



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

**bEk Enviro Ltd**

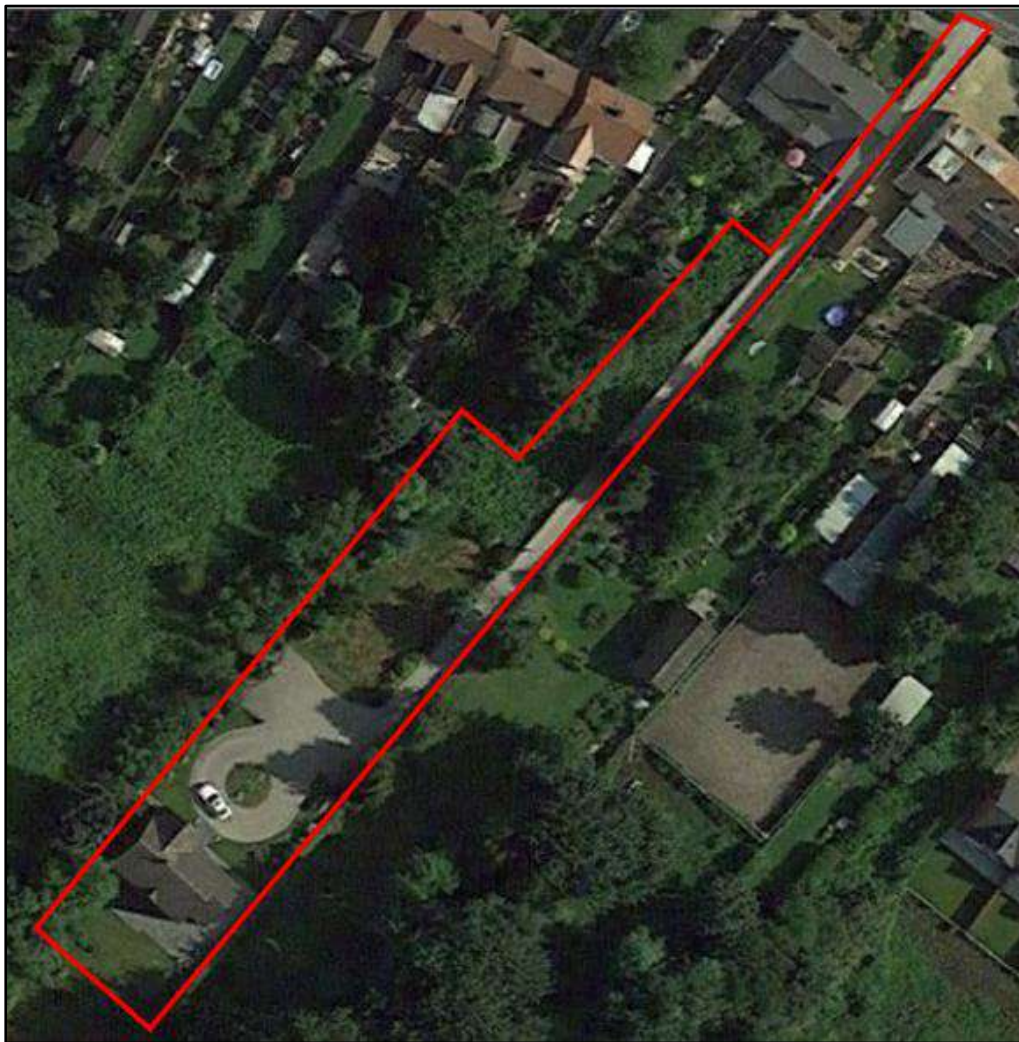
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## LAND AT 52A NEW CUT LANE, HALSALL, SOUTHPORT

### Phase 1 - Preliminary Risk Assessment



Prepared for:

QPM Solutions Limited

Report Ref: BEK-22146-1

December 2022



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## Project Quality Assurance Information Sheet

|               |   |
|---------------|---|
| Site          | Land at 52a New Cut Lane, Halsall, Southport  |
| Report Title  | Phase 1 - Preliminary Risk Assessment   |
| Report Status | Final   |
| Report No     | BEK-22146-1   |
| Date          | December 2022   |
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## Phase 1 - Preliminary Risk Assessment

**PROJECT NO:** 22146  
**REPORT REF:** BEK-22146-1  
**DATE:** December 2022

### REVISION STATUS / HISTORY

| Rev | Date | Issue / Comment | Prepared | Checked |
|-----|------|-----------------|----------|---------|
|     |      |                 |          |         |
|     |      |                 |          |         |
|     |      |                 |          |         |
|     |      |                 |          |         |

### GENERAL REPORT LIMITATIONS

BEK Enviro Limited (BEK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and BEK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by BEK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of BEK and the party for whom it was prepared. Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client.

The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

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## 1. INTRODUCTION

### 1.1 Appointment

1.1.1 BEK Enviro (BEK) has been commissioned by QPM Solutions Limited to prepare a Phase 1 - Preliminary Risk Assessment for an area of land located at 52a New Cut Lane, Halsall, Southport (hereafter referred to as 'the site') to assess the potential risks associated with contamination and ground gas.

1.1.2 The site location is shown on BEK Drawing No 22146-1 and the general site layout is presented on BEK Drawing No 22146-2. Copies of these drawings are presented in Appendix E.

### 1.2 Proposed Development

1.2.1 This report has been prepared to support a planning application for the extension of the existing property in the south of the site (Plot 1) and the construction of a new detached dwelling, garage and associated infrastructure in the centre of the site.

1.2.2 The 'Proposed Site Plan' is presented on RPS Design Group Drawing No: RPS\_22.07, a copy of which is presented in Appendix E and an extract of the plan is presented in Figure 1.



*Figure 1: Proposed Site Plan*

### 1.3 Objective & Scope of Work

1.3.1 This report provides the details of the works undertaken by BEK to assess the potential risks from contamination considering the residential end use (with homegrown produce).

1.3.2 To achieve the objective BEK will undertake the following:

- Carry out a site inspection and collect photographs
- Review the available relevant background information for the site, including:
  - Recent Ordnance Survey Maps
  - Site Specific GroundSure Reports
  - Site Specific Historical Maps
  - Magic Maps
  - Available Google Earth Images
  - Coal Authority Interactive Website
  - Specific Layout Drawings
  - Zetica UXO Website
- Develop a preliminary conceptual site model in accordance with guidance to identify potentially significant pollutant linkages specific to the proposed development
- Establish areas of potential concern based on identified risks and/or potential risks
- Identify any actions required to assess or reduce the risks identified

#### **1.4 Limitations**

1.4.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.

1.4.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

1.4.3 Issues associated with invasive plant species are outside the remit of this assessment.

## **2. SITE DESCRIPTION**

### **2.1 Site Location**

2.1.1 The site is located on New Cut Lane, Halsall, Southport approximately 3.5 km south of Southport town centre and some 4.6 km west of Scarisbrick.

2.1.2 The National Grid Reference for the centre of the site is 333386, 413488. The site location is presented on BEK Drawing No 22146-1, a copy of which is presented in Appendix E.

### **2.2 Site Layout & Description**

2.2.1 A walkover/inspection was conducted by an engineer from BEK on 2 November 2022. A selection of photographs illustrating the existing site layout are presented in Appendix D. The site layout is presented on BEK Drawing No 22146-2, a copy of which is presented in Appendix E.

2.2.2 The site covers an irregular shaped plot of land occupying an area approximately 2500 m<sup>2</sup>. The site is occupied by a two storey detached residential dwelling and associated grounds.

2.2.3 A partially rendered brick built residential property with a slate roof is located in the south of the site. The building was locked and inaccessible and the windows were boarded up at the time of the site walkover. Flagged paved areas surround the property with several manhole covers noted. A wooden shed is located to the west of the dwelling.

2.2.4 A small landscaped well kept lawned garden with occasional tree is located to the south of the dwelling and a gravel parking area/turning circle is located to the north. There is another lawned area to the north of the turning circle near the centre of the site. A fenced off section of land comprising overgrown brambles/weeds is present in the north-west of the site.

2.2.5 A gravel access road runs along the eastern boundary of the site to the residential property in the south providing access to the site from New Cut Lane. A circular bricked feature was noted on the eastern boundary of the site with a manhole present in the centre of the feature. This feature is possibly associated with foul drainage infrastructure for the existing property.

### **2.3 Surrounding Land Use**

2.3.1 The site is located in a semi-rural residential area. Open fields lie to the west and south of the site. Residential properties lie to the north-west north-east. North Cut Lane lies to the north beyond which further residential properties and further fields are situated.

### 3. SITE HISTORY

3.1 The history of the site has been established using historical OS maps supplied by Groundsure. A selection of historical OS maps reviewed is presented in Appendix A.

#### 1847

3.2 The 1847 maps show the site to be vacant, occupied by open/agricultural fields. An unnamed road lies immediately north of the site. A number of drainage ditches lie with 250 m of the site, the closest of which lies immediately west of the site.

#### 1892

3.3 The 1892 maps show the site remain vacant. Boundary Farm lies approximately 95 m north-west of the site. Fine Janes Brook flows within a cutting some 120 m east and Gorsehill Farm is situated approximately 140 m north-west of the site (see Figure 1).

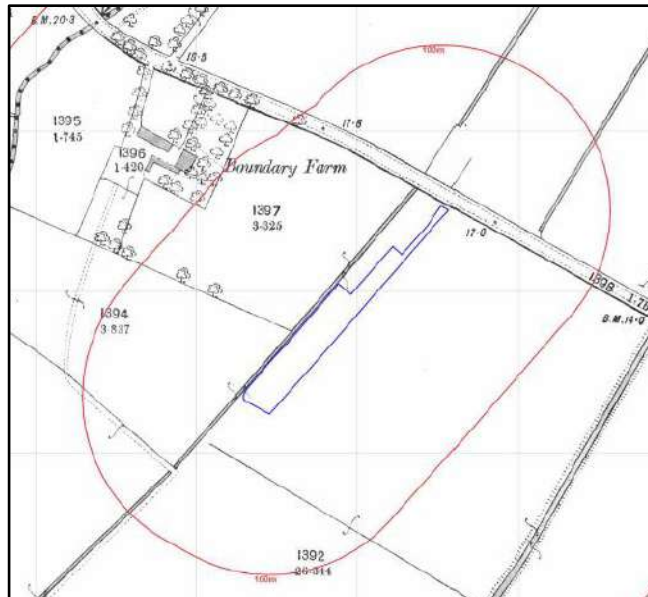


Figure 2: Extract from 1892 Map

#### 1908

3.4 The 1908 maps show no significant changes to the site and its surrounding areas.

#### 1928

3.5 The 1928 maps show a small residential house/outbuilding to be present in the centre of the site. A series of large residential properties are located immediately east/west of the site situated along the southern boundary of New Cut Lane. The properties extend 100 m to the west/east of the site. There has been further development on boundary farm a further 230 m north-west where a large residential building is now present.



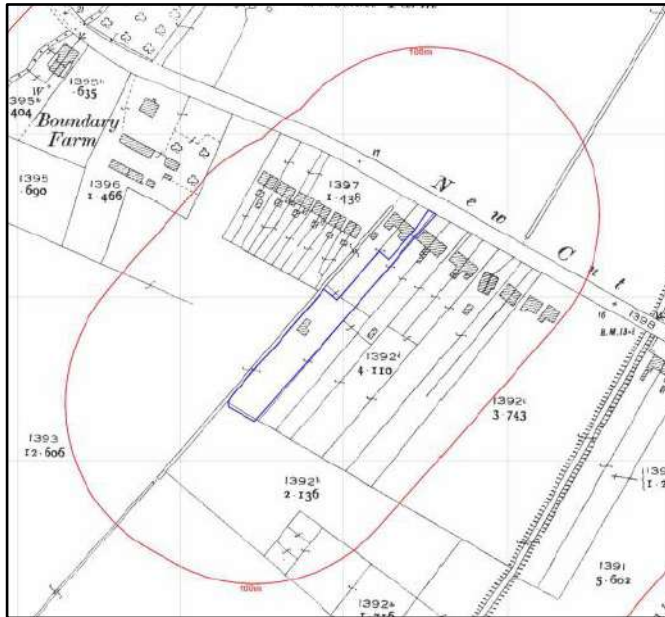


Figure 3: Extract from 1928 Map

1970

3.6

The 1970 maps show the site to be occupied by a poultry farm with a series of poultry houses located in the central/southern sections of the site and a number of outbuildings in the centre/north-west of the centre of the site. Extensive residential development has taken place to the north of New Cut Lane some 10 m north of the site. Five large greenhouses forming a nursery are situated some 70 m west of the site. Further residential development lies circa 210 m west. A garage is situated some 235 m north-west of the site.

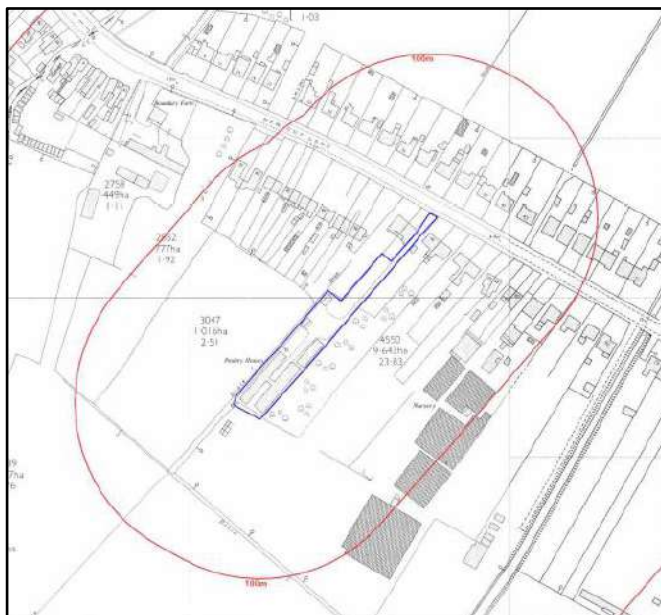


Figure 4: Extract from 1970 Map

### 1993

- 3.7 The 1993 maps show further development of the poultry farm on site which includes the addition of a further three poultry houses/outbuildings in the central northern section of the site. There are no significant changes to the areas surrounding the site.

### 2003

- 3.8 The 2003 maps show a large residential property in the south of the site which has replaced the poultry houses in this area. A number of the poultry farm buildings remain to the north of the centre of the site. The nursery buildings to the east are no longer present.



*Figure 5: Extract from 2003 Map*

### 2010-2022

- 3.9 The 2010 and 2022 maps show the poultry houses on site to no longer be present with the site now being solely occupied by a residential property and associated infrastructure. There are no significant changes to the areas surrounding the site.

## 4. ENVIRONMENTAL SETTING

4.0.1 An Enviro & Geo Insight Report has been obtained from Groundsure and information provided in these reports has been used within this section. A copy of the report is presented in Appendix B.

### 4.1 **Geology**

4.1.1 The site geology is illustrated in the Enviro & Geo Insight Report which has sourced data from several sources including British Geological Society (BGS), BRITPITS database and the Coal Authority. A copy of the report is presented in Appendix B.

4.1.2 There are three BGS boreholes available to view within 250 m of the site. However, the information provided within both borehole records is considered insufficient for the assessment.

#### Made Ground

4.1.3 According to the Enviro & Geo Insight Report there is no artificial ground (made ground) present beneath the site or within 250 m of the site.

4.1.4 However, as the site has been subject to development, the presence of made ground is considered likely.

#### Superficial Geology

4.1.5 The Enviro & Geo Insight Report indicates that the superficial geology overlying the northern periphery of the site comprises Peat.

4.1.6 The superficial strata overlying the majority of the site (except the northern periphery) comprises Blown Sand.

#### Bedrock

4.1.7 The Enviro & Geo Insight Report states that the solid geology underlying the site comprises 'Singleton Mudstone Member' which is generally described as 'dominantly mudstone and siltstone, red-brown with common grey-green reduction patches and spots.'

#### Faults & Linear Features

4.1.8 There are no fault lines and linear features located on/within 250 m of the site.

## 4.2 Mining & Ground Stability

4.2.1 Information on the Coal Authority Interactive Map indicates that the site is not located within an area which is considered to have been affected by coal mining.

4.2.2 The Enviro & Geo Insight Report provides hazard ratings associated with natural ground subsidence at the site, as summarised below:

|                                      |              |
|--------------------------------------|--------------|
| Shrink-Swell Clay:                   | Negligible   |
| Running Sands:                       | Very Low/Low |
| Compressible Deposits:               | High         |
| Collapsible Deposits:                | Negligible   |
| Landslides:                          | Very Low     |
| Ground Dissolution of Soluble Rocks: | Negligible   |

4.2.3 It can be seen from the above that the site is unlikely to be affected by the majority of natural ground instability parameters.

4.2.4 However, consideration should be given to the 'high' rating for compressible deposits in the where peat is present in the north-east of the site. The high rating is noted to represented a 'Significant constraint on land use depending on thickness.'

4.2.5 Consideration should also be given to the 'low' rating for running sands for the blown sans situated across the majority of the site (except the northern periphery). It is noted that 'Constraints may apply to land uses involving excavation or the addition or removal of water.'

## 4.3 Hydrogeology

4.3.1 According to the Enviro & Geo Insight Report the superficial blown sand underlying the majority of the site (except the northern periphery) are classified by the EA as a 'Secondary A'. These aquifers are described as 'permeable layers capable of supporting local water supplies at a local rather than strategic scale and in some cases forming an important source for base flow to rivers'.

4.3.2 The small section of peat deposits situated in the northern periphery of the site are classified by the EA as a 'Unproductive aquifer'. These are 'rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.'

4.3.3 The underlying bedrock is classified as a 'Secondary B' which is described as having 'Predominantly Lower Permeability layers which may store/yield limited amounts of ground water due to localized fissures, thin permeable horizons and weathering'.

4.3.4 The Enviro & Geo Insight Report indicates that there are no groundwater abstractions situated on/within 250 m of the site.

4.3.5 The site is not located within a groundwater Source Protection Zone.

#### 4.4 Hydrology

4.4.1 The Enviro & Geo Insight Report indicates that there are several ground surface water features present within 250 m of the site, the closest of which refers to a land drain which runs along the western boundary some 1 m west of the site. A further drain lies some 60 m south-west of the site Fine Jane Brook lies circa 149 m east and Sandy Brook is situated circa 156 m west. The locations of the water features situated within 250 m of the site are presented on Figure 6.

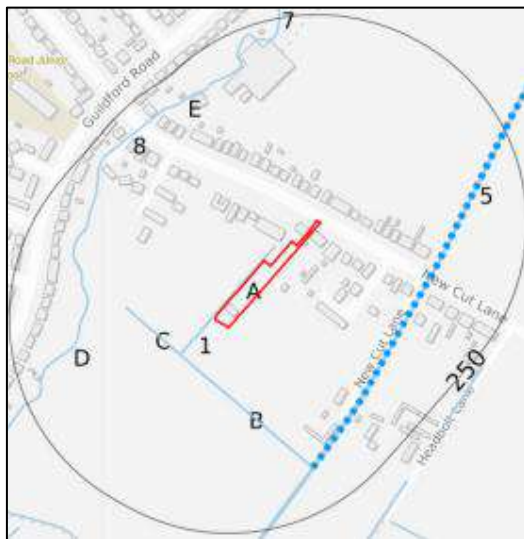


Figure 6: Summary of Surface Water Features Situated on/within 250 m of the Site

4.4.2 The Enviro & Geo Insight Report indicates that there are six licensed discharges to controlled waters within 250 m of the site. These refer to discharges at two locations (each under 3 different permit versions) which are summarized in Table 1.

| Location | Effluent Type                            | Receiving Water  | Permit Dates  |
|----------|--|------------------|---|
| 146 m SE | Sewage Discharges - Pumping Station      | Fine Janes Brook | Permit 1: 22/01/1997 to 28/05/1997<br>Permit 2: 29/05/1997 to 08/10/2018<br>Permit 3: 09/10/2018 to Present |
| 218 m NW | Sewage Discharges – Sewer Storm Overflow | Sandy Brook      | Permit 1: 01/01/1995 to 13/04/2009<br>Permit 2: 14/04/2009 to 23/07/2017<br>Permit 3: 24/07/2017 to Present |

Table 1: Summary of Licensed Discharge Consents on/within 250 m of the Site

4.4.3 There are two surface water abstractions located within 250 m of the site. Both appear to relate to historical/active abstractions to support spray irrigation activities. These are summarized within the table below.

| Location | Details  | Effective Dates  |
|----------|--|--|
| 230 m S  | Status: Historical<br>License No: 2670101028<br>Details: Spray Irrigation - Direct<br>Name: Banks<br>Annual Volume (m <sup>3</sup> ): Not Provided<br>Max Daily Volume (m <sup>3</sup> ): Not Provided | Start Date: 01/08/1990<br>Proposed Expiry Date: Not Provided |
| 230 m S  | Status: Active<br>License No: 2670101028<br>Details: Spray Irrigation - Direct<br>Name: F & A Baybutt Ltd<br>Annual Volume (m <sup>3</sup> ): 5,800.26<br>Max Daily Volume (m <sup>3</sup> ): 1,130.14 | Start Date: 10/08/2012<br>Expiry Date: Not Provided          |

**Table 2.** Summary of Surface Water Abstractions Located Within 250 m of the Site

4.4.4 The Enviro & Geo Insight Report indicates that the site is situated within Flood Zone 1.

#### 4.5 Contaminated Land & Landfill Activities

4.5.1 Information provided in the Enviro & Geo Insight Report indicates that there are no historic or current landfill sites or waste management facilities located within 250 m of the site.

4.5.2 There were 4 waste exemptions within 250m of the site. These refer to the 'deposit of waste from dredging of inland waters, deposit of agricultural waste consisting of plant tissue under a Plant Health notice, burning waste in the open and Use of waste in construction'.

4.5.3 There are no EA recorded pollution incidents located within 250 m of the site

4.5.4 There are no Part A(1), Part A(2), Part B or IPPC Authorised Activities located within 250 m of the site.

4.5.5 There no current or recent potentially contaminative land uses within 250 m of the site.

#### 4.6 Sensitive Land Uses

4.6.1 The site is not affected by any of the ecological systems identified as a statutory receptor in the DETR Circular 01/2006.

#### 4.7 Radon

4.7.1 Groundsure reports that 'less than 1% of homes are above the action trigger level' and that 'no radon protective measures are necessary in the construction of new dwellings or extensions'.



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#### **4.8 Unexploded Ordnance**

- 4.8.1 The regional unexploded bomb risk map from Zetica (2014) indicates that the site is in an area of Lancashire at LOW risk from possible Unexploded Ordnance (UXO) resulting from the Second World War.
  
- 4.8.2 BEK does not consider any further assessment to be required with respect to UXO.

## 5. POTENTIAL POLLUTANT LINKAGES

### 5.1 General

5.1.1 This section identifies the potential sources of contamination along with specific contaminants of concern, pathways and receptors that may be associated with the site based on its known history and the current condition and with respect to the re-development of the site for residential use (with homegrown produce).

5.1.2 This information is used to develop a preliminary conceptual model which is a qualitative description of potential sources of environmental pollutants, the pathways by which they are transported and the receptors:

- i) Potential sources of contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site
- ii) Potential pathways for contamination migration: these comprise the routes or mechanisms by which contaminants may migrate from the source to the receptor including environmental migration pathways and human health exposure pathways
- iii) Potential receptors of contamination: these include future land users, ecological systems, water resources and property

5.1.3 If no potential sources of contamination are identified as part of the assessment, then there are no risks associated with contamination to potential receptors associated with the site.

### 5.2 Potential Contaminants of Concern

5.2.1 Based on the earliest available maps dating from 1847 the site was noted to be vacant. Circa 1928, a small residential house/outbuilding was noted to be present near the centre of the site and by 1970 the site was marked as a Poultry Farm with a series of poultry houses located in the central/southern sections of the site and several outbuildings in the central/north-west of the site. Further development of the poultry farm took on site circa 1993 which included the addition of a further three poultry houses/outbuildings in the central northern section of the site.

5.2.2 By 2003, a large residential property had been constructed in the south of the site replacing the poultry houses in this area. At this time, the poultry farm buildings remained in the north of the site. All poultry farm buildings were absent by 2010 with the residential house being the only remaining property on site.



- 5.2.3 Historical OS Maps indicates that the site has been used for poultry farming. Given the history of the development on the site, made ground is likely to be present at the site. It may have been necessary to import material to level the site prior to the construction of any of former buildings on-site/made ground made have been deposited following demolition. The nature and source of any made ground on site is unknown and it could contain contaminants of concern.
- 5.2.4 Localised contamination from fuel oils and greases associated with the storage and repair of farm machinery may be present in areas where farm buildings were located. It is acknowledged that the farm buildings on site may have hardstanding concrete floors which would minimise impact to the underlying ground.
- 5.2.5 Furthermore, considering the age of the former poultry farm buildings at the site it is possible that oil fired boilers were used for heating/hot water and there may have been an associated kerosene oil tank. Although the presence/location of any such tank is unknown, consideration should be given the potential for localised contamination of organic contamination.
- 5.2.6 It is also noted that asbestos containing building materials were commonly utilised to construct poultry houses. Poorly managed demolition of any asbestos containing structures may have resulted in the deposition of such materials into the shallow soils on site. Poultry Farms can also represent a potential source of microbial contamination including pathogens. However, pathogens are relatively short lived in their presence is considered unlikely; it should also be noted that infection of humans by slurry borne organisms is not common.
- 5.2.7 The potential contaminants of concern associated with made ground and the historic use of the site are presented below:

| Contaminants Associated General Made Ground                   |   |
|---|---|
| Arsenic   | Zinc                                    |
| Cadmium   | Sulphate                                |
| Chromium  | Cyanide                                 |
| Copper  | Phenols                                 |
| Lead  | Polycyclic Aromatic Hydrocarbons (PAHs) |
| Mercury   | Total Petroleum Hydrocarbons (TPHCWG)   |
| Nickel  | Asbestos                                |
| Selenium  | pH                                      |
| Additional Contaminants Associated with the Former Activities |   |
| Speciated Petroleum Hydrocarbons (TPH-CWG)                    |   |
| MTBE  |   |
| BTEX Compounds  |   |
| Contaminants Associated with Poultry Farming                  |   |
| Heavy Metals  | Ammonia                                 |
| Phosphate   | Pathogens                               |

**Table 3: Potential Contaminants of Concern**

5.2.8 It should be noted that the above list represents a broad range of potential contaminants of concern. Additional contaminants of concern may be present if ground conditions differ from those anticipated and/or visual or olfactory evidence for contamination is encountered.

5.2.9 In addition, risks from ground gas have been identified. Potential sources of ground gas at the site include the peat deposits underlying the site.

### 5.3 Potential Pathways

5.3.1 The pathways through which contaminants may reach receptors are in part dependent by the nature and behavior of the contaminant and the intended end use of the site to residential (with homegrown produce).

5.3.2 The following potential pathways have been identified with respect to the existing site condition, historical use of the site as a farm, the environmental setting and the re-development of the site to residential (with homegrown produce) which are assessed in the conceptual model:

- Dermal contact of contaminated soil
- Ingestion of contaminated soil/home grown vegetables
- Inhalation of contamination dust
- Dissolution or suspension (leaching) of contaminants into pore waters affecting plant growth
- Indoor inhalation of organic vapours and ground gas
- Dissolution or suspension (leaching) of contaminants from site soils leading to lateral/vertical migration of contamination to nearby surface waters/underlying groundwater
- Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched waters to off-site receptors. Potential significant pathways include more permeable layers within the made ground/natural strata, underground services and piles/foundations
- Contamination affecting the integrity of service pipelines by direct contact
- Buildings affected by direct contact with elevated concentrations of sulphate and/or extreme pH

## 5.4 Receptors

5.4.1 Potential site specific receptors that may be affected by contamination at the site are listed below:

### Future Site Users

5.4.2 Future residents of the site could be at risk from contamination present at the site.

5.4.3 Potential risks are associated with ingestion of soils and home grown vegetables as well as inhalation of contaminated dust (including asbestos fibres) and dermal contact with contaminants of concern. These risks are all associated with the garden areas, or any open spaces of the proposed development.

5.4.4 In addition, risks associated with indoor inhalation of ground gas/organic vapours need to be assessed.

### Construction Workers

5.4.5 The primary risks to construction workers are associated with shallow excavations as asbestos could be present. Asbestos fibers (if present) can be released into the atmosphere during earthworks.

5.4.6 Standard personal protective equipment and site specific risk assessments and method statements should reduce risks associated with other contaminants of concern due to short exposure duration.

### Off Site Receptors

5.4.7 Off site receptors include residents within the vicinity of the site. Human health could be at risk if asbestos fibres are released during the development.

### Flora

5.4.8 Heavy metals and fuels can be phytotoxic and if present can represent a potential risk to flora in the garden areas.

### Buildings & Services

5.4.9 The integrity of service pipes can be affected by concentrations of organic contamination.

5.4.10 Moreover, the Singleton Mudstone Member bedrock typically has a high pyritic content which has the potential to induce the sulphate attack of concrete.

### Controlled Waters

- 5.4.11 There are no surface water features located on site. A drainage ditch runs along adjacent to the western site boundary and a further drain lies some 60 m south-west of the site. Both represent potentially significant receptors.
- 5.4.12 The peat deposits located in the northern periphery of the site are classified by the EA as an 'Unproductive Aquifer'. These are unlikely to represent a significant receptor. Notwithstanding, the superficial blown sands (Secondary A Aquifer) overlying the majority of the site and the bedrock Secondary B Aquifer represent potential receptors.
- 5.4.13 The site is not located within a groundwater Source Protection Zone and there are no groundwater abstractions situated on/within 250 m of the site.

## 5.5 Preliminary Conceptual Model

- 5.5.1 The identified potential sources of contaminants, pathways and receptors have been assessed to establish plausible pollutant linkages. All potentially significant pollutant linkages are detailed in Table B, in Appendix C.

## 5.6 Potentially Significant Pollutant Linkages

- 5.6.1 A number of possible 'significant pollutant linkages' have been identified associated with the site.
- 5.6.2 Potential risks relating to the potential harm to the health of humans and/or domestic pets both on and off site due to the potential for direct contact with contaminants in the made ground and the ingestion of contaminated soil/dust (**Link 1**).
- 5.6.3 There is also the possibility of windblown particulates being inhaled by people/animals both on site and off site (**Link 2**).
- 5.6.4 Home grown produce could be affected by ground contamination (**Link 3**) and human health could be at risk by the ingestion of home grown produce affected by contamination (**Link 4**).
- 5.6.5 Human health could be at risk by the inhalation of ground gases (**Link 5**) and/or volatile contamination migrating into properties on site (**Link 6**).
- 5.6.6 Property (including services, flora and fauna) could be affected by direct contact to high concentrations of contaminants (**Link 7**).



- 5.6.7 Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched permeable layers within the made ground/natural strata, underground services and foundations leading to impact on surface water quality in the drainage ditch running along the western boundary some 1 m west of the site and the further drain located some 60 m south-west of the site. **(Link 8)**.
- 5.6.8 Dissolution or suspension (leaching) of contaminants from site soils leading to impact within the superficial Secondary A Aquifer within the Blown Sands deposits and the underlying Secondary B within the bedrock **(Link 9)**.
- 5.6.9 Site investigation is required to identify site specific conditions and assess the risks associated with each identified plausible pollutant linkage.

## 6. RECOMMENDATIONS

6.1 Based on the findings of the Preliminary Risk Assessment herein, a number of potential risks associated with contamination have been identified with respect to the refurbishment and extension of the existing residential property in the south of the site and the construction of a proposed residential property in the northern central section of the site.

6.2 The risks have been identified to human health, controlled waters, flora, buildings (including services) and site investigation works are required to characterise the shallow ground conditions and quantify the potential risks identified. Risks from ground gas are also present on site.

6.3 It is recommended that the site investigation works also acquires geotechnical information to inform a geotechnical assessment to inform foundation design.

6.4 BEK recommends that the following works should be undertaken:

### Pre-refurbishment Asbestos Survey

6.5 The residential property in the south of the site should be subject to an asbestos survey and any asbestos should be removed prior to demolition and clearance.

### Site Investigation

6.6 The investigation will comprise the excavation of a series of window sample boreholes (possibly supplemented with trial holes) to prove the nature and thickness of any made ground present and characterise the natural strata. Exploratory locations will provide indicative across the whole site and at specific locations, based on historical activities/features.

6.7 Gas monitoring wells will be installed in a minimum of 3 boreholes to facilitate a ground gas risk assessment. An alternative would be to install robust gas protection measures in all new builds, but this approach would be subject to local authority approval.

6.8 The site investigation should be supervised by an experienced engineer who will be responsible for recording ground conditions encountered.

6.9 Representative samples will be recovered for chemical testing. All samples will be collected in appropriate sampling vessels, stored in a pre-cooled cool box and dispatched to the laboratory within 24 hours.

### Environmental Monitoring

- 6.10 The ground gas monitoring wells will be monitored on a minimum of 6 occasions over a 3 month period for gas flow rates, ground gas concentrations and water levels. Weather conditions will also be recorded including barometric pressure. Where possible gas monitoring should be carried out during periods of low or falling pressure.

### Laboratory Testing

- 6.11 Following a review of the ground conditions encountered, a selection of samples will be tested for total concentrations of the contaminants of concern listed in Table 3 of this report. If visual or olfactory evidence of contamination is encountered during the site investigation then it may be necessary to undertake additional testing.
- 6.12 At this stage it is considered unlikely that samples will need to be tested for leachable concentrations. However, if the initial findings confirm significant contamination is present then these tests will be required as part of a controlled waters risk assessment.
- 6.13 In addition, if soils are to be removed from site to facilitate the development works then it may be necessary to test soils for Waste Acceptance Criteria (WAC).
- 6.14 All testing will be carried out by a UKAS accredited laboratory to MCERTS standard (where applicable).

### Reporting

- 6.15 The investigation findings should be assessed in accordance with current UK policy and guidance to identify any potentially significant pollutant linkages and determine the requirements for mitigation and/or remediation.
- 6.16 The works undertaken will be detailed in a Site Investigation & Contamination Assessment report along with full justifications for the assessment and the conclusions/recommendations.

### Other Considerations

- 6.17 We recommend that the site investigation works consider the requirements for a full geotechnical assessment to provide recommendations for foundation design as well as to quantify the potential risks from contamination.
- 6.18 We would also recommend that consideration is given to the requirements of the water supply service provider and the completion of the UKWIR risk assessment for water pipe selection.

## APPENDIX A

Historical OS Maps



**Site Details:**

52A, NEW CUT LANE,  
HALSALL, PR8 3DW

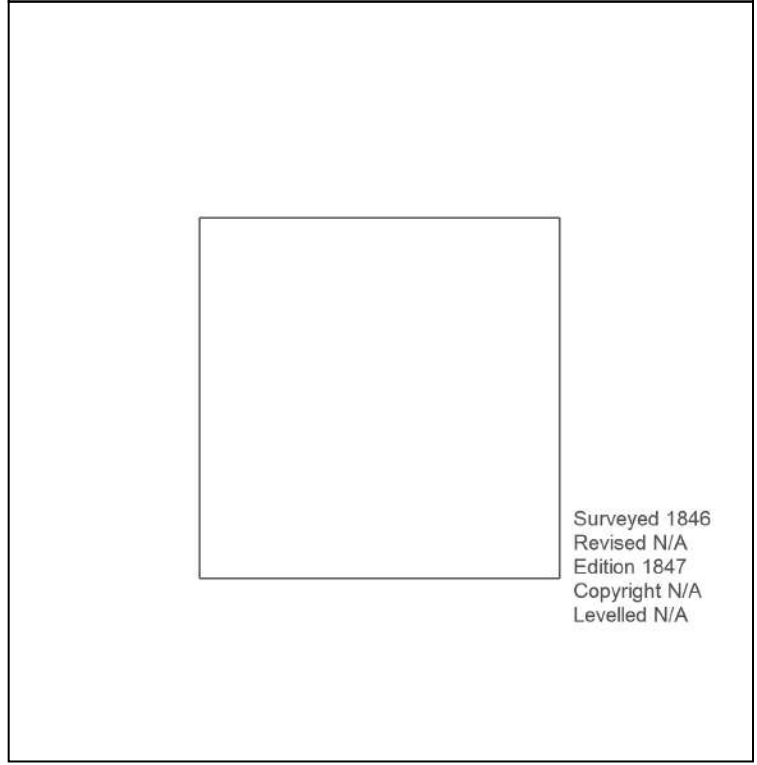
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Edition 1847  
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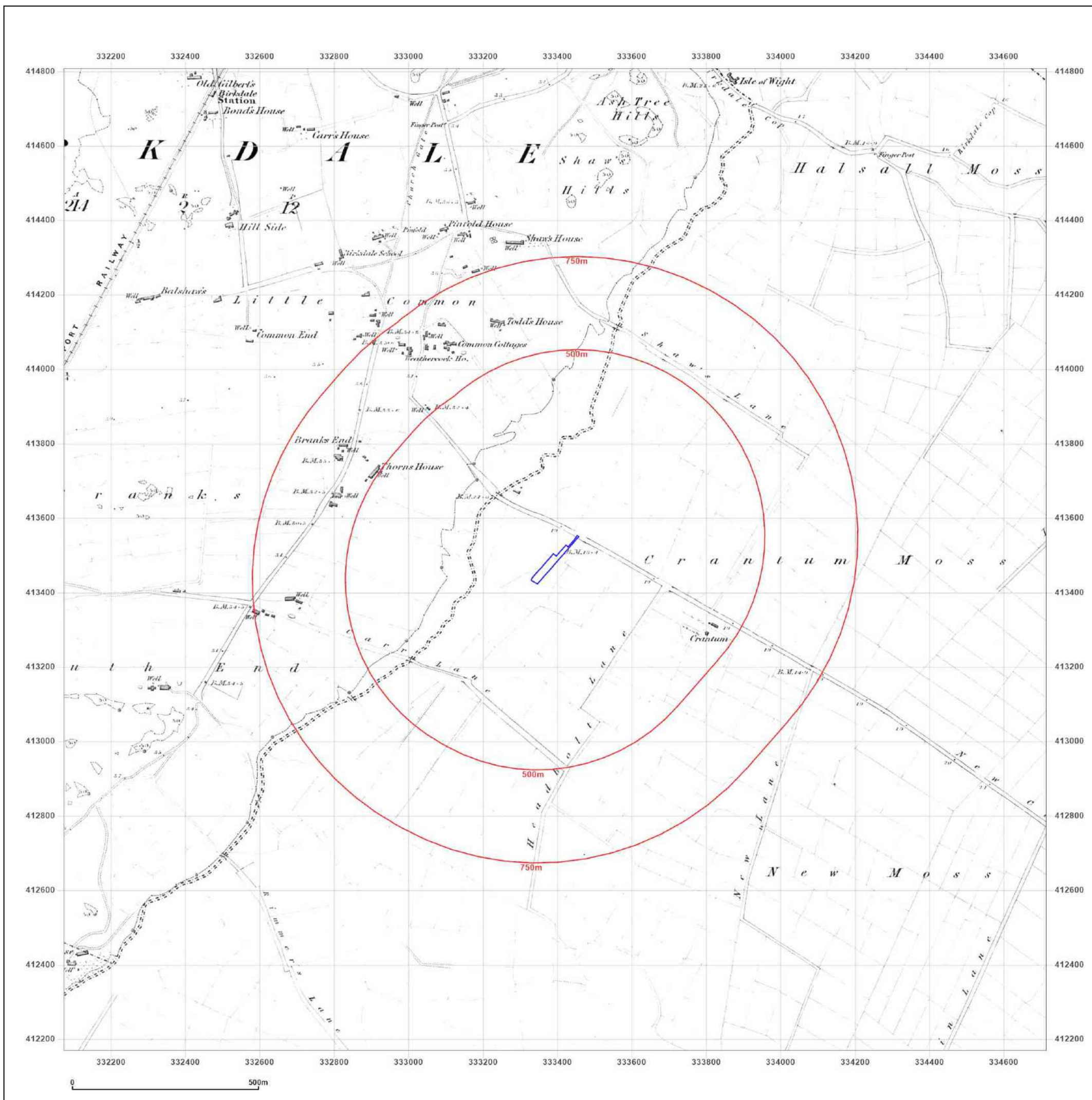


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**Site Details:**

52A, NEW CUT LANE,  
HALSALL, PR8 3DW

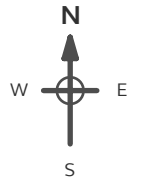
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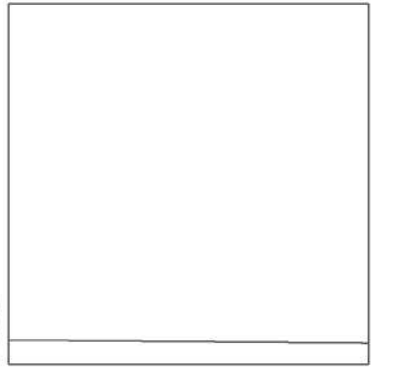
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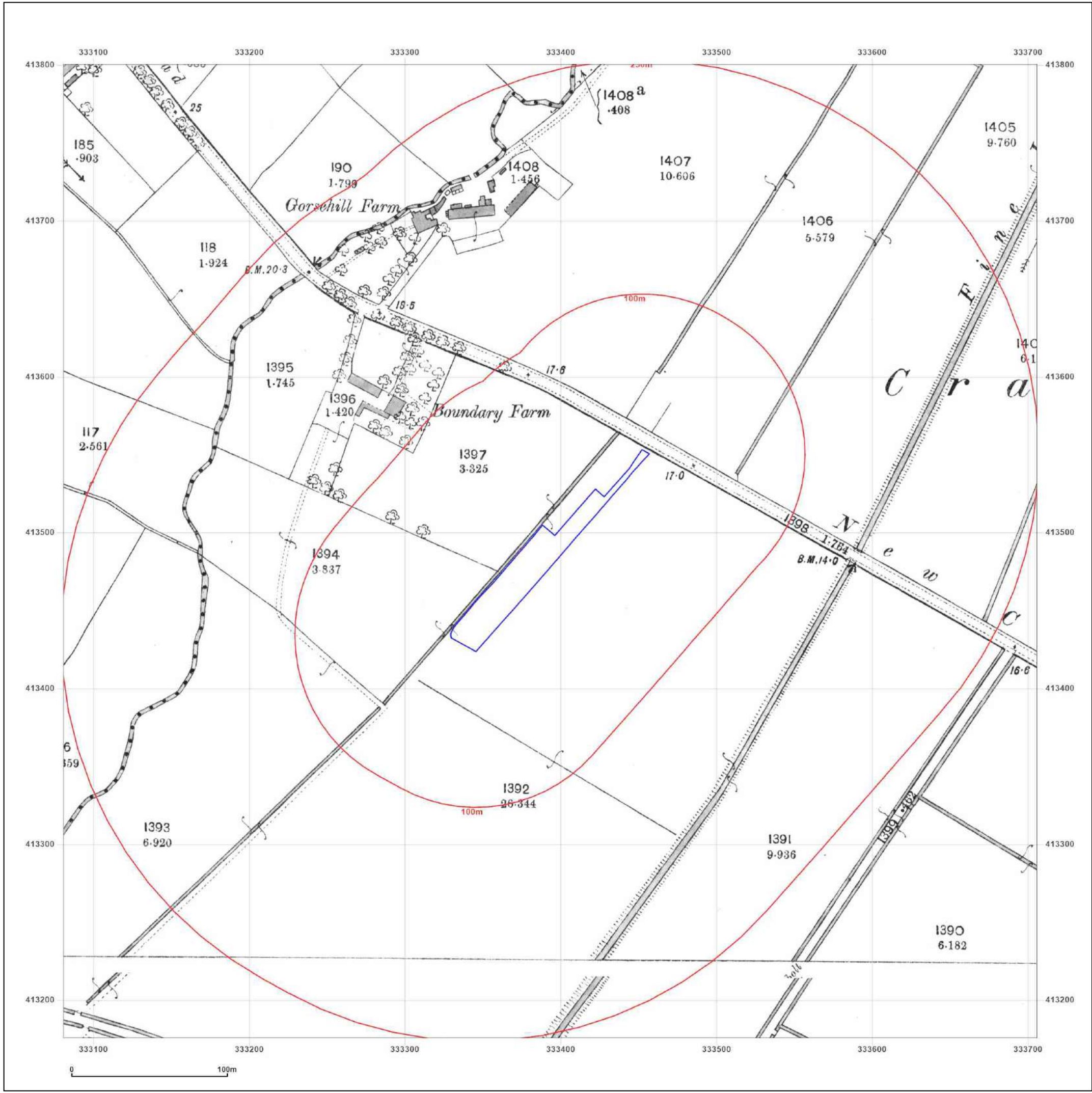


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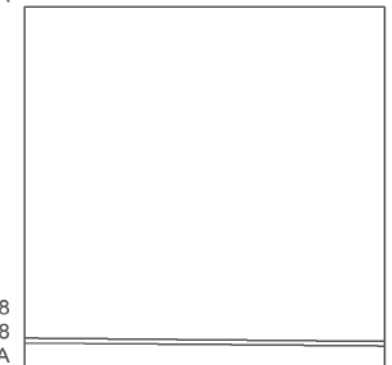
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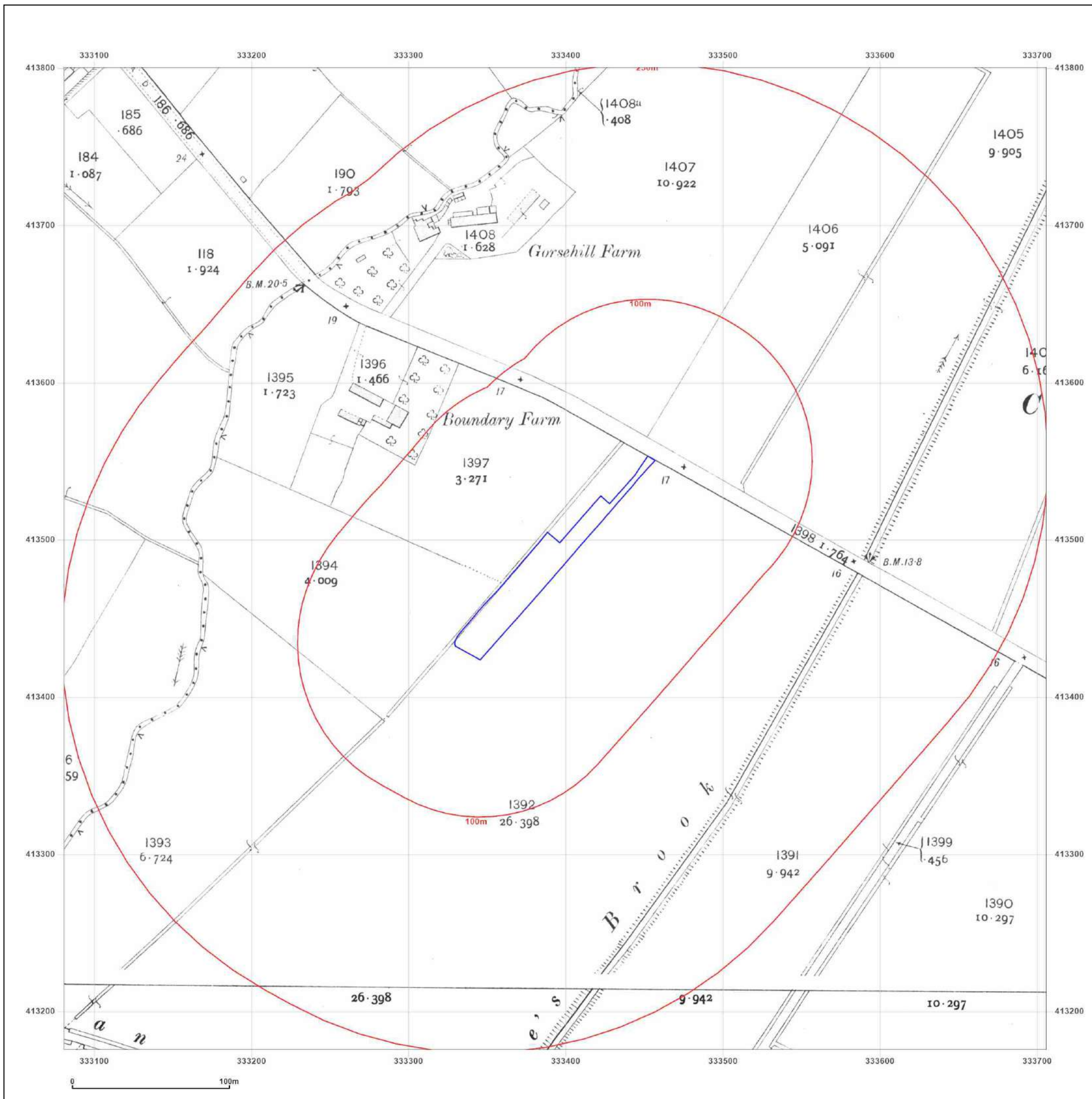


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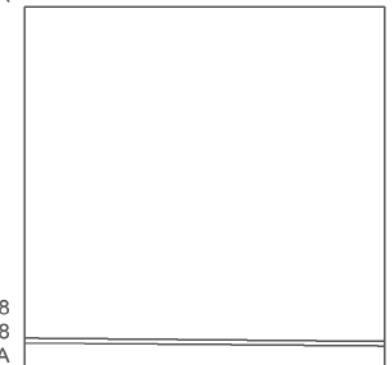
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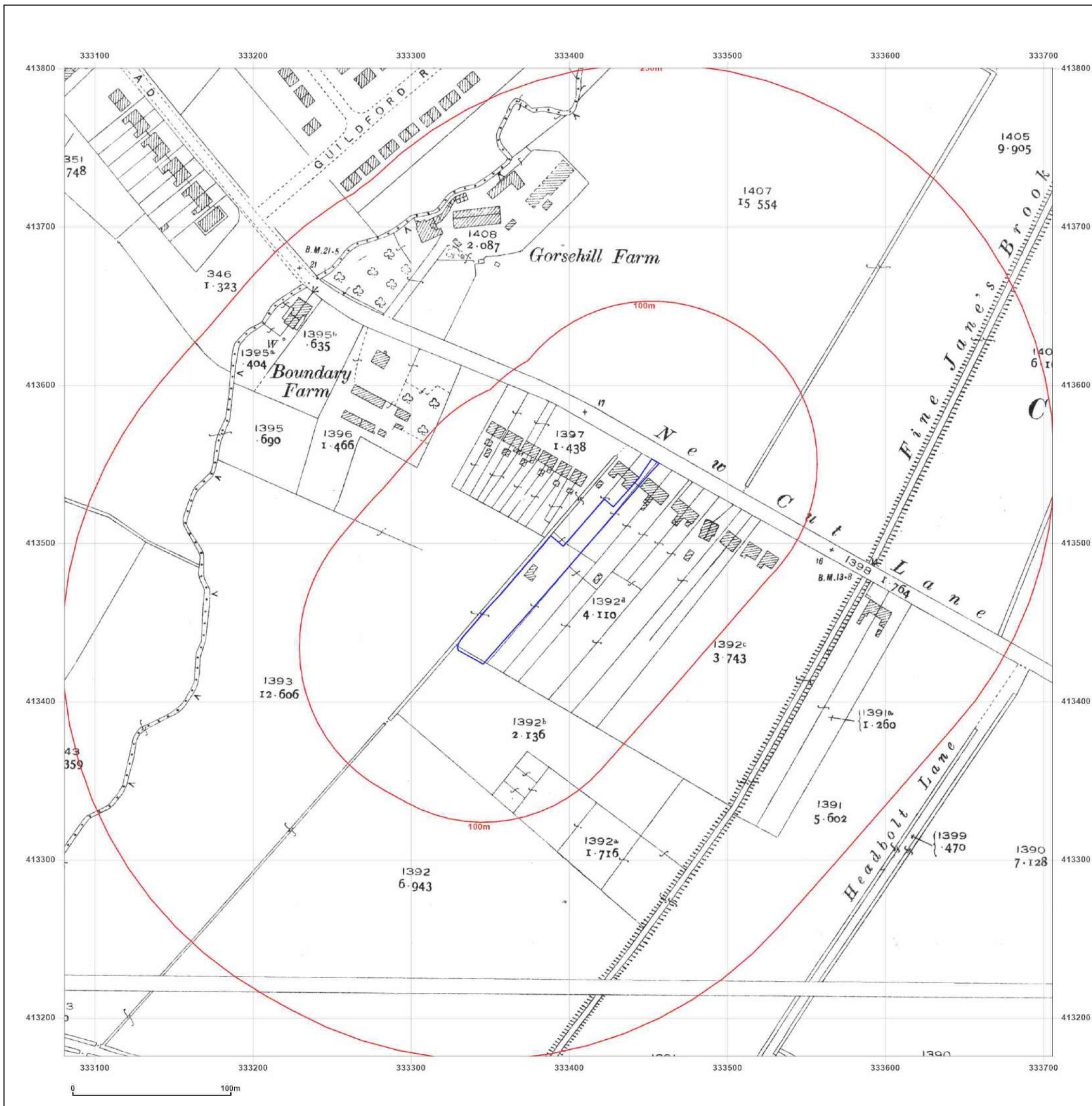


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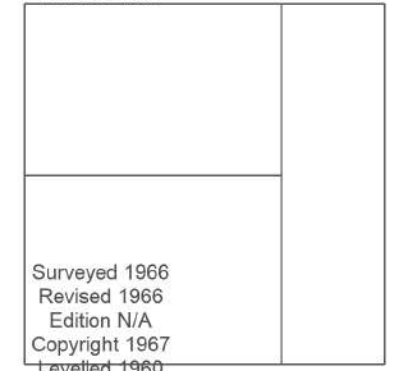
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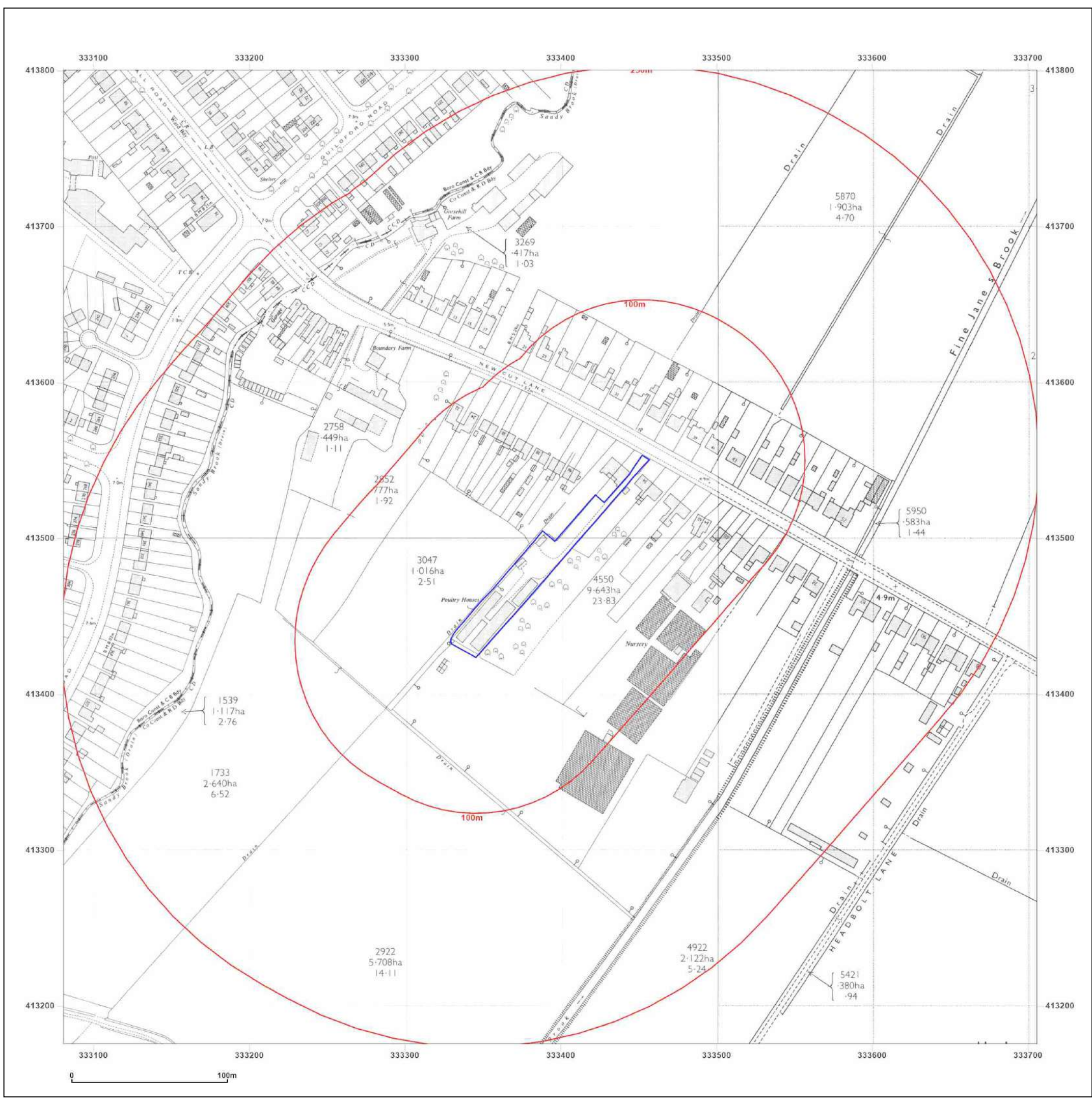


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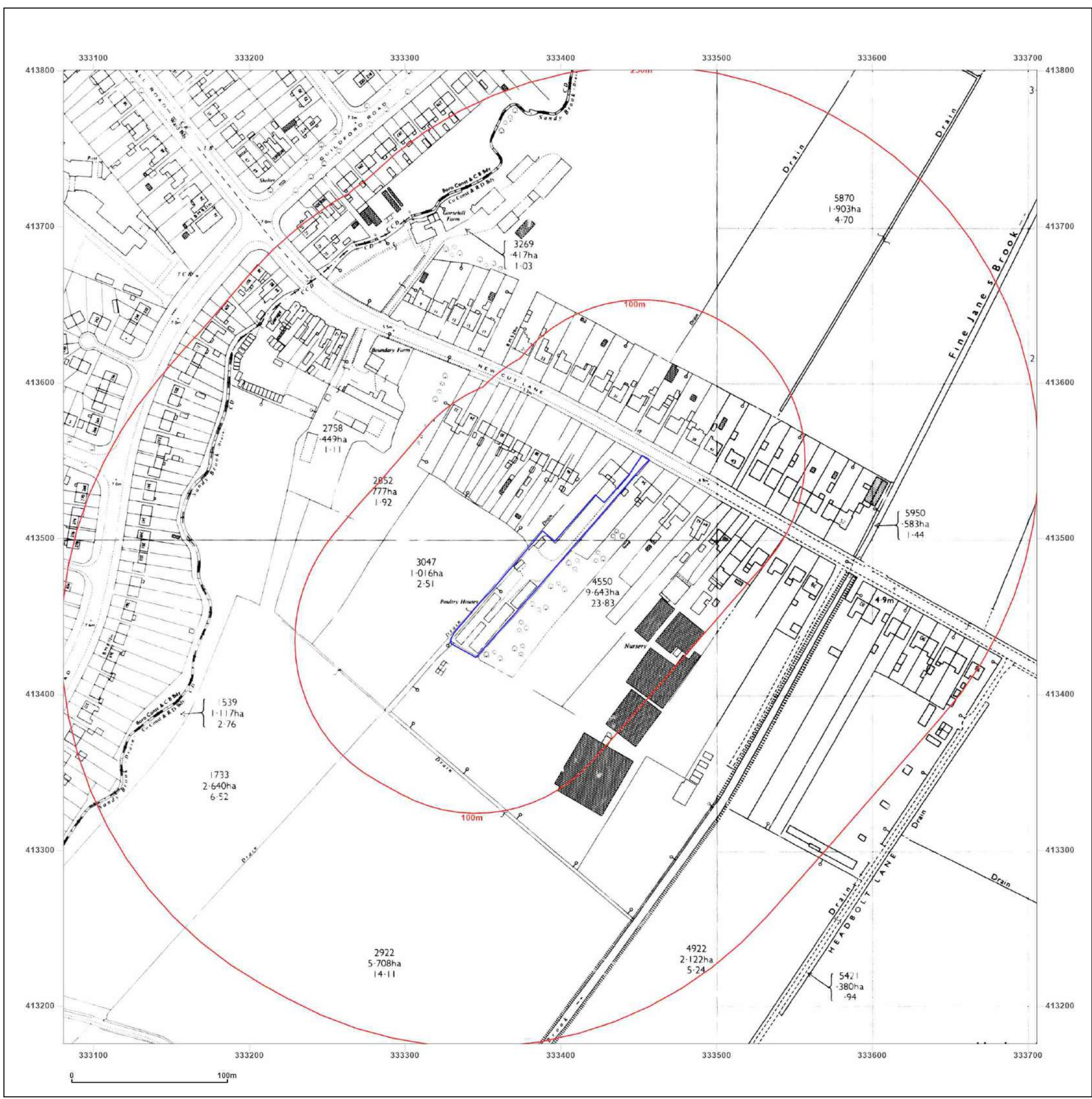


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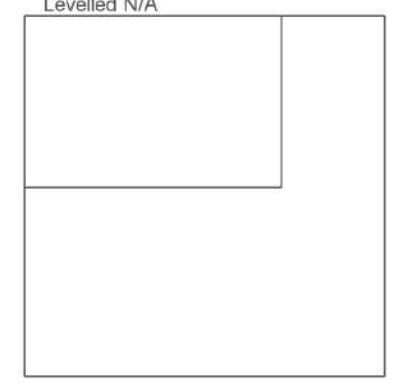
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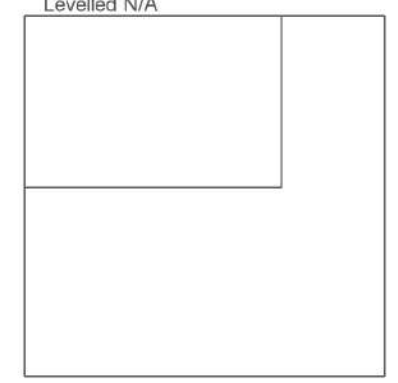
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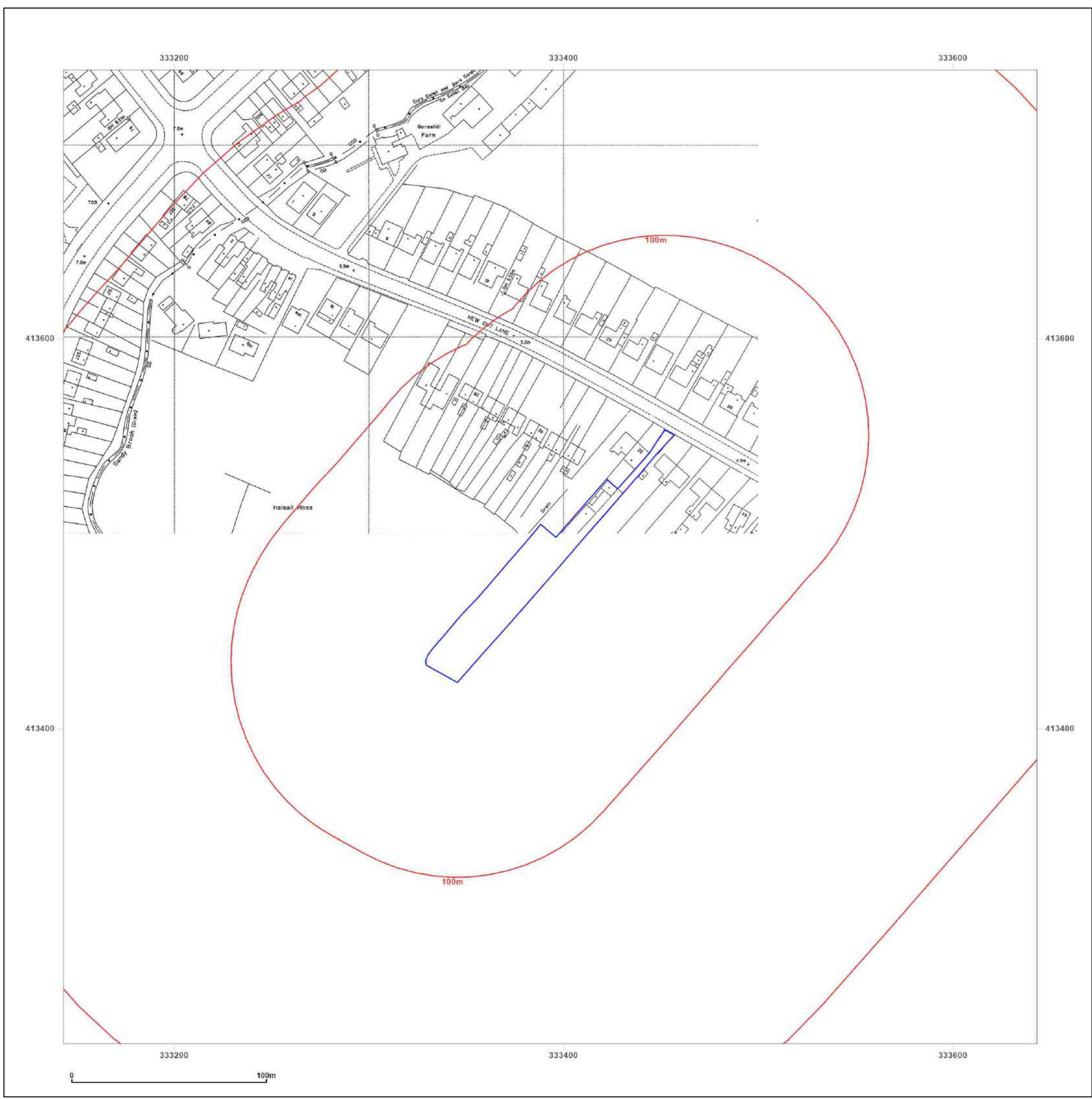


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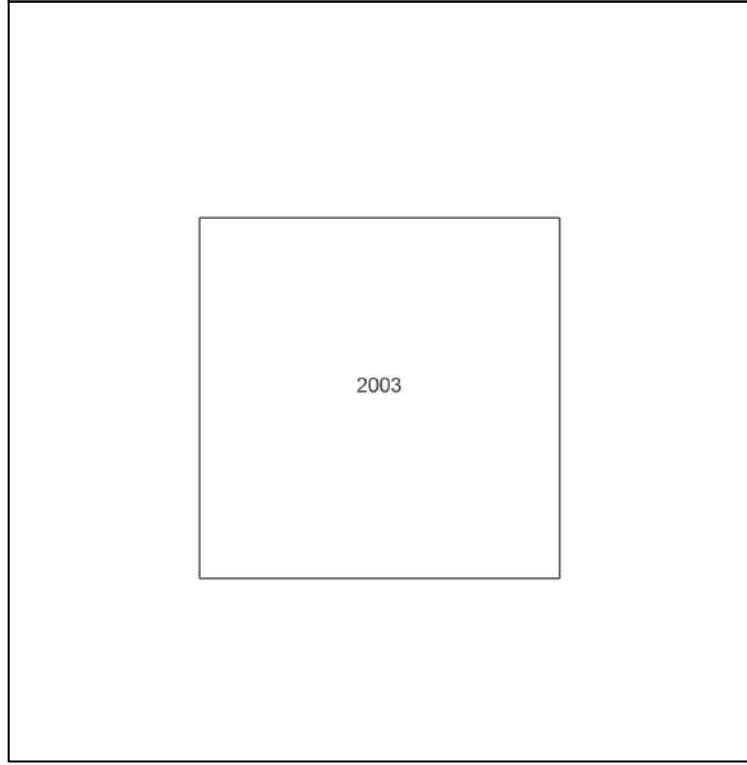
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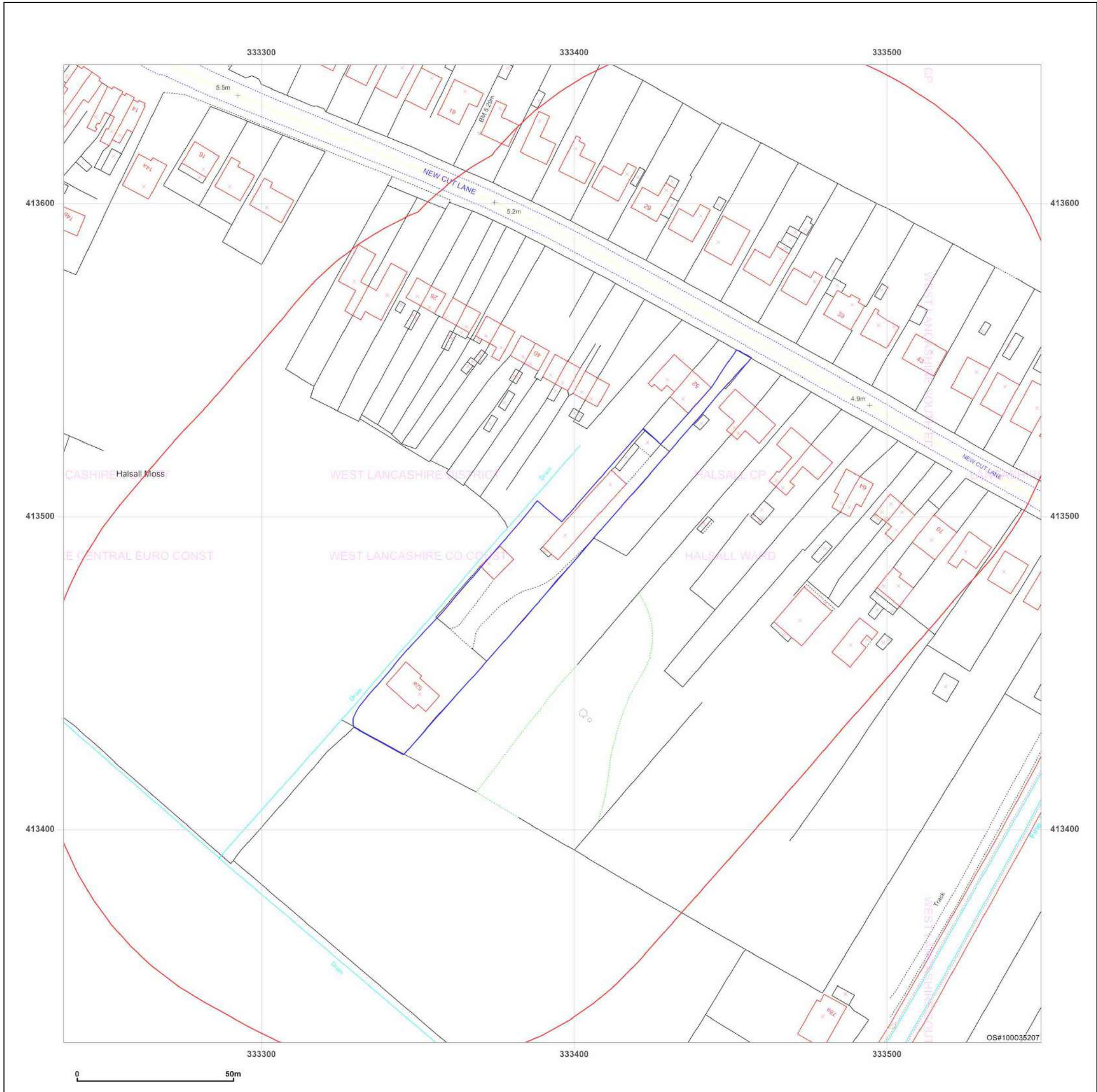


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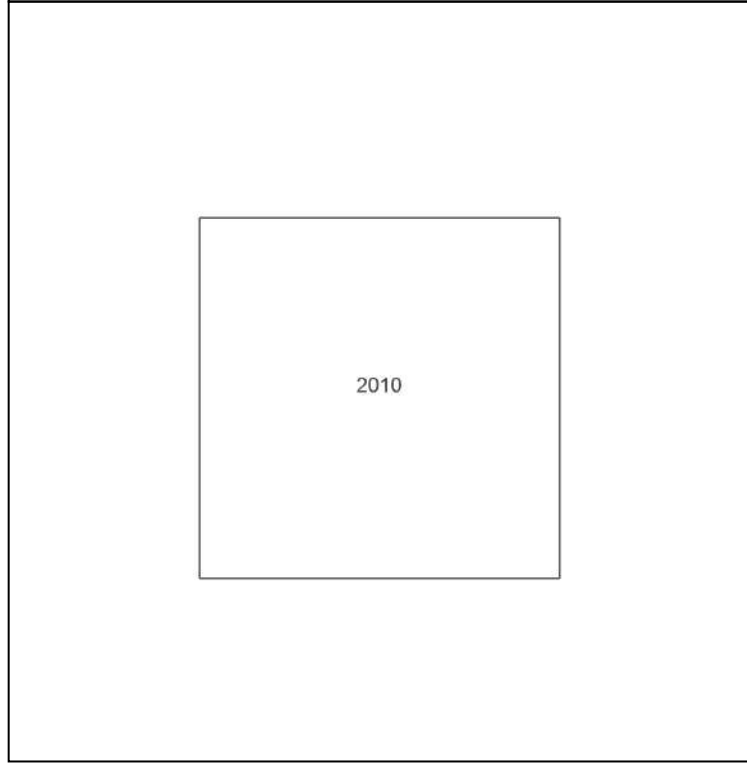
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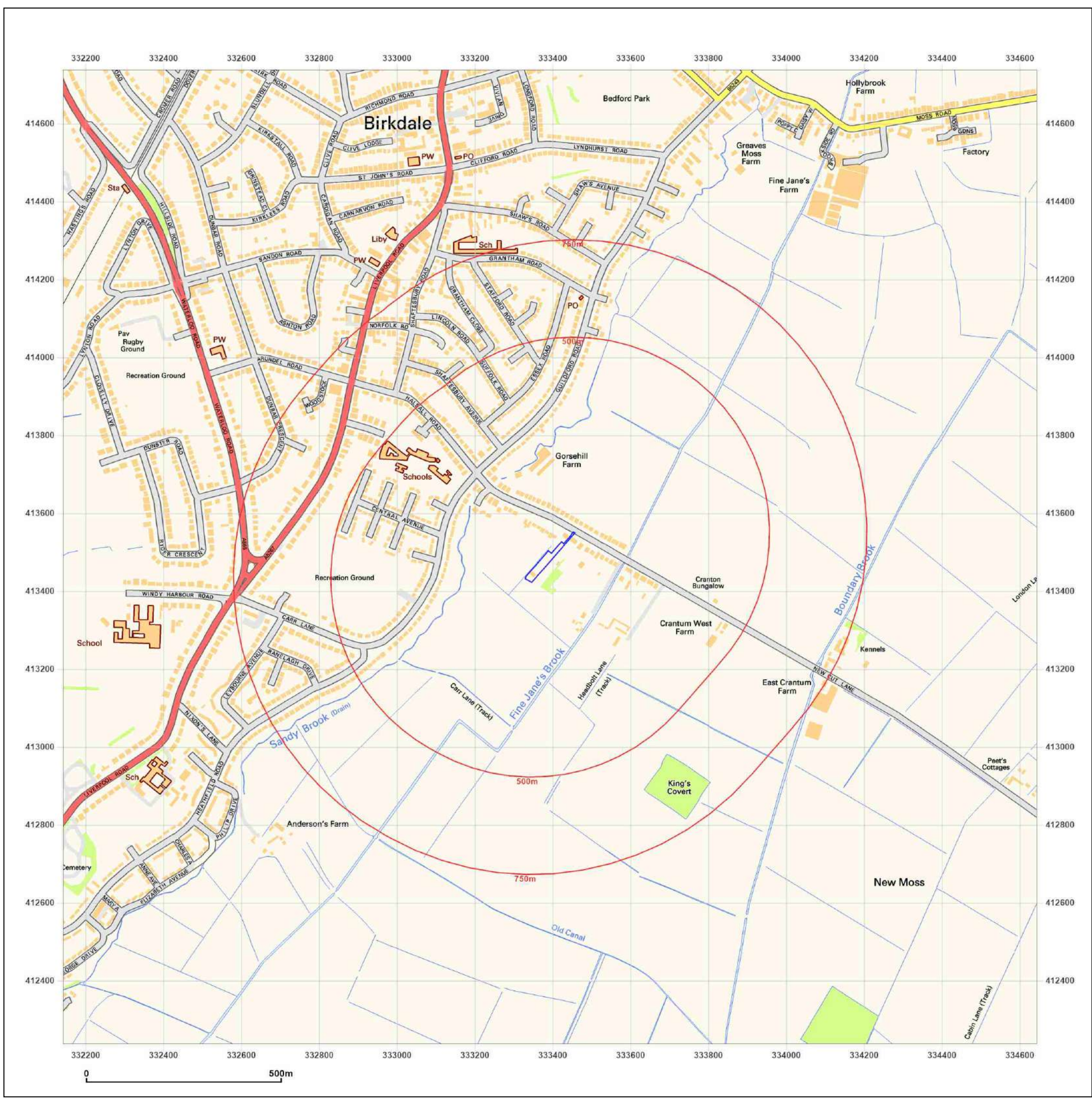


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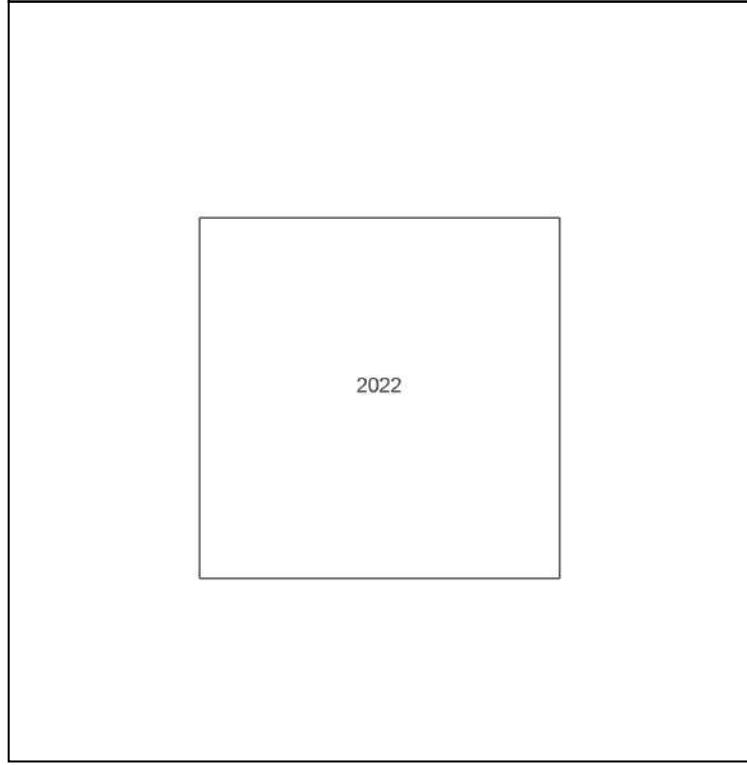
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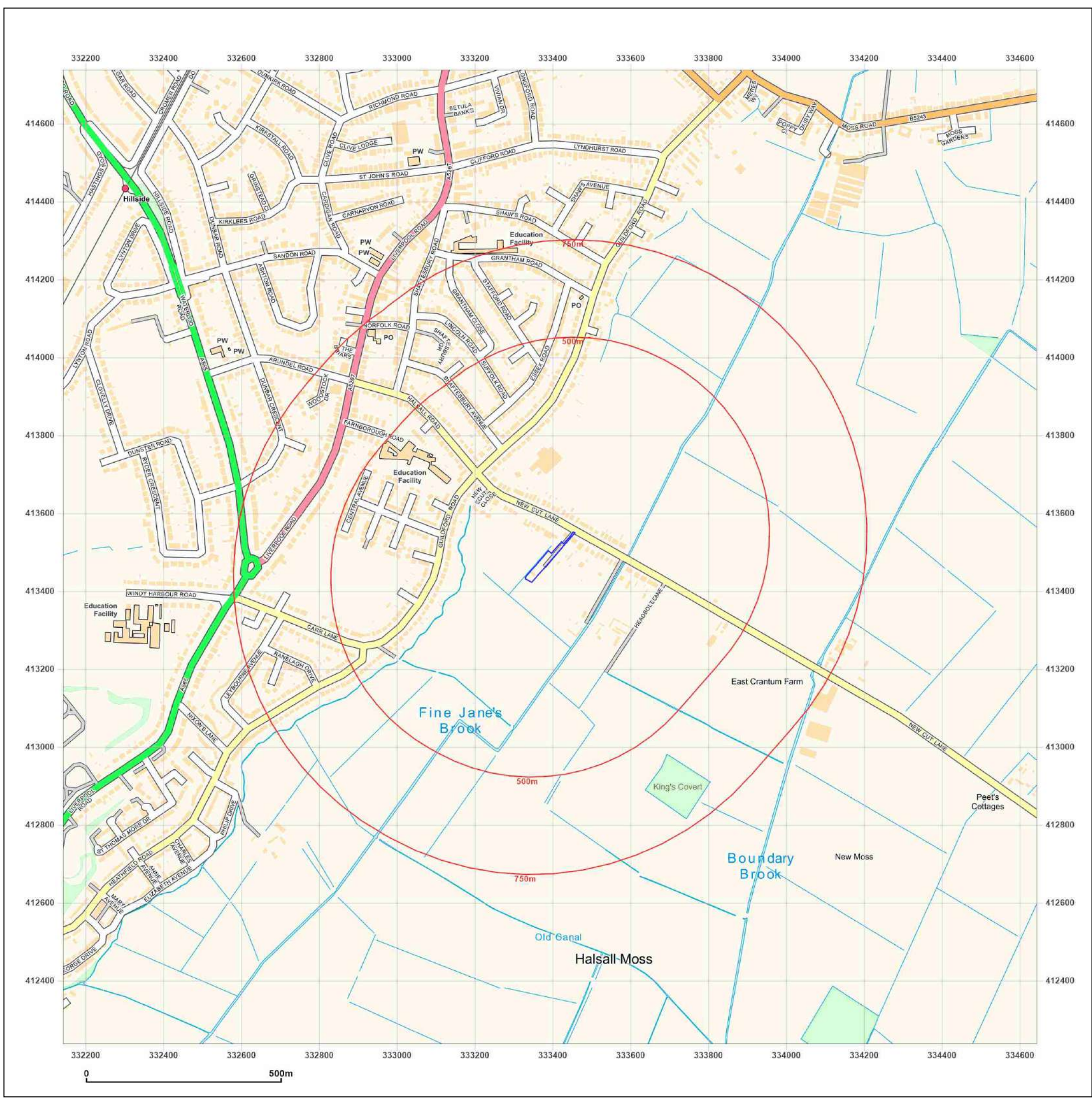


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## APPENDIX B

Groundsure Enviro & GeoInsight Report

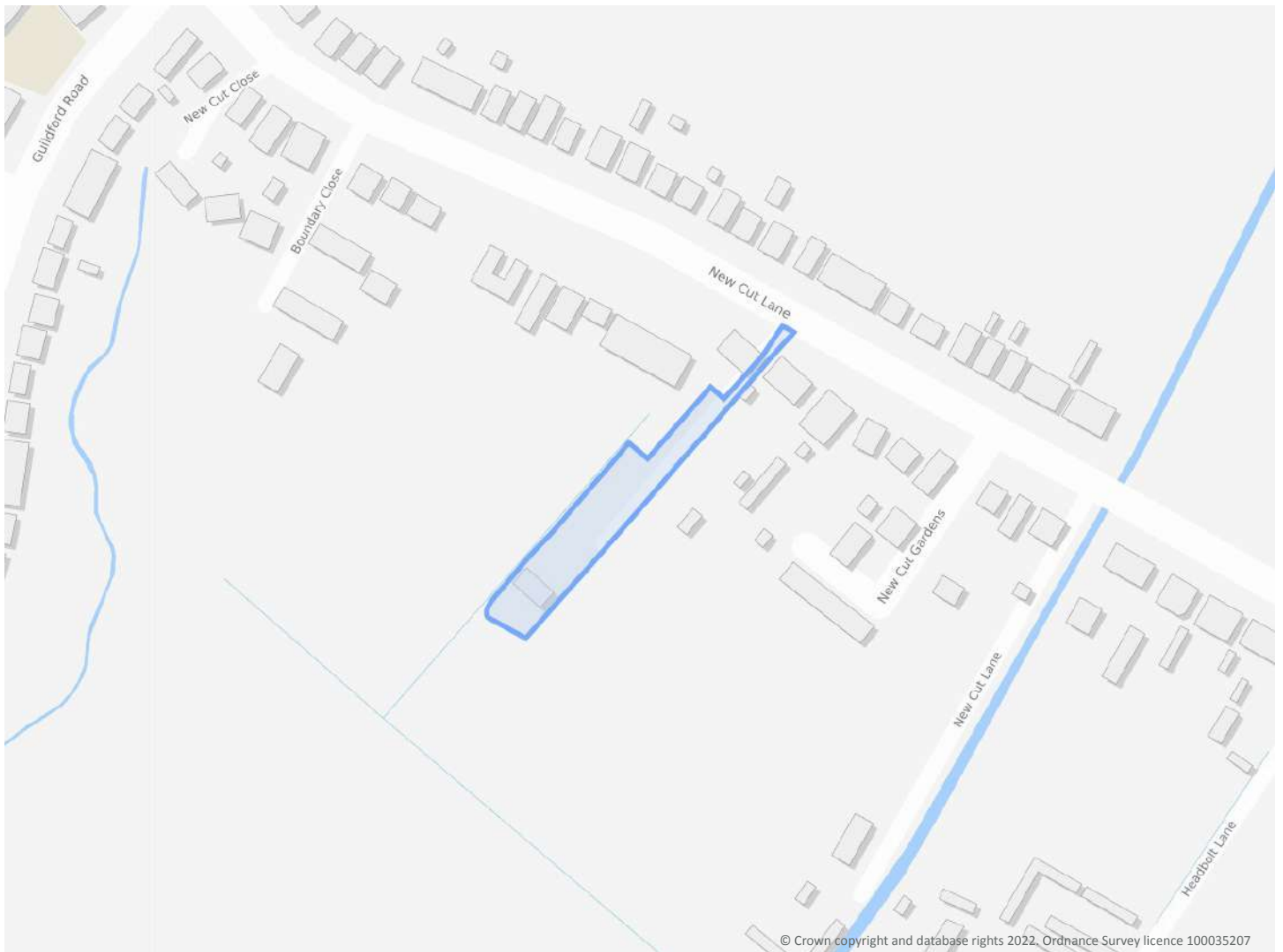
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## Order Details

**Date:** 02/11/2022  
**Your ref:** 7620-22140-MLM  
**Our Ref:** GS-9169983

## Site Details

**Location:** 333386 413488  
**Area:** 0.25 ha  
**Authority:** [West Lancashire Borough Council](#)



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**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

p.11

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08444 159 000

## Summary of findings

| Page      | Section    | Past land use                                 | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|-----------|------------|---|---------|-------|---------|----------|-----------|
| <b>12</b> | <b>1.1</b> | <b><u>Historical industrial land uses</u></b> | 1       | 0     | 0       | 2        | -         |
| 13        | 1.2        | Historical tanks                              | 0       | 0     | 0       | 0        | -         |
| <b>13</b> | <b>1.3</b> | <b><u>Historical energy features</u></b>      | 0       | 0     | 0       | 3        | -         |
| 14        | 1.4        | Historical petrol stations                    | 0       | 0     | 0       | 0        | -         |
| <b>14</b> | <b>1.5</b> | <b><u>Historical garages</u></b>              | 0       | 0     | 1       | 0        | -         |
| 14        | 1.6        | Historical military land                      | 0       | 0     | 0       | 0        | -         |
| Page      | Section    | Past land use - un-grouped                    | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>15</b> | <b>2.1</b> | <b><u>Historical industrial land uses</u></b> | 1       | 0     | 0       | 3        | -         |
| 16        | 2.2        | Historical tanks                              | 0       | 0     | 0       | 0        | -         |
| <b>16</b> | <b>2.3</b> | <b><u>Historical energy features</u></b>      | 0       | 0     | 0       | 6        | -         |
| 16        | 2.4        | Historical petrol stations                    | 0       | 0     | 0       | 0        | -         |
| <b>17</b> | <b>2.5</b> | <b><u>Historical garages</u></b>              | 0       | 0     | 2       | 0        | -         |
| Page      | Section    | Waste and landfill                            | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 18        | 3.1        | Active or recent landfill                     | 0       | 0     | 0       | 0        | -         |
| 18        | 3.2        | Historical landfill (BGS records)             | 0       | 0     | 0       | 0        | -         |
| 19        | 3.3        | Historical landfill (LA/mapping records)      | 0       | 0     | 0       | 0        | -         |
| 19        | 3.4        | Historical landfill (EA/NRW records)          | 0       | 0     | 0       | 0        | -         |
| 19        | 3.5        | Historical waste sites                        | 0       | 0     | 0       | 0        | -         |
| 19        | 3.6        | Licensed waste sites                          | 0       | 0     | 0       | 0        | -         |
| <b>19</b> | <b>3.7</b> | <b><u>Waste exemptions</u></b>                | 0       | 0     | 4       | 3        | -         |
| Page      | Section    | Current industrial land use                   | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 21        | 4.1        | Recent industrial land uses                   | 0       | 0     | 0       | -        | -         |
| 21        | 4.2        | Current or recent petrol stations             | 0       | 0     | 0       | 0        | -         |
| 22        | 4.3        | Electricity cables                            | 0       | 0     | 0       | 0        | -         |
| 22        | 4.4        | Gas pipelines                                 | 0       | 0     | 0       | 0        | -         |
| 22        | 4.5        | Sites determined as Contaminated Land         | 0       | 0     | 0       | 0        | -         |





| 22        | 4.6         | Control of Major Accident Hazards (COMAH)              | 0                        | 0     | 0       | 0        | -         |
|-----------|-------------|--|--------------------------|-------|---------|----------|-----------|
| 22        | 4.7         | Regulated explosive sites                              | 0                        | 0     | 0       | 0        | -         |
| 23        | 4.8         | Hazardous substance storage/usage                      | 0                        | 0     | 0       | 0        | -         |
| 23        | 4.9         | Historical licensed industrial activities (IPC)        | 0                        | 0     | 0       | 0        | -         |
| 23        | 4.10        | Licensed industrial activities (Part A(1))             | 0                        | 0     | 0       | 0        | -         |
| 23        | 4.11        | Licensed pollutant release (Part A(2)/B)               | 0                        | 0     | 0       | 0        | -         |
| 23        | 4.12        | Radioactive Substance Authorisations                   | 0                        | 0     | 0       | 0        | -         |
| <b>24</b> | <b>4.13</b> | <b><u>Licensed Discharges to controlled waters</u></b> | 0                        | 0     | 6       | 14       | -         |
| 27        | 4.14        | Pollutant release to surface waters (Red List)         | 0                        | 0     | 0       | 0        | -         |
| 27        | 4.15        | Pollutant release to public sewer                      | 0                        | 0     | 0       | 0        | -         |
| 27        | 4.16        | List 1 Dangerous Substances                            | 0                        | 0     | 0       | 0        | -         |
| 27        | 4.17        | List 2 Dangerous Substances                            | 0                        | 0     | 0       | 0        | -         |
| <b>28</b> | <b>4.18</b> | <b><u>Pollution Incidents (EA/NRW)</u></b>             | 0                        | 0     | 0       | 1        | -         |
| 28        | 4.19        | Pollution inventory substances                         | 0                        | 0     | 0       | 0        | -         |
| 28        | 4.20        | Pollution inventory waste transfers                    | 0                        | 0     | 0       | 0        | -         |
| 28        | 4.21        | Pollution inventory radioactive waste                  | 0                        | 0     | 0       | 0        | -         |
| Page      | Section     | Hydrogeology   | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>30</b> | <b>5.1</b>  | <b><u>Superficial aquifer</u></b>                      | Identified (within 500m) |       |         |          |           |
| <b>31</b> | <b>5.2</b>  | <b><u>Bedrock aquifer</u></b>                          | Identified (within 500m) |       |         |          |           |
| <b>32</b> | <b>5.3</b>  | <b><u>Groundwater vulnerability</u></b>                | Identified (within 50m)  |       |         |          |           |
| 33        | 5.4         | Groundwater vulnerability- soluble rock risk           | None (within 0m)         |       |         |          |           |
| 33        | 5.5         | Groundwater vulnerability- local information           | None (within 0m)         |       |         |          |           |
| <b>34</b> | <b>5.6</b>  | <b><u>Groundwater abstractions</u></b>                 | 0                        | 0     | 0       | 0        | 9         |
| <b>37</b> | <b>5.7</b>  | <b><u>Surface water abstractions</u></b>               | 0                        | 0     | 2       | 0        | 33        |
| 44        | 5.8         | Potable abstractions                                   | 0                        | 0     | 0       | 0        | 0         |
| 44        | 5.9         | Source Protection Zones                                | 0                        | 0     | 0       | 0        | -         |
| 44        | 5.10        | Source Protection Zones (confined aquifer)             | 0                        | 0     | 0       | 0        | -         |
| Page      | Section     | Hydrology  | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>45</b> | <b>6.1</b>  | <b><u>Water Network (OS MasterMap)</u></b>             | 0                        | 2     | 9       | -        | -         |



| <b>46</b> | <b>6.2</b>   | <b><u>Surface water features</u></b>                      | 0                                      | 1     | 5       | -        | -         |
|-----------|--------------|---|--|-------|---------|----------|-----------|
| <b>47</b> | <b>6.3</b>   | <b><u>WFD Surface water body catchments</u></b>           | 1                                      | -     | -       | -        | -         |
| <b>47</b> | <b>6.4</b>   | <b><u>WFD Surface water bodies</u></b>                    | 0                                      | 0     | 1       | -        | -         |
| <b>48</b> | <b>6.5</b>   | <b><u>WFD Groundwater bodies</u></b>                      | 1                                      | -     | -       | -        | -         |
| Page      | Section      | River and coastal flooding                                | On site                                | 0-50m | 50-250m | 250-500m | 500-2000m |
| 49        | 7.1          | Risk of flooding from rivers and the sea                  | None (within 50m)                      |       |         |          |           |
| <b>50</b> | <b>7.2</b>   | <b><u>Historical Flood Events</u></b>                     | 0                                      | 1     | 0       | -        | -         |
| 50        | 7.3          | Flood Defences  | 0                                      | 0     | 0       | -        | -         |
| 50        | 7.4          | Areas Benefiting from Flood Defences                      | 0                                      | 0     | 0       | -        | -         |
| 50        | 7.5          | Flood Storage Areas                                       | 0                                      | 0     | 0       | -        | -         |
| 51        | 7.6          | Flood Zone 2  | None (within 50m)                      |       |         |          |           |
| 51        | 7.7          | Flood Zone 3  | None (within 50m)                      |       |         |          |           |
| Page      | Section      | Surface water flooding                                    |  |       |         |          |           |
| <b>52</b> | <b>8.1</b>   | <b><u>Surface water flooding</u></b>                      | 1 in 30 year, 0.3m - 1.0m (within 50m) |       |         |          |           |
| Page      | Section      | Groundwater flooding                                      |  |       |         |          |           |
| <b>54</b> | <b>9.1</b>   | <b><u>Groundwater flooding</u></b>                        | Low (within 50m)                       |       |         |          |           |
| Page      | Section      | Environmental designations                                | On site                                | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>55</b> | <b>10.1</b>  | <b><u>Sites of Special Scientific Interest (SSSI)</u></b> | 0                                      | 0     | 0       | 0        | 1         |
| <b>56</b> | <b>10.2</b>  | <b><u>Conserved wetland sites (Ramsar sites)</u></b>      | 0                                      | 0     | 0       | 0        | 1         |
| <b>56</b> | <b>10.3</b>  | <b><u>Special Areas of Conservation (SAC)</u></b>         | 0                                      | 0     | 0       | 0        | 2         |
| 57        | 10.4         | Special Protection Areas (SPA)                            | 0                                      | 0     | 0       | 0        | 0         |
| 57        | 10.5         | National Nature Reserves (NNR)                            | 0                                      | 0     | 0       | 0        | 0         |
| <b>57</b> | <b>10.6</b>  | <b><u>Local Nature Reserves (LNR)</u></b>                 | 0                                      | 0     | 0       | 0        | 1         |
| 58        | 10.7         | Designated Ancient Woodland                               | 0                                      | 0     | 0       | 0        | 0         |
| 58        | 10.8         | Biosphere Reserves  | 0                                      | 0     | 0       | 0        | 0         |
| 58        | 10.9         | Forest Parks  | 0                                      | 0     | 0       | 0        | 0         |
| 58        | 10.10        | Marine Conservation Zones                                 | 0                                      | 0     | 0       | 0        | 0         |
| <b>58</b> | <b>10.11</b> | <b><u>Green Belt</u></b>                                  | 0                                      | 0     | 1       | 0        | 1         |
| 59        | 10.12        | Proposed Ramsar sites                                     | 0                                      | 0     | 0       | 0        | 0         |



|           |              |   |          |          |          |          |          |
|-----------|--------------|---|----------|----------|----------|----------|----------|
| 59        | 10.13        | Possible Special Areas of Conservation (pSAC) | 0        | 0        | 0        | 0        | 0        |
| 59        | 10.14        | Potential Special Protection Areas (pSPA)     | 0        | 0        | 0        | 0        | 0        |
| 59        | 10.15        | Nitrate Sensitive Areas                       | 0        | 0        | 0        | 0        | 0        |
| <b>60</b> | <b>10.16</b> | <b><u>Nitrate Vulnerable Zones</u></b>        | <b>1</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>2</b> |
| <b>61</b> | <b>10.17</b> | <b><u>SSSI Impact Risk Zones</u></b>          | <b>2</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |
| <b>63</b> | <b>10.18</b> | <b><u>SSSI Units</u></b>                      | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>5</b> |

| Page | Section | Visual and cultural designations   | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|------|---------|------------------------------------|---------|-------|---------|----------|-----------|
| 69   | 11.1    | World Heritage Sites               | 0       | 0     | 0       | -        | -         |
| 69   | 11.2    | Area of Outstanding Natural Beauty | 0       | 0     | 0       | -        | -         |
| 69   | 11.3    | National Parks                     | 0       | 0     | 0       | -        | -         |
| 69   | 11.4    | Listed Buildings                   | 0       | 0     | 0       | -        | -         |
| 70   | 11.5    | Conservation Areas                 | 0       | 0     | 0       | -        | -         |
| 70   | 11.6    | Scheduled Ancient Monuments        | 0       | 0     | 0       | -        | -         |
| 70   | 11.7    | Registered Parks and Gardens       | 0       | 0     | 0       | -        | -         |

| Page      | Section     | Agricultural designations                      | On site             | 0-50m | 50-250m | 250-500m | 500-2000m |
|-----------|-------------|--|---------------------|-------|---------|----------|-----------|
| <b>71</b> | <b>12.1</b> | <b><u>Agricultural Land Classification</u></b> | Urban (within 250m) |       |         |          |           |
| 72        | 12.2        | Open Access Land                               | 0                   | 0     | 0       | -        | -         |
| 72        | 12.3        | Tree Felling Licences                          | 0                   | 0     | 0       | -        | -         |
| 72        | 12.4        | Environmental Stewardship Schemes              | 0                   | 0     | 0       | -        | -         |
| <b>72</b> | <b>12.5</b> | <b><u>Countryside Stewardship Schemes</u></b>  | 0                   | 0     | 1       | -        | -         |

| Page | Section | Habitat designations       | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|------|---------|----------------------------|---------|-------|---------|----------|-----------|
| 74   | 13.1    | Priority Habitat Inventory | 0       | 0     | 0       | -        | -         |
| 74   | 13.2    | Habitat Networks           | 0       | 0     | 0       | -        | -         |
| 74   | 13.3    | Open Mosaic Habitat        | 0       | 0     | 0       | -        | -         |
| 74   | 13.4    | Limestone Pavement Orders  | 0       | 0     | 0       | -        | -         |

| Page      | Section     | Geology 1:10,000 scale           | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
|-----------|-------------|----------------------------------|--------------------------|-------|---------|----------|-----------|
| <b>75</b> | <b>14.1</b> | <b><u>10k Availability</u></b>   | Identified (within 500m) |       |         |          |           |
| 76        | 14.2        | Artificial and made ground (10k) | 0                        | 0     | 0       | 0        | -         |
| 77        | 14.3        | Superficial geology (10k)        | 0                        | 0     | 0       | 0        | -         |



| 77        | 14.4        | Landslip (10k)                                    | 0                        | 0     | 0       | 0        | -         |
|-----------|-------------|---|--------------------------|-------|---------|----------|-----------|
| 78        | 14.5        | Bedrock geology (10k)                             | 0                        | 0     | 0       | 0        | -         |
| 78        | 14.6        | Bedrock faults and other linear features (10k)    | 0                        | 0     | 0       | 0        | -         |
| Page      | Section     | Geology 1:50,000 scale                            | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>79</b> | <b>15.1</b> | <b><u>50k Availability</u></b>                    | Identified (within 500m) |       |         |          |           |
| 80        | 15.2        | Artificial and made ground (50k)                  | 0                        | 0     | 0       | 0        | -         |
| 80        | 15.3        | Artificial ground permeability (50k)              | 0                        | 0     | -       | -        | -         |
| <b>81</b> | <b>15.4</b> | <b><u>Superficial geology (50k)</u></b>           | 2                        | 0     | 2       | 0        | -         |
| <b>82</b> | <b>15.5</b> | <b><u>Superficial permeability (50k)</u></b>      | Identified (within 50m)  |       |         |          |           |
| 82        | 15.6        | Landslip (50k)                                    | 0                        | 0     | 0       | 0        | -         |
| 82        | 15.7        | Landslip permeability (50k)                       | None (within 50m)        |       |         |          |           |
| <b>83</b> | <b>15.8</b> | <b><u>Bedrock geology (50k)</u></b>               | 1                        | 0     | 1       | 0        | -         |
| <b>84</b> | <b>15.9</b> | <b><u>Bedrock permeability (50k)</u></b>          | Identified (within 50m)  |       |         |          |           |
| 84        | 15.10       | Bedrock faults and other linear features (50k)    | 0                        | 0     | 0       | 0        | -         |
| Page      | Section     | Boreholes   | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>85</b> | <b>16.1</b> | <b><u>BGS Boreholes</u></b>                       | 0                        | 0     | 3       | -        | -         |
| Page      | Section     | Natural ground subsidence                         |                          |       |         |          |           |
| <b>87</b> | <b>17.1</b> | <b><u>Shrink swell clays</u></b>                  | Negligible (within 50m)  |       |         |          |           |
| <b>88</b> | <b>17.2</b> | <b><u>Running sands</u></b>                       | Low (within 50m)         |       |         |          |           |
| <b>90</b> | <b>17.3</b> | <b><u>Compressible deposits</u></b>               | High (within 50m)        |       |         |          |           |
| <b>91</b> | <b>17.4</b> | <b><u>Collapsible deposits</u></b>                | Negligible (within 50m)  |       |         |          |           |
| <b>92</b> | <b>17.5</b> | <b><u>Landslides</u></b>                          | Very low (within 50m)    |       |         |          |           |
| <b>93</b> | <b>17.6</b> | <b><u>Ground dissolution of soluble rocks</u></b> | Negligible (within 50m)  |       |         |          |           |
| Page      | Section     | Mining, ground workings and natural cavities      | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| 94        | 18.1        | Natural cavities                                  | 0                        | 0     | 0       | 0        | -         |
| 94        | 18.2        | BritPits  | 0                        | 0     | 0       | 0        | -         |
| 94        | 18.3        | Surface ground workings                           | 0                        | 0     | 0       | -        | -         |
| 94        | 18.4        | Underground workings                              | 0                        | 0     | 0       | 0        | 0         |
| 95        | 18.5        | Historical Mineral Planning Areas                 | 0                        | 0     | 0       | 0        | -         |



| 95        | 18.6        | Non-coal mining                                | 0                        | 0     | 0       | 0        | 0         |
|-----------|-------------|--|--------------------------|-------|---------|----------|-----------|
| 95        | 18.7        | Mining cavities                                | 0                        | 0     | 0       | 0        | 0         |
| 95        | 18.8        | JPB mining areas                               | None (within 0m)         |       |         |          |           |
| 95        | 18.9        | Coal mining                                    | None (within 0m)         |       |         |          |           |
| 96        | 18.10       | Brine areas                                    | None (within 0m)         |       |         |          |           |
| 96        | 18.11       | Gypsum areas                                   | None (within 0m)         |       |         |          |           |
| 96        | 18.12       | Tin mining                                     | None (within 0m)         |       |         |          |           |
| 96        | 18.13       | Clay mining                                    | None (within 0m)         |       |         |          |           |
| Page      | Section     | Radon  |                          |       |         |          |           |
| <b>97</b> | <b>19.1</b> | <b>Radon</b>                                   | Less than 1% (within 0m) |       |         |          |           |
| Page      | Section     | Soil chemistry                                 | On site                  | 0-50m | 50-250m | 250-500m | 500-2000m |
| <b>98</b> | <b>20.1</b> | <b>BGS Estimated Background Soil Chemistry</b> | 3                        | 2     | -       | -        | -         |
| 98        | 20.2        | BGS Estimated Urban Soil Chemistry             | 0                        | 0     | -       | -        | -         |
| 99        | 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 |
| 100       | 21.1        | Underground railways (London)                  | 0                        | 0     | 0       | -        | -         |
| 100       | 21.2        | Underground railways (Non-London)              | 0                        | 0     | 0       | -        | -         |
| 100       | 21.3        | Railway tunnels                                | 0                        | 0     | 0       | -        | -         |
| 100       | 21.4        | Historical railway and tunnel features         | 0                        | 0     | 0       | -        | -         |
| 100       | 21.5        | Royal Mail tunnels                             | 0                        | 0     | 0       | -        | -         |
| 101       | 21.6        | Historical railways                            | 0                        | 0     | 0       | -        | -         |
| 101       | 21.7        | Railways                                       | 0                        | 0     | 0       | -        | -         |
| 101       | 21.8        | Crossrail 1                                    | 0                        | 0     | 0       | 0        | -         |
| 101       | 21.9        | Crossrail 2                                    | 0                        | 0     | 0       | 0        | -         |
| 101       | 21.10       | HS2  | 0                        | 0     | 0       | 0        | -         |



## Recent aerial photograph



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Capture Date: 23/05/2019

Site Area: 0.25ha



## Recent site history - 2015 aerial photograph



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Capture Date: 21/04/2015

Site Area: 0.25ha



## Recent site history - 2000 aerial photograph



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Capture Date: 25/08/2000

Site Area: 0.25ha



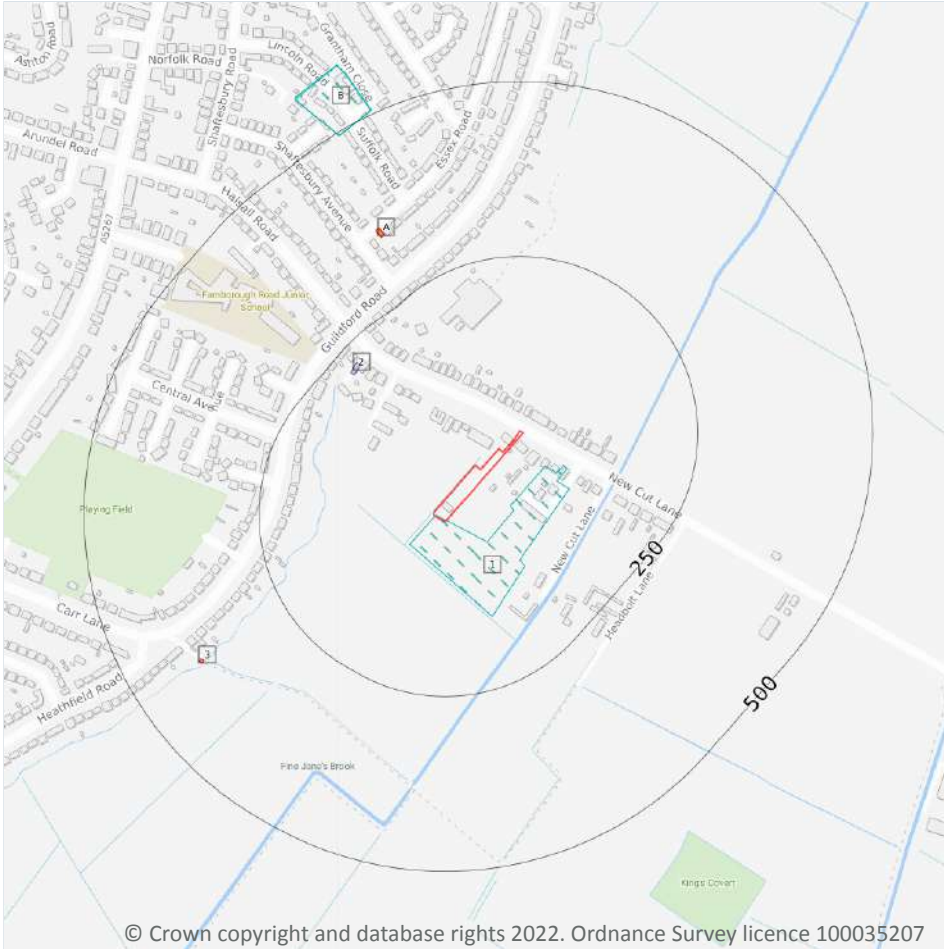


## OS MasterMap site plan



Site Area: 0.25ha

# 1 Past land use



**Site Outline**

Search buffers in metres (m)

- Historical industrial land uses
- Historical energy features
- Historical garages

## 1.1 Historical industrial land uses

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

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 12**

| ID | Location | Land use | Dates present | Group ID |
|----|----------|----------|---------------|----------|
| 1  | On site  | Nursery  | 1975          | 679725   |

| ID | Location | Land use           | Dates present | Group ID |
|----|----------|--------------------|---------------|----------|
| B  | 495m N   | Isolation Hospital | 1906          | 691830   |
| B  | 495m N   | Sanatorium         | 1926          | 735068   |

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

## 1.2 Historical tanks

**Records within 500m**

**0**

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

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

## 1.3 Historical energy features

**Records within 500m**

**3**

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

Features are displayed on the Past land use map on **page 12**

| ID | Location | Land use               | Dates present | Group ID |
|----|----------|------------------------|---------------|----------|
| A  | 340m N   | Electricity Substation | 1970 - 1995   | 46969    |
| A  | 341m N   | Electricity Substation | 1967          | 55130    |
| 3  | 389m SW  | Electricity Substation | 1966 - 1993   | 50315    |

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



## 1.4 Historical petrol stations

Records within 500m

0

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

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

## 1.5 Historical garages

Records within 500m

1

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

Features are displayed on the Past land use map on **page 12**

| ID | Location | Land use | Dates present | Group ID |
|----|----------|----------|---------------|----------|
| 2  | 215m NW  | Garage   | 1967 - 1970   | 19835    |

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

## 1.6 Historical military land

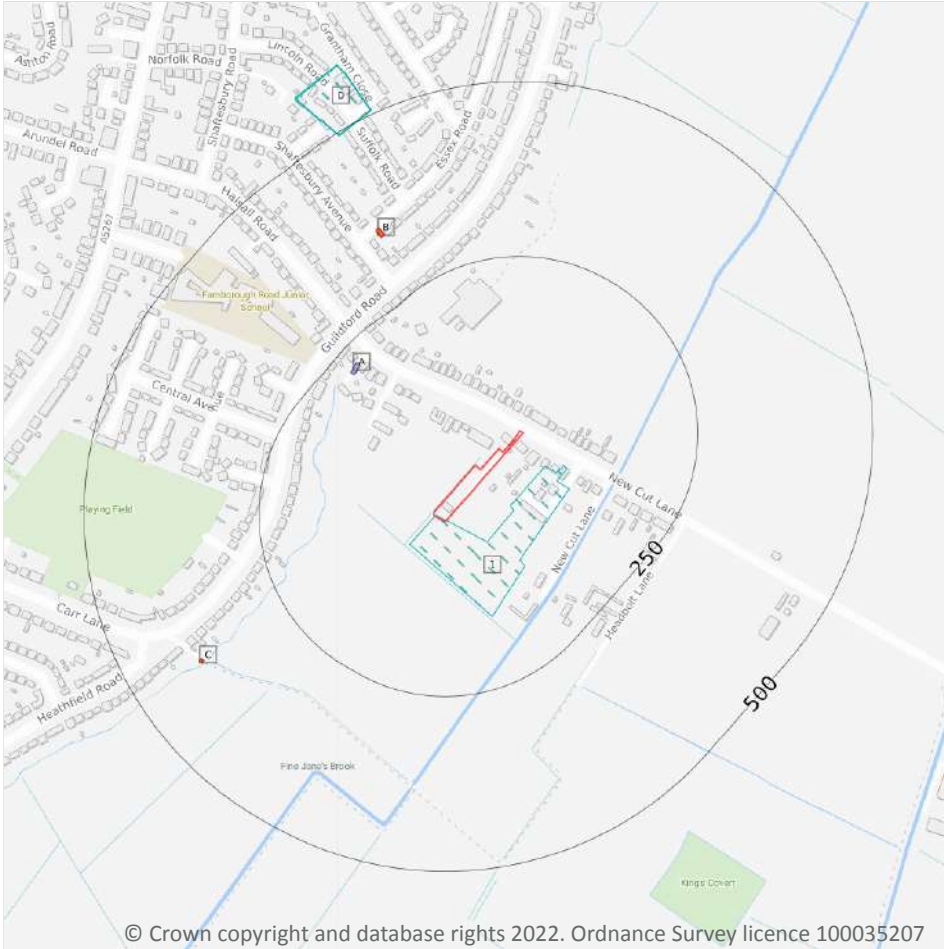
Records within 500m

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



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### 2.1 Historical industrial land uses

Records within 500m

4

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 15**

| ID | Location | Land Use           | Date | Group ID |
|----|----------|--------------------|------|----------|
| 1  | On site  | Nursery            | 1975 | 679725   |
| D  | 495m N   | Sanatorium         | 1926 | 735068   |
| D  | 495m N   | Isolation Hospital | 1906 | 691830   |

| ID | Location | Land Use   | Date | Group ID |
|----|----------|------------|------|----------|
| D  | 497m N   | Sanatorium | 1926 | 735068   |

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

## 2.2 Historical tanks

**Records within 500m**

**0**

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

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

## 2.3 Historical energy features

**Records within 500m**

**6**

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 15**

| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| B  | 340m N   | Electricity Substation | 1995 | 46969    |
| B  | 340m N   | Electricity Substation | 1970 | 46969    |
| B  | 341m N   | Electricity Substation | 1967 | 55130    |
| C  | 389m SW  | Electricity Substation | 1970 | 50315    |
| C  | 389m SW  | Electricity Substation | 1993 | 50315    |
| C  | 390m SW  | Electricity Substation | 1966 | 50315    |

*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

2

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'.

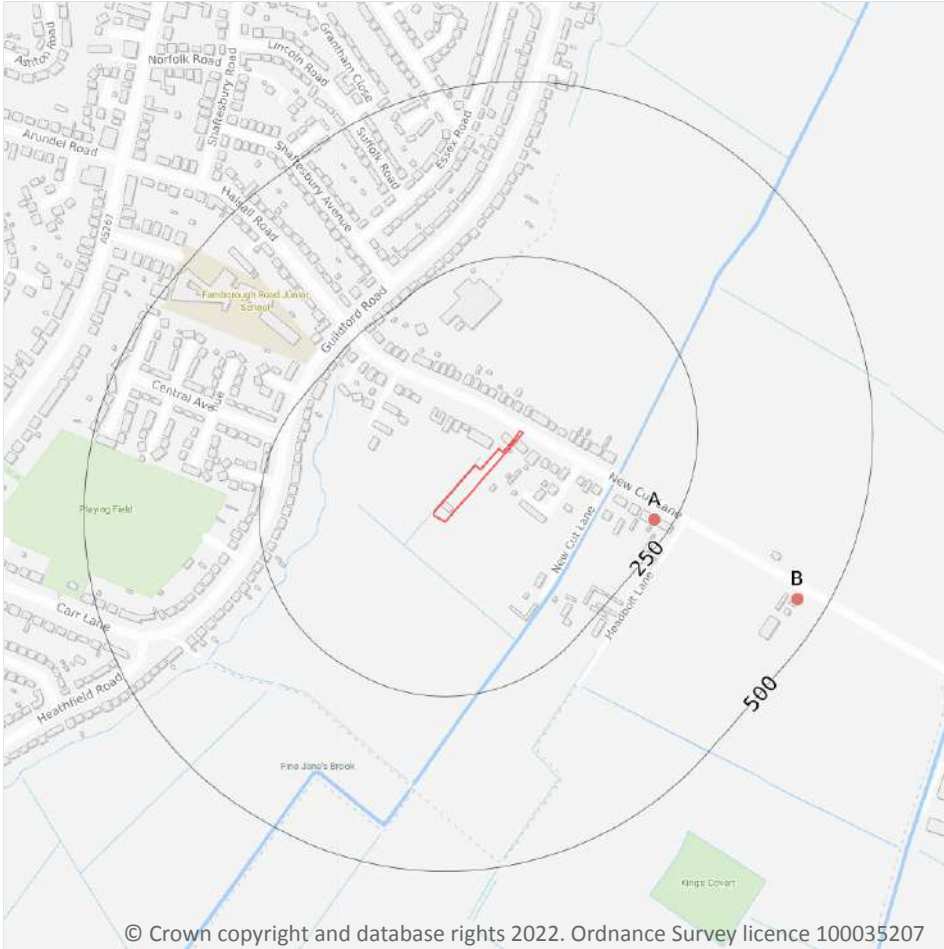
Features are displayed on the Past land use - un-grouped map on **page 15**

| ID | Location | Land Use | Date | Group ID |
|----|----------|----------|------|----------|
| A  | 215m NW  | Garage   | 1970 | 19835    |
| A  | 216m NW  | Garage   | 1967 | 19835    |

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



## 3 Waste and landfill



### 3.1 Active or recent landfill

Records within 500m

0

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

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

### 3.2 Historical landfill (BGS records)

Records within 500m

0

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

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



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

Records within 500m

0

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

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

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

Records within 500m

0

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

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

### 3.5 Historical waste sites

Records within 500m

0

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

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

### 3.6 Licensed waste sites

Records within 500m

0

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

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

### 3.7 Waste exemptions

Records within 500m

7

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 18**

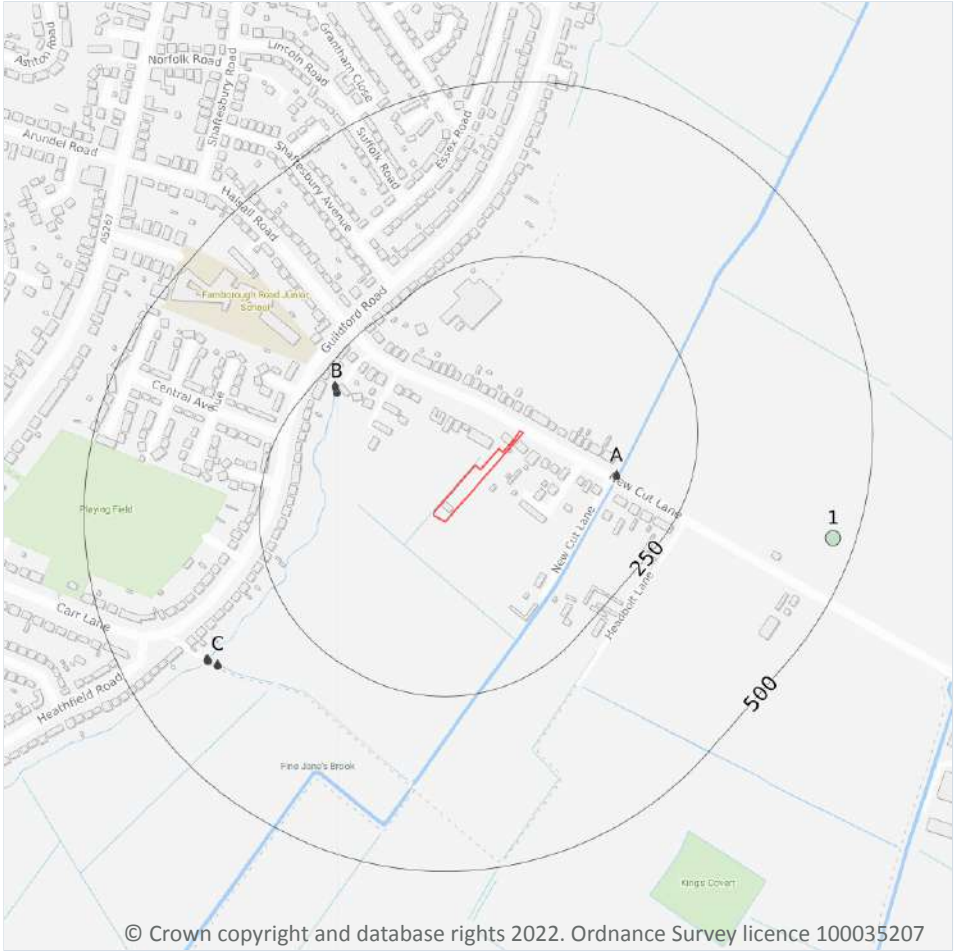


| ID | Location | Site   | Reference             | Category                           | Sub-Category                   | Description  |
|----|----------|--|-----------------------|------------------------------------|--------------------------------|--|
| A  | 225m E   | Crantum Farm West<br>Newcut Lane SOUTHPORT<br>Merseyside PR8 3DJ | EPR/QF0634T<br>V/A001 | Disposing of<br>waste<br>exemption | Agricultura<br>l Waste<br>Only | Deposit of waste from dredging<br>of inland waters   |
| A  | 225m E   | Crantum Farm West<br>Newcut Lane SOUTHPORT<br>Merseyside PR8 3DJ | EPR/QF0634T<br>V/A001 | Disposing of<br>waste<br>exemption | Agricultura<br>l Waste<br>Only | Deposit of agricultural waste<br>consisting of plant tissue under a<br>Plant Health notice |
| A  | 225m E   | Crantum Farm West<br>Newcut Lane SOUTHPORT<br>Merseyside PR8 3DJ | EPR/QF0634T<br>V/A001 | Disposing of<br>waste<br>exemption | Agricultura<br>l Waste<br>Only | Burning waste in the open  |
| A  | 225m E   | Crantum Farm West<br>Newcut Lane SOUTHPORT<br>Merseyside PR8 3DJ | EPR/QF0634T<br>V/A001 | Using waste<br>exemption           | Agricultura<br>l Waste<br>Only | Use of waste in construction   |
| B  | 458m E   | CRANTUM FARM WEST,<br>NEWCUT LANE,<br>SOUTHPORT, PR8 3DJ         | WEX055597             | Disposing of<br>waste<br>exemption | On a farm                      | Deposit of waste from dredging<br>of inland waters   |
| B  | 458m E   | CRANTUM FARM WEST,<br>NEWCUT LANE,<br>SOUTHPORT, PR8 3DJ         | WEX055597             | Disposing of<br>waste<br>exemption | On a farm                      | Deposit of agricultural waste<br>consisting of plant tissue under a<br>Plant Health notice |
| B  | 458m E   | CRANTUM FARM WEST,<br>NEWCUT LANE,<br>SOUTHPORT, PR8 3DJ         | WEX055597             | Using waste<br>exemption           | On a farm                      | Use of waste in construction   |

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



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

### 4.1 Recent industrial land uses

**Records within 250m** **0**

Current potentially contaminative industrial sites.

*This data is sourced from Ordnance Survey.*

### 4.2 Current or recent petrol stations

**Records within 500m** **0**

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

### 4.3 Electricity cables

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

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

### 4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

### 4.5 Sites determined as Contaminated Land

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

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

*This data is sourced from Local Authority records.*

### 4.6 Control of Major Accident Hazards (COMAH)

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

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

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

### 4.7 Regulated explosive sites

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

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

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

## 4.8 Hazardous substance storage/usage

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

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

Records within 500m

0

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

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

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

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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



## 4.13 Licensed Discharges to controlled waters

Records within 500m

20

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 21**

| ID | Location | Address   | Details  |   |
|----|----------|---|--|---|
| A  | 146m SE  | NEW CUT LANE PS 49049, NEW CUT LANE, AINSDALE, SOUTHPORT, MERSEYSIDE                | Effluent Type: MISCELLANEOUS DISCHARGES - EMERGENCY DISCHARGES<br>Permit Number: 017081312<br>Permit Version: 1<br>Receiving Water: FINE JANES BROOK                       | Status: REVOKED - UNSPECIFIED<br>Issue date: -<br>Effective Date: 22/01/1997<br>Revocation Date: 28/05/1997   |
| A  | 146m SE  | NEW CUT LANE PS 49049, NEW CUT LANE, AINSDALE, SOUTHPORT, MERSEYSIDE                | Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY<br>Permit Number: 017081312<br>Permit Version: 2<br>Receiving Water: FINE JANES BROOK                   | Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 29/05/1997<br>Revocation Date: 08/10/2018 |
| A  | 146m SE  | NEW CUT LANE PS 49049, NEW CUT LANE, AINSDALE, SOUTHPORT, MERSEYSIDE                | Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY<br>Permit Number: 017081312<br>Permit Version: 3<br>Receiving Water: FINE JANES BROOK                   | Status: VARIED UNDER EPR 2010<br>Issue date: 09/10/2018<br>Effective Date: 09/10/2018<br>Revocation Date: -   |
| B  | 218m NW  | OPPOSITE NO. 320 LIVERPOOL ROAD CSO, LIVERPOOL ROAD, SOUTHPORT, MERSEYSIDE, PR8 3BZ | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: 01SEF0053<br>Permit Version: 1<br>Receiving Water: SANDY BROOK                   | Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 13/04/2009 |
| B  | 218m NW  | OPPOSITE NO. 320 LIVERPOOL ROAD CSO, LIVERPOOL ROAD, SOUTHPORT, MERSEYSIDE, PR8 3BZ | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: 01SEF0053<br>Permit Version: 2<br>Receiving Water: SANDY BROOK                   | Status: VARIED UNDER EPR 2010<br>Issue date: 14/04/2009<br>Effective Date: 14/04/2009<br>Revocation Date: 23/07/2017                                    |
| B  | 226m NW  | OPPOSITE NO. 320 LIVERPOOL ROAD CSO, LIVERPOOL ROAD, SOUTHPORT, MERSEYSIDE, PR8 3BZ | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: 01SEF0053<br>Permit Version: 3<br>Receiving Water: SANDY BROOK (TRIB. RIVER ALT) | Status: VARIED UNDER EPR 2010<br>Issue date: 31/07/2017<br>Effective Date: 24/07/2017<br>Revocation Date: -   |



| ID | Location | Address  | Details  |   |
|----|----------|--|--|---|
| C  | 375m SW  | O/S 65 DOVER ROAD CSO 381P8,<br>65 DOVER ROAD, BIRKDALE,<br>SOUTHPORT, PR8 4TH                   | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0057<br>Permit Version: 1<br>Receiving Water: TRIB SANDY<br>BROOK | Status: POST NRA LEGISLATION<br>WHERE ISSUE DATE > 31-AUG-89<br>(HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 13/04/2009 |
| C  | 375m SW  | O/S 65 DOVER ROAD CSO 381P8,<br>65 DOVER ROAD, BIRKDALE,<br>SOUTHPORT, PR8 4TH                   | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0057<br>Permit Version: 2<br>Receiving Water: TRIB SANDY<br>BROOK | Status: VARIED UNDER EPR 2010<br>Issue date: 14/04/2009<br>Effective Date: 14/04/2009<br>Revocation Date: 10/01/2017  |
| C  | 375m SW  | OPPOSITE NO 7 CROMER ROAD<br>CSO, SITE ID 381P8, CROMER<br>ROAD, BIRKDALE, SOUTHPORT,<br>PR8 2NH | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0056<br>Permit Version: 1<br>Receiving Water: TRIB SANDY<br>BROOK | Status: POST NRA LEGISLATION<br>WHERE ISSUE DATE > 31-AUG-89<br>(HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 13/04/2009 |
| C  | 375m SW  | OPPOSITE NO 7 CROMER ROAD<br>CSO, SITE ID 381P8, CROMER<br>ROAD, BIRKDALE, SOUTHPORT,<br>PR8 2NH | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0056<br>Permit Version: 2<br>Receiving Water: TRIB SANDY<br>BROOK | Status: VARIED UNDER EPR 2010<br>Issue date: 14/04/2009<br>Effective Date: 14/04/2009<br>Revocation Date: 14/10/2018  |
| C  | 375m SW  | OPPOSITE NO.36 CARR LANE<br>CSO, CARR LANE, SOUTHPORT,<br>MERSEYSIDE, PR8 3EF                    | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0054<br>Permit Version: 1<br>Receiving Water: TRIB SANDY<br>BROOK | Status: POST NRA LEGISLATION<br>WHERE ISSUE DATE > 31-AUG-89<br>(HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 13/04/2009 |
| C  | 375m SW  | OPPOSITE NO.36 CARR LANE<br>CSO, CARR LANE, SOUTHPORT,<br>MERSEYSIDE, PR8 3EF                    | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0054<br>Permit Version: 2<br>Receiving Water: TRIB SANDY<br>BROOK | Status: VARIED UNDER EPR 2010<br>Issue date: 14/04/2009<br>Effective Date: 14/04/2009<br>Revocation Date: 13/08/2017  |



| ID | Location | Address  | Details  |   |
|----|----------|--|--|---|
| C  | 375m SW  | REAR NO.1 HASTINGS ROAD CSO<br>381P8, HASTINGS ROAD,<br>BIRKDALE, SOUTHPORT, PR8 2LN             | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0055<br>Permit Version: 1<br>Receiving Water: TRIB SANDY<br>BROOK | Status: POST NRA LEGISLATION<br>WHERE ISSUE DATE > 31-AUG-89<br>(HISTORIC ONLY)<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 13/04/2009 |
| C  | 375m SW  | REAR NO.1 HASTINGS ROAD CSO<br>381P8, HASTINGS ROAD,<br>BIRKDALE, SOUTHPORT, PR8 2LN             | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0055<br>Permit Version: 2<br>Receiving Water: TRIB SANDY<br>BROOK | Status: VARIED UNDER EPR 2010<br>Issue date: 14/04/2009<br>Effective Date: 14/04/2009<br>Revocation Date: 10/01/2017  |
| C  | 383m SW  | O/S 65 DOVER ROAD CSO 381P8,<br>65 DOVER ROAD, BIRKDALE,<br>SOUTHPORT, PR8 4TH                   | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0057<br>Permit Version: 3<br>Receiving Water: SANDY BROOK         | Status: VARIED UNDER EPR 2010<br>Issue date: 11/01/2017<br>Effective Date: 11/01/2017<br>Revocation Date: 08/07/2018  |
| C  | 383m SW  | O/S 65 DOVER ROAD CSO 381P8,<br>65 DOVER ROAD, BIRKDALE,<br>SOUTHPORT, PR8 4TH                   | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0057<br>Permit Version: 4<br>Receiving Water: SANDY BROOK         | Status: VARIED UNDER EPR 2010<br>Issue date: 09/07/2018<br>Effective Date: 09/07/2018<br>Revocation Date: -   |
| C  | 383m SW  | OPPOSITE NO 7 CROMER ROAD<br>CSO, SITE ID 381P8, CROMER<br>ROAD, BIRKDALE, SOUTHPORT,<br>PR8 2NH | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0056<br>Permit Version: 3<br>Receiving Water: TRIB SANDY<br>BROOK | Status: VARIED UNDER EPR 2010<br>Issue date: 15/10/2018<br>Effective Date: 15/10/2018<br>Revocation Date: -   |
| C  | 383m SW  | REAR NO.1 HASTINGS ROAD CSO<br>381P8, HASTINGS ROAD,<br>BIRKDALE, SOUTHPORT, PR8 2LN             | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0055<br>Permit Version: 3<br>Receiving Water: SANDY BROOK         | Status: VARIED UNDER EPR 2010<br>Issue date: 11/01/2017<br>Effective Date: 11/01/2017<br>Revocation Date: 08/07/2018  |
| C  | 383m SW  | REAR NO.1 HASTINGS ROAD CSO<br>381P8, HASTINGS ROAD,<br>BIRKDALE, SOUTHPORT, PR8 2LN             | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0055<br>Permit Version: 4<br>Receiving Water: SANDY BROOK         | Status: VARIED UNDER EPR 2010<br>Issue date: 09/07/2018<br>Effective Date: 09/07/2018<br>Revocation Date: -   |





| ID | Location | Address   | Details   |   |
|----|----------|---|---|---|
| C  | 384m SW  | OPPOSITE NO.36 CARR LANE<br>CSO, CARR LANE, SOUTHPORT,<br>MERSEYSIDE, PR8 3EF | Effluent Type: SEWAGE DISCHARGES<br>- SEWER STORM OVERFLOW -<br>WATER COMPANY<br>Permit Number: 01SEF0054<br>Permit Version: 3<br>Receiving Water: SANDY BROOK<br>(TRIB. RIVER ALT) | Status: VARIED UNDER EPR 2010<br>Issue date: 21/08/2017<br>Effective Date: 14/08/2017<br>Revocation Date: - |

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

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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 21**

| ID | Location | Details  |   |
|----|----------|--|---|
| 1  | 468m E   | Incident Date: 18/03/2002<br>Incident Identification: 64800<br>Pollutant: Inert Materials and Wastes<br>Pollutant Description: Construction and Demolition<br>Materials and Wastes | Water Impact: Category 4 (No Impact)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |

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

## 4.19 Pollution inventory substances

Records within 500m

0

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

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

## 4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

## 4.21 Pollution inventory radioactive waste

Records within 500m

0

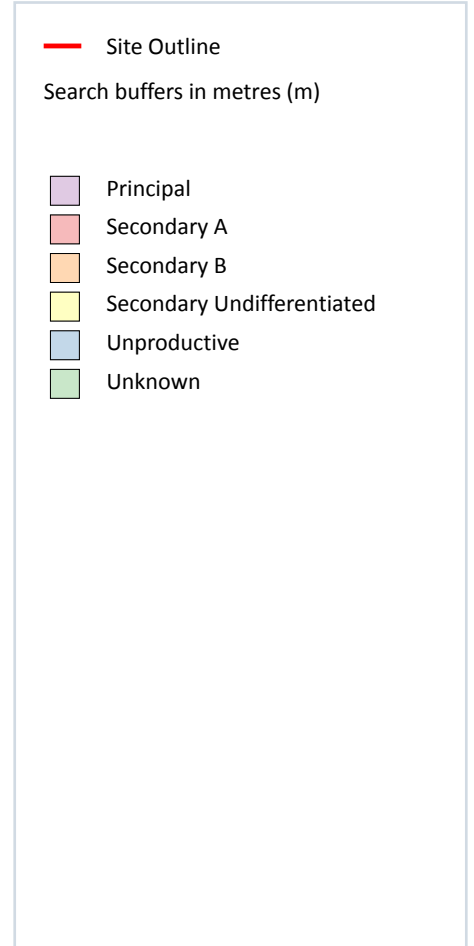
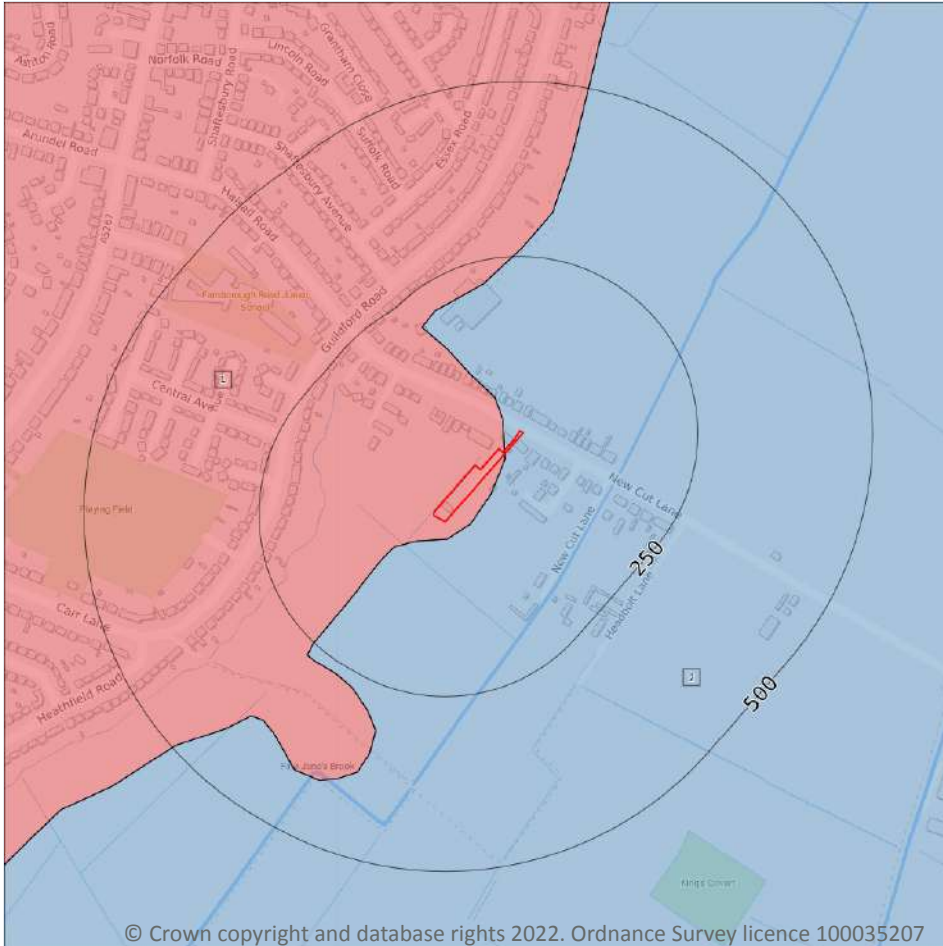
The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.



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



## 5 Hydrogeology - Superficial aquifer



### 5.1 Superficial aquifer

Records within 500m

2

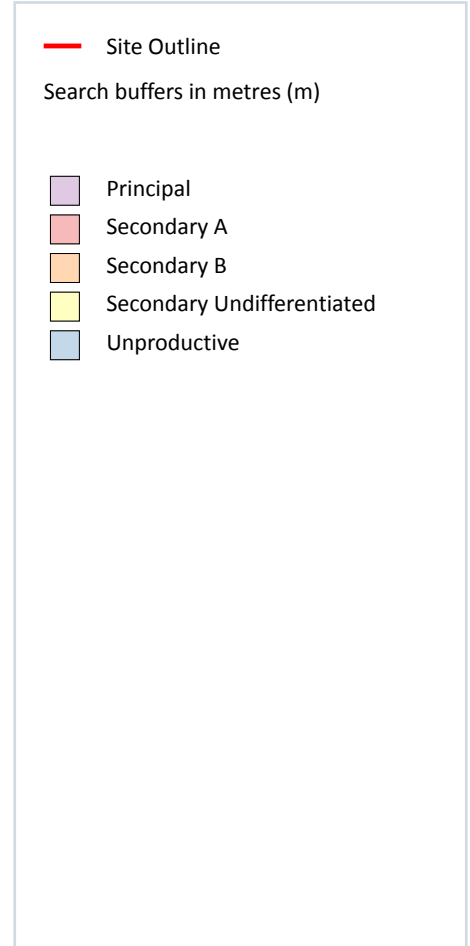
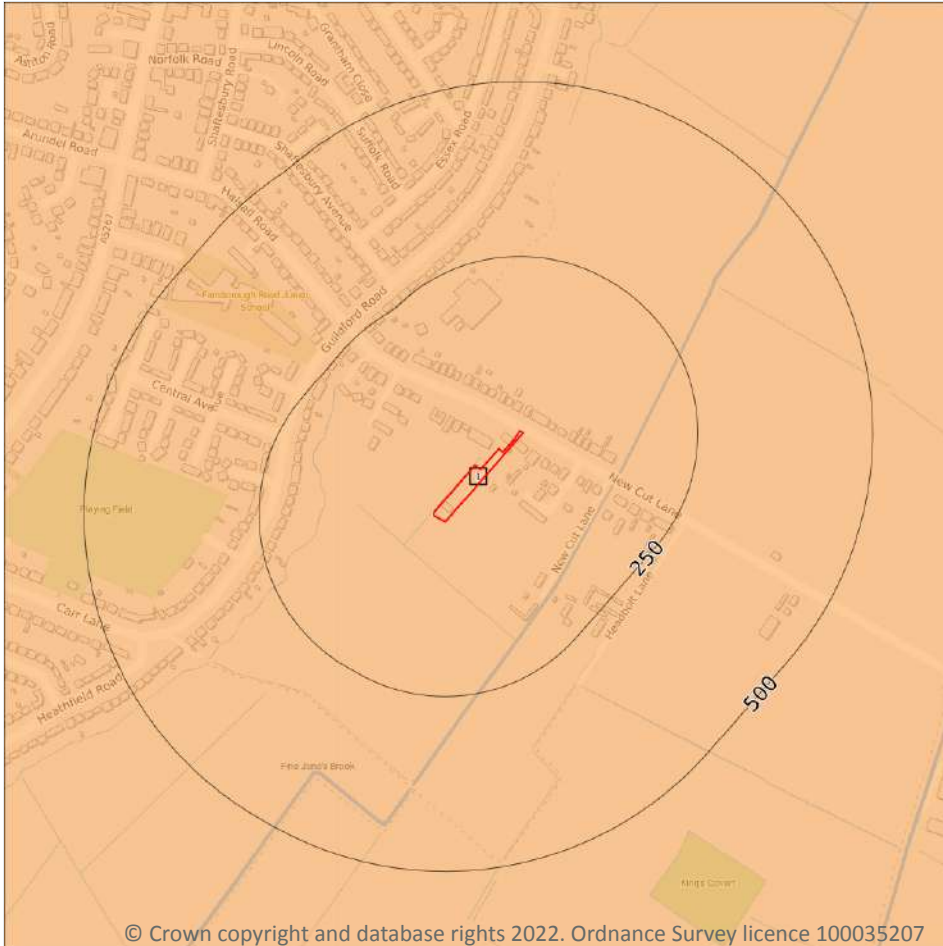
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 30**

| ID | Location | Designation  | Description  |
|----|----------|--------------|--|
| 1  | On site  | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 2  | On site  | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |

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

## Bedrock aquifer



### 5.2 Bedrock aquifer

Records within 500m

1

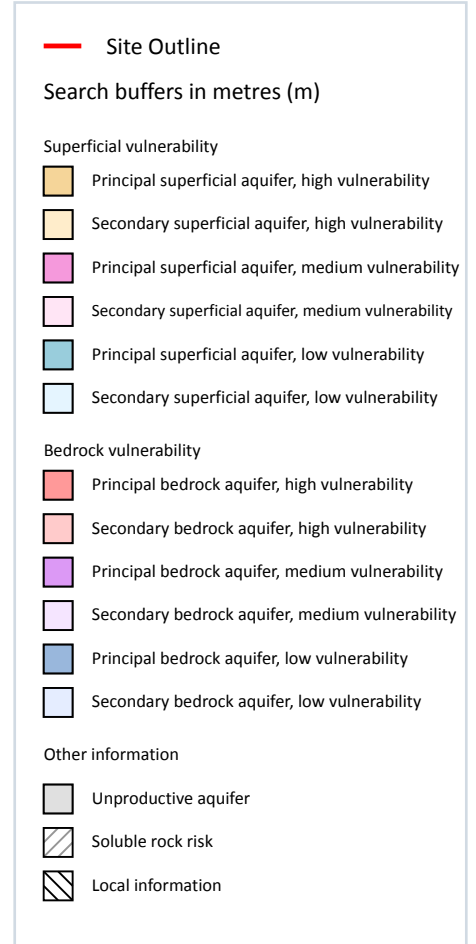
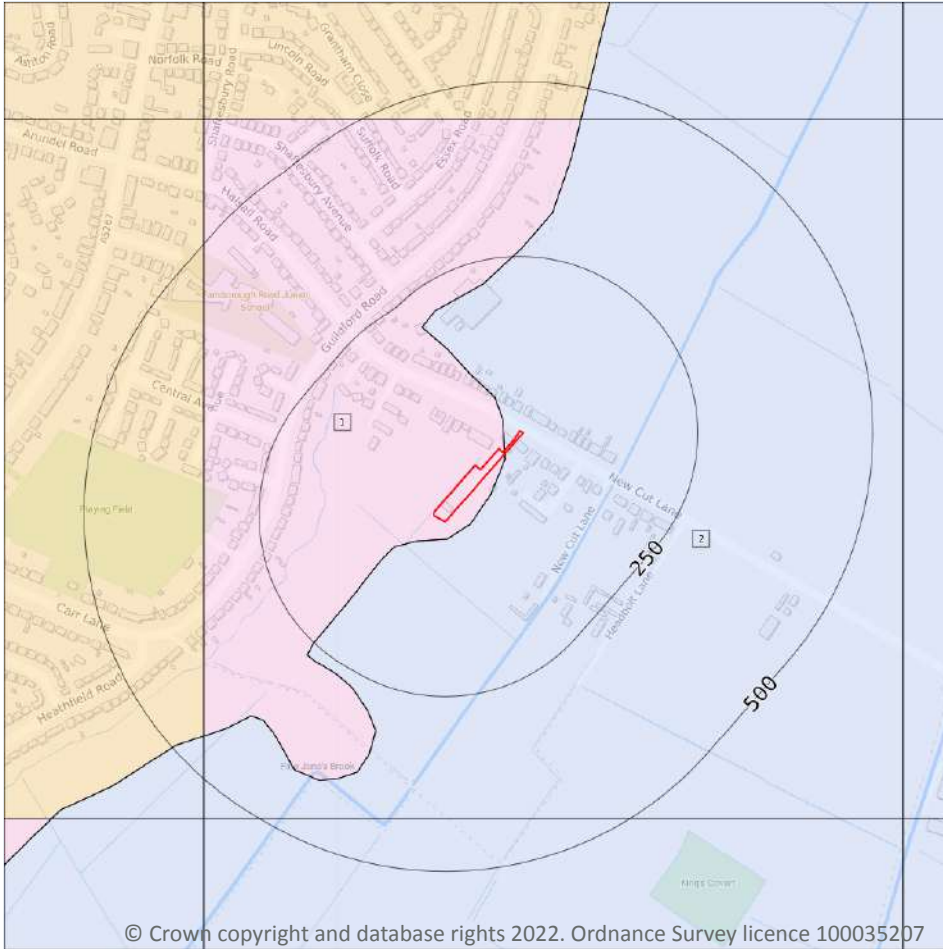
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 31**

| ID | Location | Designation | Description   |
|----|----------|-------------|---|
| 1  | On site  | Secondary B | Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers |

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

## Groundwater vulnerability



### 5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on **page 32**

| ID | Location | Summary   | Soil / surface  | Superficial geology  | Bedrock geology  |
|----|----------|---|---|--|--|
| 1  | On site  | <b>Summary Classification:</b><br>Secondary superficial aquifer - Medium Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer, Productive Superficial Aquifer | <b>Leaching class:</b><br>Intermediate<br><b>Infiltration value:</b><br>>70%<br><b>Dilution value:</b> 300-550mm/year | <b>Vulnerability:</b> Medium<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> >10m<br><b>Patchiness value:</b> >90%<br><b>Recharge potential:</b> Low          | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b> Secondary<br><b>Flow mechanism:</b> Well connected fractures |
| 2  | On site  | <b>Summary Classification:</b><br>Secondary bedrock aquifer - Low Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer, Unproductive Superficial Aquifer      | <b>Leaching class:</b><br>Intermediate<br><b>Infiltration value:</b><br>>70%<br><b>Dilution value:</b> 300-550mm/year | <b>Vulnerability:</b> Unproductive<br><b>Aquifer type:</b> Unproductive<br><b>Thickness:</b> >10m<br><b>Patchiness value:</b> >90%<br><b>Recharge potential:</b> Low | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b> Secondary<br><b>Flow mechanism:</b> Well connected fractures |

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

## 5.4 Groundwater vulnerability- soluble rock risk

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

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.*

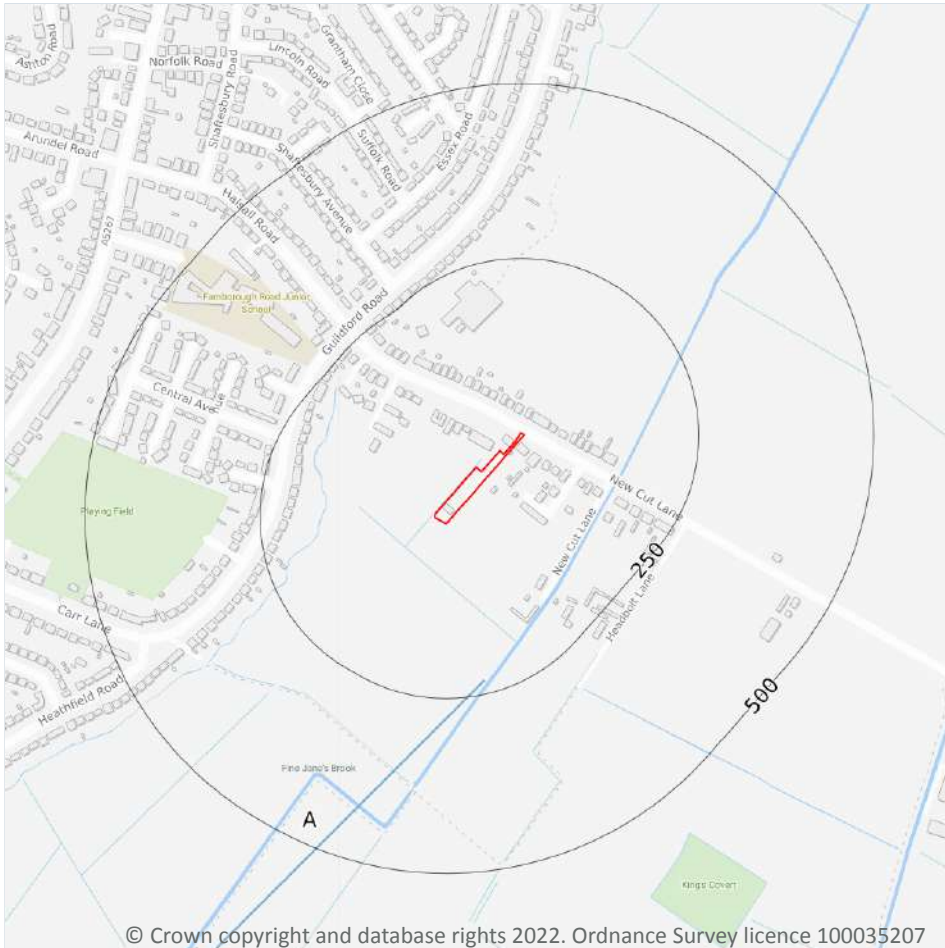
## 5.5 Groundwater vulnerability- local information

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

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

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

## Abstractions and Source Protection Zones



### 5.6 Groundwater abstractions

#### Records within 2000m

9

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 34**



| ID | Location | Details   |  |
|----|----------|---|--|
| -  | 1467m W  | Status: Historical<br>Licence No: NW/070/0105/002<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: UNDERGROUND STRATA: SUPERFICIAL SANDS AT SOUTHPORT<br>Data Type: Line<br>Name: HILLSIDE GOLF CLUB LTD (the)<br>Easting: 331821<br>Northing: 413731 | Annual Volume (m <sup>3</sup> ): 25630<br>Max Daily Volume (m <sup>3</sup> ): 385<br>Original Application No: -<br>Original Start Date: 07/04/2011<br>Expiry Date: 31/03/2016<br>Issue No: 1<br>Version Start Date: 07/04/2011<br>Version End Date: -              |
| -  | 1467m W  | Status: Active<br>Licence No: NW/070/0105/002/R01<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: UNDERGROUND STRATA: SUPERFICIAL SANDS AT SOUTHPORT<br>Data Type: Line<br>Name: HILLSIDE GOLF CLUB LTD (the)<br>Easting: 331821<br>Northing: 413731 | Annual Volume (m <sup>3</sup> ): 25,630<br>Max Daily Volume (m <sup>3</sup> ): 385<br>Original Application No: NPS/WR/019551<br>Original Start Date: 01/04/2016<br>Expiry Date: 31/03/2028<br>Issue No: 1<br>Version Start Date: 01/04/2021<br>Version End Date: - |
| -  | 1468m W  | Status: Historical<br>Licence No: 2670105025/R1<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: UNDERGROUND STRATA: SUPERFICIAL SANDS AT SOUTHPORT<br>Data Type: Line<br>Name: HILLSIDE GOLF CLUB LTD<br>Easting: 331820<br>Northing: 413730         | Annual Volume (m <sup>3</sup> ): 25630<br>Max Daily Volume (m <sup>3</sup> ): 385<br>Original Application No: -<br>Original Start Date: 12/05/2005<br>Expiry Date: 12/05/2010<br>Issue No: 1<br>Version Start Date: 12/05/2005<br>Version End Date: -              |
| -  | 1506m SW | Status: Historical<br>Licence No: 2670105023<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: WELLPOINT SYSTEM<br>Data Type: Line<br>Name: SOUTHPORT AND AINSDALE GOLF CLUB LTD<br>Easting: 331710<br>Northing: 412800                                | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 30/03/2001<br>Expiry Date: 29/03/2006<br>Issue No: 1<br>Version Start Date: 30/03/2001<br>Version End Date: -                    |
| -  | 1506m SW | Status: Historical<br>Licence No: 2670105023/R1<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: WELLPOINT SYSTEM<br>Data Type: Line<br>Name: SOUTHPORT AND AINSDALE GOLF CLUB LTD<br>Easting: 331710<br>Northing: 412800                             | Annual Volume (m <sup>3</sup> ): 27000<br>Max Daily Volume (m <sup>3</sup> ): 425<br>Original Application No: -<br>Original Start Date: 30/03/2006<br>Expiry Date: 29/03/2016<br>Issue No: 1<br>Version Start Date: 30/03/2006<br>Version End Date: -              |



| ID | Location | Details   |  |
|----|----------|---|--|
| -  | 1506m SW | Status: Active<br>Licence No: 2670105023R02<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: WELLPOINT SYSTEM<br>Data Type: Line<br>Name: SOUTHPORT AND AINSDALE GOLF CLUB LTD<br>Easting: 331710<br>Northing: 412800                                       | Annual Volume (m <sup>3</sup> ): 27,000<br>Max Daily Volume (m <sup>3</sup> ): 425<br>Original Application No: NPS/WR/019232<br>Original Start Date: 30/03/2016<br>Expiry Date: 31/03/2028<br>Issue No: 1<br>Version Start Date: 01/04/2021<br>Version End Date: - |
| -  | 1854m NW | Status: Historical<br>Licence No: 2670105003<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: WELL WITHIN BOUNDARIES OF S/POR & BIRKDALE CRICKET CLUB<br>Data Type: Point<br>Name: SOUTHPORT & BIRKDALE CRICKET CLUB<br>Easting: 332600<br>Northing: 415200 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 04/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 04/02/1966<br>Version End Date: -                           |
| -  | 1854m NW | Status: Active<br>Licence No: 2670105003<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: WELL IN BOUNDARIES OF SOUTHPORT AND BIRKDALE CRICKET CLUB<br>Data Type: Point<br>Name: SOUTHPORT & BIRKDALE CRICKET CLUB<br>Easting: 332600<br>Northing: 415200   | Annual Volume (m <sup>3</sup> ): 1,818<br>Max Daily Volume (m <sup>3</sup> ): 27.28<br>Original Application No: 3761<br>Original Start Date: 04/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 26/11/2018<br>Version End Date: -                |
| -  | 1909m NW | Status: Active<br>Licence No: NW/070/0105/001/R01<br>Details: Spray Irrigation - Direct<br>Direct Source: Ground Water - North West Region<br>Point: HORIZONTAL WELL AT ROYAL BIRKDALE GOLF CLUB, SOUTHPORT<br>Data Type: Line<br>Name: Whittle<br>Easting: 331848<br>Northing: 415040                        | Annual Volume (m <sup>3</sup> ): 28,000<br>Max Daily Volume (m <sup>3</sup> ): 455<br>Original Application No: NPS/WR/021907<br>Original Start Date: 01/04/2016<br>Expiry Date: 31/03/2028<br>Issue No: 2<br>Version Start Date: 01/04/2021<br>Version End Date: - |

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



## 5.7 Surface water abstractions

### Records within 2000m

**35**

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 34**

| ID | Location | Details  |  |
|----|----------|--|--|
| A  | 230m S   | Status: Historical<br>Licence No: 2670101028<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BRK AT HALSALL<br>Data Type: Line<br>Name: BANKS<br>Easting: 332900<br>Northing: 412700                   | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/08/1990<br>Version End Date: -                             |
| A  | 230m S   | Status: Active<br>Licence No: 2670101028<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BROOK AT HALSALL<br>Data Type: Line<br>Name: F & A BAYBUTT LTD<br>Easting: 332900<br>Northing: 412700         | Annual Volume (m <sup>3</sup> ): 5,800.26<br>Max Daily Volume (m <sup>3</sup> ): 1,130.14<br>Original Application No: NPS/WR/010992<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 10/08/2012<br>Version End Date: -   |
| -  | 690m E   | Status: Historical<br>Licence No: 2670101020<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "BOUNDARY BRK AT BIRKDALE, SOUTHPORT"<br>Data Type: Point<br>Name: TURFLAND<br>Easting: 334100<br>Northing: 413300 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 02/10/1978<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 08/08/2000<br>Version End Date: -                             |
| -  | 690m E   | Status: Active<br>Licence No: 2670101021<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL<br>Data Type: Line<br>Name: Turfland Farms Ltd<br>Easting: 334100<br>Northing: 413300            | Annual Volume (m <sup>3</sup> ): 102,944.17<br>Max Daily Volume (m <sup>3</sup> ): 2,054.79<br>Original Application No: NPS/WR/036931<br>Original Start Date: 13/12/1978<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 07/12/2021<br>Version End Date: - |



| ID | Location | Details  |  |
|----|----------|--|--|
| -  | 690m E   | Status: Active<br>Licence No: 2670101020<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT BIRKDALE, SOUTHPORT<br>Data Type: Point<br>Name: Turfland Farms Ltd<br>Easting: 334100<br>Northing: 413300       | Annual Volume (m <sup>3</sup> ): 9,092<br>Max Daily Volume (m <sup>3</sup> ): 272.79<br>Original Application No: NPS/WR/036928<br>Original Start Date: 02/10/1978<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 07/12/2021<br>Version End Date: -      |
| -  | 785m SE  | Status: Active<br>Licence No: 2670101024<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL<br>Data Type: Line<br>Name: F & A BAYBUTT LTD<br>Easting: 334000<br>Northing: 411900                     | Annual Volume (m <sup>3</sup> ): 5,800.26<br>Max Daily Volume (m <sup>3</sup> ): 1,130.14<br>Original Application No: NPS/WR/010990<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 10/08/2012<br>Version End Date: - |
| -  | 849m SW  | Status: Historical<br>Licence No: 2670101052<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "OLD CANAL AT HALSALL, SOUTHPORT, LANCASHIRE"<br>Data Type: Line<br>Name: WILKINSON<br>Easting: 333800<br>Northing: 412200 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/03/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 29/11/1999<br>Version End Date: -                           |
| -  | 849m SW  | Status: Historical<br>Licence No: 2670101052<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: OLD CANAL AT HALSALL, SOUTHPORT, LANCASHIRE<br>Data Type: Line<br>Name: WILKINSON<br>Easting: 333800<br>Northing: 412200     | Annual Volume (m <sup>3</sup> ): 3818.64<br>Max Daily Volume (m <sup>3</sup> ): 272.76<br>Original Application No: -<br>Original Start Date: 20/03/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 29/11/1999<br>Version End Date: -                |
| -  | 849m SW  | Status: Active<br>Licence No: 2670101029<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: OLD CANAL AT HALSALL<br>Data Type: Line<br>Name: F & A BAYBUTT LTD<br>Easting: 332900<br>Northing: 412700                        | Annual Volume (m <sup>3</sup> ): 5,800.26<br>Max Daily Volume (m <sup>3</sup> ): 1,130.14<br>Original Application No: NPS/WR/010993<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 10/08/2012<br>Version End Date: - |



| ID | Location | Details   |   |
|----|----------|---|---|
| -  | 849m SW  | Status: Historical<br>Licence No: 2670101053<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "FINE JANES BRK AT HALSALL, SOUTHPORT LANCS"<br>Data Type: Line<br>Name: WILKINSON<br>Easting: 332100<br>Northing: 411600 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/03/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 29/11/1999<br>Version End Date: -            |
| -  | 849m SW  | Status: Historical<br>Licence No: 2670101053<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BRK AT HALSALL, SOUTHPORT LANCS<br>Data Type: Line<br>Name: WILKINSON<br>Easting: 332100<br>Northing: 411600     | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/03/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 29/11/1999<br>Version End Date: -            |
| -  | 849m SW  | Status: Historical<br>Licence No: 2670101053<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BROOK AT HALSALL SOUTHPORT LANCS<br>Data Type: Line<br>Name: WILKINSON<br>Easting: 332100<br>Northing: 411600    | Annual Volume (m <sup>3</sup> ): 3818.64<br>Max Daily Volume (m <sup>3</sup> ): 272.76<br>Original Application No: -<br>Original Start Date: 20/03/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 29/11/1999<br>Version End Date: - |
| -  | 948m N   | Status: Historical<br>Licence No: 2670101026<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "FINE JANES BRK AT BIRKDALE, SOUTHPORT"<br>Data Type: Line<br>Name: TURFLAND<br>Easting: 333900<br>Northing: 414600       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 02/10/1978<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 08/08/2000<br>Version End Date: -            |



| ID | Location | Details  |  |
|----|----------|--|--|
| -  | 948m N   | Status: Historical<br>Licence No: 2670101026<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BRK AT BIRKDALE, SOUTHPORT<br>Data Type: Line<br>Name: TURFLAND<br>Easting: 333900<br>Northing: 414600        | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 02/10/1978<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 08/08/2000<br>Version End Date: -                       |
| -  | 948m N   | Status: Active<br>Licence No: 2670101026<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: FINE JANES BROOK AT BIRKDALE SOUTHPORT<br>Data Type: Line<br>Name: Turfland Farms Ltd<br>Easting: 333900<br>Northing: 414600 | Annual Volume (m <sup>3</sup> ): 22,730<br>Max Daily Volume (m <sup>3</sup> ): 272.76<br>Original Application No: NPS/WR/036932<br>Original Start Date: 02/10/1978<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 07/12/2021<br>Version End Date: - |
| -  | 1124m E  | Status: Historical<br>Licence No: 2670101040<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL<br>Data Type: Line<br>Name: WEBSTER<br>Easting: 334500<br>Northing: 414000                       | Annual Volume (m <sup>3</sup> ): 41095.8<br>Max Daily Volume (m <sup>3</sup> ): 1130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 15/05/1979<br>Version End Date: -           |
| -  | 1211m E  | Status: Active<br>Licence No: 2670101040<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL<br>Data Type: Line<br>Name: J A & N H Webster<br>Easting: 334512<br>Northing: 414362                 | Annual Volume (m <sup>3</sup> ): 38,823.61<br>Max Daily Volume (m <sup>3</sup> ): 1,130.16<br>Original Application No: 2499<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2011<br>Version End Date: -     |
| -  | 1435m S  | Status: Historical<br>Licence No: 2670101057<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "NEW CUT BRK AT HALSALL, ORMSKIRK, LANCS."<br>Data Type: Line<br>Name: GASKELL<br>Easting: 335800<br>Northing: 411000  | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/08/1984<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 23/08/1984<br>Version End Date: -                       |



| ID | Location | Details  |  |
|----|----------|--|--|
| -  | 1435m S  | Status: Active<br>Licence No: 2670101057<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: NEW CUT BRK AT HALSALL, ORMSKIRK, LANCS.<br>Data Type: Line<br>Name: F & A BAYBUTT LTD<br>Easting: 335800<br>Northing: 411000    | Annual Volume (m <sup>3</sup> ): 18,638.60<br>Max Daily Volume (m <sup>3</sup> ): 545.52<br>Original Application No: C5249-S1<br>Original Start Date: 23/08/1984<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2021<br>Version End Date: - |
| -  | 1498m SE | Status: Active<br>Licence No: 2670101037<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: CABIN LANE DRAIN AT HALSALL<br>Data Type: Line<br>Name: J A & N H Webster<br>Easting: 334237<br>Northing: 411782                 | Annual Volume (m <sup>3</sup> ): 38,822.84<br>Max Daily Volume (m <sup>3</sup> ): 1,130.13<br>Original Application No: 2499<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2011<br>Version End Date: -   |
| -  | 1506m SE | Status: Historical<br>Licence No: 2670101037<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: CABIN LANE DRAIN AT HALSALL<br>Data Type: Line<br>Name: WEBSTER<br>Easting: 334200<br>Northing: 411800                       | Annual Volume (m <sup>3</sup> ): 41095.8<br>Max Daily Volume (m <sup>3</sup> ): 1130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 15/05/1979<br>Version End Date: -         |
| -  | 1551m W  | Status: Historical<br>Licence No: 2670105006<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: POND AT SOUTHPORT, MERSEYSIDE<br>Data Type: Point<br>Name: HILLSIDE GOLF CLUB LTD<br>Easting: 331800<br>Northing: 413700     | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 11/03/1966<br>Expiry Date: 10/11/2002<br>Issue No: 100<br>Version Start Date: 01/04/2000<br>Version End Date: -            |
| -  | 1551m W  | Status: Historical<br>Licence No: 2670105025<br>Details: Spray Irrigation - Direct<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "POND AT SOUTHPORT, MERSEYSIDE"<br>Data Type: Point<br>Name: HILLSIDE GOLF CLUB LTD<br>Easting: 331800<br>Northing: 413700 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 27/11/2002<br>Expiry Date: 26-Nov-07<br>Issue No: 1<br>Version Start Date: 27/11/2002<br>Version End Date: -               |



| ID | Location | Details  |  |
|----|----------|--|--|
| -  | 1551m W  | Status: Historical<br>Licence No: 2670105025<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: POND AT SOUTHPORT, MERSEYSIDE<br>Data Type: Point<br>Name: HILLSIDE GOLF CLUB LTD<br>Easting: 331800<br>Northing: 413700       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 27/11/2002<br>Expiry Date: 26/11/2007<br>Issue No: 1<br>Version Start Date: 27/11/2002<br>Version End Date: -            |
| -  | 1651m SE | Status: Active<br>Licence No: 2670101036<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: NEW CUT BRK AT HALSALL<br>Data Type: Line<br>Name: J A & N H Webster<br>Easting: 334073<br>Northing: 411941                        | Annual Volume (m <sup>3</sup> ): 38,822.84<br>Max Daily Volume (m <sup>3</sup> ): 1,130.13<br>Original Application No: 2499<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2011<br>Version End Date: - |
| -  | 1728m SE | Status: Historical<br>Licence No: 2670101038<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL<br>Data Type: Line<br>Name: WEBSTER<br>Easting: 334900<br>Northing: 412600                      | Annual Volume (m <sup>3</sup> ): 41095.8<br>Max Daily Volume (m <sup>3</sup> ): 1130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 15/05/1979<br>Version End Date: -       |
| -  | 1770m SE | Status: Active<br>Licence No: 2670101038<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL NEAR ORMSKIRK<br>Data Type: Point<br>Name: J A & N H Webster<br>Easting: 334961<br>Northing: 412617 | Annual Volume (m <sup>3</sup> ): 38,822.84<br>Max Daily Volume (m <sup>3</sup> ): 1,130.13<br>Original Application No: 2499<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2011<br>Version End Date: - |
| -  | 1835m SE | Status: Historical<br>Licence No: 2670101036<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: NEW CUT BRK AT HALSALL<br>Data Type: Line<br>Name: WEBSTER<br>Easting: 334200<br>Northing: 411800                              | Annual Volume (m <sup>3</sup> ): 41095.8<br>Max Daily Volume (m <sup>3</sup> ): 1130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 15/05/1979<br>Version End Date: -       |





| ID | Location | Details   |  |
|----|----------|---|--|
| -  | 1849m NE | Status: Historical<br>Licence No: 2670101021<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL 235<br>Data Type: Line<br>Name: TURFLAND<br>Easting: 335100<br>Northing: 414400         | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 13/12/1978<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 08/08/2000<br>Version End Date: -                             |
| -  | 1849m NE | Status: Historical<br>Licence No: 2670101021<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL \$235<br>Data Type: Line<br>Name: TURFLAND<br>Easting: 335100<br>Northing: 414400       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 13/12/1978<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 08/08/2000<br>Version End Date: -                             |
| -  | 1849m NE | Status: Active<br>Licence No: 2670101021<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: BOUNDARY BRK AT HALSALL<br>Data Type: Line<br>Name: Turfland Farms Ltd<br>Easting: 335100<br>Northing: 414400       | Annual Volume (m <sup>3</sup> ): 102,944.17<br>Max Daily Volume (m <sup>3</sup> ): 2,054.79<br>Original Application No: NPS/WR/036931<br>Original Start Date: 13/12/1978<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 07/12/2021<br>Version End Date: - |
| -  | 1892m E  | Status: Active<br>Licence No: 2670101039<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL<br>Data Type: Line<br>Name: J A & N H Webster<br>Easting: 335396<br>Northing: 412369 | Annual Volume (m <sup>3</sup> ): 38,822.84<br>Max Daily Volume (m <sup>3</sup> ): 1,130.13<br>Original Application No: 2499<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/04/2011<br>Version End Date: -           |
| -  | 1897m E  | Status: Historical<br>Licence No: 2670101031<br>Details: Transfer between sources<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL<br>Data Type: Point<br>Name: KERSHAW<br>Easting: 335300<br>Northing: 413100       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 21/05/1993<br>Version End Date: -                             |



| ID | Location | Details   |   |
|----|----------|---|---|
| -  | 1897m E  | Status: Historical<br>Licence No: 2670101039<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL<br>Data Type: Line<br>Name: WEBSTER<br>Easting: 335300<br>Northing: 412200 | Annual Volume (m <sup>3</sup> ): 41095.8<br>Max Daily Volume (m <sup>3</sup> ): 1130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 15/05/1979<br>Version End Date: -    |
| -  | 1897m E  | Status: Active<br>Licence No: 2670101031<br>Details: Spray Irrigation - Direct<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: UNNAMED WATERCOURSE AT HALSALL<br>Data Type: Point<br>Name: KERSHAW<br>Easting: 335300<br>Northing: 413100    | Annual Volume (m <sup>3</sup> ): 26,294.50<br>Max Daily Volume (m <sup>3</sup> ): 1,130.14<br>Original Application No: -<br>Original Start Date: 15/05/1979<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 26/11/2018<br>Version End Date: - |

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

## 5.8 Potable abstractions

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>0</b> |
|-----------------------------|----------|

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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)

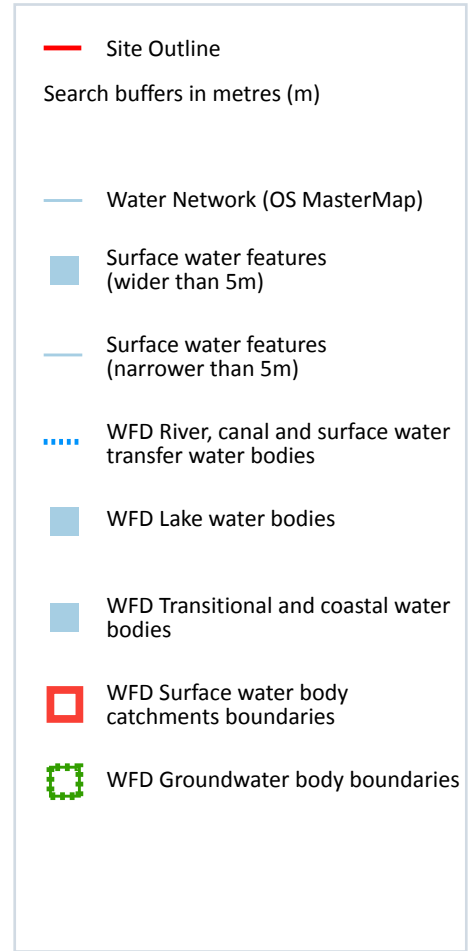
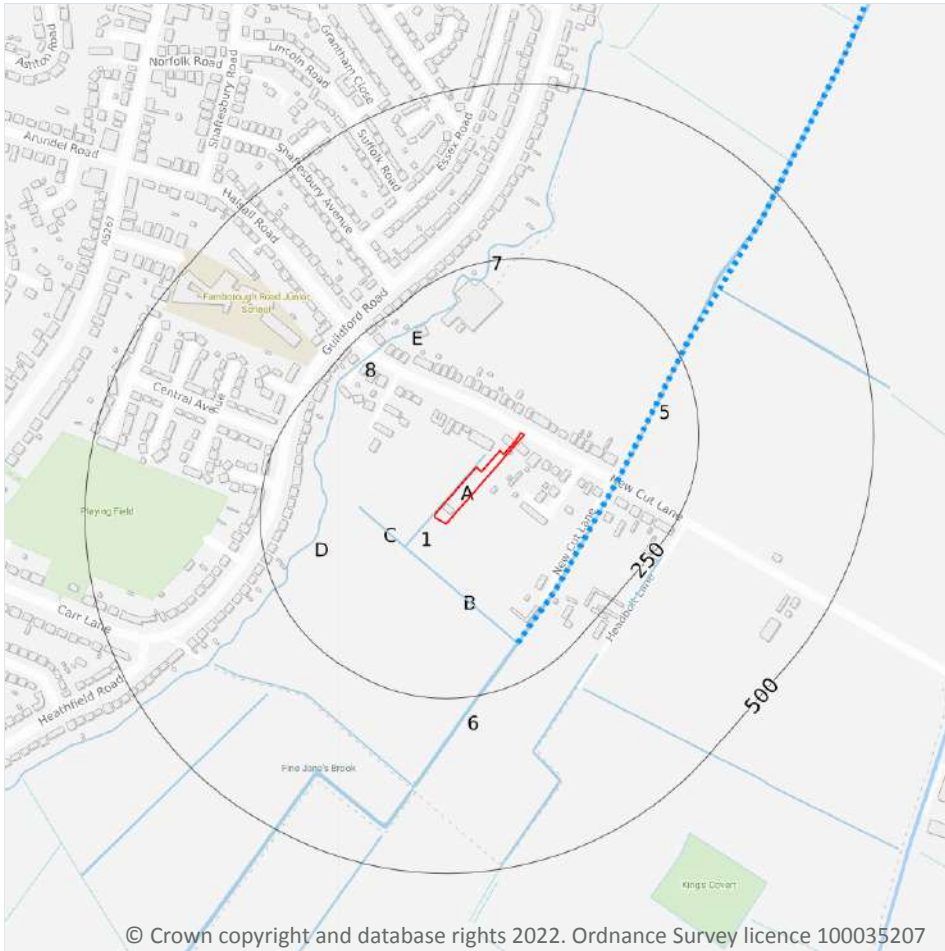
|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

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



## 6 Hydrology



### 6.1 Water Network (OS MasterMap)

Records within 250m

11

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 45**

| ID | Location | Type of water feature                               | Ground level      | Permanence  | Name |
|----|----------|---|-------------------|---|------|
| A  | 1m SW    | 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              |
|----|----------|---|-------------------|---|-------------------|
| 1  | 3m SW    | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | -                 |
| B  | 60m SW   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | -                 |
| C  | 60m SW   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | -                 |
| 5  | 149m E   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Fine Jane's Brook |
| D  | 156m W   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Sandy Brook       |
| 6  | 199m S   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Fine Jane's Brook |
| 7  | 205m N   | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Sandy Brook       |
| E  | 213m N   | Inland river not influenced by normal tidal action. | Underground       | Watercourse contains water year round (in normal circumstances) | Sandy Brook       |
| E  | 216m NW  | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Sandy Brook       |
| 8  | 218m NW  | Inland river not influenced by normal tidal action. | Underground       | Watercourse contains water year round (in normal circumstances) | Sandy Brook       |

*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 45**



This data is sourced from the Ordnance Survey.

### 6.3 WFD Surface water body catchments

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>1</b> |
|------------------------|----------|

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 45**

| ID | Location | Type  | Water body catchment  | Water body ID  | Operational catchment | Management catchment |
|----|----------|-------|-----------------------|----------------|-----------------------|----------------------|
| A  | On site  | River | Three Pool's Waterway | GB112070064830 | Crossens System       | Alt and Crossens     |

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

### 6.4 WFD Surface water bodies

|                           |          |
|---------------------------|----------|
| <b>Records identified</b> | <b>1</b> |
|---------------------------|----------|

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

Features are displayed on the Hydrology map on **page 45**

| ID | Location | Type  | Name                  | Water body ID                  | Overall rating | Chemical rating | Ecological rating | Year |
|----|----------|-------|-----------------------|--------------------------------|----------------|-----------------|-------------------|------|
| 4  | 148m E   | River | Three Pool's Waterway | <a href="#">GB112070064830</a> | Moderate       | Fail            | Moderate          | 2019 |

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

## 6.5 WFD Groundwater bodies

Records on site

1

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

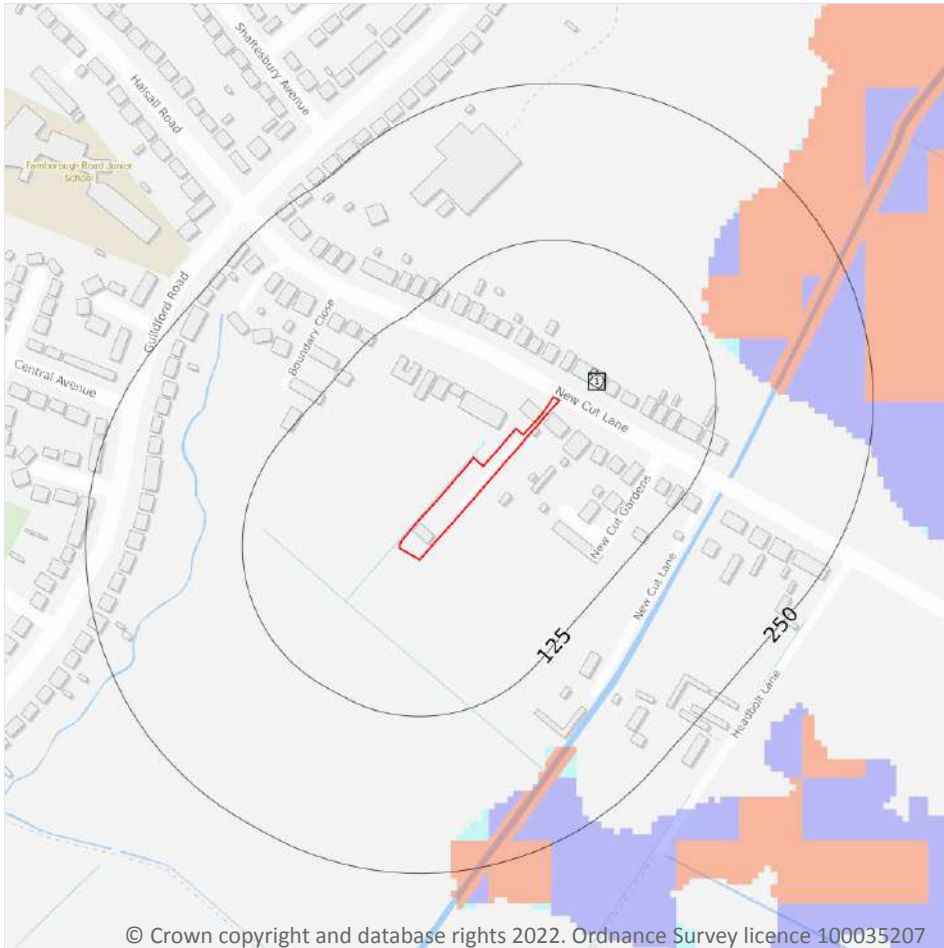
Features are displayed on the Hydrology map on **page 45**

| ID | Location | Name  | Water body ID                  | Overall rating | Chemical rating | Quantitative | Year |
|----|----------|---|--------------------------------|----------------|-----------------|--------------|------|
| A  | On site  | West Lancashire Quaternary Sand and Gravel Aquifers | <a href="#">GB41202G912700</a> | Good           | Good            | Good         | 2019 |

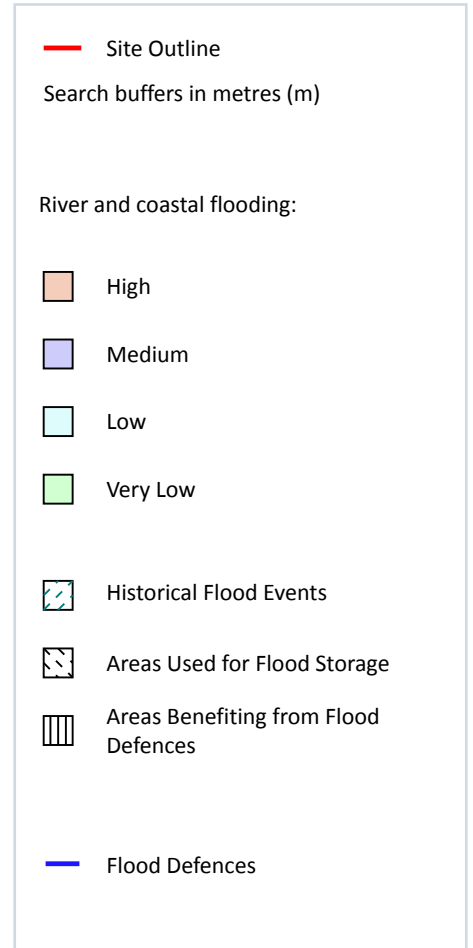
*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 7 River and coastal flooding



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

Records within 50m

0

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

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

## 7.2 Historical Flood Events

Records within 250m

1

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.

Features are displayed on the River and coastal flooding map on **page 49**

| ID | Location | Event name     | Date of flood            | Flood source | Flood cause | Type of flood |
|----|----------|----------------|--------------------------|--------------|-------------|---------------|
| 1  | 27m NE   | 16th June 2016 | 2016-06-16<br>2016-06-17 | Unknown      | Unknown     | No data       |

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

## 7.3 Flood Defences

Records within 250m

0

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

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

## 7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

## 7.5 Flood Storage Areas

Records within 250m

0

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

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





## River and coastal flooding - Flood Zones

### 7.6 Flood Zone 2

Records within 50m

0

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

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

### 7.7 Flood Zone 3

Records within 50m

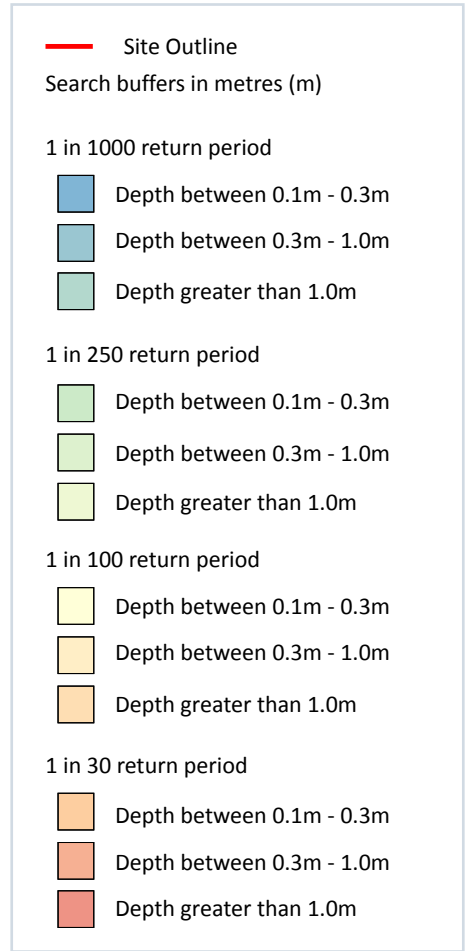
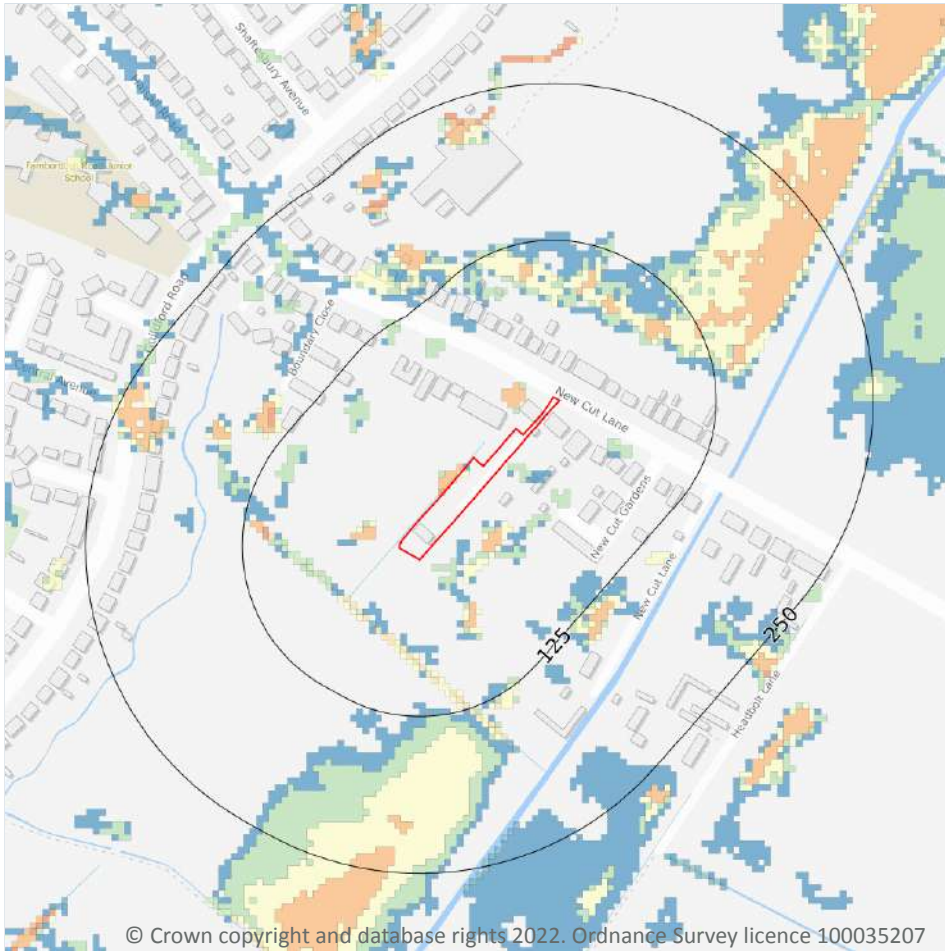
0

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

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



## 8 Surface water flooding



### 8.1 Surface water flooding

Highest risk on site

**1 in 30 year, 0.3m - 1.0m**

Highest risk within 50m

**1 in 30 year, 0.3m - 1.0m**

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

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

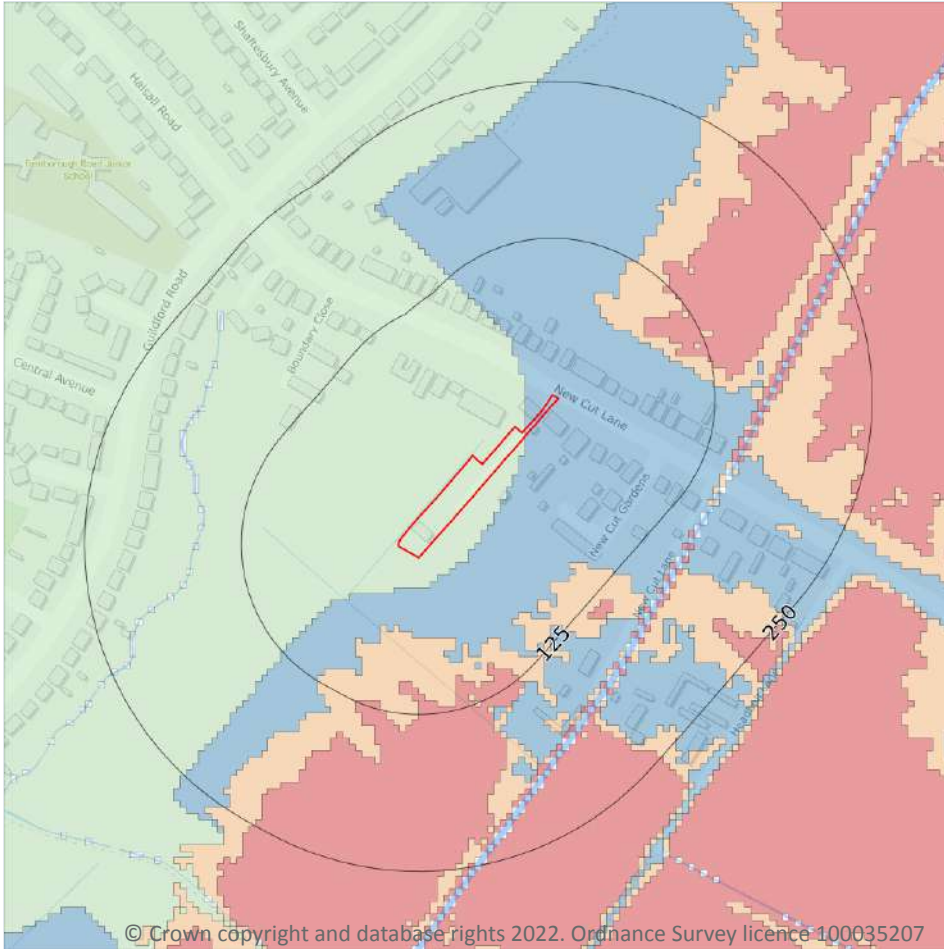
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

| Return period  | Maximum modelled depth |
|----------------|------------------------|
| 1 in 1000 year | Between 0.3m and 1.0m  |
| 1 in 250 year  | Between 0.3m and 1.0m  |
| 1 in 100 year  | Between 0.3m and 1.0m  |
| 1 in 30 year   | Between 0.3m and 1.0m  |

*This data is sourced from Ambiental Risk Analytics.*

## 9 Groundwater flooding



### 9.1 Groundwater flooding

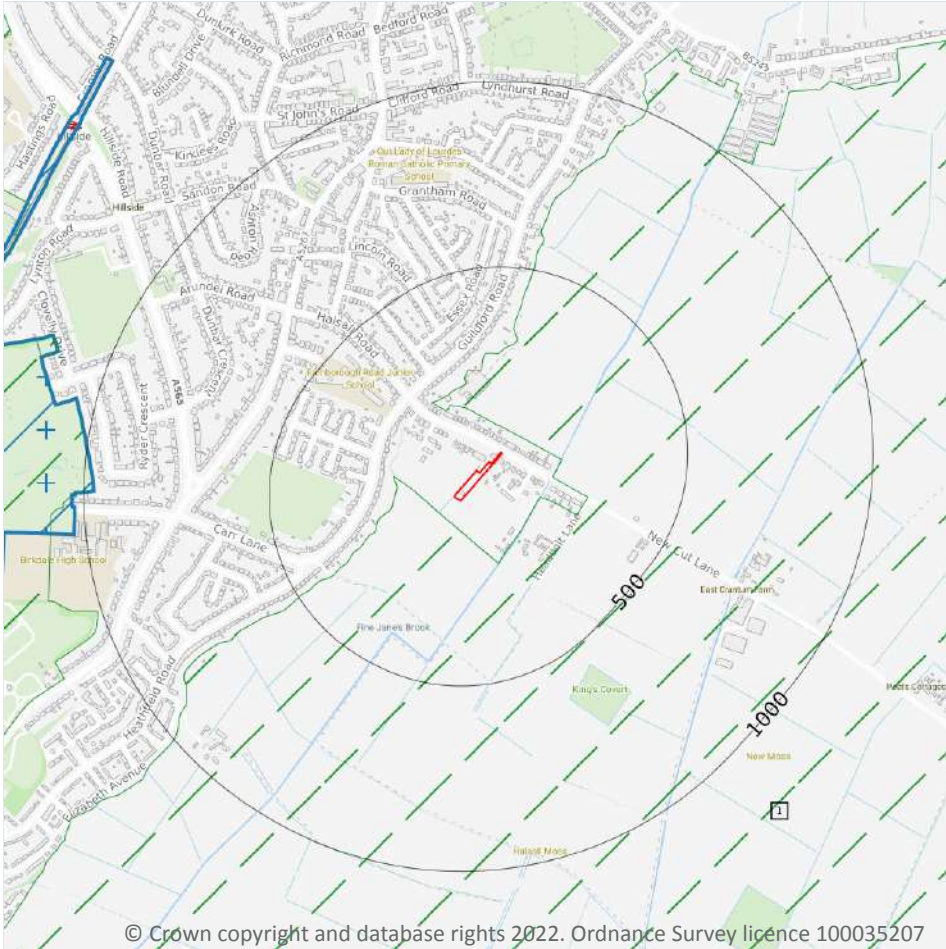
|                         |            |
|-------------------------|------------|
| Highest risk on site    | <b>Low</b> |
| Highest risk within 50m | <b>Low</b> |

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

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






*This data is sourced from Ambient Risk Analytics.*

## 10 Environmental designations



**Site Outline**

Search buffers in metres (m)

-  Sites of Special Scientific Interest (SSSI)
-  Conserved wetland sites (Ramsar sites)
-  Special Areas of Conservation (SAC)
-  Local Nature Reserves (LNR)
-  Green Belt

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

Records within 2000m

1

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

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

| ID | Location | Name         | Data source     |
|----|----------|--------------|-----------------|
| 2  | 974m W   | Sefton Coast | Natural England |

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

## 10.2 Conserved wetland sites (Ramsar sites)

**Records within 2000m**

**1**

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.

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

| ID | Location | Site  | Details  |
|----|----------|---|--|
| -  | 1906m W  | Name: Ribble & Alt Estuaries<br>Site status: Listed<br>Data source: Natural England | Overview: A large area including two estuaries which form part of the chain of west coast sites which fringe the Irish Sea. The site is formed by extensive sand and mudflats backed, in the north, by the saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter and the sand dunes support vegetation communities and amphibian populations of international importance.<br>Ramsar criteria: Ramsar criterion 2 This site supports up to 40% of the Great Britain population of natterjack toads Bufo calamita. |

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

## 10.3 Special Areas of Conservation (SAC)

**Records within 2000m**

**2**

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.

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

| ID | Location | Name         | Features of interest  | Habitat description  | Data source     |
|----|----------|--------------|---|--|-----------------|
| 3  | 974m W   | Sefton Coast | Shifting dunes; Shifting dunes with marram;<br>Dune grassland; Coastal dune heathland;<br>Dunes with sea-buckthorn; Dunes with creeping willow; Humid dune slacks; Great crested newt; Petalwort. | Coniferous woodland; Heath, Scrub, Maquis and Garrigue, Phygrana; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Coastal sand dunes, Sand beaches, Machair | Natural England |



| ID | Location | Name         | Features of interest  | Habitat description  | Data source     |
|----|----------|--------------|---|--|-----------------|
| -  | 1468m NW | Sefton Coast | Shifting dunes; Shifting dunes with marram; Dune grassland; Coastal dune heathland; Dunes with sea-buckthorn; Dunes with creeping willow; Humid dune slacks; Great crested newt; Petalwort. | Coniferous woodland; Heath, Scrub, Maquis and Garrigue, Phygrana; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Coastal sand dunes, Sand beaches, Machair | Natural England |

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

## 10.4 Special Protection Areas (SPA)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>0</b> |
|-----------------------------|----------|

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)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>0</b> |
|-----------------------------|----------|

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)

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>1</b> |
|-----------------------------|----------|

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

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

| ID | Location | Name                        | Data source     |
|----|----------|-----------------------------|-----------------|
| -  | 1705m NW | Ainsdale and Birkdale Hills | Natural England |

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

## 10.7 Designated Ancient Woodland

Records within 2000m

0

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

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

## 10.8 Biosphere Reserves

Records within 2000m

0

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

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

## 10.9 Forest Parks

Records within 2000m

0

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

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

Records within 2000m

0

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

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

## 10.11 Green Belt

Records within 2000m

2

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

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





| ID | Location | Name                              | Local Authority name |
|----|----------|-----------------------------------|----------------------|
| 1  | 60m SW   | Merseyside and Greater Manchester | West Lancashire      |
| 4  | 974m W   | Merseyside and Greater Manchester | Sefton               |

*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

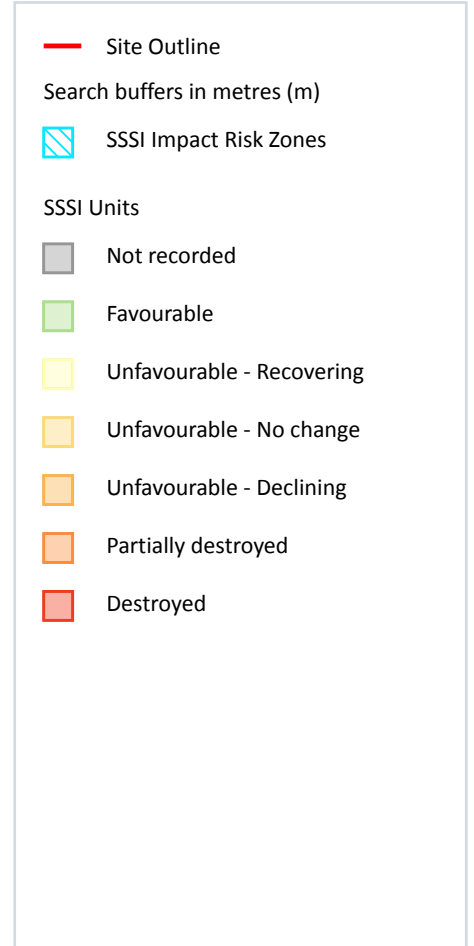
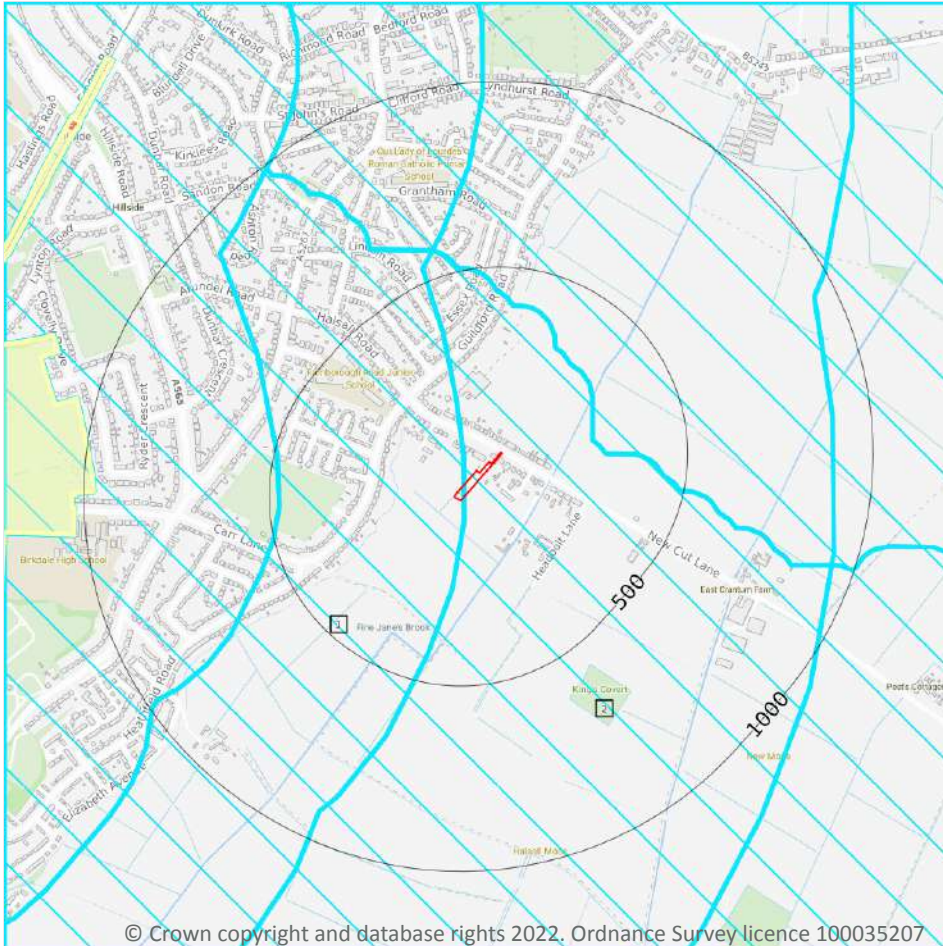
|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>3</b> |
|-----------------------------|----------|

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          |
|----------------|--|----------------------|------------|-----------------|
| <b>On site</b> | <b>BLACK SLUICE AND THREE POOLS WATERWAY NVZ</b> | <b>Surface Water</b> | <b>711</b> | <b>Existing</b> |
| 635m E         | BLACK SLUICE AND THREE POOLS WATERWAY NVZ        | Surface Water        | 711        | Existing        |
| 1658m S        | ALT NVZ  | Surface Water        | 642        | Existing        |

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

## SSSI Impact Zones and Units



### 10.17 SSSI Impact Risk Zones

#### Records on site

2

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 61**

| ID | Location | Type of developments requiring consultation   |
|----|----------|---|
| 1  | On site  | <p><b>All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.</b></p> <p><b>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</b></p> <p><b>Wind and Solar - Solar schemes with footprint &gt; 0.5ha, all wind turbines.</b></p> <p><b>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil &amp; gas exploration/extraction.</b></p> <p><b>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is &gt; 1,000m<sup>2</sup> or footprint exceeds 0.2ha.</b></p> <p><b>Residential - Residential development of 10 units or more.</b></p> <p><b>Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.</b></p> <p><b>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</b></p> <p><b>Combustion - General combustion processes &gt;20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</b></p> <p><b>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</b></p> <p><b>Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</b></p> <p><b>Discharges - Any discharge of water or liquid waste of more than 2m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</b></p> <p><b>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is &gt; 1,000m<sup>2</sup> or any development needing its own water supply .</b></p> <p><b>Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. please consider this issue in the hra screening.</b></p> |

| ID | Location | Type of developments requiring consultation   |
|----|----------|---|
| 2  | On site  | <p>All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.</p> <p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint &gt; 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil &amp; gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is &gt; 1,000m<sup>2</sup> or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 10 units or more.</p> <p>Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p> <p>Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. please consider this issue in the hra screening.</p> |

*This data is sourced from Natural England.*

## 10.18 SSSI Units

Records within 2000m

5

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

Features are displayed on the SSSI Impact Zones and Units map on **page 61**

|                |                                  |
|----------------|----------------------------------|
| ID:            | 9                                |
| Location:      | 974m W                           |
| SSSI name:     | Sefton Coast                     |
| Unit name:     | Southport & Ainsdale Golf Course |
| Broad habitat: | Supralittoral Sediment           |
| Condition:     | Unfavourable - Recovering        |



## Reportable features:

| Feature name  | Feature condition        | Date of assessment |
|---|--------------------------|--------------------|
| Aggregations of non-breeding birds - Bar-tailed godwit, <i>Limosa lapponica</i>         | -                        | -                  |
| Aggregations of non-breeding birds - Dunlin, <i>Calidris alpina alpina</i>              | -                        | -                  |
| Aggregations of non-breeding birds - Grey plover, <i>Pluvialis squatarola</i>           | -                        | -                  |
| Aggregations of non-breeding birds - Knot, <i>Calidris canutus</i>                      | -                        | -                  |
| Aggregations of non-breeding birds - Oystercatcher, <i>Haematopus ostralegus</i>        | -                        | -                  |
| Aggregations of non-breeding birds - Ringed plover, <i>Charadrius hiaticula</i>         | -                        | -                  |
| Aggregations of non-breeding birds - Sanderling, <i>Calidris alba</i>                   | -                        | -                  |
| Fixed dune grassland  | Not Recorded             | 01/01/1900         |
| Great Crested Newt, <i>Triturus cristatus</i>   | Not Recorded             | 01/01/1900         |
| H2130 Fixed dunes with herbaceous vegetation ('Grey dunes')                             | Unfavourable - Declining | 26/03/2015         |
| H2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea)                               | Unfavourable - Declining | 26/03/2015         |
| H2170 Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> ) | Unfavourable - No change | 26/03/2015         |
| H2190 Humid dune slacks   | Unfavourable - Declining | 26/03/2015         |
| Humid dune slacks   | Not Recorded             | 01/01/1900         |
| Lowland dry heath   | -                        | -                  |
| Natterjack toad, <i>Bufo calamita</i>   | Not Recorded             | 01/01/1900         |
| Population of Schedule 8 liverwort - <i>Petalophyllum ralfsi</i> , Petalwort            | Not Recorded             | 01/01/1900         |
| Sand lizard, <i>Lacerta agilis</i>  | Not Recorded             | 01/01/1900         |
| Vascular plant assemblage   | Not Recorded             | 01/01/1900         |

ID: 10  
 Location: 1368m NW  
 SSSI name: Sefton Coast  
 Unit name: Birkdale-Ainsdale Railway Line  
 Broad habitat: Supralittoral Sediment  
 Condition: Unfavourable - Recovering  
 Reportable features:

| Feature name  | Feature condition | Date of assessment |
|---|-------------------|--------------------|
| Aggregations of non-breeding birds - Bar-tailed godwit, <i>Limosa lapponica</i> | -                 | -                  |



| Feature name   | Feature condition | Date of assessment |
|--|-------------------|--------------------|
| Aggregations of non-breeding birds - Dunlin, <i>Calidris alpina alpina</i>       | -                 | -                  |
| Aggregations of non-breeding birds - Grey plover, <i>Pluvialis squatarola</i>    | -                 | -                  |
| Aggregations of non-breeding birds - Knot, <i>Calidris canutus</i>               | -                 | -                  |
| Aggregations of non-breeding birds - Oystercatcher, <i>Haematopus ostralegus</i> | -                 | -                  |
| Aggregations of non-breeding birds - Ringed plover, <i>Charadrius hiaticula</i>  | -                 | -                  |
| Aggregations of non-breeding birds - Sanderling, <i>Calidris alba</i>            | -                 | -                  |
| Fixed dune grassland   | Not Recorded      | 01/01/1900         |
| Vascular plant assemblage  | Not Recorded      | 01/01/1900         |

ID: -  
 Location: 1468m NW  
 SSSI name: Sefton Coast  
 Unit name: Hillside Golf Course  
 Broad habitat: Supralittoral Sediment  
 Condition: Unfavourable - Recovering  
 Reportable features:

| Feature name  | Feature condition         | Date of assessment |
|---|---------------------------|--------------------|
| Aggregations of non-breeding birds - Bar-tailed godwit, <i>Limosa lapponica</i>         | -                         | -                  |
| Aggregations of non-breeding birds - Dunlin, <i>Calidris alpina alpina</i>              | -                         | -                  |
| Aggregations of non-breeding birds - Grey plover, <i>Pluvialis squatarola</i>           | -                         | -                  |
| Aggregations of non-breeding birds - Knot, <i>Calidris canutus</i>                      | -                         | -                  |
| Aggregations of non-breeding birds - Oystercatcher, <i>Haematopus ostralegus</i>        | -                         | -                  |
| Aggregations of non-breeding birds - Ringed plover, <i>Charadrius hiaticula</i>         | -                         | -                  |
| Aggregations of non-breeding birds - Sanderling, <i>Calidris alba</i>                   | -                         | -                  |
| Fixed dune grassland  | Not Recorded              | 01/01/1900         |
| Great Crested Newt, <i>Triturus cristatus</i>   | Not Recorded              | 01/01/1900         |
| H2130 Fixed dunes with herbaceous vegetation ('Grey dunes')                             | Unfavourable - Recovering | 23/03/2010         |
| H2150 Atlantic decalcified fixed dunes ( <i>Calluno-Ulicetea</i> )                      | Favourable                | 23/03/2010         |
| H2170 Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> ) | Unfavourable - Recovering | 23/03/2010         |
| H2190 Humid dune slacks   | Unfavourable - Recovering | 23/03/2010         |

| Feature name   | Feature condition | Date of assessment |
|--|-------------------|--------------------|
| Humid dune slacks  | Not Recorded      | 01/01/1900         |
| Lowland dry heath  | -                 | -                  |
| Natterjack toad, Bufo calamita                                       | Not Recorded      | 01/01/1900         |
| Population of Schedule 8 liverwort - Petalophyllum ralfsi, Petalwort | Not Recorded      | 01/01/1900         |
| Sand lizard, Lacerta agilis  | Not Recorded      | 01/01/1900         |
| Vascular plant assemblage  | Not Recorded      | 01/01/1900         |

ID: -  
 Location: 1705m NW  
 SSSI name: Sefton Coast  
 Unit name: Birkdale Hills (Lnr)  
 Broad habitat: Supralittoral Sediment  
 Condition: Unfavourable - Declining  
 Reportable features:

| Feature name  | Feature condition        | Date of assessment |
|---|--------------------------|--------------------|
| Aggregations of non-breeding birds - Bar-tailed godwit, Limosa lapponica  | -                        | -                  |
| Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina       | -                        | -                  |
| Aggregations of non-breeding birds - Grey plover, Pluvialis squatarola    | -                        | -                  |
| Aggregations of non-breeding birds - Knot, Calidris canutus               | -                        | -                  |
| Aggregations of non-breeding birds - Oystercatcher, Haematopus ostralegus | -                        | -                  |
| Aggregations of non-breeding birds - Ringed plover, Charadrius hiaticula  | -                        | -                  |
| Aggregations of non-breeding birds - Sanderling, Calidris alba            | -                        | -                  |
| Fixed dune grassland  | Not Recorded             | 01/01/1900         |
| Great Crested Newt, Triturus cristatus                                    | Not Recorded             | 01/01/1900         |
| H2130 Fixed dunes with herbaceous vegetation ('Grey dunes')               | Unfavourable - Declining | 18/08/2009         |
| H2170 Dunes with Salix repens ssp. argentea (Salicion arenariae)          | Unfavourable - Declining | 18/08/2009         |
| H2190 Humid dune slacks   | Unfavourable - Declining | 18/08/2009         |
| Humid dune slacks   | Not Recorded             | 01/01/1900         |
| Natterjack toad, Bufo calamita  | Not Recorded             | 01/01/1900         |
| Population of Schedule 8 liverwort - Petalophyllum ralfsi, Petalwort      | Not Recorded             | 01/01/1900         |





| Feature name                                  | Feature condition        | Date of assessment |
|---|--------------------------|--------------------|
| S1395 Petalwort, <i>Petalophyllum ralfsii</i> | Unfavourable - No change | 18/08/2009         |
| Sand lizard, <i>Lacerta agilis</i>            | Not Recorded             | 01/01/1900         |
| Vascular plant assemblage                     | Not Recorded             | 01/01/1900         |

ID: -  
 Location: 1772m NW  
 SSSI name: Sefton Coast  
 Unit name: Royal Birkdale Golf Course  
 Broad habitat: Supralittoral Sediment  
 Condition: Unfavourable - Recovering  
 Reportable features:

| Feature name  | Feature condition         | Date of assessment |
|---|---------------------------|--------------------|
| Aggregations of non-breeding birds - Bar-tailed godwit, <i>Limosa lapponica</i>         | -                         | -                  |
| Aggregations of non-breeding birds - Dunlin, <i>Calidris alpina alpina</i>              | -                         | -                  |
| Aggregations of non-breeding birds - Grey plover, <i>Pluvialis squatarola</i>           | -                         | -                  |
| Aggregations of non-breeding birds - Knot, <i>Calidris canutus</i>                      | -                         | -                  |
| Aggregations of non-breeding birds - Oystercatcher, <i>Haematopus ostralegus</i>        | -                         | -                  |
| Aggregations of non-breeding birds - Ringed plover, <i>Charadrius hiaticula</i>         | -                         | -                  |
| Aggregations of non-breeding birds - Sanderling, <i>Calidris alba</i>                   | -                         | -                  |
| Fixed dune grassland  | Not Recorded              | 01/01/1900         |
| Great Crested Newt, <i>Triturus cristatus</i>   | Not Recorded              | 01/01/1900         |
| H2130 Fixed dunes with herbaceous vegetation ('Grey dunes')                             | Unfavourable - Recovering | 18/09/2009         |
| H2150 Atlantic decalcified fixed dunes ( <i>Calluno-Ulicetea</i> )                      | Unfavourable - Recovering | 18/09/2009         |
| H2170 Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> ) | Unfavourable - Recovering | 18/09/2009         |
| H2190 Humid dune slacks   | Unfavourable - Recovering | 18/09/2009         |
| Humid dune slacks   | Not Recorded              | 01/01/1900         |
| Lowland dry heath   | -                         | -                  |
| Natterjack toad, <i>Bufo calamita</i>   | Not Recorded              | 01/01/1900         |
| Population of Schedule 8 liverwort - <i>Petalophyllum ralfsi</i> , Petalwort            | Not Recorded              | 01/01/1900         |
| Sand lizard, <i>Lacerta agilis</i>  | Not Recorded              | 01/01/1900         |



| Feature name              | Feature condition | Date of assessment |
|---------------------------|-------------------|--------------------|
| Vascular plant assemblage | Not Recorded      | 01/01/1900         |

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



## 11 Visual and cultural designations

### 11.1 World Heritage Sites

Records within 250m

0

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

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

### 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

### 11.3 National Parks

Records within 250m

0

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

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

### 11.4 Listed Buildings

Records within 250m

0

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



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

## 11.5 Conservation Areas

Records within 250m

0

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

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

## 11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

## 11.7 Registered Parks and Gardens

Records within 250m

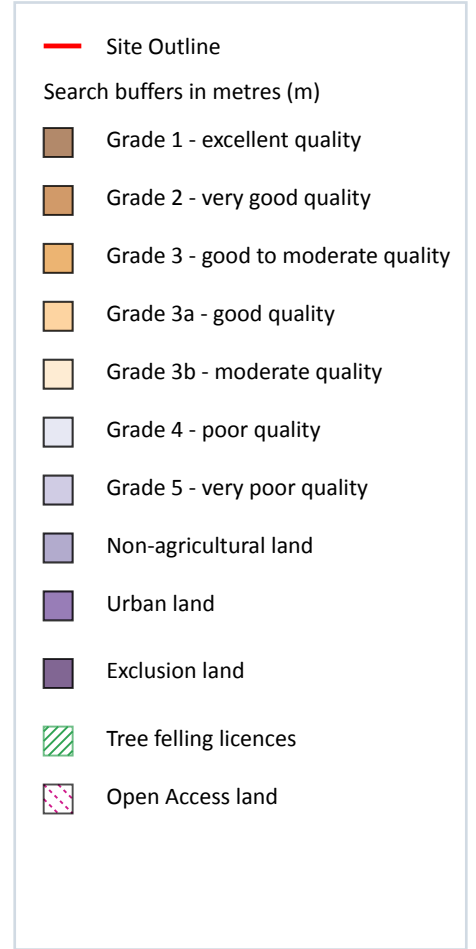
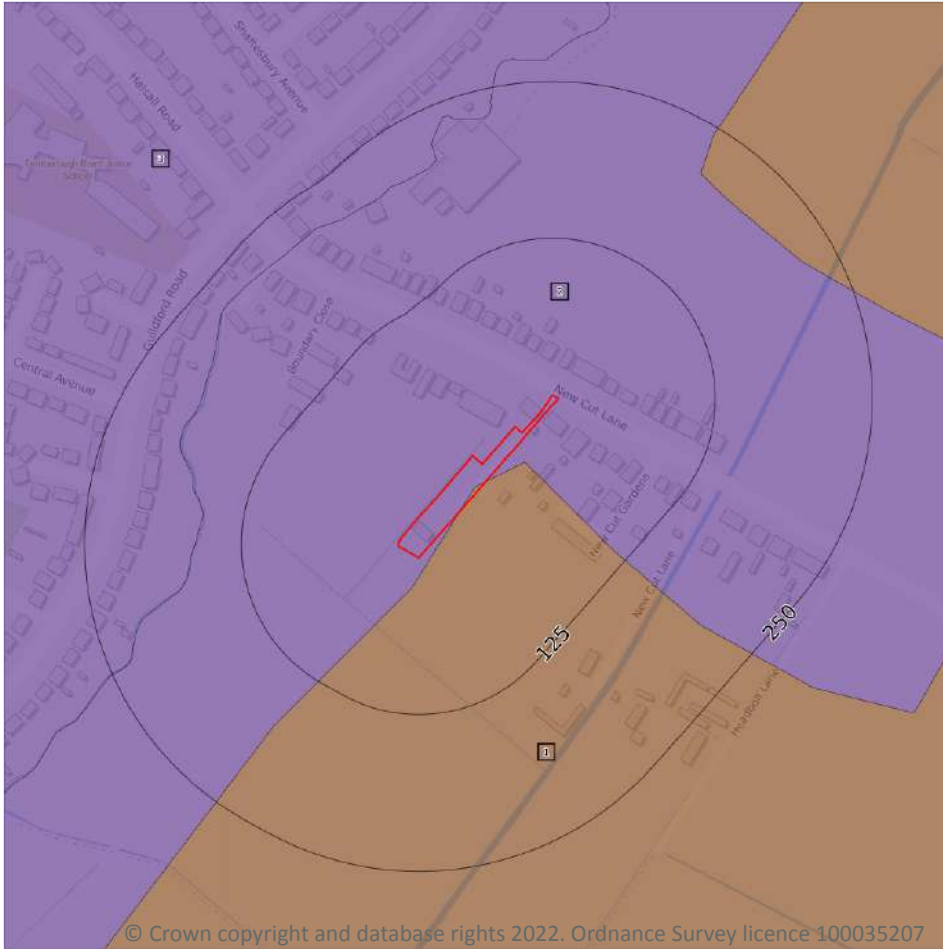
0

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

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



## 12 Agricultural designations



### 12.1 Agricultural Land Classification

Records within 250m

3

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 71**

| 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. |
| 2  | On site  | Urban          | -  |

| ID | Location | Classification | Description |
|----|----------|----------------|-------------|
| 3  | 157m W   | Urban          | -           |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

**Records within 250m**

**0**

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

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

## 12.3 Tree Felling Licences

**Records within 250m**

**0**

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

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

**Records within 250m**

**0**

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

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

**Records within 250m**

**1**

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.



| Location | Reference | Scheme                                | Start Date | End Date   |
|----------|-----------|---------------------------------------|------------|------------|
| 62m NE   | 490787    | Countryside Stewardship (Middle Tier) | 01/01/2017 | 31/12/2021 |

*This data is sourced from Natural England.*



## 13 Habitat designations

### 13.1 Priority Habitat Inventory

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.2 Habitat Networks

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.3 Open Mosaic Habitat

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.4 Limestone Pavement Orders

Records within 250m

0

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

*This data is sourced from Natural England.*





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



- Site Outline
- Search buffers in metres (m)
- Full coverage
- Partial coverage
- No coverage

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### 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 75**

| 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

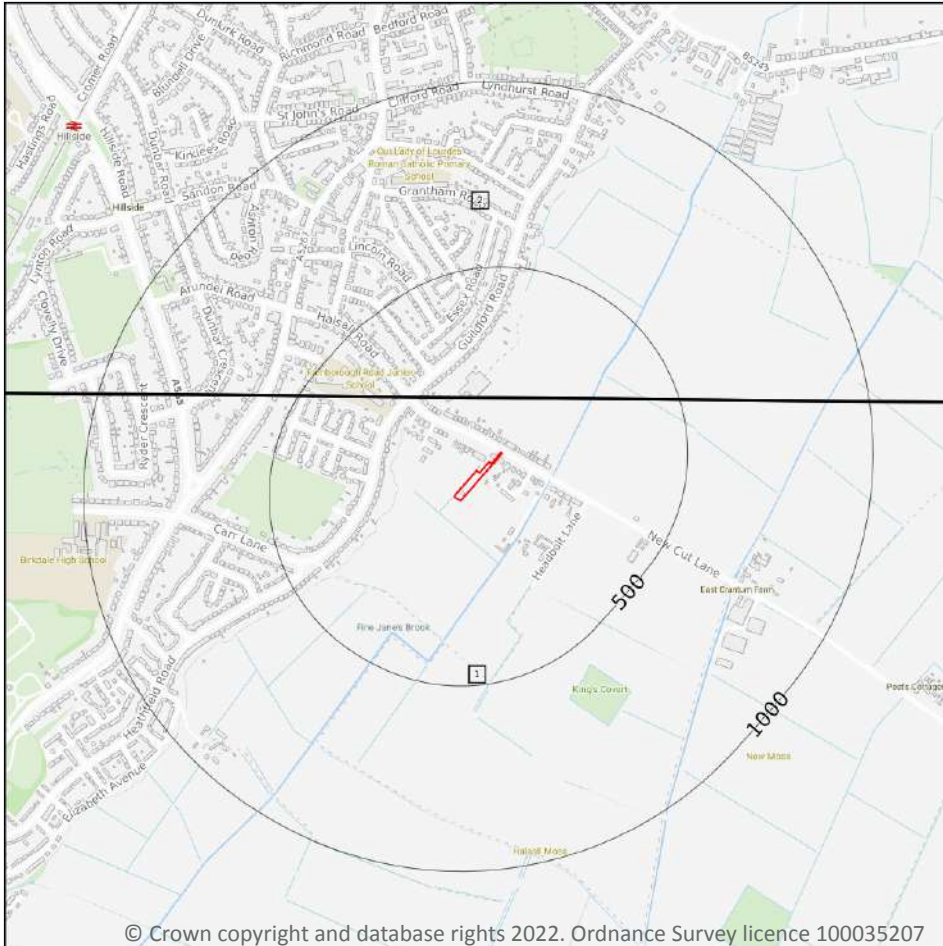
0

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

2

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

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

| ID | Location | Artificial  | Superficial | Bedrock | Mass movement | Sheet No.          |
|----|----------|-------------|-------------|---------|---------------|--------------------|
| 1  | On site  | No coverage | Full        | Full    | No coverage   | EW083_formby_v4    |
| 2  | 148m N   | Full        | Full        | Full    | No coverage   | EW074_southport_v4 |

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



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

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

Records within 500m

0

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

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

### 15.3 Artificial ground permeability (50k)

Records within 50m

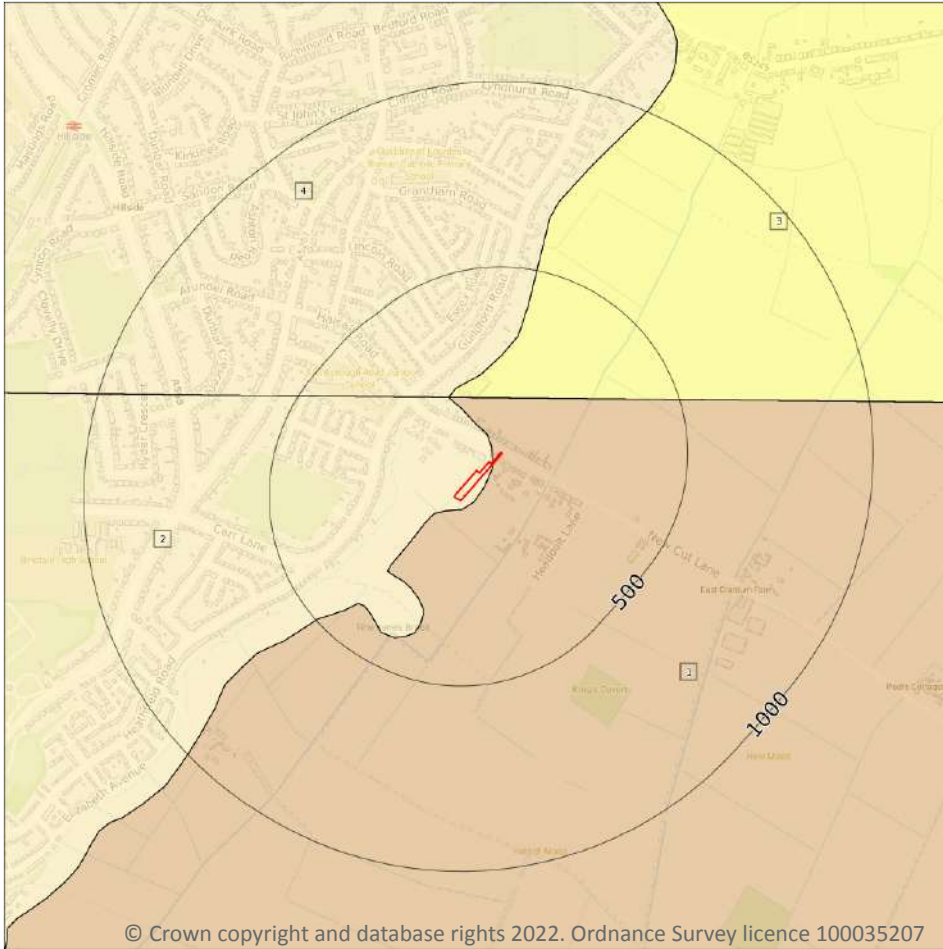
0

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

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



## Geology 1:50,000 scale - Superficial



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

### 15.4 Superficial geology (50k)

Records within 500m

4

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

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

| ID | Location | LEX Code  | Description            | Rock description    |
|----|----------|-----------|------------------------|---------------------|
| 1  | On site  | PEAT-P    | PEAT                   | PEAT                |
| 2  | On site  | BSA-S     | BLOWN SAND             | SAND                |
| 3  | 148m N   | TFD1-XZCS | TIDAL FLAT DEPOSITS, 1 | SILT, CLAY AND SAND |
| 4  | 204m N   | BSA-S     | BLOWN SAND             | SAND                |

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

## 15.5 Superficial permeability (50k)

**Records within 50m** **2**

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

| Location | Flow type     | Maximum permeability | Minimum permeability |
|----------|---------------|----------------------|----------------------|
| On site  | Intergranular | High                 | High                 |
| On site  | Mixed         | 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)

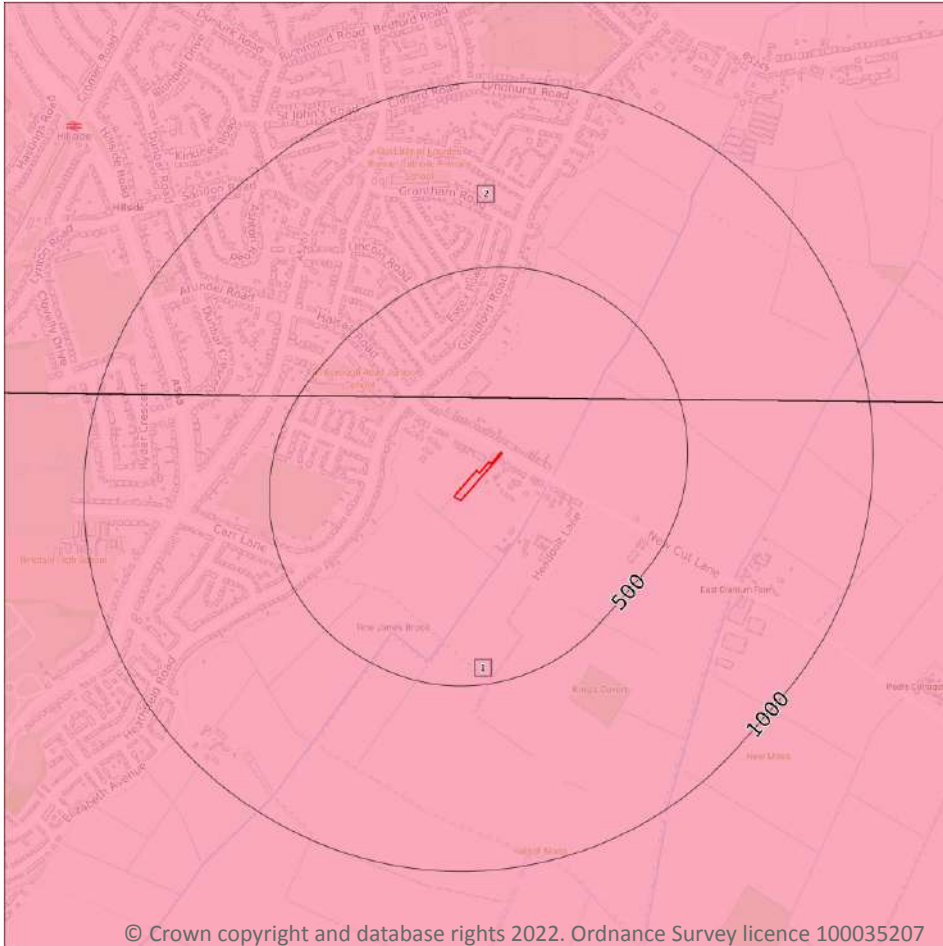
**Records within 50m** **0**

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.

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### 15.8 Bedrock geology (50k)

Records within 500m

2

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

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

| ID | Location | LEX Code | Description                          | Rock age |
|----|----------|----------|--------------------------------------|----------|
| 1  | On site  | SNM-MDST | SINGLETON MUDSTONE MEMBER - MUDSTONE | -        |
| 2  | 148m N   | SNM-MDST | SINGLETON MUDSTONE MEMBER - MUDSTONE | -        |

*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                  | Low                  |

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

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

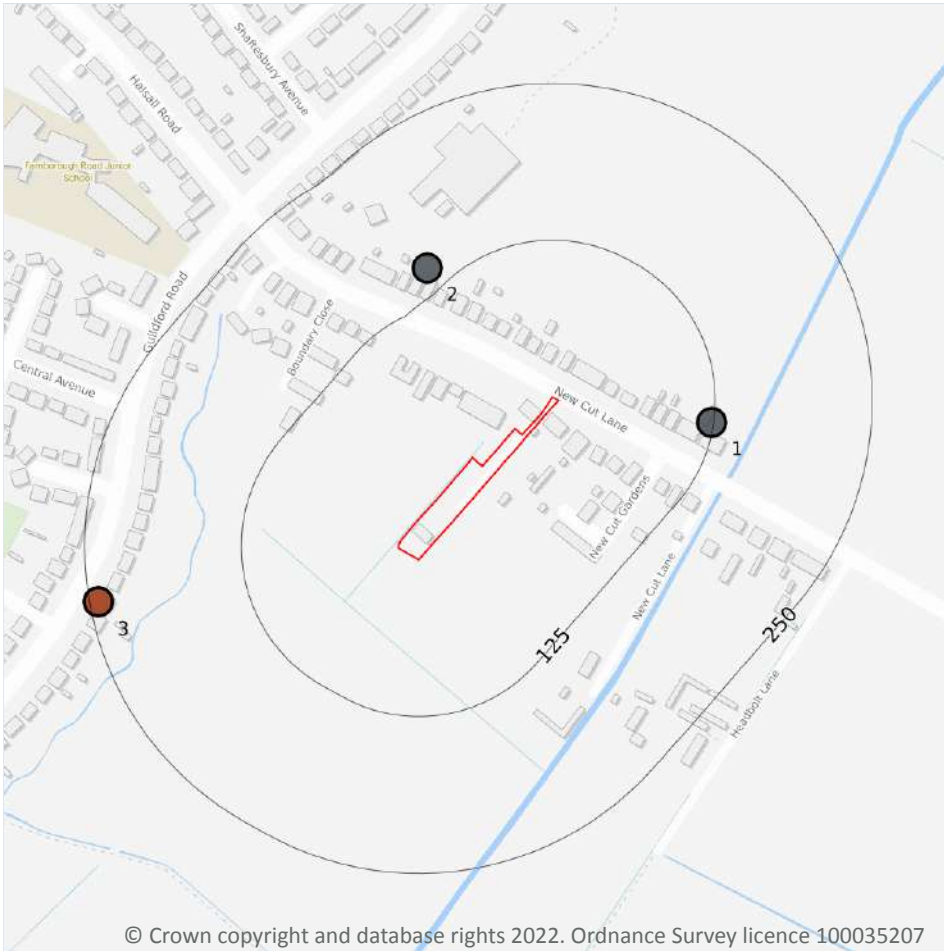
Records within 500m

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



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- Site Outline
- Search buffers in metres (m)
- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

### 16.1 BGS Boreholes

Records within 250m

3

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

Features are displayed on the Boreholes map on **page 85**

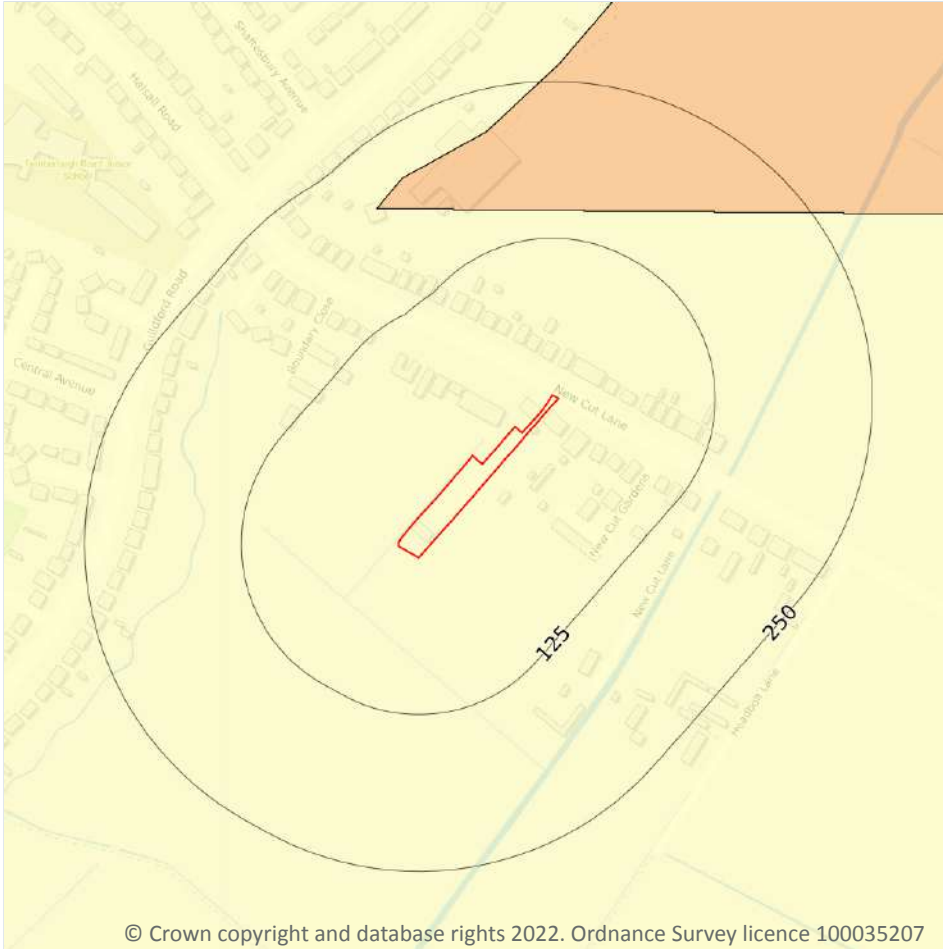
| ID | Location | Grid reference | Name                    | Length | Confidential | Web link |
|----|----------|----------------|-------------------------|--------|--------------|----------|
| 1  | 124m E   | 333579 413533  | GORSE HILL TRUNK MAIN 3 | -      | Y            | N/A      |
| 2  | 143m N   | 333352 413656  | GORSE HILL TRUNK MAIN 2 | -      | Y            | N/A      |

| ID | Location | Grid reference | Name   | Length | Confidential | Web link                 |
|----|----------|----------------|--|--------|--------------|--------------------------|
| 3  | 243m W   | 333090 413390  | SOUTHPORT & AINSDALE GOLF COURSE M. PIEZO<br>P13 | -1.0   | N            | <a href="#">12832621</a> |

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



## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

Records within 50m

1

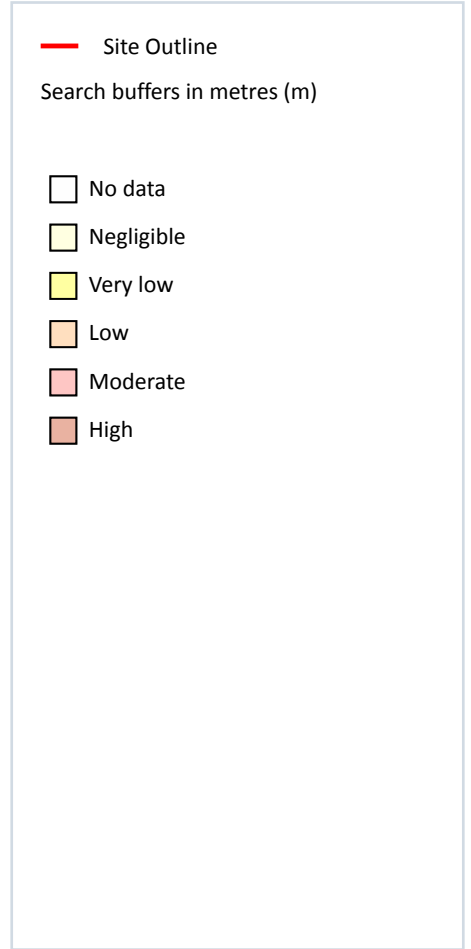
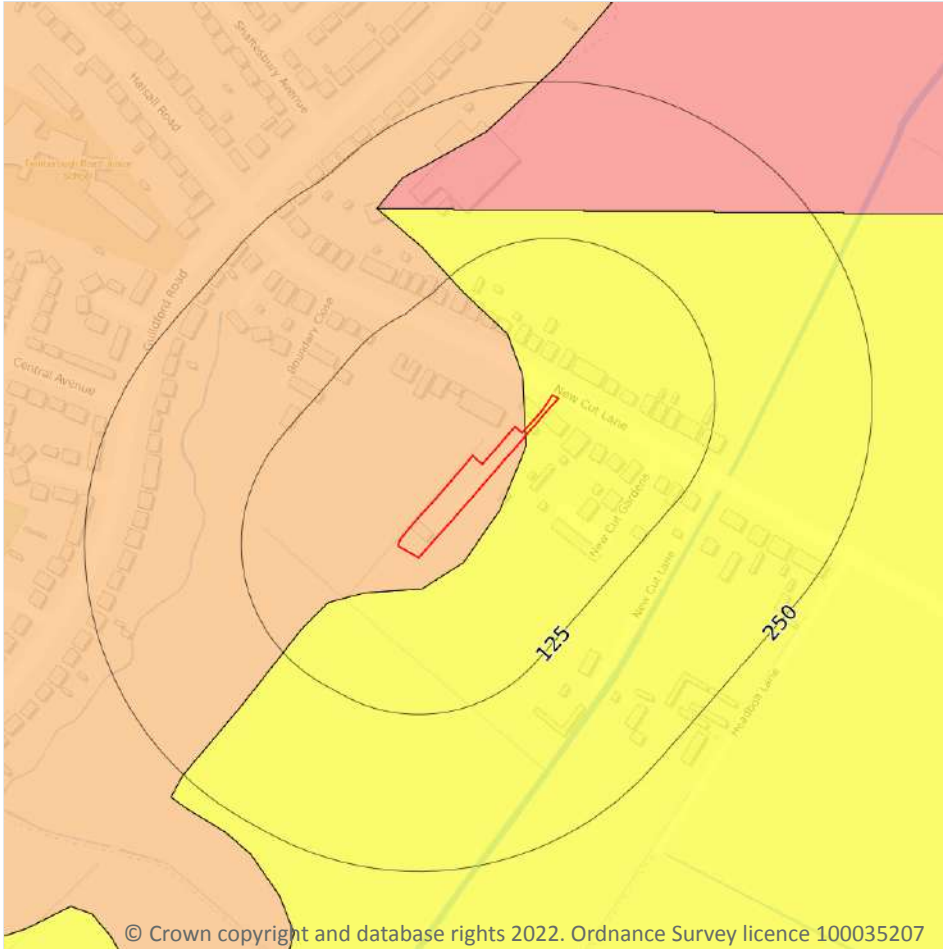
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

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

| Location | Hazard rating | Details                                      |
|----------|---------------|--|
| On site  | Negligible    | Ground conditions predominantly non-plastic. |

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

## Natural ground subsidence - Running sands



### 17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 88**

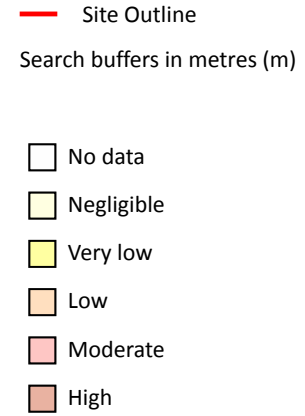
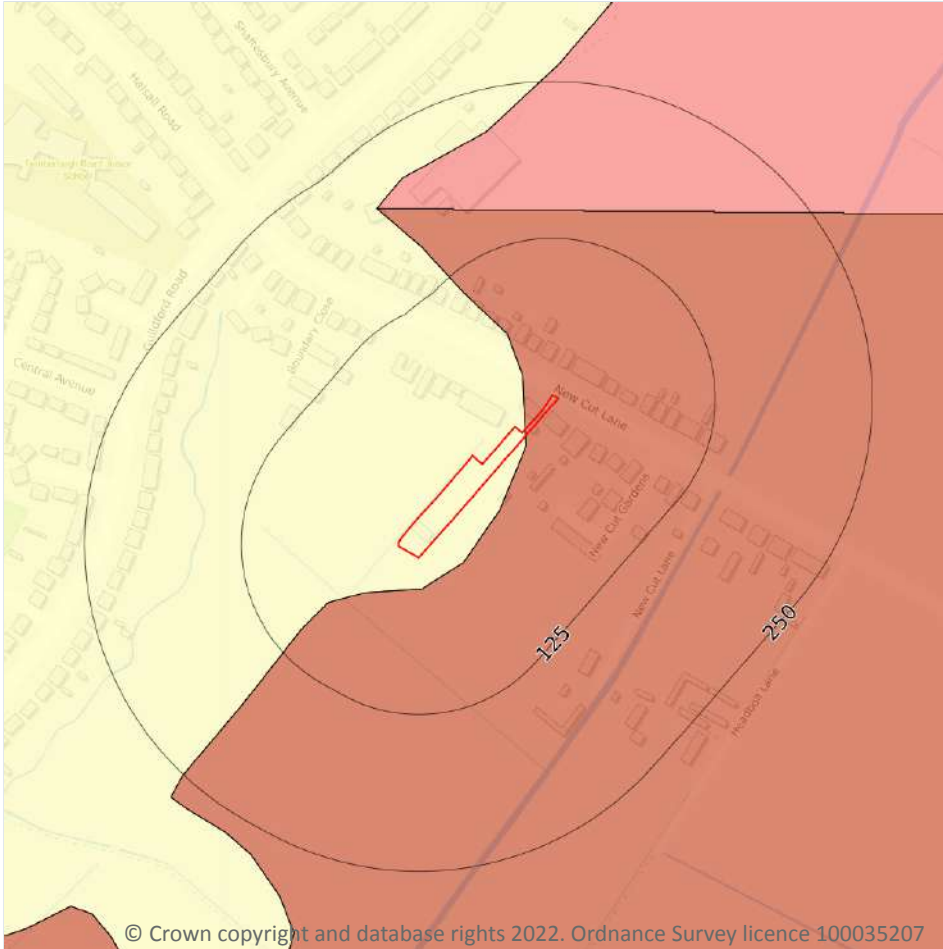
| Location | Hazard rating | Details   |
|----------|---------------|---|
| On site  | Very low      | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

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

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



## Natural ground subsidence - Compressible deposits



### 17.3 Compressible deposits

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 90**

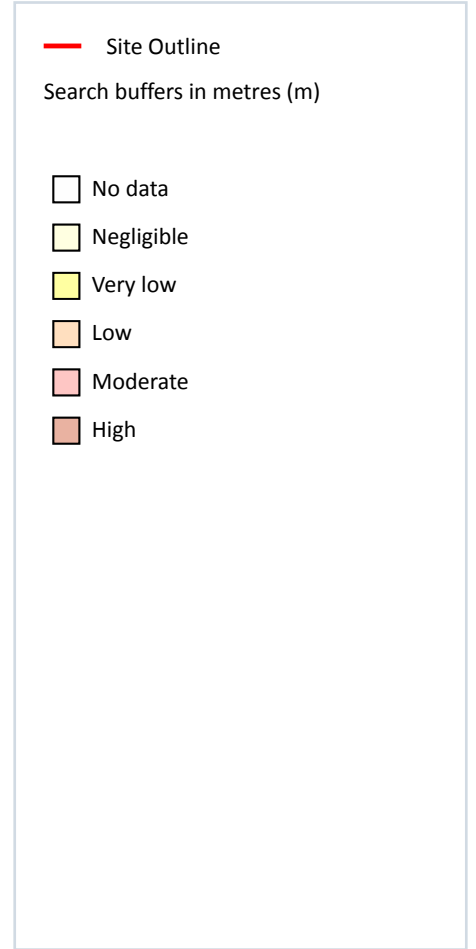
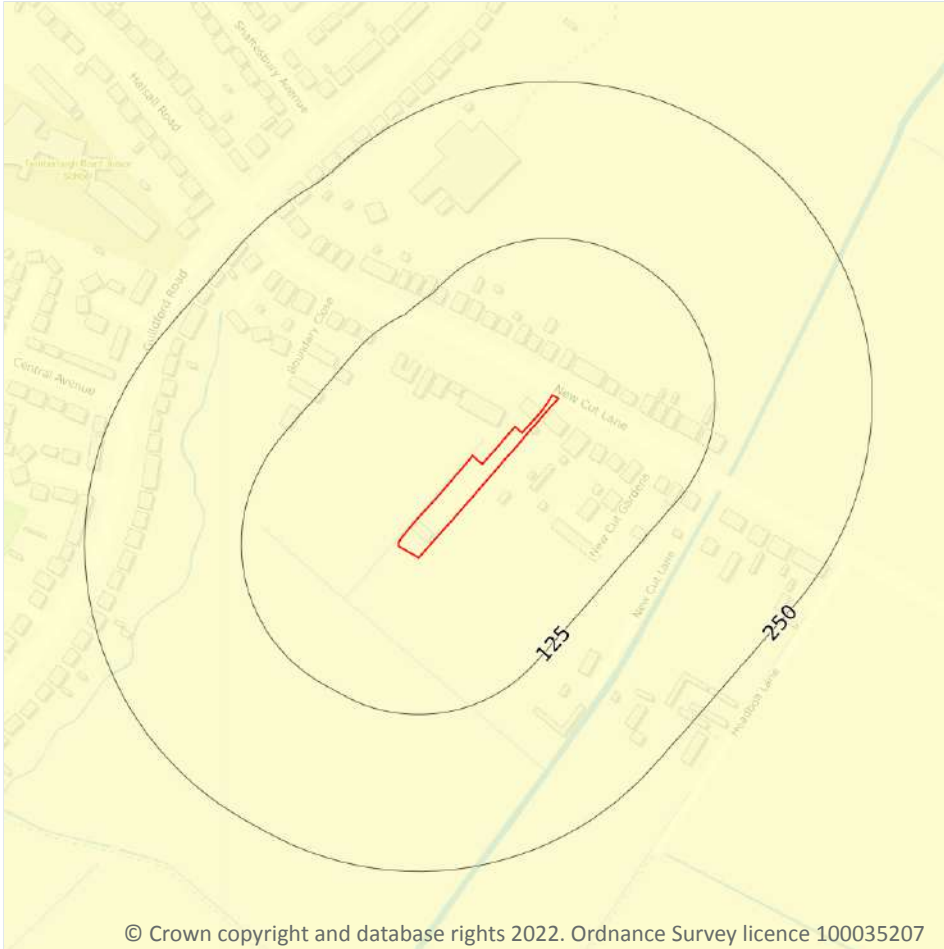
| Location | Hazard rating | Details  |
|----------|---------------|--|
| On site  | Negligible    | Compressible strata are not thought to occur.  |
| On site  | High          | Highly compressible strata present. Significant constraint on land use depending on thickness. |

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





## Natural ground subsidence - Collapsible deposits



### 17.4 Collapsible deposits

Records within 50m

1

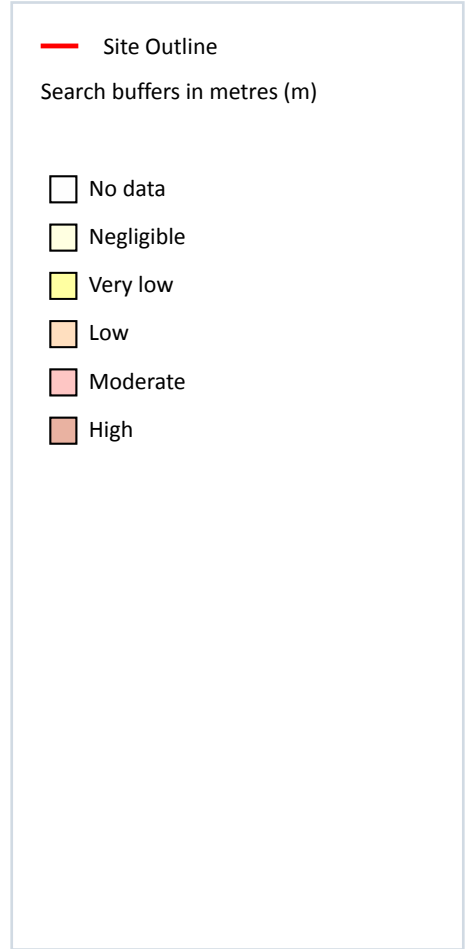
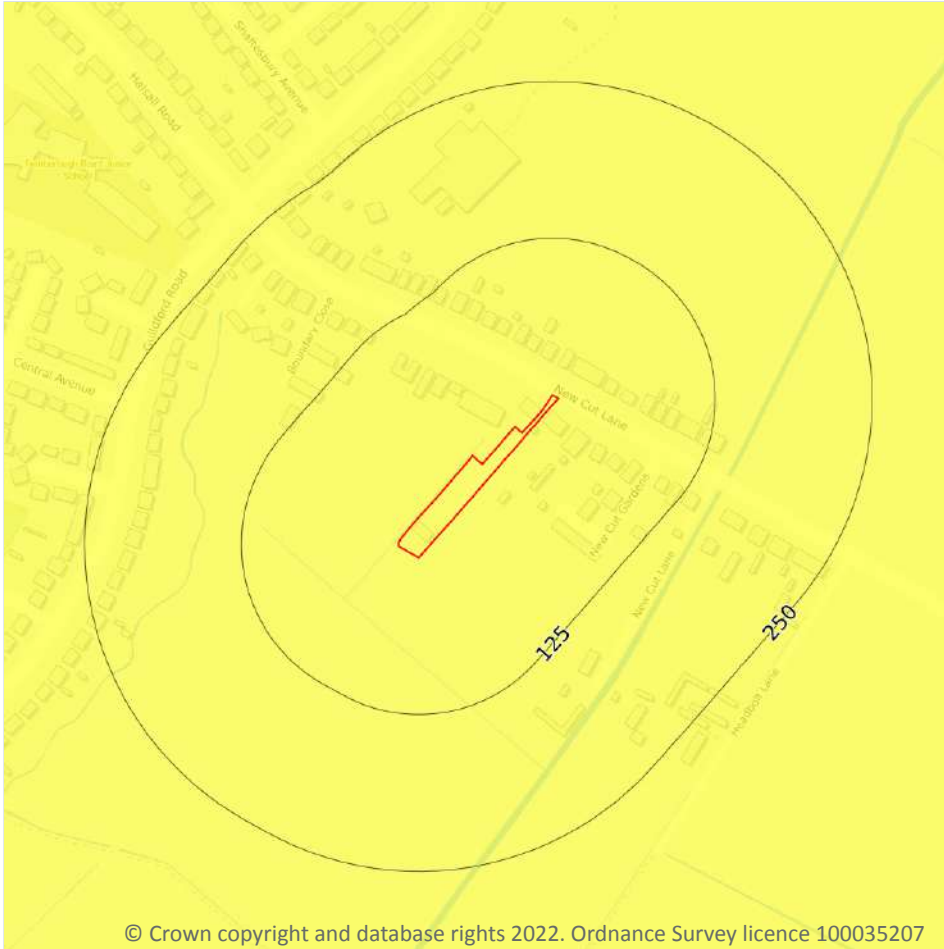
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 91**

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

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

## Natural ground subsidence - Landslides



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### 17.5 Landslides

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 92**

| 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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### 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 93**

| 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 Stantec UK Ltd.*

### 18.2 BritPits

Records within 500m

0

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

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

### 18.3 Surface ground workings

Records within 250m

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 Stantec UK Ltd.*

## 18.8 JPB mining areas

Records on site

0

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

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

## 18.9 Coal mining

Records on site

0

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

*This data is sourced from the Coal Authority.*



## 18.10 Brine areas

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

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

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

## 18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

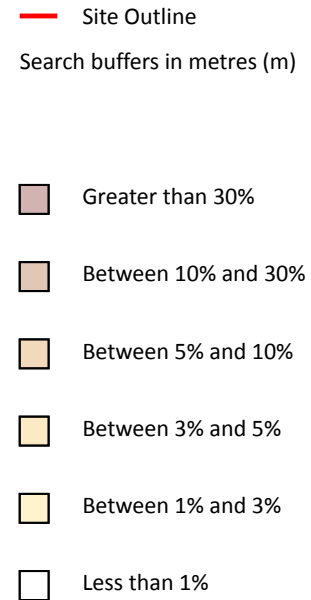
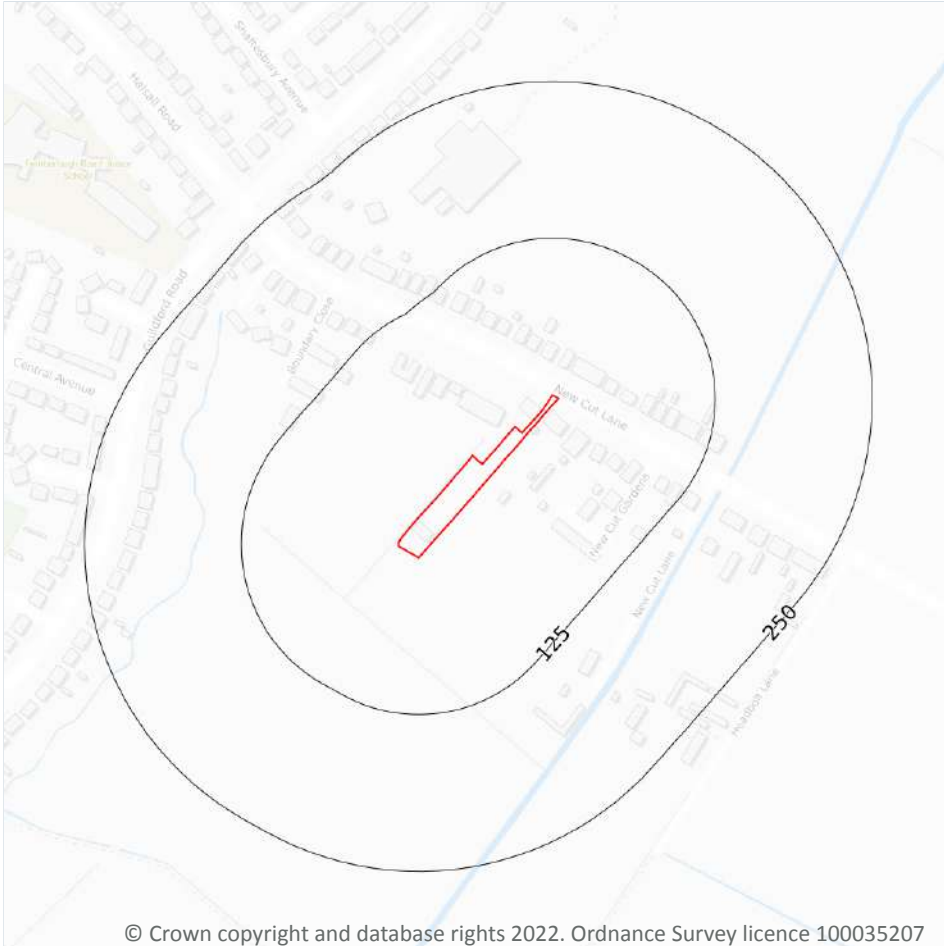
## 18.13 Clay mining

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

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

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

## 19 Radon



### 19.1 Radon

#### Records on site

1

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

Features are displayed on the Radon map on [page 97](#)

| 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

5

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

| Location | Arsenic       | Bioaccessible Arsenic | Lead            | Bioaccessible Lead | Cadmium   | Chromium       | Nickel        |
|----------|---------------|-----------------------|-----------------|--------------------|-----------|----------------|---------------|
| On site  | 15 - 25 mg/kg | No data               | 200 - 300 mg/kg | 120 - 240 mg/kg    | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| On site  | 25 - 35 mg/kg | No data               | 200 - 300 mg/kg | 120 - 240 mg/kg    | 1.8 mg/kg | 90 - 120 mg/kg | 15 mg/kg      |
| On site  | 25 - 35 mg/kg | No data               | 300 - 600 mg/kg | 240 - 360 mg/kg    | 1.8 mg/kg | 90 - 120 mg/kg | 15 mg/kg      |
| 10m NE   | 15 - 25 mg/kg | No data               | 300 - 600 mg/kg | 240 - 360 mg/kg    | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 43m NE   | 15 - 25 mg/kg | No data               | 100 - 200 mg/kg | 60 - 120 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<sup>2</sup>).

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





## 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

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



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

Records within 250m

0

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

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

### 21.2 Underground railways (Non-London)

Records within 250m

0

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

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

### 21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

Records within 250m

0

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

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

### 21.5 Royal Mail tunnels

Records within 250m

0

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



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

## 21.6 Historical railways

**Records within 250m**

**0**

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

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

**Records within 250m**

**0**

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

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

## 21.8 Crossrail 1

**Records within 500m**

**0**

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

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

## 21.9 Crossrail 2

**Records within 500m**

**0**

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

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

## 21.10 HS2

**Records within 500m**

**0**

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

*This data is sourced from HS2 Ltd.*



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## Data providers

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

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## Terms and conditions

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



## APPENDIX C

Preliminary Conceptual Model

| POTENTIAL RECEPTOR                        | COMMENTS  | Include in PCM |
|---|---|----------------|
| <b>PROPERTY: Other</b>                    |   |                |
| <b>On Site</b>                            |   |                |
| Crops                                     | None intended on site   | ✗              |
| Domestic Produce                          | May be grown in residential gardens   | ✓              |
| Livestock                                 | None anticipated on site  | ✗              |
| Domestic Animals                          | May be owned by residents   | ✓              |
| Game                                      | None on site  | ✗              |
| <b>Off Site</b>                           |   |                |
| Crops                                     | Possibly in fields surrounding site   | ✓              |
| Domestic Produce                          | Possibly in houses in vicinity of the site  | ✓              |
| Livestock                                 | Possibly in fields surrounding site   | ✓              |
| Domestic Animals                          | May belong to adjacent residents  | ✓              |
| Game                                      | Unlikely  | ✗              |
| <b>PROPERTY: Buildings</b>                |   |                |
| <b>On Site</b>                            |   |                |
|   | Residential Properties, services, flora   | ✓              |
| <b>Off Site</b>                           |   |                |
|   | Residential Properties, recreational walkers, services, flora   | ✓              |
| <b>HUMANS</b>                             |   |                |
| <b>On Site</b>                            |   |                |
| Residents                                 | Future Residents  | ✓              |
| Construction workers                      | During ground excavations   | ✓              |
| Employees                                 | Landscape Gardeners   | ✓              |
| Surface water users                       | No current surface water abstractions located on site   | ✗              |
| <b>Off Site</b>                           |   |                |
| Residents                                 | Residents adjacent to the site  | ✓              |
| Recreational users                        | Recreational walkers  | ✓              |
| Groundwater users                         | No groundwater abstractions within 250 m.   | ✗              |
| <b>Controlled Waters</b>                  |   |                |
| <b>On Site</b>                            |   |                |
| Surface Waters                            | There are no surface water features located on site.  | ✗              |
| Groundwater                               | The peat deposits located in the northern periphery of the site are classified by the EA as an 'Unproductive Aquifer'. These are unlikely to represent a significant receptor. Notwithstanding, the superficial blown sands (Secondary A Aquifer) overlying the majority of the site and the bedrock Secondary B Aquifer represent potential receptors. . | ✓              |
| <b>Off Site</b>                           |   |                |
| Controlled Waters                         | A drainage ditch runs along the western boundary some 1 m west of the site. A further drain lies some 60 m south-west of the site. Both represent potentially significant receptors.  | ✓              |
| <b>Ecological Systems</b>                 |   |                |
| <b>On/Off Site</b>                        |   |                |
| SSSIs, national nature reserves, SACs etc | None on site or located within 250 m of the site  | ✗              |

**Table A:** Potential Receptors to be Considered in the Preliminary Conceptual Model

| Link | Source             | Hazard                                    | Transport Mechanism  | Pathway                                     | Medium of Exposure | Receptor  | Risk Summary* |
|------|--------------------|---|--|---|--------------------|---|---------------|
| 1    | Contaminated soils | Direct contact /ingestion of soil or dust | Direct contact with contaminated soil  | Dermal contact/ingestion of soil at surface | Soil               | Humans (on-site/off-site), domestic pets                      | Low-Medium    |
| 2    | Contaminated soils | Particulate inhalation                    | Wind blown particulates  | Inhalation of particulates                  | Air                | Humans (on-site/off-site), domestic pets                      | Low-Medium    |
| 3    | Contaminated Soils | Impaired produce growth                   | Uptake of contaminants by homegrown produce resulting in loss  | Uptake during growth                        | Vegetable produce  | Property (domestic produce)                                   | Low           |
| 4    | Contaminated Soils | Ingestion of Contaminants                 | Uptake of contaminants by homegrown produce  | Consumption of homegrown produce            | Vegetable produce  | Humans  | Low           |
| 5    | Contaminated Soils | Inhalation of Ground Gas                  | Degradation of contaminants generating ground gas through unsaturated zone to soil leading to inhalation               | Inhalation of Gases                         | Air                | Humans (on-site/off-site, domestic pets)                      | Low           |
| 6    | Contaminated Soils | Vapour Inhalation                         | Volatilisation of organic compounds through unsaturated zone of soil leading to inhalation                             | Inhalation of Vapours                       | Air                | Humans (on-site/off-site, domestic pets)                      | Low           |
| 7    | Contaminated Soils | Damage to structure/services              | Direct contact of contaminants with building structures/services   | Direct contact                              | Soil/Water         | Flora, services   | Low           |
| 8    | Contaminated Soils | Degradation of perched water quality      | Dissolution or suspension of contaminants into perched waters  | Dissolution or Suspension                   | Water              | Drainage ditch 1 m west of the site and drain 60 m south-west | Low           |
| 9    | Contaminated Soils | Pollution of underlying groundwater       | Dissolution or suspension of contaminants into groundwaters (Superficial Secondary A and Bedrock Secondary B Aquifers) | Dissolution or Suspension                   | Water              | Groundwaters  | Low           |

**Table B: Preliminary Conceptual Model**

**\*Relative Risk Screening and Prioritisation for further Investigation & or Assessment**

|               |  |
|---------------|--|
| <b>High</b>   | Higher probability of occurrence and identification of primary sources of contamination with respect to most sensitive receptors.  |
| <b>Medium</b> | Pollutant linkage generally dependent on the presence of other primary pollutant linkages and/or where pollutant linkage generally associated with less sensitive receptors.   |
| <b>Low</b>    | Lower probability of occurrence such as based on requirement for significant migration pathway or where pollutant linkage requires the presence of source contaminants at concentration likely to be much higher than other identified pollutant linkages. |

## APPENDIX D

Site Photographs





**P1:** View of the residential dwelling from the north



**P2:** View of the residential dwelling from the south.



**P3:** Hard standing flagged area and shed on south-western boundary of the site.



**P4:** Hard standing flagged ground and rear garden in the south-east corner of the site.



**P5:** Hard standing flagged ground surrounding the perimeter of the dwelling.



**P6:** Manhole (containing potential septic tank) located toward the south side of the eastern boundary.

**Comments:**



**Photographs 1 to 6**

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project

**Site:**  
Land at 52a New Cut Lane,  
Halsall, Southport

**Title:** Appendix D – Site  
Photographs

**Project No:**  
22146

**Created By:**  
M Leigh-  
Monk

**Date:**  
November 2022

**Client:** QPM Solutions Limited



**P7:** Grass and vegetated area towards the of the site.



**P8:** Overgrown vegetated area in the north-west of the site



**P9:** Hard standing gravel access road along the eastern site boundary.



**P10:** Overgrown vegetated area in the north-west of the site



**P11:** Overgrown vegetated area in the north west corner of the site.

**Comments:**



**Photographs 7 to 11**

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project

**Site:**  
Land at 52a New Cut Lane,  
Halsall, Southport

**Title:** Appendix D – Site  
Photographs

**Project No:**  
22146

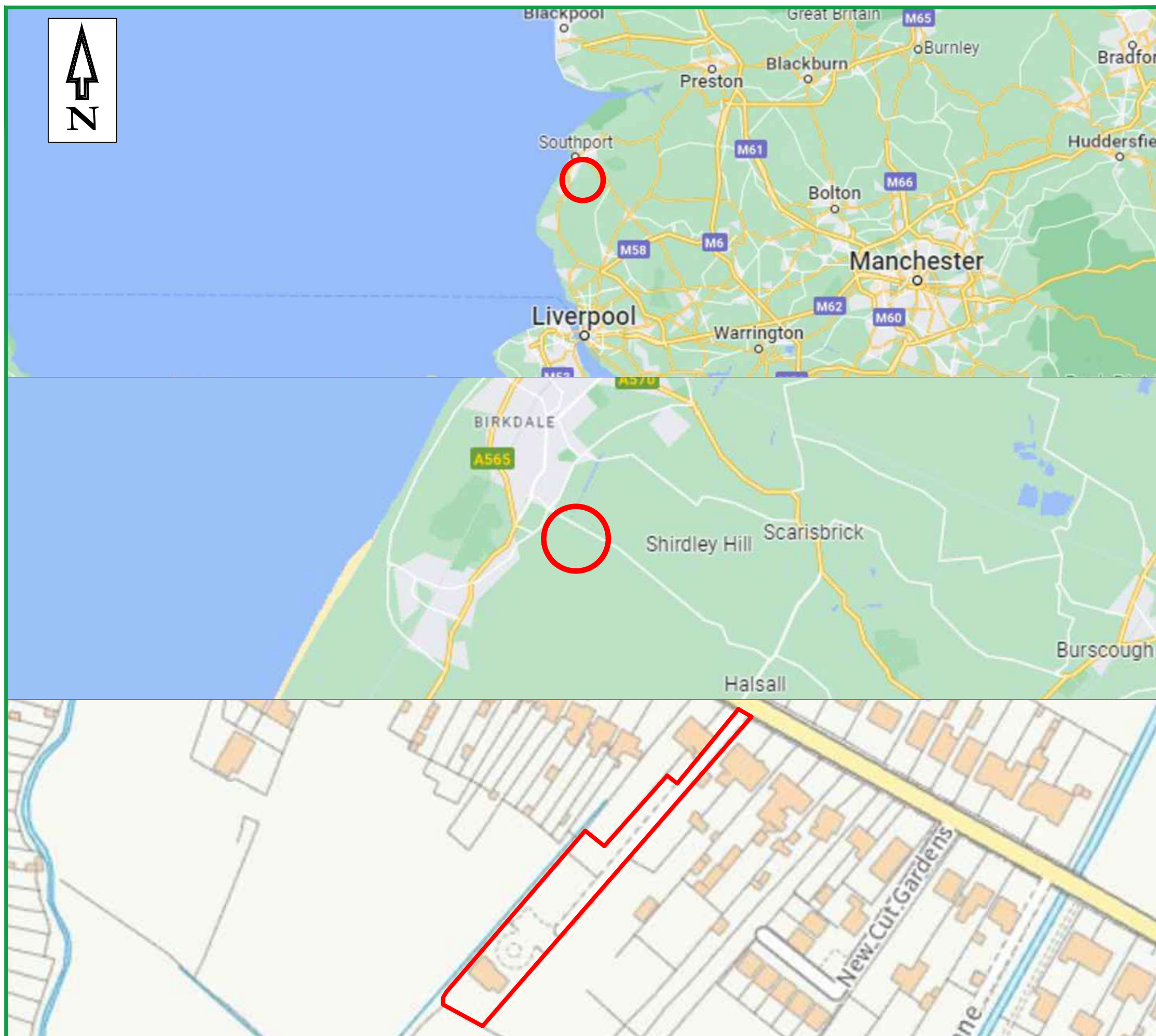
**Created By:**  
M Leigh-  
Monk

**Date:**  
November 2022


**Client:** QPM Solutions Limited

## APPENDIX E

Drawings



## LEGEND

 SITE LOCATION

| REV | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
|     |             |      |    |
|     |             |      |    |



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Suite One, No 3 Mitton Road Business Park, Mitton Road,  
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Tel: 01254 377622 Mob: 07906753583  
Email: mbuckley@bekenviro.co.uk  
Web: www.bekenviro.co.uk

CLIENT.

WILLIAM THOMPSON HOMES LTD

JOB TITLE.

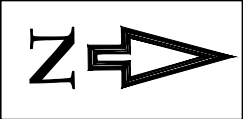
LAND AT 52a NEW CUT LANE,  
SOUTHPORT

DRAWING TITLE.


SITE LOCATION PLAN

|                      |                   |                      |                   |
|----------------------|-------------------|----------------------|-------------------|
| SCALE @ A3.<br>N.T.S | DRAWN BY.<br>D.E. | APPROVED BY.<br>M.B. | DATE.<br>02/11/22 |
|----------------------|-------------------|----------------------|-------------------|

|                        |           |
|------------------------|-----------|
| DRAWING No.<br>22146-1 | REV.<br>- |
|------------------------|-----------|



# LEGEND

 SITE FOOTPRINT

| REV | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
|     |             |      |    |
|     |             |      |    |



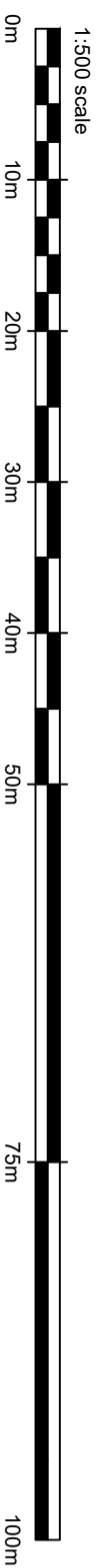
GEO-ENVIRONMENTAL CONSULTING ENGINEERS  
 Suite One, No 3 Milton Road Business Park, Milton Road,  
 Whalley, Lancashire BB7 9XE  
 Tel: 01254 377622 Mob: 07906753583  
 Email: [mbuckley@bekenviro.co.uk](mailto:mbuckley@bekenviro.co.uk)  
 Web: [www.bekenviro.co.uk](http://www.bekenviro.co.uk)

CLIENT:  
 WILLIAM THOMPSON HOMES LTD

JOB TITLE:  
 LAND AT 52a NEW CUT LANE,  
 SOUTHPORT

DRAWING TITLE:  
 SITE LAYOUT PLAN

|                        |                   |                      |                   |
|------------------------|-------------------|----------------------|-------------------|
| SCALE @ A3:<br>NTS     | DRAWN BY:<br>D.E. | APPROVED BY:<br>M.B. | DATE:<br>02/11/22 |
| DRAWING No:<br>22146-2 | REV:<br>-         |                      |                   |

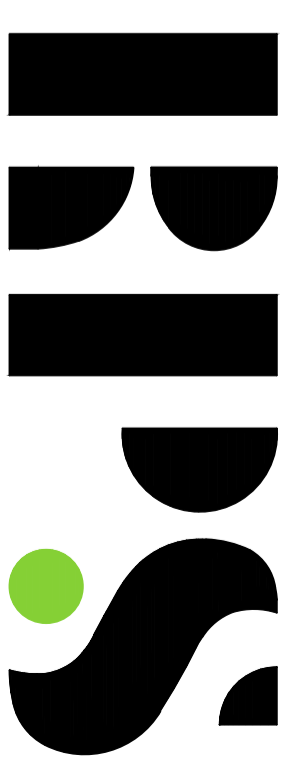


**NOTES:**  
 © THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF RPS DESIGN GROUP LTD. DO NOT SCALE FROM THIS DRAWING OTHER THAN FOR THE PURPOSE OF PLANNING - ALL DIMENSIONS TO BE CHECKED ON SITE



DRAFT

| REVISION | NOTES |
|----------|-------|
|          |       |



**0845 5442005**  
 rpsdesigngroup.co.uk  
 Project No: RPS\_22.07  
 Client: William Thompson Homes Ltd

**Site Address:**  
 52a New Cut Lane  
**Drawing Title:**  
 Proposed Site Plan  
**Date:** Oct '22 **Scale:** 1:500 @ A2  
**Drawn by:** **Checked by:**  
 SS

**Drawing No:**  
**L102**  
**Status:**  
 PLANNING