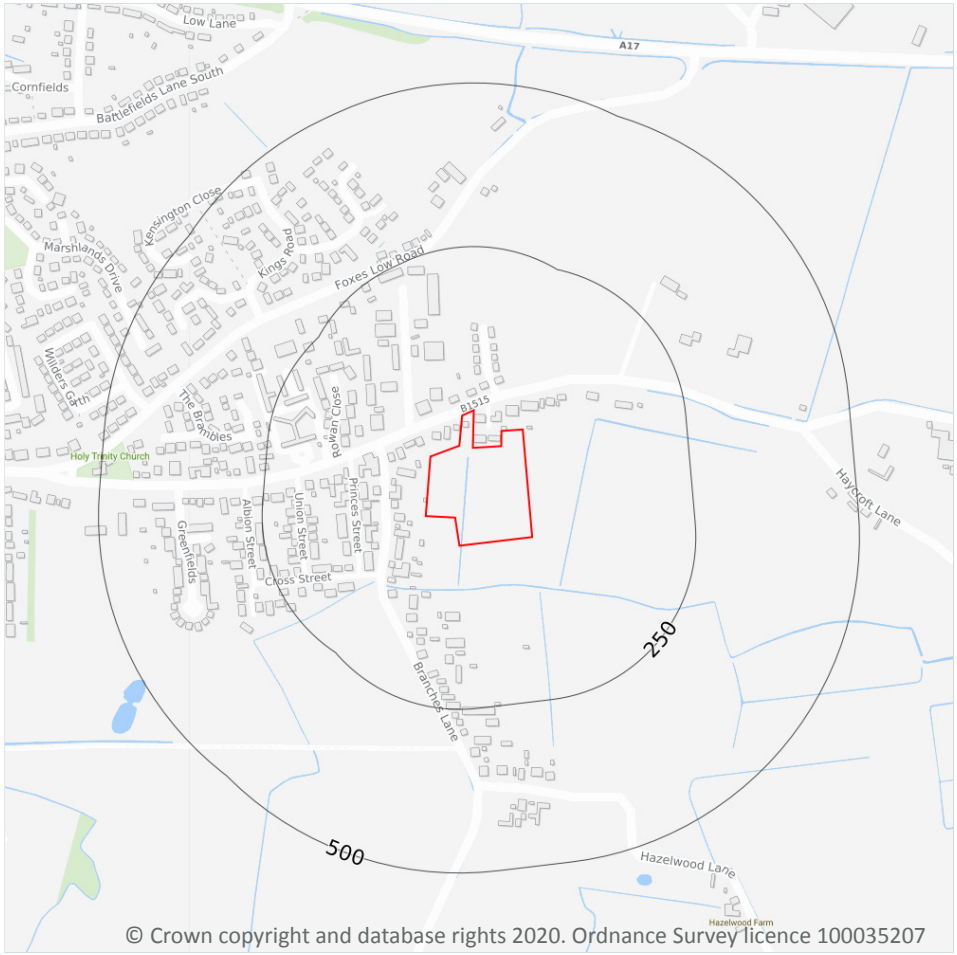
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	0

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

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

5.7 Surface water abstractions

Records within 2000m	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 36**

ID	Location	Details	
-	1628m W	Status: Historical Licence No: AN/033/0053/028 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: DRAIN IN WHITTLESEY & DISTRICT IDB Data Type: Line Name: P & L Hayes (Farms) Limited Easting: 535535 Northing: 300683	Annual Volume (m^3): 10480 Max Daily Volume (m^3): 1090.8 Original Application No: - Original Start Date: 20/05/2011 Expiry Date: 31/03/2025 Issue No: 7 Version Start Date: 25/04/2019 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.

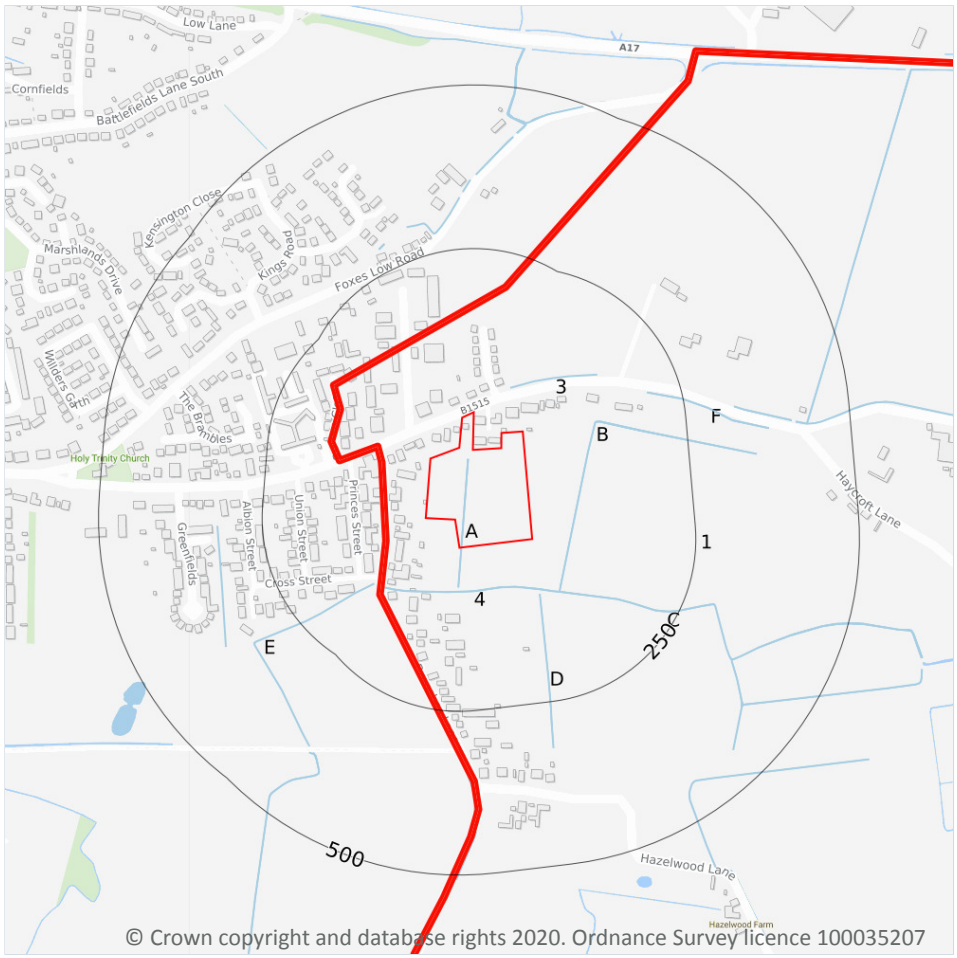
5.10 Source Protection Zones (confined aquifer)

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	8

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 39**

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

ID	Location	Type of water feature	Ground level	Permanence	Name
B	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	67m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	67m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	84m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	90m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	127m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	199m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**6**

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 39**

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 39**

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.

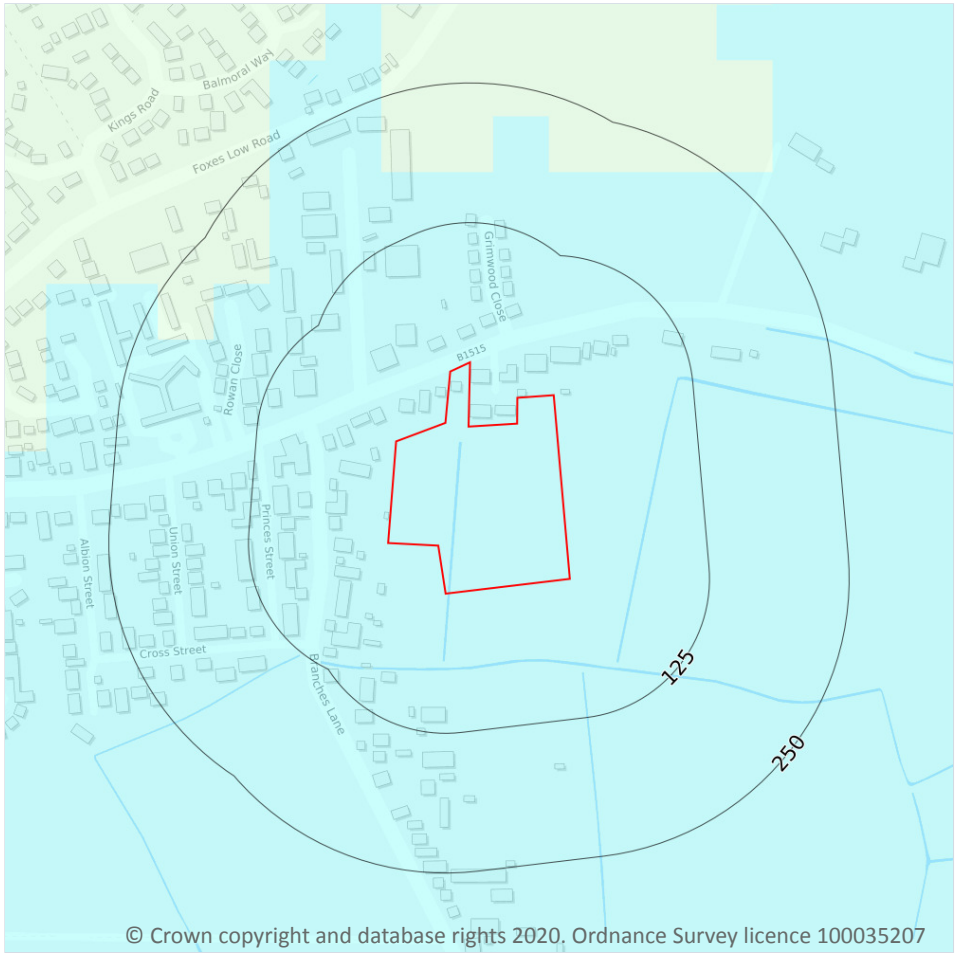
6.5 WFD Groundwater bodies

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)

Environment Agency 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 Sea (RoFRaS)

Records within 50m	1

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 42**

Distance	RoFRaS flood risk
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.

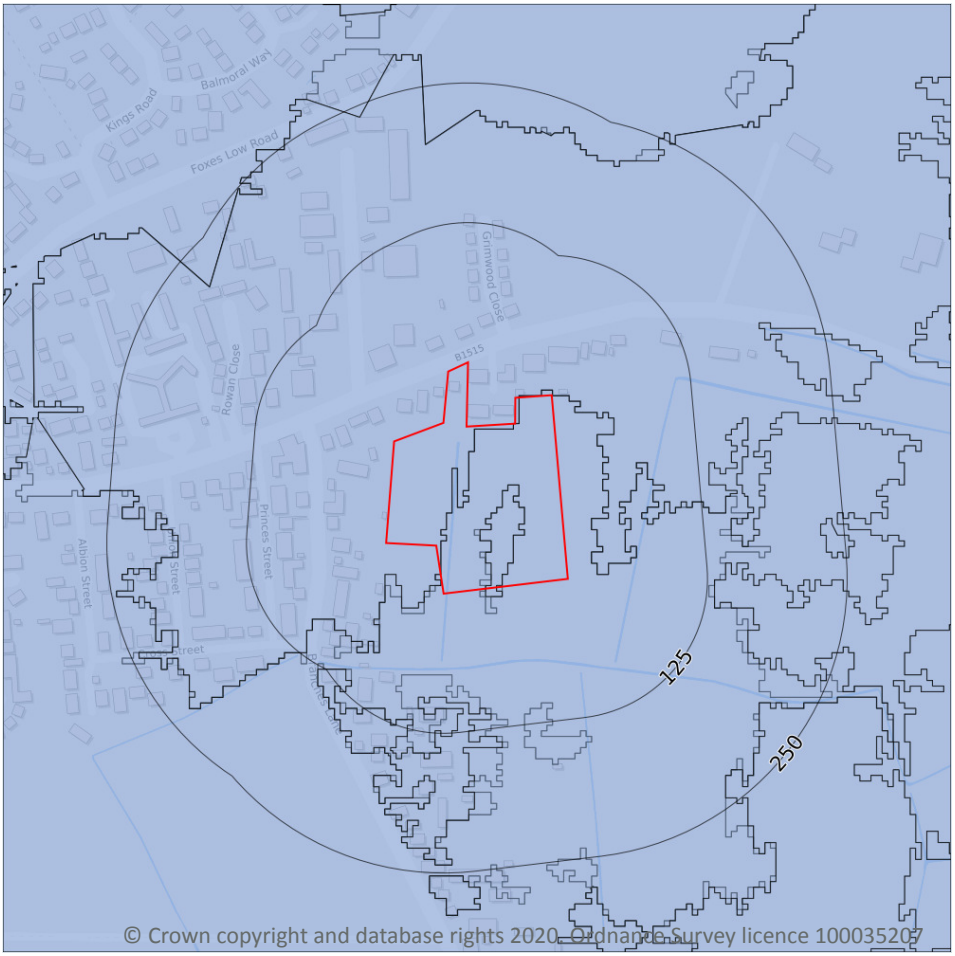
7.5 Flood Storage Areas

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 42**

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

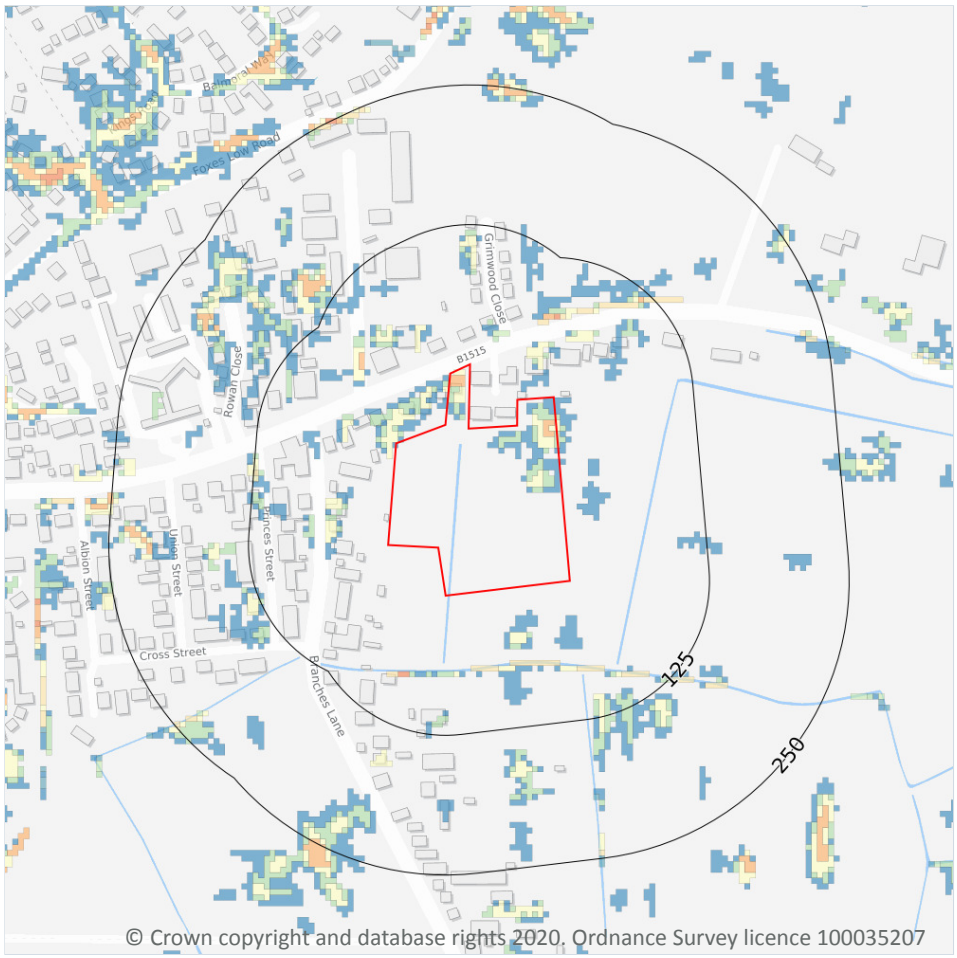
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 42**

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

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

8 Surface water flooding



Site Outline
Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

Highest risk on site	**1 in 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 46**

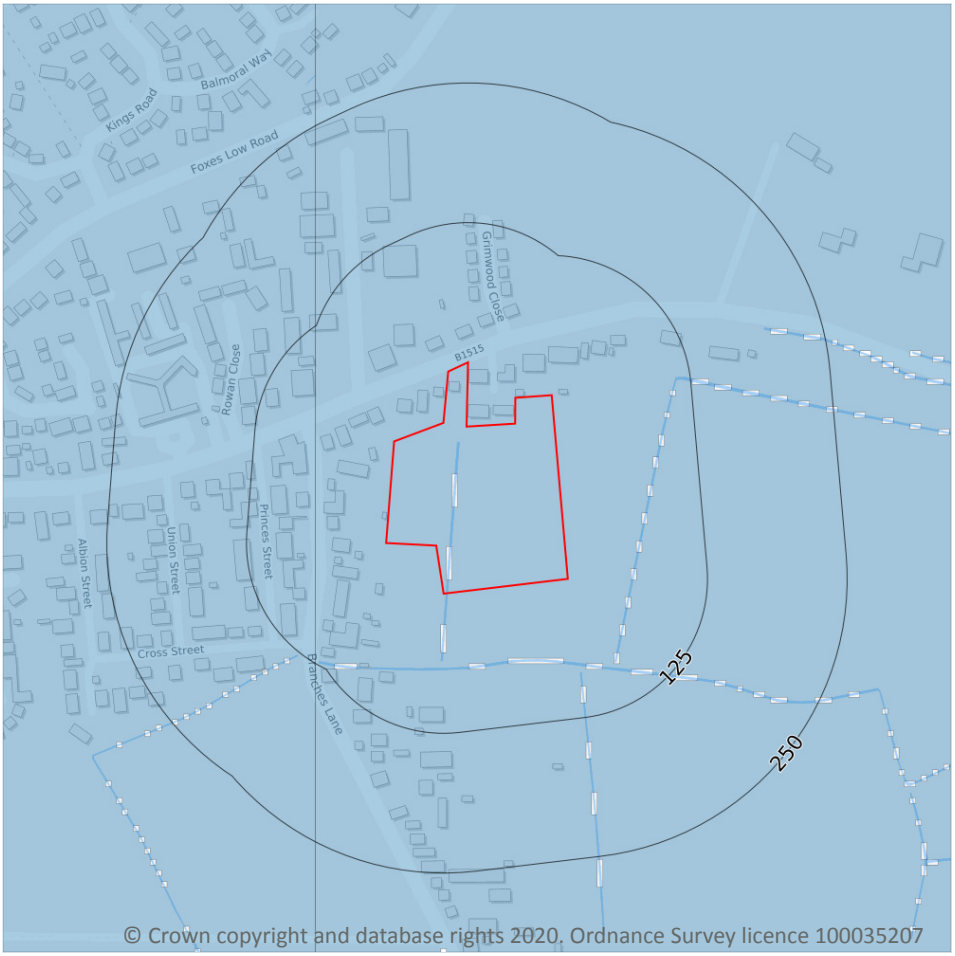
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

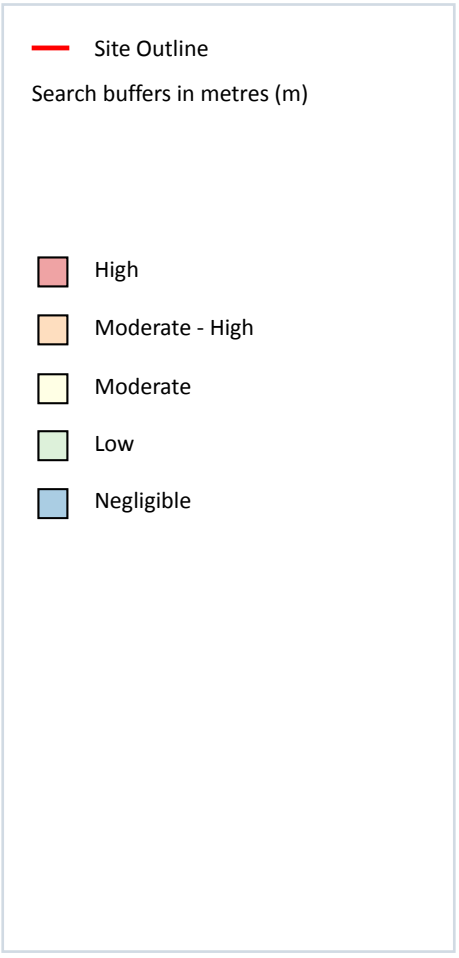
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 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 48**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	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

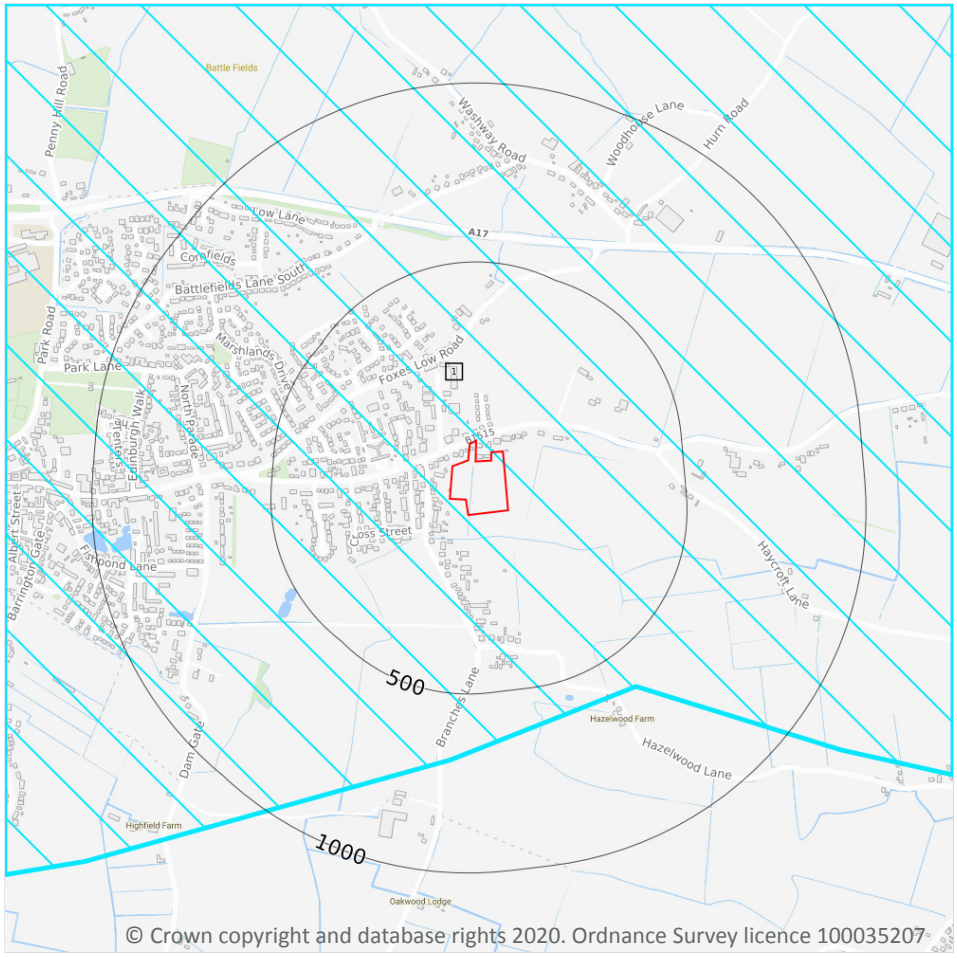
Records within 2000m	2

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

Location	Name	Type	NVZ ID	Status
140m NW	Whaplode River NVZ	Surface Water	S824	New
1053m N	Whaplode River NVZ	Surface Water	S824	New

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 53**

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 (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).**

This data is sourced from Natural England.

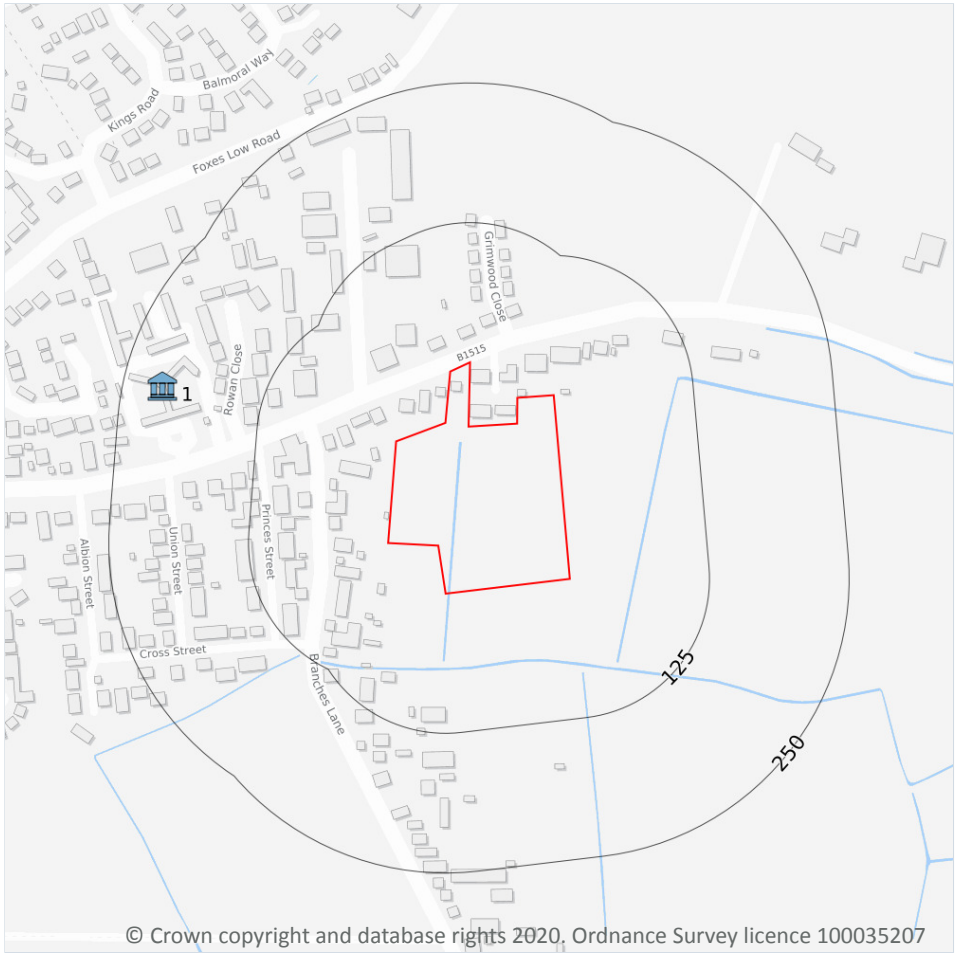
10.18 SSSI Units

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 55**

ID	Location	Name	Grade	Reference Number	Listed date
1	215m W	Fleet Hospital, Fleet, South Holland, Lincolnshire, PE12	II	1253325	23/02/1989

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

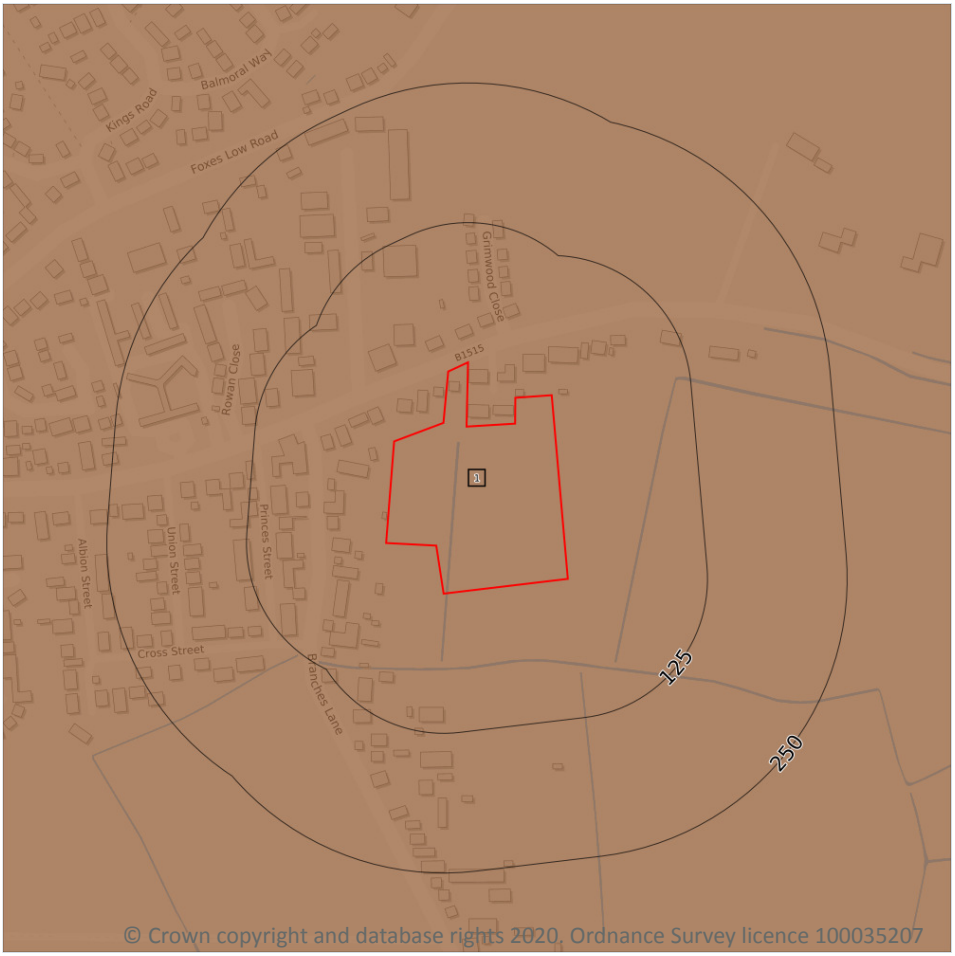
11.7 Registered Parks and Gardens

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 English Heritage, 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 58**

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	1

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

Location	Reference	Scheme	Start Date	End date
57m E	AG00712284	Entry Level Stewardship	01/10/2013	30/09/2018

This data is sourced from Natural England.

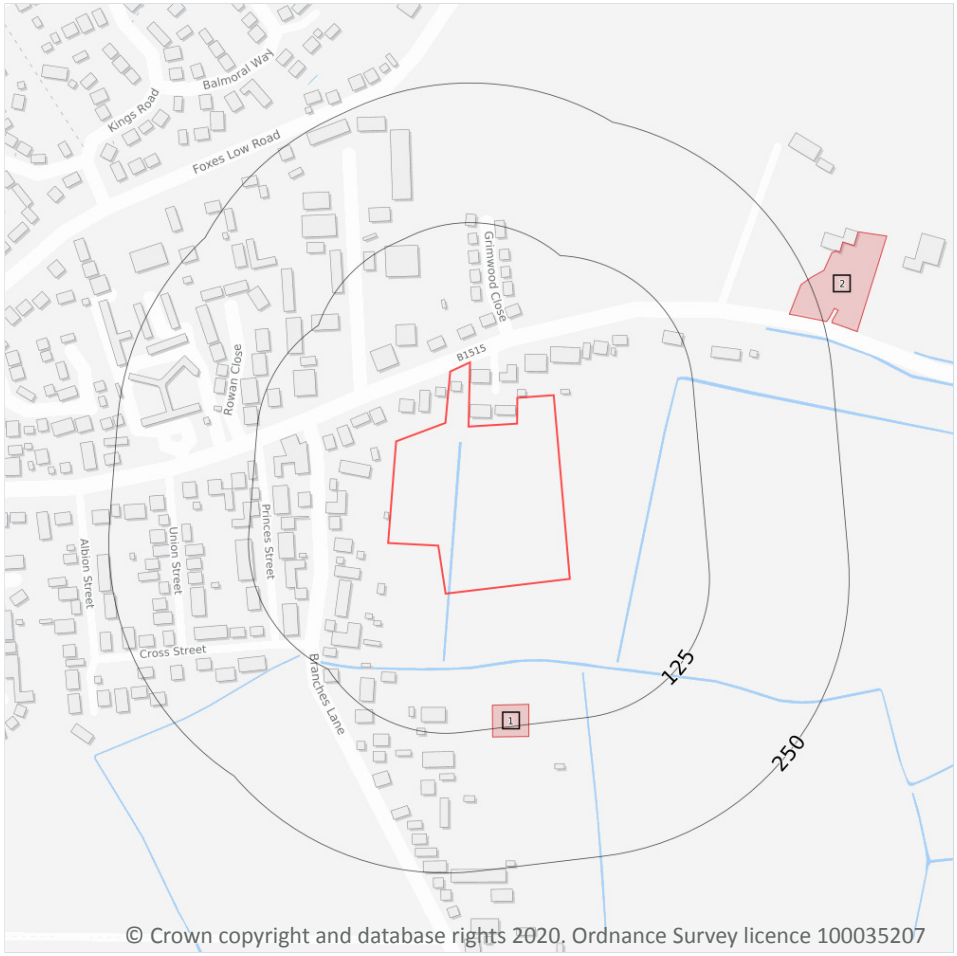
12.5 Countryside Stewardship Schemes

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



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	2

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

Features are displayed on the Habitat designations map on **page 60**

ID	Location	Main Habitat	Other habitats
1	104m S	Traditional orchard	Main habitat: TORCH (INV > 50%)
2	223m E	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	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 62**

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.

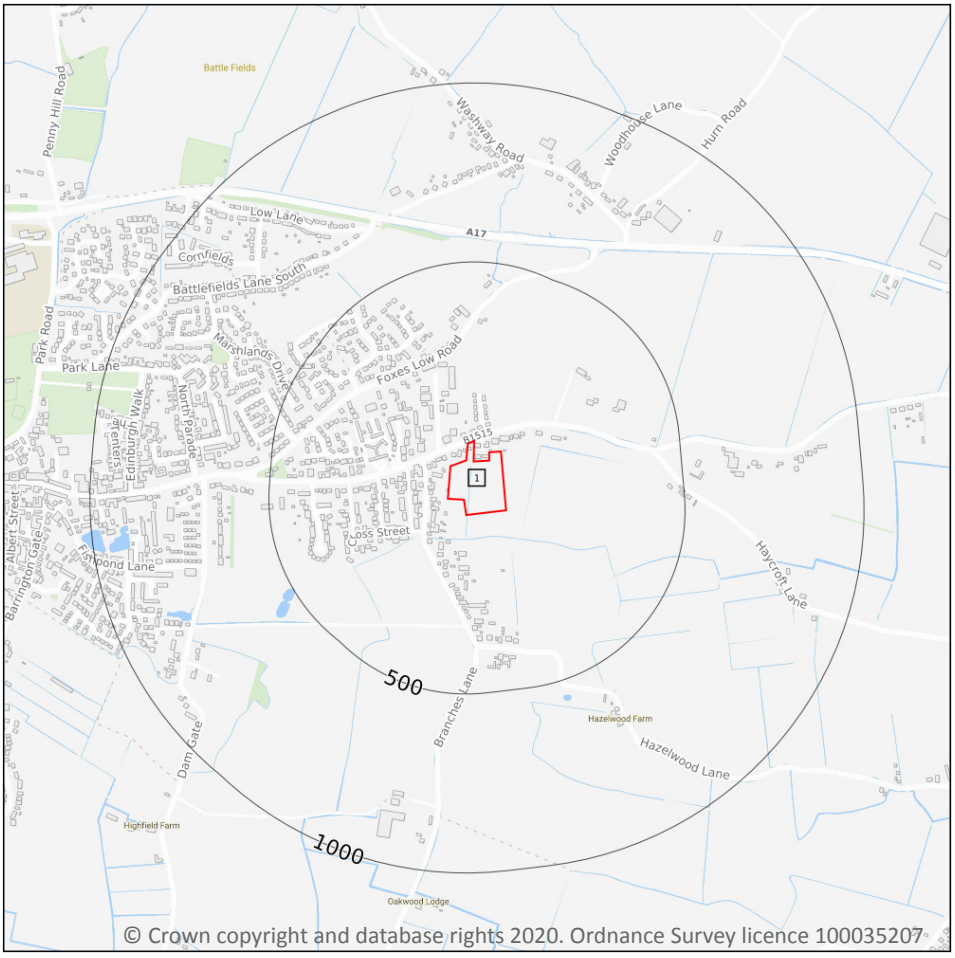
14.6 Bedrock faults and other linear features (10k)

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 66**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**EW144_spalding_v4**

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

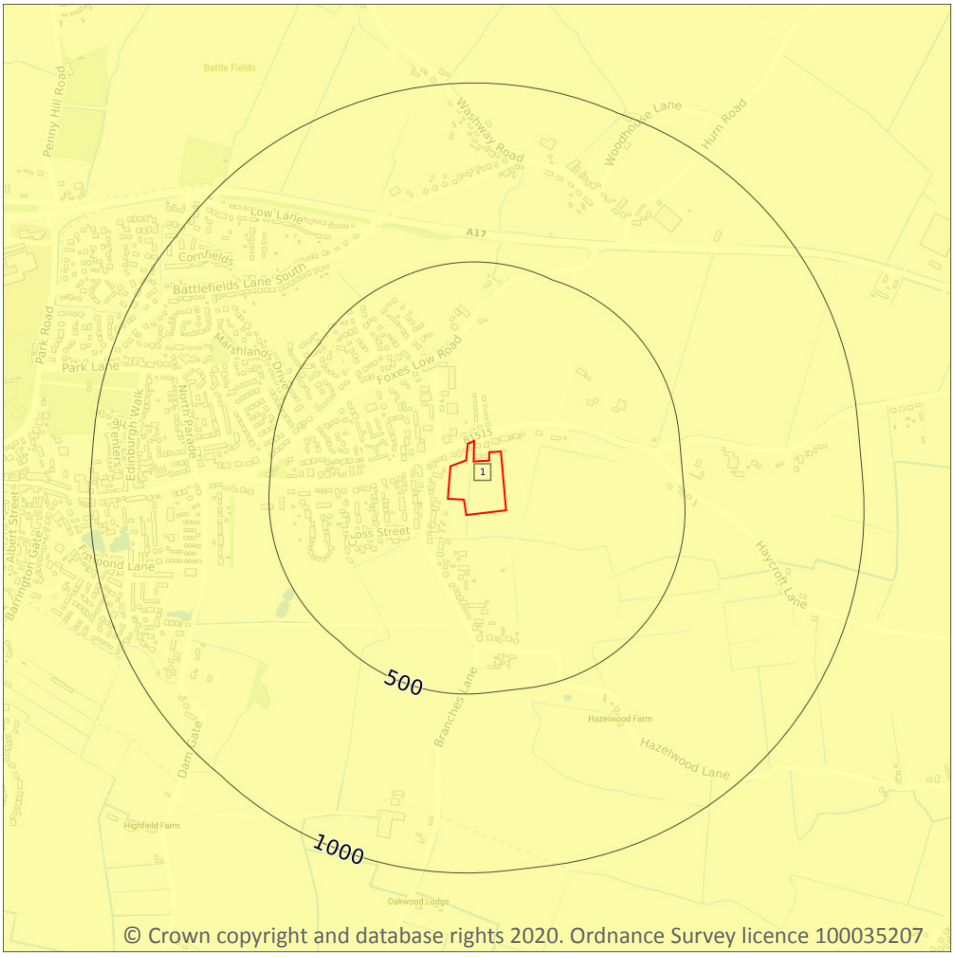
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 68**

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.

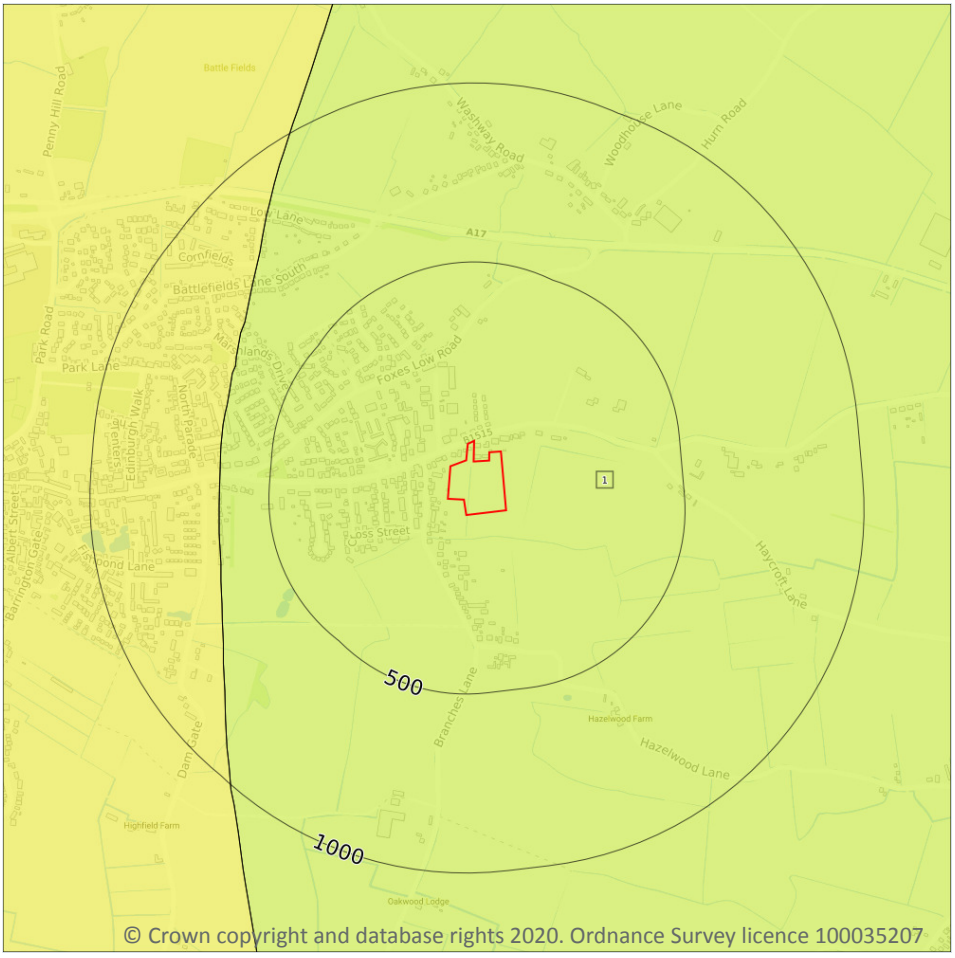
15.7 Landslip permeability (50k)

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 70**

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

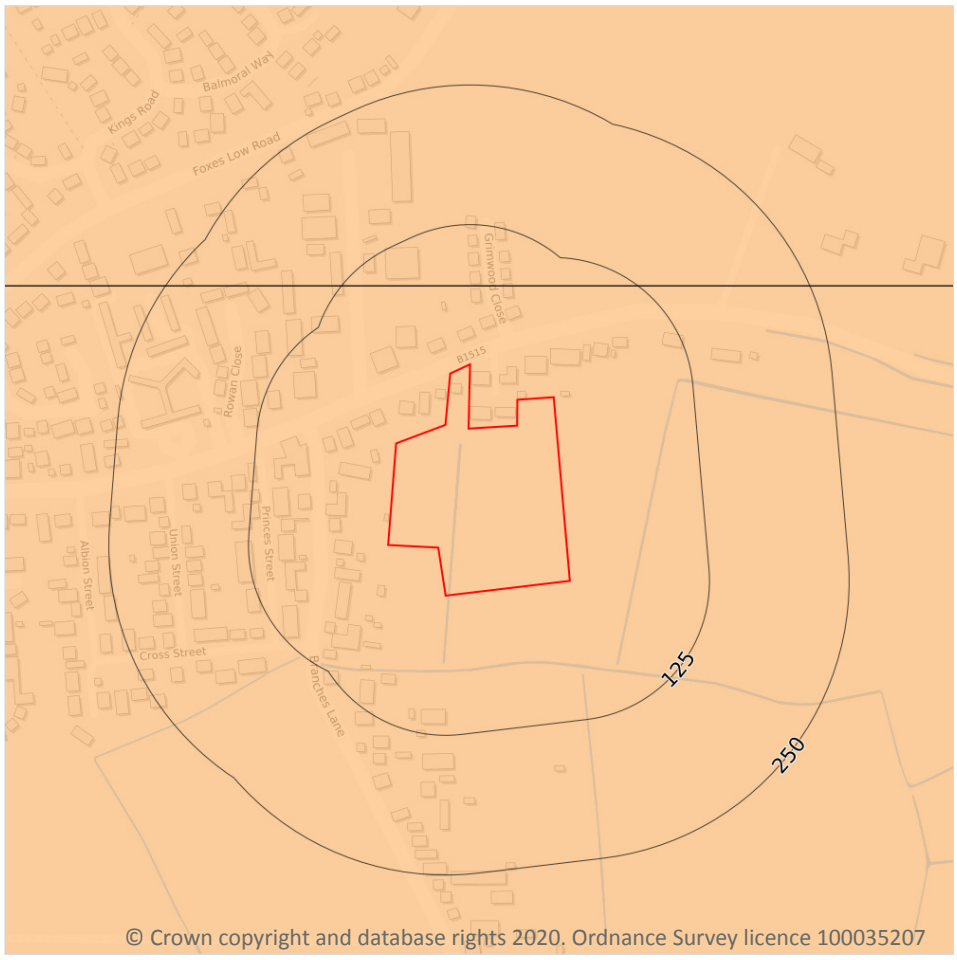
16.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

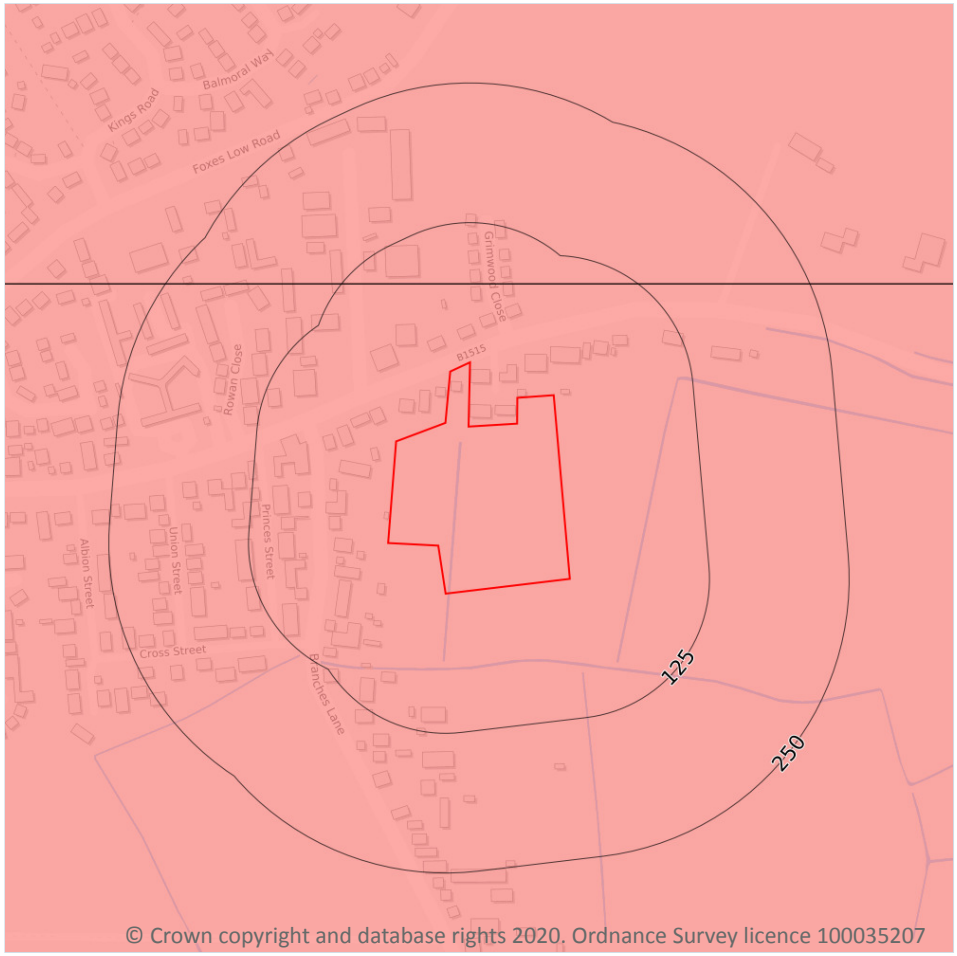
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 73**

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

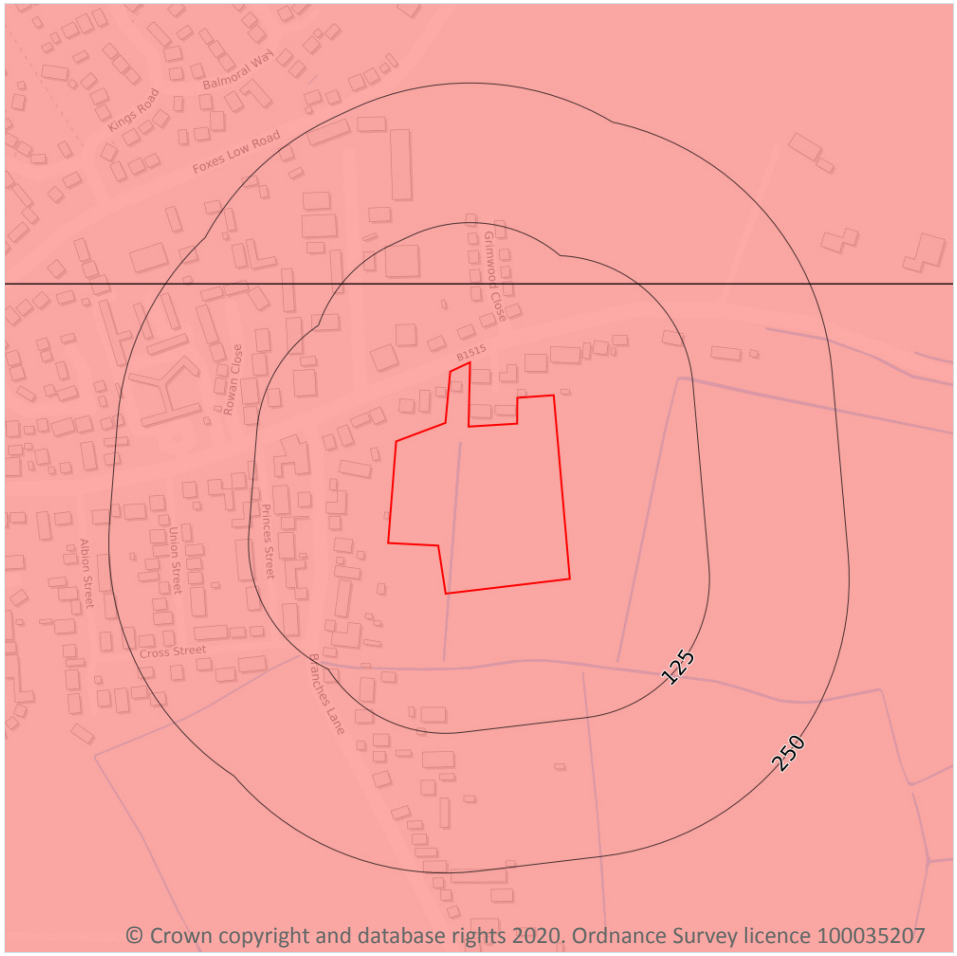
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 74**

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

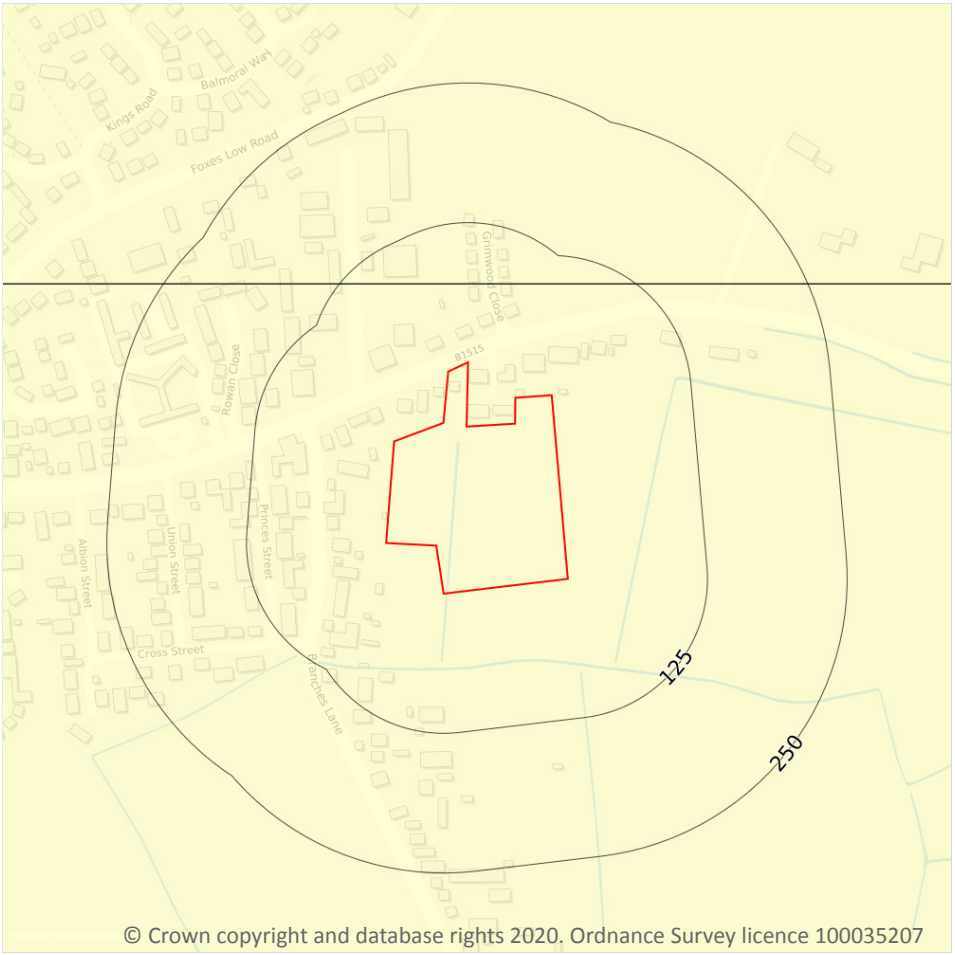
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 75**

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



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

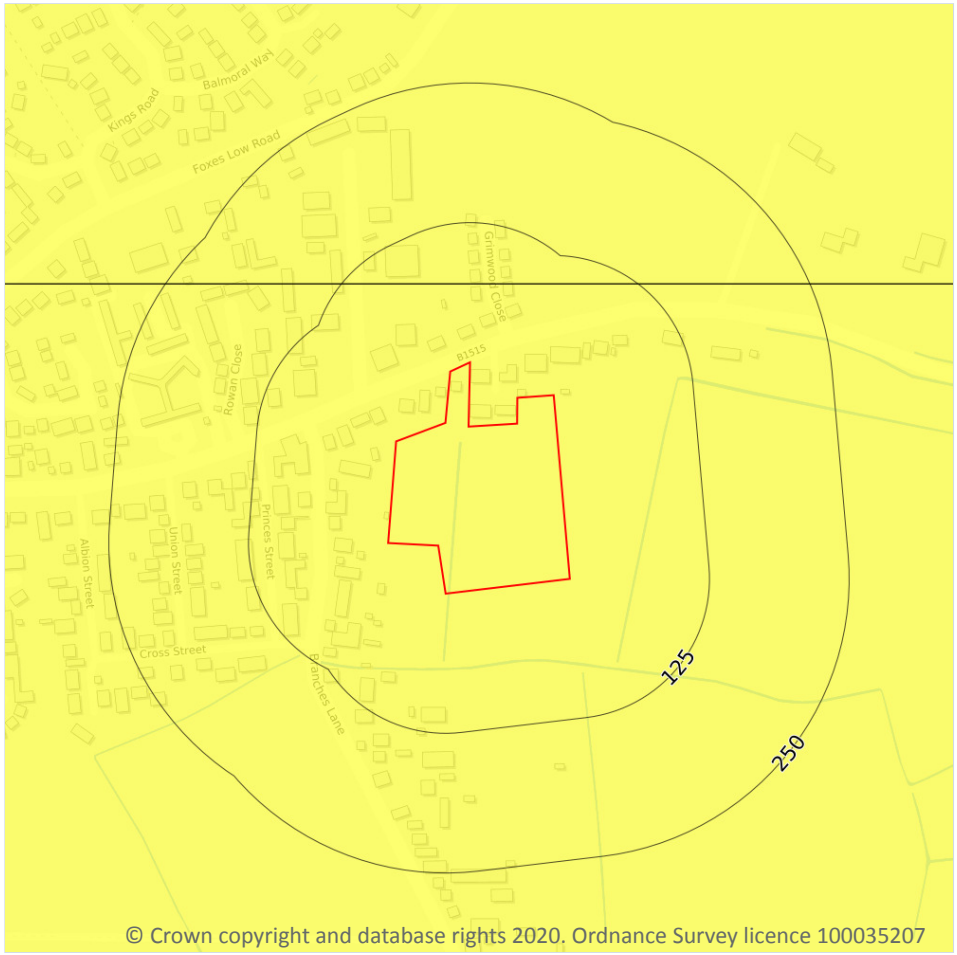
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 76**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

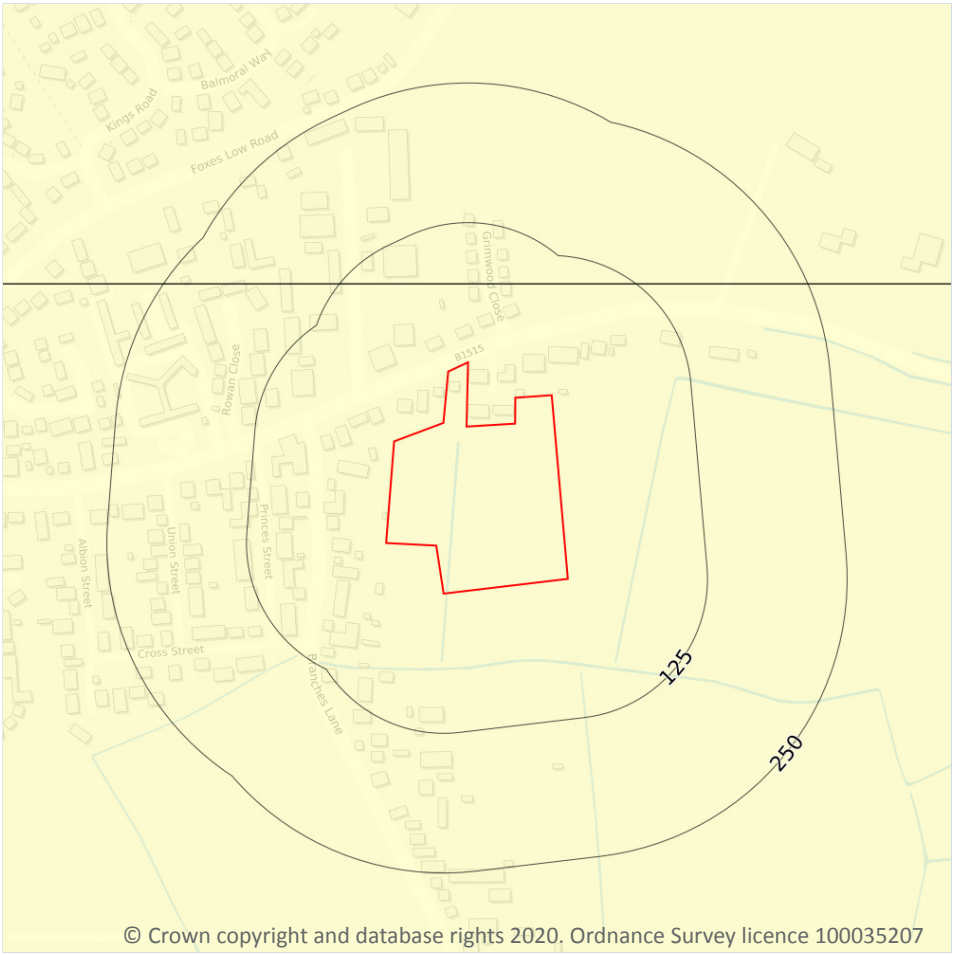
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 77**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 78**

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

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 Peter Brett Associates (PBA).

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	0

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.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	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 Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

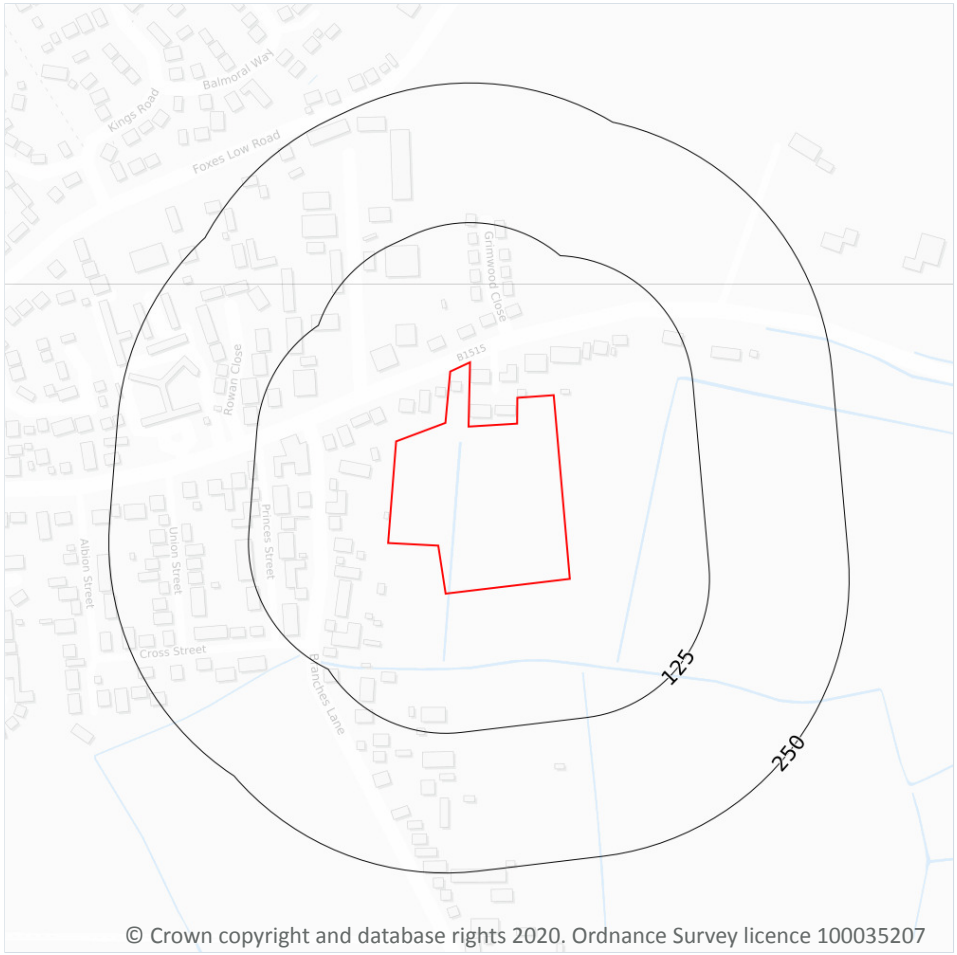
18.13 Clay mining

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



Site Outline

Search buffers in metres (m)

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

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 82**

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	1

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**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 km^2).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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