PHASE 1 CONTAMINATION STUDY

LAND NORTH OF ROMAN BANK AND EAST OF MIDDLE MARSH ROAD AT RED HOUSE FARM, HOLBEACH BANK, SPALDING, PE12 8BY

GRID REFERENCE: X536995 Y328849

FULL APPLICATION FOR THE CONSTRUCTION AND OPERATION OF A 48MW SOLAR FARM COMPRISING GROUND MOUNTED SOLAR PHOTOVOLTAIC ARRAYS TOGETHER WITH ASSOCIATED INFRASTRUCTURE AND LANDSCAPING



DATE: SEPTEMBER 2022

Table of Contents

1.0 Introduction 3

2.0 Existing Site 5

3.0 Development Proposal 7

4.0 Historical Site Uses 8

5.0 Regulatory Context 12

6.0 Environmental Context 18

7.0 Conceptual Site Model 24

8.0 Conclusion 32

APPENDIX A: TOPOGRAPHIC SURVEY

APPENDIX B: INDICATIVE PROPOSED SITE LAYOUT

APPENDIX C: GROUNDSURE DATA

1.0 Introduction

1.1 Flood Risk UK have been commissioned to provide a Phase 1 Contamination Study in support of a proposed solar farm on land to the east of Middle Marsh Road, to the north of the town of Holbeach in Lincolnshire. The site is under the administrative area of South Holland District Council, the Local Planning Authority (LPA).

1.2 The following steps may be required in the investigation and remediation of potentially contaminated land:

- Phase 1: Desk Study
- Phase 2: Intrusive Investigation
- Phase 3: Remediation Statement
- Phase 4: Validation Reports

Phase 1 Screening assessments are the most common form of investigation undertaken where moderate scale development or redevelopment of sites are proposed. A Phase 1 study comprises desk-based research and site walkover survey to identify areas which may be prone to ground contamination. Where screening identifies existing or past site uses with potential to contaminate, or where signs of contamination within the site are present, Phase 2 intrusive investigation is used to quantify and assess the associated hazard to future site users. Phases 3 and 4 are subject to the findings of the initial stages.

1.3 This report may be regarded as a Phase 1 Preliminary Risk Assessment in accordance with the Environment Agency's (EA) guidance documents Land Contamination Risk Management (LCRM, published October 2020, updated April 2021).

1.4 This Phase 1 Desk Study has been undertaken with due regard to current contaminated land guidance issued by the Royal Institution of Chartered Surveyors (RICS) together with BS 10175: 2001, "Code of Practice for the Investigation of Potentially Contaminated Land" and relevant sections of BS 5930: 1999, "Code of Practice for Site Investigations".

1.5 The objectives of the investigation are to determine:

- the land-use history of the site from available Ordnance Survey (OS) plans;
- the likely geotechnical and chemical characteristics of the soil and groundwater environment;

- whether the site has previously been used for purposes that may have given rise to significant ground contamination, known as the source;
- any likely pathways for the mobilisation of contaminants to other areas of the site or beyond the site boundary;
- any receptors to potential contamination within the site or beyond the site boundary;
- whether there are any source-pathway-receptor linkages that could class the site as potentially contaminative; and
- recommendations for further investigation

1.6 Information presented in this report contains data from a Groundsure search. The search was undertaken prior to confirmation of the final development layout and red line boundary. In the intervening period, the red line boundary has been rationalised to accommodate the development proposals, however some of the mapping presented in the body of the report and in the appendices covers the larger original area.

2.0 Existing Site

2.1 As shown in **Figure 1**, the site is located approximately 2km to the north of Holbeach and is bordered, generally, by farmland and watercourses to the north and east, Roman Bank road to the south and Middle Marsh Road to the west. To all boundaries, except between Roman Bank road and the north of Middle Marsh House, the site is separated from the surrounding areas by watercourses. Between Roman Bank road and Middle Marsh House, the site is separated from the surrounding areas by a public highway.



Figure 1: Site Location, Grid Reference TF370291, nearest postcode PE12 8DX

2.2 The River Welland lies approximately 4.5km to the northwest of the site. There are several ditches within the site used to drain the farmland. The site contains large, irregular shaped open arable fields bound and defined by a network of drainage ditches that also run along the northern and eastern site boundaries, which are used to drain the farmland.

2.3 The site comprises approximately 80ha of land, which currently consists of fields used for agriculture and grazing livestock and areas of woodland. The farmstead of Red House Farm is located along the farm track/lane to the south of the site, connecting to Roman Bank and Middle Marsh Road.

2.4 A site walkover survey was undertaken in September 2021 to assess the site for any visual or olfactory signs of contamination. The site walkover was also undertaken to attempt to verify any sources, pathways or receptors of contamination.

2.5 As shown by the topographic survey contained in Appendix A, the site is very flat, with little variation in level difference. Levels vary from approximately 3.5mAOD to 4.0mAOD, with locally lower elevations within watercourses in the site.

3.0 Development Proposal

3.1 The proposal is to develop the site with arrays of ground-mounted solar panels to generate electricity. The proposals also include access into the site, small transformer housing units and a substation compound. The indicative proposed site layout is included in Appendix B.

3.2 The only built development on the site would consist of grid inverter stations, substations and combined welfare, site office, communications and maintenance spares buildings.

3.3 Inverter stations are proposed to be located strategically throughout the site, with the main complex of the above buildings proposed to be located centrally and close to an existing pylon and overhead lines.

3.4 The dimensions of the panels would be approximately 4.82m (length) x 1.13m (width). These panels would be installed on mounting structures. The structures would be constructed from galvanised steel and would be driven into the ground using specialist equipment to a depth of between 1m and 1.5m. There would be no concrete or foundations required as part of this installation process. The panels would then be installed at angles of between 20 and 30 degrees on top of the mounting structures. The overall finished height of the installed panels would be approximately 2.62m.

3.5 An access road would be installed within the site to allow maintenance vehicles to gain access to both the site and the panels. The site would be secured by a high deer fence or similar, of approximately 2.15m in height. Infra-Red (non-visible), pole-mounted CCTV cameras (4.0m in height) would also be provided at appropriate intervals along the boundary fence. These would enable remote surveillance of the site.

4.0 Historical Site Uses

4.1 In appraising the site history, published Ordnance Survey maps have been reviewed dating from the late-19th century up to the present day. Historical mapping and the Groundsure data used in this report are contained in Appendix C.

4.2 A summary of the surrounding land-use history is presented below in **Figure 2** and **Table 1**. It is not the intention of this report to describe in detail all the changes that have occurred in the vicinity, only those pertinent to the site.

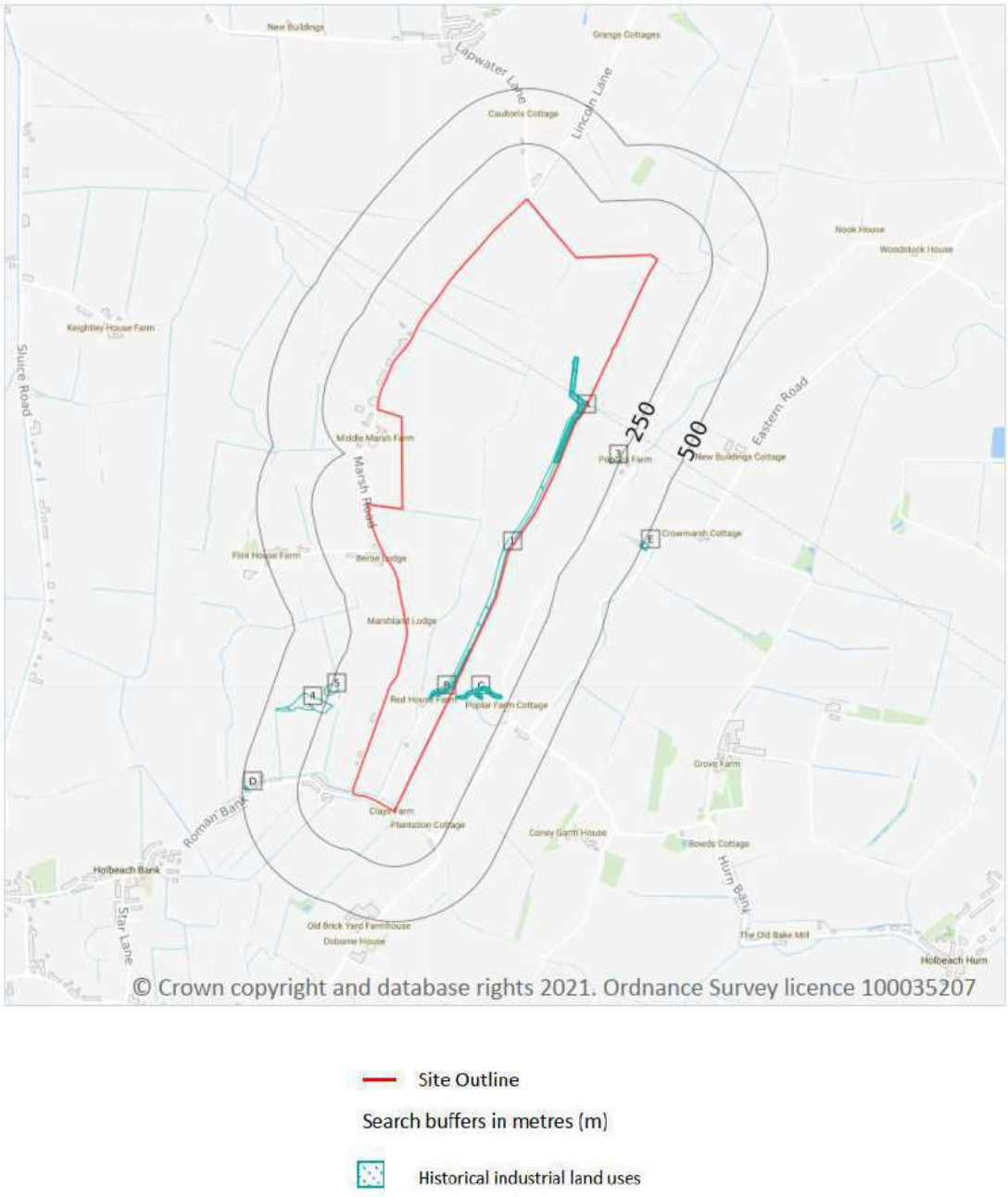


Figure 2: Historical Land Use (Groundsure map)

Table 1: Summary of historical features within 500m of the site

ID	Distance/ Location	Land use	Dates present	Comments
1	On site	Disused tramway sidings	1955	Noted as disused from at least 1955 and no visual signs during site visit
2/A/B	On site	Tramway sidings	1929-1950	Noted as disused from at least 1955 and no visual signs during site visit
C	22-91m SE	Unspecified ground workings; unspecified heap	1929; 1887-1955	No visual signs during site visit

3	211m E	Unspecified pit	1886	No visual signs during site visit
4	212m W	Unspecified ground workings	1887-1903	No visual signs during site visit
5	217m W	Unspecified heap	1887-1903	No visual signs during site visit
D	477-479m W	Unspecified pit	1931-1955	No visual signs during site visit
E	490m SE	Gas valve compound	1976-1992	Still present, refer to **Figure 3**

4.3 Historical mapping, dating back to 1886 shows that the site has been used largely for agricultural purposes. Buildings have been present in the southern area of the site since, at least, 1886 and are associated with Red House Farm. Buildings in the northern area of the site are illustrated as being present from between 1886 until a time between 1955 and 1974. These buildings are associated with Desert Farm and appear to have been accessed from Red House Farm through the use of a tramway. The tramway appears to have originated in 1929 and been present until 1955. No further historic industrial land uses have been recorded on the site since this date.

4.4 The nearest historical industrial land use that is known to be present is the National Grid gas valve compound, 490m south east of the site. During the site visit, this feature was observed and is shown in **Figure 3**.



Figure 3: National Grid gas valve compound

4.5 The records of historical industrial land use on the site do not present a significant risk of widespread contamination within the site. Nevertheless, it is recommended that sampling and screening for contaminants is undertaken in the areas identified on site as historical industrial land use as part of an intrusive ground investigation at a later design stage.

5.0 Regulatory Context

Current or recent land uses

5.1 The agricultural land designation across the entire site is classed as excellent as shown by **Figure 4**. Although the designations do not always reflect the actual land use, for example, the residential area to the west and southwest, the agricultural classification and topography indicate that this is the main current activity for identifying potential pollutants on-site.

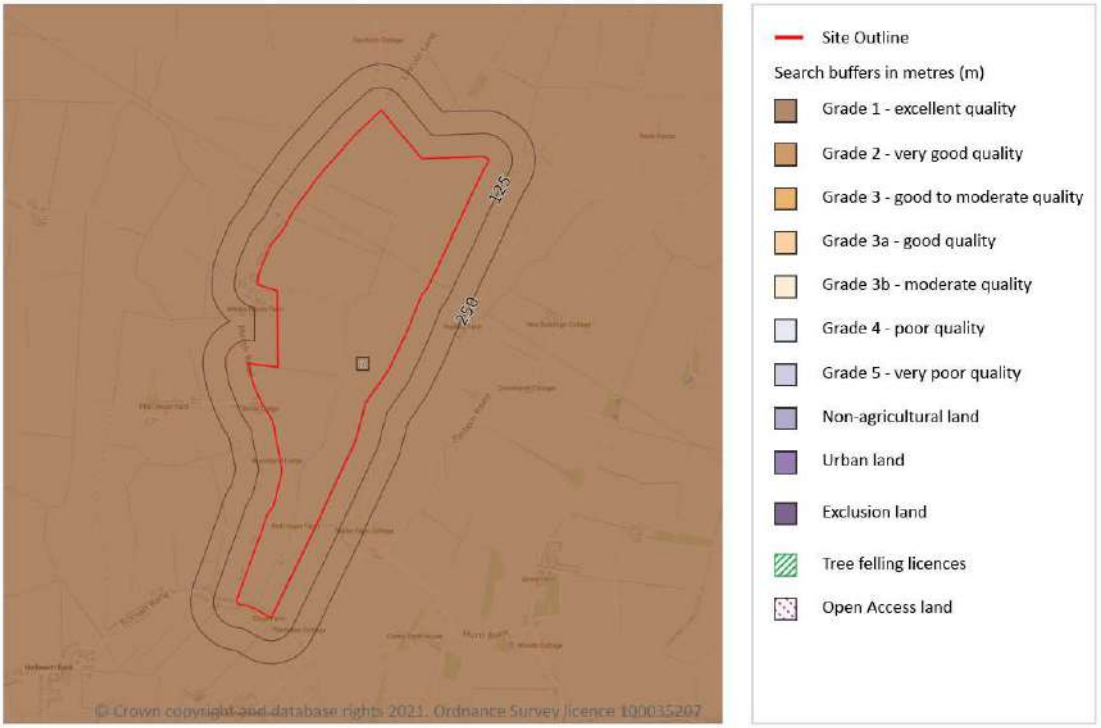


Figure 4: Agricultural designations (Groundsure map)

5.2 As shown in **Figure 5** below and detailed in Appendix C, there are three recent industrial land uses on the site, which relate to electricity pylons that run generally in a southeast- northwest direction through the northern half of the site.

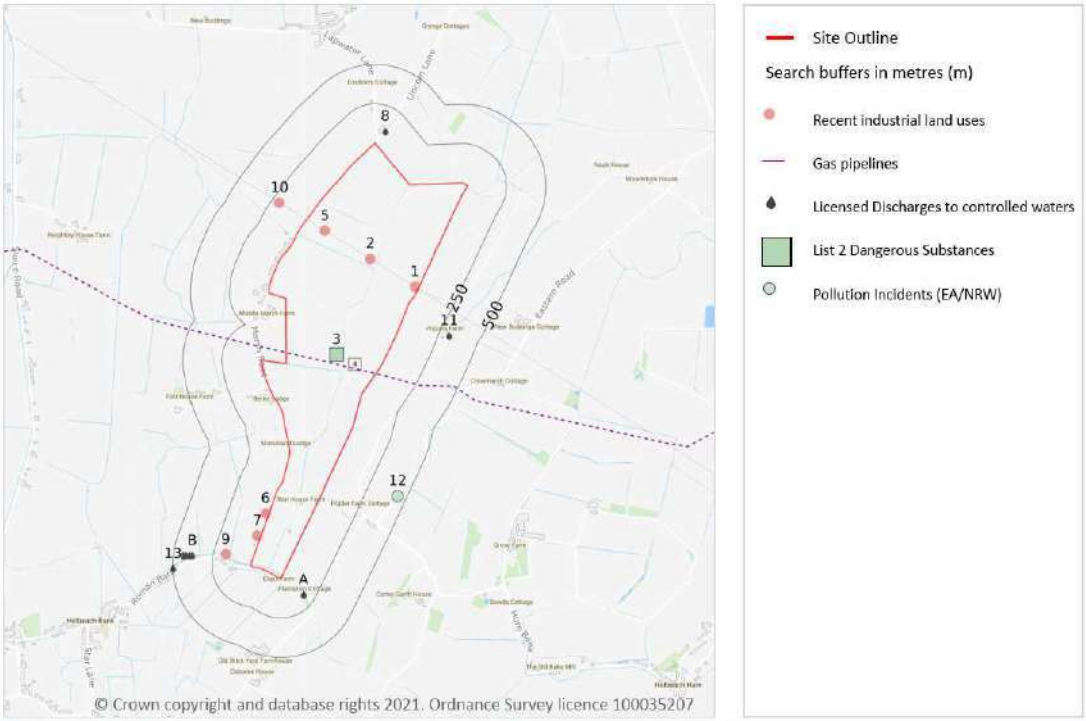


Figure 5: Current industrial land use (Groundsure map)

5.3 The presence of industrial land use on the site presents a risk of sources of localised contamination in the immediate vicinity of the pylons. Due to the nature of the potential sources of contamination and the underlying ground conditions (discussed in section 6.0 of the report), potential contamination is unlikely to be widespread. However, it is recommended that sampling and screening for contaminants is undertaken in the areas identified on site as current industrial land use as part of an intrusive ground investigation at a later design stage.



Figure 6: Electricity pylons running generally southeast-northwest (L-R)

5.4 Within 250m of the site boundary lie a further four recent industrial land uses, including a vehicle repair company, a tank within a farm building complex, an agricultural contractor and a pylon. Each of these recent industrial land uses is separated from the site by either a highway, a watercourse or both (in the case of the agricultural contractor and pylon). As such, whilst the recent industrial land uses may be potential sources of contamination, there is no apparent pathway for contamination to migrate onto the site.

5.5 A National Grid gas pipeline bisects the site in a, generally, east-west route. The pipeline is the Gosberton to Tydd St. Giles pipeline and is recorded as having a diameter of 900mm. 490m southeast of the site lies a National Grid gas valve compound associated with this pipeline. There are no recorded pollution incidents associated with the pipeline. Furthermore, as the pipeline and gas valve compound are operated and maintained by a statutory undertaker, there is unlikely to have been widespread or significant contamination during its installation or through routine maintenance. However, it is recommended that sampling and screening for contaminants is undertaken in the areas along the route of the pipeline as part of an intrusive ground investigation at a later design stage.

5.6 Licensed Discharges to controlled waters are present at eight farm buildings and dwellings within 500m of the site. Two of the Licensed Discharges are noted as being for the disposal of final/treated effluent from domestic properties, whilst the remaining six are unspecified. It is strongly assumed that these are also for the disposal of final/treated effluent from domestic properties due to their specification locations and addresses. Seven of the Licenced Discharges are to land and one is unspecified, however it is likely to also be a discharge to land or a discharge to a nearby watercourse. All of the Licensed Discharges to controlled waters are assumed to be active and are assumed to be in accordance with Building Regulations Approved Document H and Environment Agency guidelines. Treated effluent from domestic properties that is in accordance with the environmental guidance and regulations as above should not present a significant or widespread source of contamination. Regardless, the site is separated from these potential sources of contamination by interconnected watercourses and highways and there is no apparent pathway for potential contamination to migrate onto the site.

5.7 There are no records within 500 m of the site of the following:

- Current or recent petrol stations
- National Grid high-voltage underground electricity transmission cables

Landfill and other waste sites

5.8 There are no records of waste exemptions within the site, however 34 waste exemptions are recorded within 500m of the site. Waste exemptions are defined as activities involving the storage, treatment, use or disposal of waste that are exempt from requiring a permit and have specific limits and conditions that must be adhered to. The waste exemptions outside of the site, as shown in **Figure 7** and detailed in Appendix C, relate primarily to the treatment, storage and use of waste and are all for agricultural only waste.

5.9 All of these activities are separated from the site by highways and/or watercourses. As such, there is no apparent pathway for contamination from these potential sources to the site.

5.10 Within 500 m of the site, there are no records of the following:

- Active, recent or historical landfill sites (BGS, Local Authority and EA records)
- Historical or licensed waste sites (Local Authority and EA records)

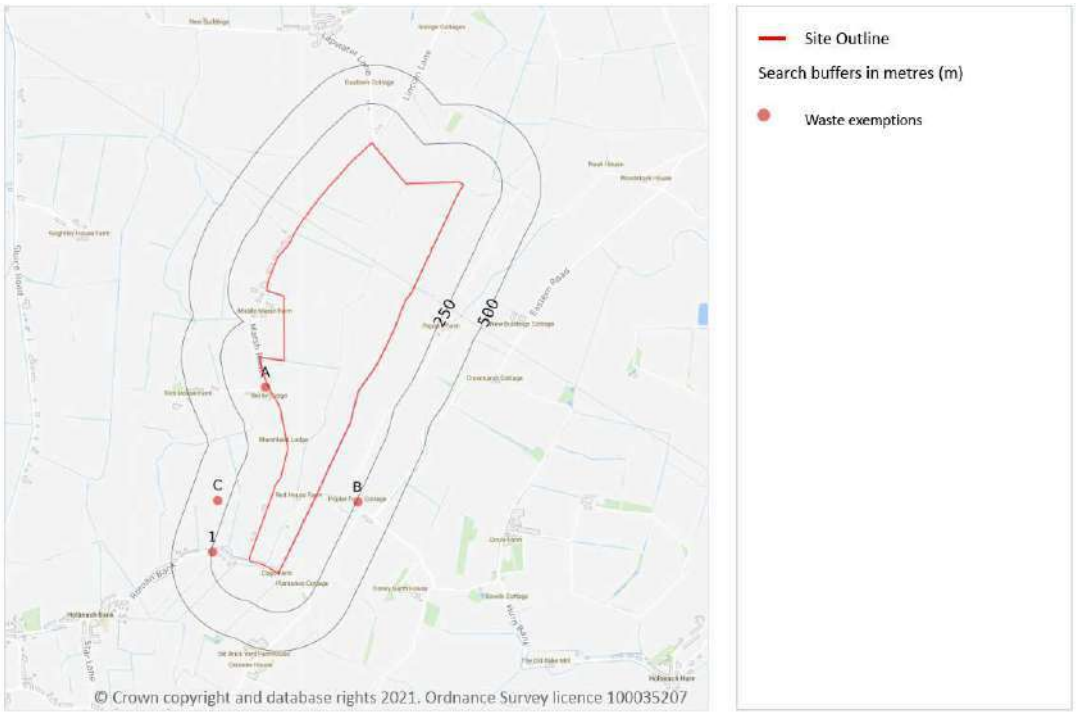


Figure 7: Waste sites (Groundsure map)

Environmental Permits, Incidents and Registers

5.11 A record of discharges of List 2 Dangerous Substances is present on site. List 2 Dangerous Substances are 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. The discharge is associated with Parkside Ltd, however is currently recorded as being "Not Active". As such, there is unlikely to be significant or widespread contamination at present. It is recommended, however, that sampling and screening for contaminants is undertaken in the area associated with the storage and release of these substances as part of an intrusive ground investigation at a later design stage.

5.12 A pollution incident is recorded 445m southeast of the site. The incident dates to 26th February 2002 and relates to insulating and cable oils. The exact source of pollution is not known. The pollution incident is noted as having a minor impact on land and water and no impact on air. Nearly 20 years have past since the pollution incident and, due to the wider interconnectivity of watercourses, it is likely that the pollutant has migrated from the source and has been significantly diluted. The distance from the site and separation from the pollution incident by highways and watercourses presents no apparent pathway for contamination onto the site.

5.13 Within 500 m of the site there are no records of the following:

- Sites Determined as Contaminated Land under Part 2A EPA 1990
- Sites recorded as Control of Major Accident Hazards (COMAH), including Notification of Installations Handling Hazardous Substances (NIHHS) records
- Sites registered under the Manufacture and Storage of Explosives Regulations 2005 (MSER)
- Sites granted consent under the Planning (Hazardous Substances) Regulations 2015
- Historical licensed industrial activities or Integrated Pollution Control (IPC)
- Licensed industrial activities under Part A(1) or licensed pollutant release under Part A(2)/B of the Environmental Permitting (England and Wales) Regulations 2016
- Radioactive Substance Authorisations under the Radioactive Substances Act 1993
- Discharges of specified substances (Red List) under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991
- Discharges of Special Category Effluents to the public sewer
- Discharges of List 1 Dangerous Substances under the Environmental Damage (Prevention and Remediation) Regulations 2015
- Pollution inventory substances, waste transfers or radioactive waste

6.0 Environmental Context

Geology

6.1 The bedrock geology, according to BGS 1:50,000 scale mapping (**Figure 8**) consists of *West Walton Formation – Mudstone and Siltstone*. Bedrock permeability ranges from very low to low and flow through the bedrock is anticipated to be facilitated through fractures.

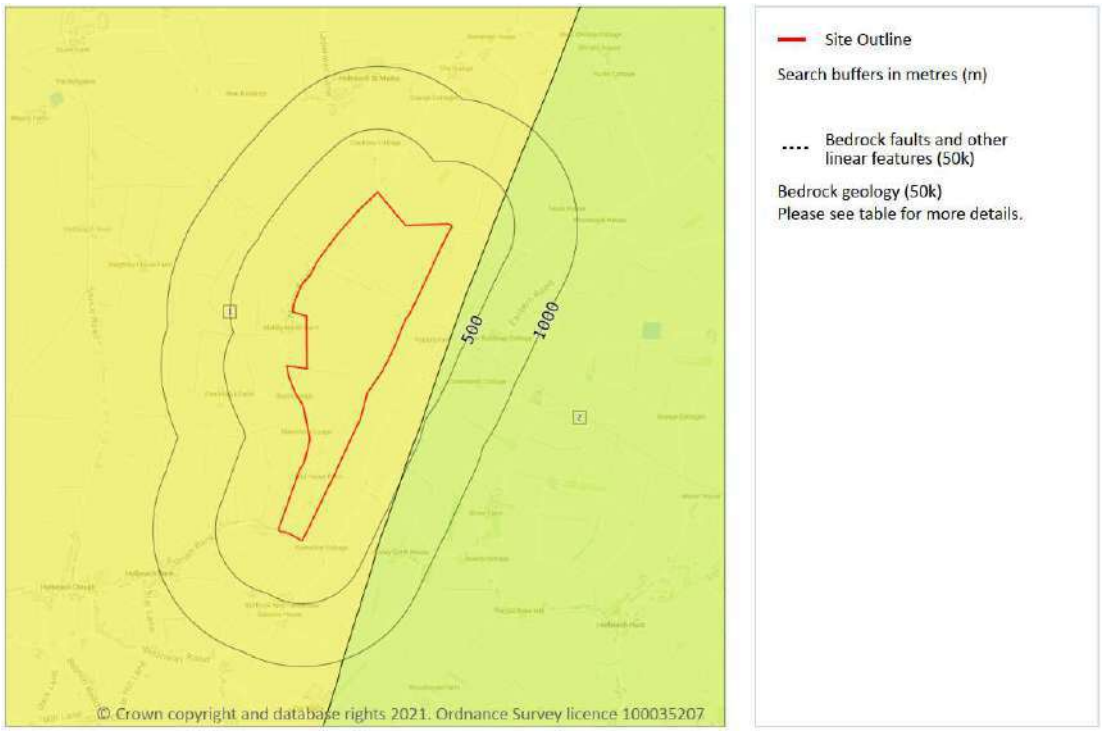


Figure 8: Bedrock Geology (Groundsure map)

6.2 The superficial geology is shown in **Figure 9** and consists of *Tidal Flat Deposits – Clay and Silt*. The superficial geology is anticipated to have very low to low permeability with an intergranular flow type.

6.3 The cohesive nature of the superficial deposits significantly reduces the risk of any potential contamination migrating into the underlying bedrock and associated aquifers.

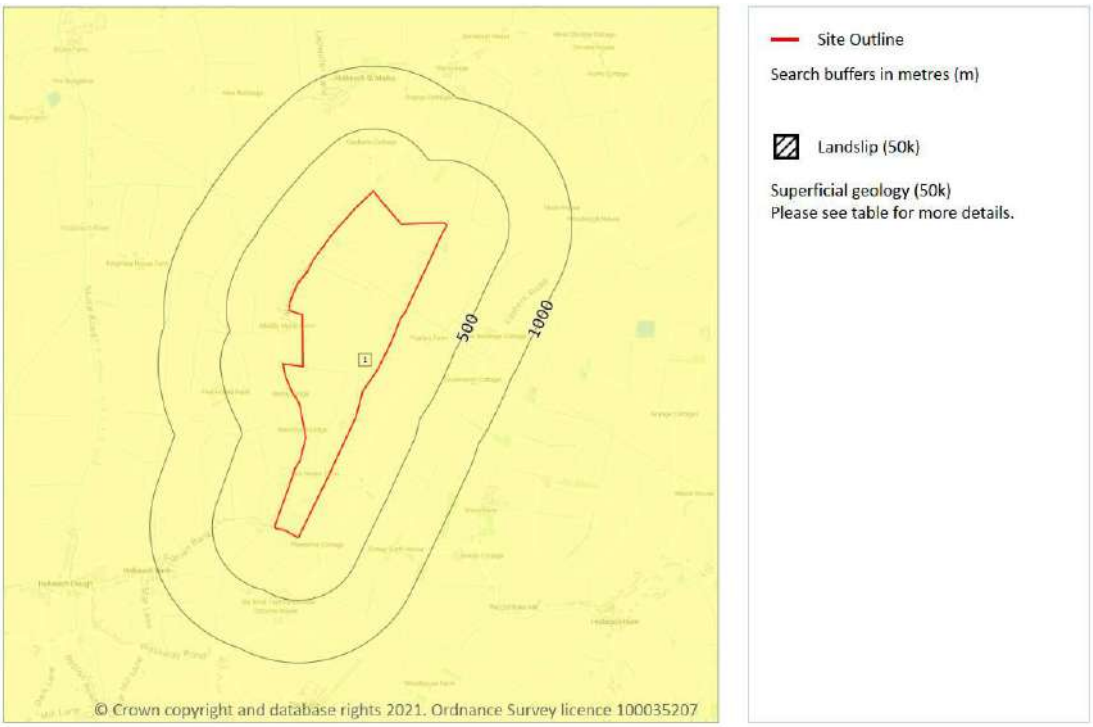


Figure 9: Superficial Geology (Groundsure map)

6.4 The Cranfield Soil and Agrifood Institute Soilscapes mapping indicates loamy and clayey soils of coastal flats with naturally high groundwater, as shown in **Figure 10**. The soilscape mapping also indicates that shallow groundwater and marginal ditches mean that the local water resource is susceptible to pollution from nutrients, pesticides and wastes applied to the land.

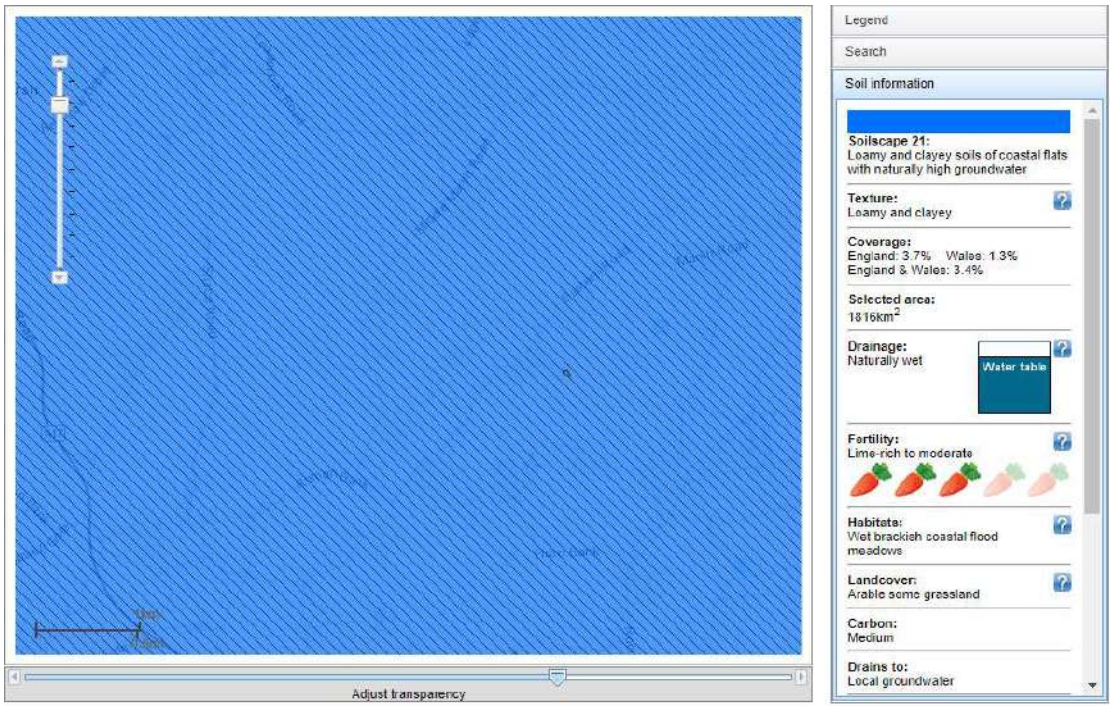


Figure 10: Soilscapes map

6.5 The geology and soil types across the site indicate that the ground conditions are likely to be of low to very low permeability with a shallow groundwater table, suggesting that run-off generated from storms would be directed overland or by shallow infiltration to the local watercourse network.

6.6 The site is within an area which is not affected by Radon, and it is estimated that less than 1% of residential properties in the area would be affected. The record indicates that no Radon Protection Measures are required.

Hydrogeology

6.7 The site is within an Unproductive superficial aquifer area, and is underlain by an Unproductive bedrock aquifer. These aquifers have low permeability that have negligible significance for water supply or river base flow.

6.8 The superficial and bedrock aquifers have Unproductive groundwater vulnerability classifications.

6.10 The site is not within any source protection zones and there are no active or historic groundwater or surface water abstractions within 2000m of the site boundary.

Hydrology

6.11 At the time of the site visit on 11th October 2021 there were signs of surface water drainage features within the site boundary. The surface water features included marginal ditches to fields and culverted pipes at field accesses and track crossings of watercourses. Watercourses within the site and nearby are illustrated as shown in **Figure 11**.

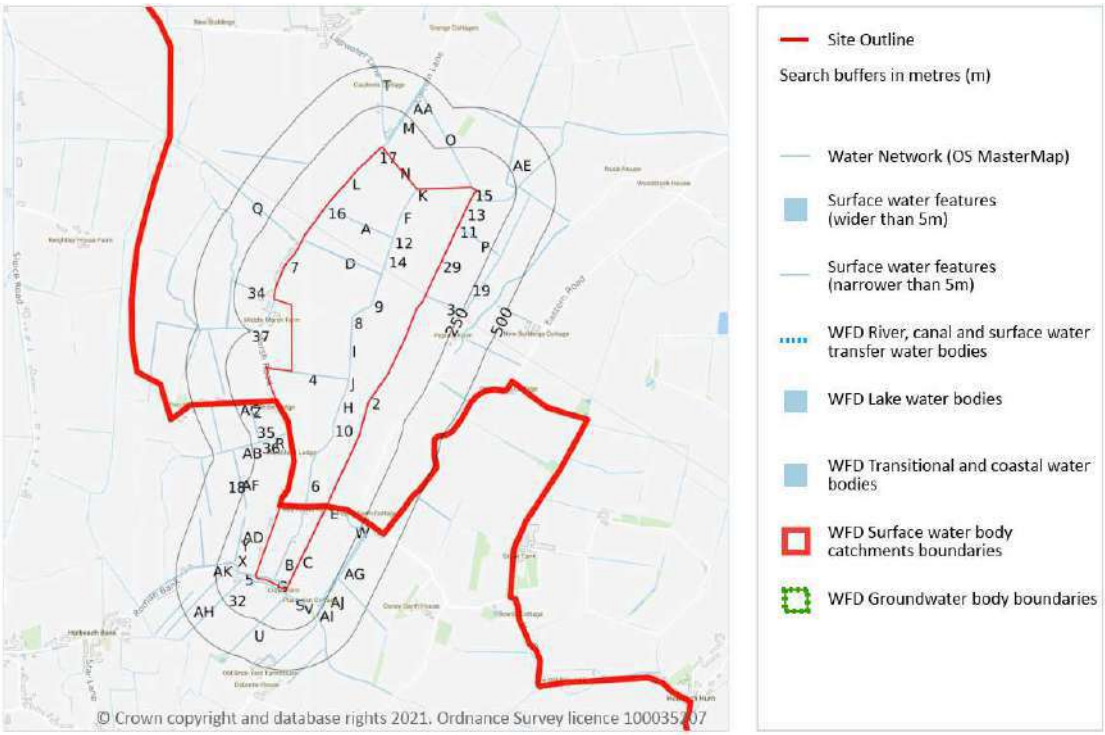


Figure 11: Watercourse network (Groundsure map)

6.12 Along the carriageways of Middle Marsh Lane and Roman Bank, numerous highway gullies were present, which are assumed to discharge highway surface water run-off to the watercourse network surrounding the site. Highways are potential sources of contamination and pollutants are easily mobilised by regular rainfall events. Whilst there is a pathway for potential contaminants into the site, any pollutants would be contained within the watercourses where they would degrade or be conveyed off of the site. Contamination from the adjacent highway is unlikely to be widespread on the site.

6.13 The site lies within the *Whaplode River* surface water body catchment of the Water Framework Directive (WFD) and the *Lower Welland* coastal catchment, which are detailed in **Table 2**.

Table 2: WFD Surface-water data (Groundsure tables)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
18	On site	River WB catchment	Whaplode River	GB205031055495	Lower Welland	Welland
19	On site	Coastal Catchment	Not part of a river WB catchment	117	Lower Welland	Welland

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

6.14 The Whaplode River surface water body has a moderate overall rating with a chemical rating of good and an ecological rating of moderate. The sensitivity of the watercourse should be taken into consideration in the management of surface water run-off from the development to ensure that the current situation is, at least, not exacerbated and, at best, improved.

Environmentally Sensitive Sites

6.15 There are no environmental designations on or within 2000m of the site.

6.16 There is a Nitrate Vulnerable Zone (NVZ) on the site, namely the *Whaplode River NVZ*. There is a further NVZ within 2000m of the site, also associated with the above. The development proposals are likely to reduce the amount of agricultural nitrate pollution generated from the site.

6.17 The site lies within one SSSI Impact Risk Zone as shown in **Figure 12** and is associated with The Wash SSSI, located approximately 4.5km north of the site. The Wash SSSI will be the ultimate receptor to surface water run-off from the site, however the land between the site and The Wash SSSI is predominantly flat with a large network of interconnected watercourses. The resulting slow moving water is not expected to easily transmit potential contamination from the site to The Wash SSSI. As such, there does not appear to be a pathway for significant or widespread potential contamination from the site to the SSSI site.

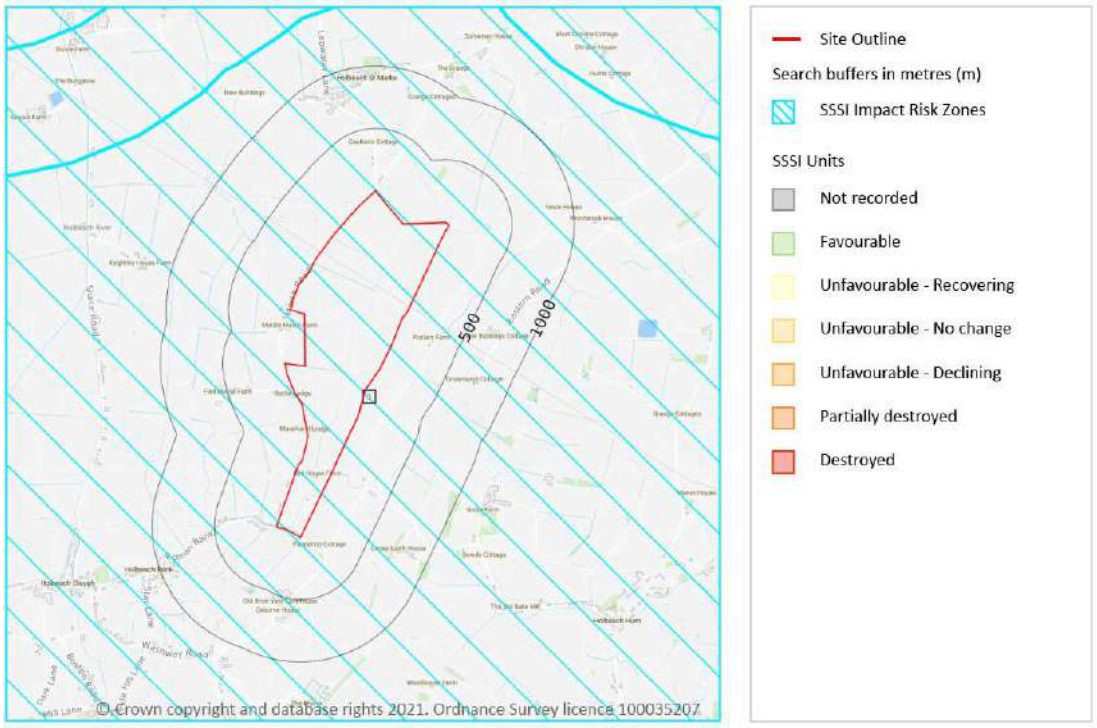


Figure 12: SSSI Impact Risk Zones (Groundsure map)

6.18 Within 2 km of the site none of the following are present:

- Sites of Special Scientific Interest (SSSI)
- Conservation wetland (Ramsar) sites
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- National Nature Reserves (NNR)
- Local Nature Reserves (LNR)
- Designated Ancient Woodland
- Biosphere Reserves
- Forest Parks
- Marine Conservation Zones
- Green Belt
- Proposed Ramsar Sites
- Possible Special Areas of Conservation (pSAC)
- Potential Special Protection Areas (pSPA)
- Nitrate Sensitive Areas

Estimated Soil Chemistry

6.19 The estimated background soil chemistry is provided in **Table 3** below, based upon 1:50,000 scale geological information soils.

Table 3: Estimated Background Soil Chemistry (Groundsure)

Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
15 - 25 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 mg/kg

7.0 Conceptual Site Model

7.1 Regardless of the generally undeveloped condition of the site, this study is required to follow the guidance set out by DEFRA 'Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance' (April 2012).

7.2 Under Part 2A, for a relevant risk to exist, there needs to be one or more contaminant-pathway-receptor linkage – "contaminant linkage" – by which a relevant receptor might be affected by the contaminants in question. In other words, for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property, or significantly pollute controlled waters. For the purposes of this Guidance:

- A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor or to cause significant pollution of controlled waters.
- A "receptor" is something that could be adversely affected by a contaminant, for example, a person, an organism, an ecosystem, property, or controlled waters. The various types of receptors that are relevant under the Part 2A regime are explained in later sections.
- A "pathway" is a route by which a receptor is or might be affected by a contaminant.

7.3 The term "contaminant linkage" means the relationship between a contaminant, a pathway and a receptor. All three elements of a contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part2A, including evidence of the actual presence of contaminants. The term "significant contaminant linkage", as used in the Guidance, means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land. The term "significant contaminant" means the contaminant which forms part of a significant contaminant linkage.

7.4 This means that contaminant, pathway and receptor must be identified, and either:

- The contaminant is causing significant harm to that receptor, or
- There is a significant possibility of harm caused by the contaminant to the receptor.

7.5 Where any of the three elements of the SPR are not present, there is no risk, and therefore, land cannot be classified as statutory 'contaminated land'.

7.6 Section 78A (9) defines the pollution of controlled waters as: 'The entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter'. Land should not be designated as contaminated land where:

- A substance is already present in controlled waters;
- Entry into controlled waters of that substance from land has ceased; and
- It is not likely that further entry will take place.

7.7 Substances should be regarded as having entered controlled waters where:

- They are dissolved or suspended in those waters; or
- If they are immiscible with water, they have direct contact with those waters on or beneath the surface of the water.

7.8 In April 2021 the Environment Agency published the Land Contamination Risk Management Guidance (LCRM) which provides the technical framework for applying a risk management process, based on the 'suitable for use' approach, when dealing with land affected by contamination.

7.9 In 2008, to enable the practical application of good practice of the EA's Model Procedures CLR11, R&D Publication 66 'Guidance for the Safe Development of Housing on Land Affected by Contamination' was published by the National House Builders Council (NHBC), the EA and the Chartered Institute of Environmental Health. Whilst written to be relevant to housing development it is also applicable to other forms of development where sites are affected by contamination. The guidance describes in detail the process and activities involved for the identification and assessment of hazards for a Phase 1 assessment.

7.10 At Phase 1 stage, it is necessary to develop an initial conceptual site model to understand the possible relationships between contaminants, pathways and receptors. If a hazardous source, via an exposure pathway to a potential receptor can be established, then there is a 'pollutant linkage', which is assessed using parameters summarised below. At this stage, the conceptual model is prepared without site-specific soil, groundwater or gas testing and as such, the findings should be treated only as first and general indications of possible SPR linkages.

7.11 The potential sources of contamination to the site are not limited to its current use. However, a visual walkover study found no evidence of residual contamination from previous uses. The

study area is generally undeveloped and is used for agricultural farming and livestock grazing, and therefore widespread contamination is considered unlikely.

7.12 There are discrete areas of currently developed land and land used recently and historically for industrial purposes. The currently developed land relates to the farm buildings and their immediate surroundings, the access tracks to the farm buildings and the electricity pylons. Whilst there is potential for localised contamination, these areas are not proposed for change under the development proposals and suitable buffer zones will be included in the layout. As such, widespread contamination as a result of the development is considered unlikely.

7.13 The recorded historic industrial uses of the site relate only to the historic tramway sidings along the eastern site boundary. The tramway siding are recorded as disused from 1955 and there was no evidence of the feature apparent during the site walkover survey. At the time of writing, there is no apparent pathway for potential contamination from this source to any off site receptors. However, the development proposals may result in disturbance of the ground in these localised areas. As such, any development proposals within these areas should be accompanied with sampling and screening as part of an intrusive ground investigation at a later project stage to determine the risk of mobilising potential pollutants.

7.14 A record of discharges of List 2 Dangerous Substances is present on site. List 2 Dangerous Substances are 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. The discharge is associated with Parkside Ltd, however is currently recorded as being “Not Active”. As such, there is unlikely to be significant or widespread contamination at present. It is recommended, however, that sampling and screening for contaminants is undertaken in the area associated with the storage and release of these substances as part of an intrusive ground investigation at a later design stage.

7.15 A National Grid gas pipeline bisects the site in a, generally, east-west route. The pipeline is the Gosberton to Tydd St. Giles pipeline and is recorded as having a diameter of 900mm. 490m southeast of the site lies a National Grid gas valve compound associated with this pipeline. There are no recorded pollution incidents associated with the pipeline. Furthermore, as the pipeline and gas valve compound are operated and maintained by a statutory undertaker, there is unlikely to have been widespread or significant contamination during its installation or through routine maintenance. However, it is recommended that sampling and screening

for contaminants is undertaken in the areas along the route of the pipeline as part of an intrusive ground investigation at a later design stage.

7.16 Licensed Discharges to controlled waters are present at eight farm buildings and dwellings within 500m of the site. Two of the Licensed Discharges are noted as being for the disposal of final/treated effluent from domestic properties, whilst the remaining six are unspecified. It is strongly assumed that these are also for the disposal of final/treated effluent from domestic properties due to their specification locations and addresses. Seven of the Licenced Discharges are to land and one is unspecified, however it is likely to also be a discharge to land or a discharge to a nearby watercourse. All of the Licensed Discharges to controlled waters are assumed to be active and are assumed to be in accordance with Building Regulations Approved Document H and Environment Agency guidelines. Treated effluent from domestic properties that is in accordance with the environmental guidance and regulations as above should not present a significant or widespread source of contamination. Regardless, the site is separated from these potential sources of contamination by interconnected watercourses and highways and there is no apparent pathway for potential contamination to migrate onto the site.

7.17 There are no records of waste exemptions within the site, however 34 waste exemptions are recorded within 500m of the site. Waste exemptions are defined as activities involving the storage, treatment, use or disposal of waste that are exempt from requiring a permit and have specific limits and conditions that must be adhered to. The waste exemptions outside of the site relate primarily to the treatment, storage and use of waste and are all for agricultural only waste.

7.18 A pollution incident is recorded 445m southeast of the site. The incident dates to 26th February 2002 and relates to insulating and cable oils. The exact source of pollution is not known. The pollution incident is noted as having a minor impact on land and water and no impact on air. Nearly 20 years have passed since the pollution incident and, due to the wider interconnectivity of watercourses, it is likely that the pollutant has migrated from the source and has been significantly diluted. The distance from the site and separation from the pollution incident by highways and watercourses presents no apparent pathway for contamination onto the site.

7.19 The primary potential source of contaminants is the agricultural use of the site. In relation to farming activity, pollutants might include any of the following:

Table 4: Potential Agricultural Pollutants	
Agricultural Activity	**Potential Contaminant**
Orchard (no known presence)	Metals, pesticides
Allotments (no known presence)	Metals, pesticides, ash/clinker (often used to improve soil and drainage) potentially containing heavy metals (e.g. arsenic and lead), Polycyclic Aromatic Hydrocarbons (PAHs) and sulphate.
Buildings (a farm house and out-buildings were present during the site walkover)	Asbestos Containing Materials (ACMs).
Sewage farming, slurry spreading (there are no indications of this from Groundsure data)	Methane, metals, nitrates, oxygen depletion
Crop and animal protection	Pesticides, herbicides and fertilizers, which can contain heavy metals such as cadmium
Soil conditioners	Metals, sulphates, PAHs
Field sports (no known presence)	Lead shot
Equipment maintenance (there was evidence of a working farm and buildings for storage and maintenance during the site walkover survey)	Hydrocarbons from oil and fuel leakages, metals
Naturally occurring contaminants	Arsenic, metals
Stubble burning (outlawed since 1993 although residual contamination may be present)	Elevated Polycyclic aromatic hydrocarbons (PAH)

7.20 The potential receptors and pathways at the site are shown below:

Table 6: Potential Receptors and Pathways	
Potential receptors:	**Potential pathways:**
• End users / site occupiers • Adjacent users / occupiers • Controlled waters, including watercourse (no productive aquifers present) • Flora and fauna • Buildings & construction materials	• Direct ingestion of soil / water / fruit or vegetable • Inhalation of dust / vapours • Direct skin contact with the ground / water • Regression of plant growth due to phytotoxic contamination • Vertical and lateral migration of contamination

7.21 The site is considered to be located within a low sensitivity setting for the following reasons:

- The site is within only one SSSI Impact Zone however is over 4.5km from the SSSI site.
- There are no other statutory environmental designations within 2km of the site.
- The superficial and bedrock aquifers are classified as Unproductive, which significantly limits the exposure of any potential contamination to rivers or other water bodies.
- The site is within a Nitrate Vulnerable Zone, however, the change of land use from agriculture to solar energy generation is likely to result in a reduction in nitrate runoff from fertilisers.
- The site is not within a source protection zone and there are no surface or groundwater abstractions nearby.
- There are no waste exemptions registered on the site.
- There are no active or recent landfill or waste sites on the site or within 500m of the site.

7.22 In accordance with LCRM, professional judgement has been employed to evaluate the risk on a qualitative basis using available information. A summary of the pollution linkages identified during the desk study is provided below.

Table 6: Conceptual Site Model of Potential Pollutant Linkages				
Source	Pathway	Receptor	Comment	Risk
Contaminated Soils **On-site:** Agricultural Recent industrial land use (electricity pylons) Gas pipeline Historic tramway List 2 Dangerous Substances (not active) **Off-site:** Agricultural Waste exemptions Discharges to controlled waters Pollution incident (dating to February 2002)	Direct Ingestion & skin contact	Site workers & occupiers	Agricultural use may have included the use of pesticides and fertilizers which may have contained heavy metals such as Cadmium. Activities such as stubble burning can result in elevated PAH's. Waste exemptions and recent industrial land use can result in elevated concentrations of PAH's and heavy metals. Historic tramway can result in elevated concentrations of PAH's and heavy metals Suitable buffers will be required around the gas pipeline and pylons, where no construction work should be undertaken.	**Low:** Phase II investigation recommended with intrusive sampling and screening in the previously used areas of the site
	Inhalation of dust or gas			
	Vertical & lateral migration			
	Vertical & lateral migration	Groundwater	Unproductive aquifers, although potential for contaminants to be perched within groundwater.	**Low:** Phase II investigation recommended
	Direct runoff	Watercourse	Topography is generally flat, however, however run-off from intense or prolonged storm events will migrate towards marginal field ditches.	**Low:** Phase II investigation recommended
	Direct fertilizer uptake	Flora	On-site use encourages plant growth	**Very Low** None Necessary
	Direct contact	Building materials	Agricultural, recent industrial and historic land uses are not considered to have a detrimental impact on building materials	**Very Low** None Necessary
Contaminated Groundwater Shallow depth groundwater table Recent industrial land use (electricity pylons) Waste exemptions Historic mining and workings Discharges to controlled waters	Direct ingestion and skin contact	Site workers & occupiers	There is the potential for contaminated groundwater from the on-site agricultural use, waste exemptions and recent industrial and historic land uses. The groundwater table is likely linked to the water level in the marginal ditches. The flat topography suggests slow moving water in ditches and potential for contaminants to be perched within groundwater.	**Low:** Phase II investigation recommended
	Direct uptake	Flora		
	Direct contact	Building Materials		
	Vertical & lateral migration	Controlled Waters and Aquifers	There is an interface between groundwater and other controlled waters via the site.	**Low:** Phase II investigation recommended
	Lateral migration	Adjacent occupiers	There is likely to be shallow groundwater. Any pollutants that have migrated to groundwater are likely to emerge within the marginal ditches.	**Low:** Phase II investigation recommended

List 2 Dangerous Substances (not active) Gas pipeline			There is a potential pathway from the site groundwater to adjacent occupiers.	
Contaminated Surface Water Extensive land drainage network within the site Highway drainage Recent industrial land use (electricity pylons) Waste exemptions Historic mining and workings	Direct ingestion and skin contact	Site workers & occupiers	Based on the topography and hydrology there is a conceivable route for pollutants from the highway to migrate to marginal ditches through the site. Pollutants within the watercourse are likely to stay within the channel and not spread into the site. Any potential contamination from recent industrial land use, waste exemptions, agricultural land use and historic mining and workings that is directed to the land drainage network would be slowly conveyed off site.	**Very Low** None Necessary
	Direct uptake	Flora		
	Direct contact	Building Materials		
	Vertical migration	Aquifers	Unproductive aquifers, although potential for contaminants to be perched within groundwater.	**Very Low** None Necessary

8.0 Conclusion

8.1 A review of readily available site environmental data, including historical mapping and statutory registers, has found that the site has remained undeveloped yet has been used for farming purposes, hence agriculture is a potentially contaminative land use. At the time of the site visit in September 2021 there were signs of current industrial land use although no visual or olfactory evidence of contamination from these sources.

8.2 Agricultural use activities carry risks of typical contaminants such as nitrogen, potassium and phosphorous contained within fertilisers, chemicals from pesticides and herbicides, coliform and non-coliform bacteria from livestock waste and manure application and hydrocarbons (oil and fuel leakages from machinery).

8.3 It should be noted that the use of pesticides and fertilizers risk contamination from heavy metals such as cadmium. Possible activities such as stubble burning or sludge/slurry deposition can result in elevated PAH's being present. Oil and fuel spillages can cause contamination from hydrocarbons which may lead to vapours, depending on the type of hydrocarbon. These contaminants may pose a risk to human health (via ingestion, dermal contact and inhalation pathways), controlled waters (via migration and preferential pathways), buildings and structures (direct contact), water pipes (direct contact) and flora (root uptake). It is therefore recommended that this is further assessed as part of the Phase 2 Investigation.

8.4 There are discrete areas of currently developed land and land used recently and historically for industrial purposes. The currently developed land relates to the farm buildings and their immediate surroundings, the access tracks to the farm buildings and the electricity pylons.

8.5 The recorded historic industrial uses of the site relate only to the historic tramway sidings along the eastern site boundary. The tramway siding are recorded as disused from 1955 and there was no evidence of the feature apparent during the site walkover survey.

8.6 A record of discharges of List 2 Dangerous Substances is present on site. List 2 Dangerous Substances are 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. The discharge is associated with Parkside Ltd, however is currently recorded as being "Not Active".

8.7 A National Grid gas pipeline bisects the site in a, generally, east-west route. The pipeline is the Gosberton to Tydd St. Giles pipeline and is recorded as having a diameter of 900mm. 490m southeast of the site lies a National Grid gas valve compound associated with this pipeline.

8.8 Licensed Discharges to controlled waters are present at eight farm buildings and dwellings within 500m of the site. Two of the Licensed Discharges are noted as being for the disposal of final/treated effluent from domestic properties, whilst the remaining six are unspecified. It is strongly assumed that these are also for the disposal of final/treated effluent from domestic properties due to their specification locations and addresses. Seven of the Licenced Discharges are to land and one is unspecified, however it is likely to also be a discharge to land or a discharge to a nearby watercourse. All of the Licensed Discharges to controlled waters are assumed to be active and are assumed to be in accordance with Building Regulations Approved Document H and Environment Agency guidelines.

8.9 There are no waste exemptions within the site. The waste exemptions beyond the site boundary relate primarily to the treatment, storage and use of agricultural waste only.

8.10 A pollution incident is recorded 445m southeast of the site. The incident dates to 26th February 2002 and relates to insulating and cable oils. The exact source of pollution is not known. The pollution incident is noted as having a minor impact on land and water and no impact on air.

8.11 The limited number of potentially contaminative land uses in and around the site, as above, present a low risk. However, any development proposals within these areas should be accompanied with sampling and screening as part of an intrusive ground investigation at a later project stage to determine the risk of mobilising potential pollutants.

8.12 The site is within one SSSI Impact Zone, however is over 4.5km from the SSSI site. There are no other statutory environmental designations with 2km of the site.

8.13 The underlying aquifers are classed as Unproductive and do not have significance on water supply or river base flow.

8.14 The site is within one Nitrate Vulnerable Zones, however, the change of land use from agriculture to solar energy generation is likely to result in a reduction in nitrate runoff from fertilisers.

8.15 The site is not within a source protection zone and there are no surface water or groundwater abstractions nearby.

8.16 The potential sources of contamination to the site are not limited to its current use. However, a visual inspection found no evidence of residual contamination from previous uses. The study area is generally undeveloped, and therefore widespread contamination is considered unlikely.

8.14 Although there is anticipated to be a low overall risk of contamination, a Phase 2 intrusive site investigation should be undertaken to investigate further. A full Sampling and Analysis Plan is not included in this report. However, it is recommended that such a plan is submitted for agreement prior to undertaking the Phase 2 Investigation.

APPENDIX A

TOPOGRAPHIC SURVEY

The scaling of this drawing cannot be assured.

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All dimensions shown are in metric.

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Revision	Description	Date	Drawn	Checked
A	Application Boundary Amended	03.02.22	AS	-
B	Application Boundary Amended	14.02.22	AS	-
C	Application Boundary Amended	22.08.22	VB	-

Planning Application Boundary

OS Topographic Data

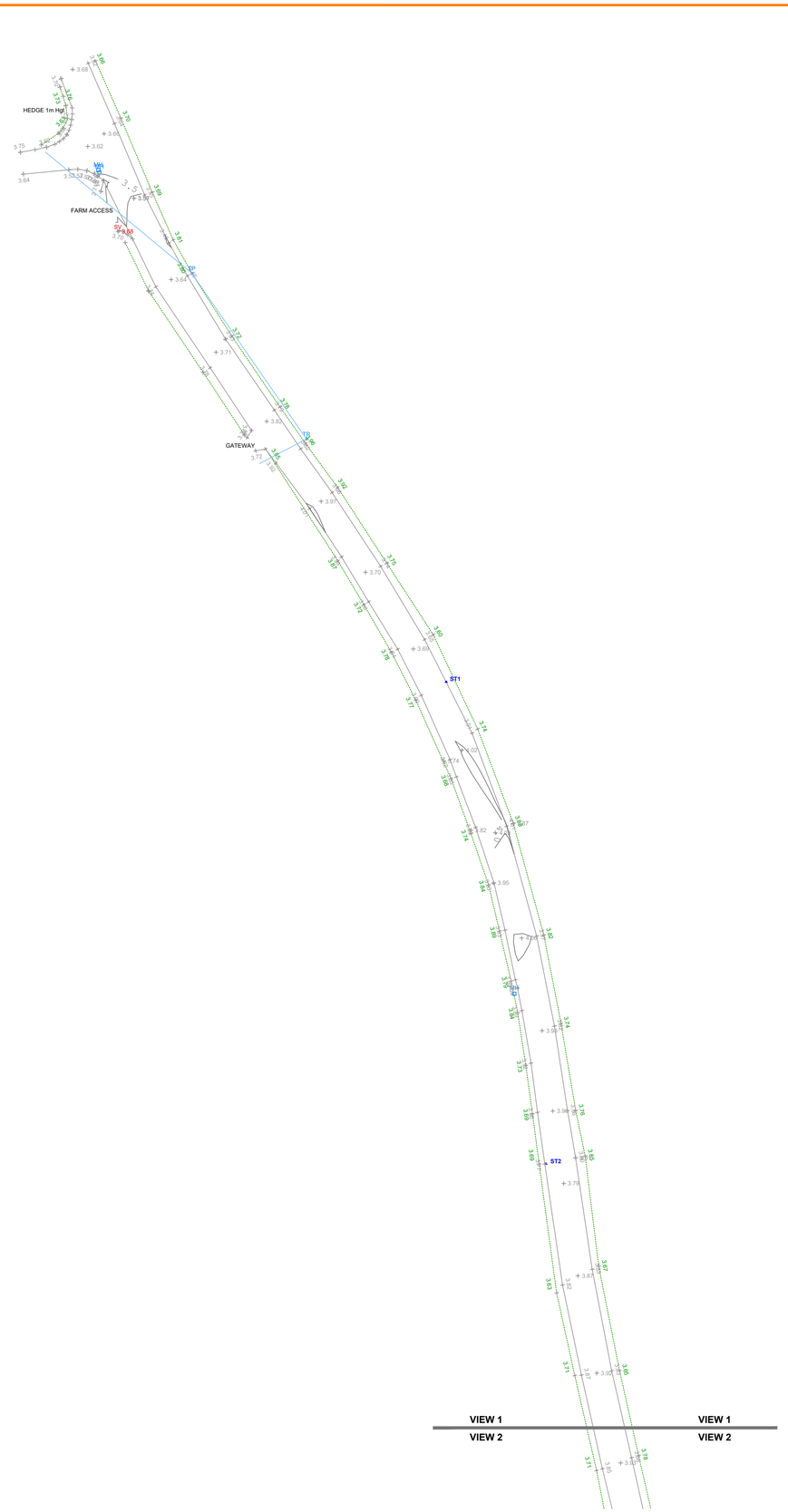
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AUK PE12 LIMITED
Project
Boston Solar
Holbeach Bank, Holbeach
Drawing Title
Existing Site Plan

First Issue Date	Scale	Drawn by	Check by
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Project No		Status	Revision
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Drawing No			
MP-02			

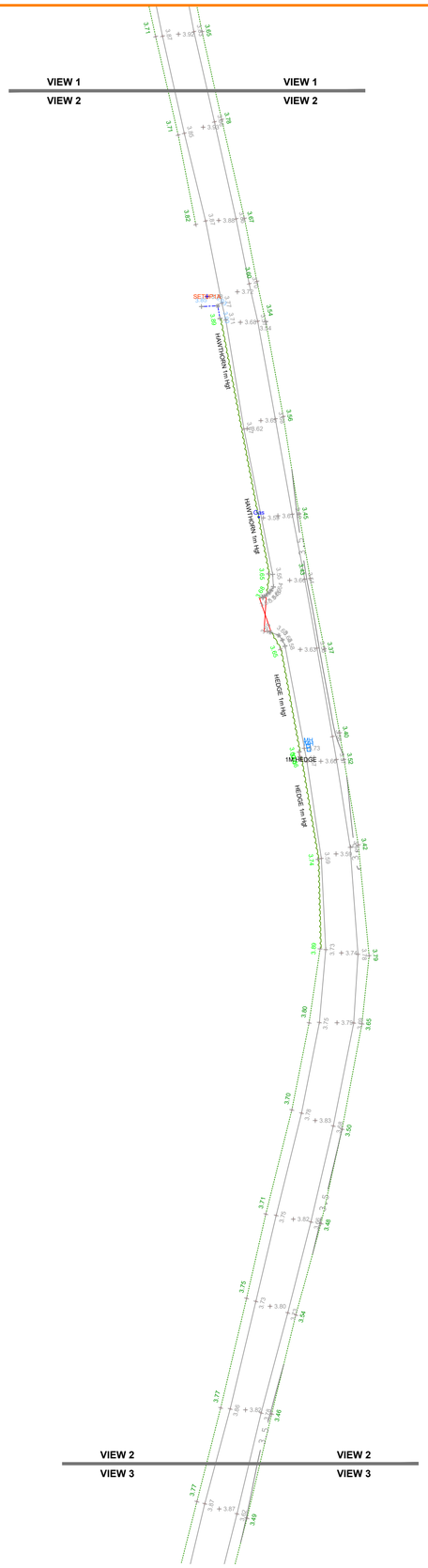
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EXISTING SITE PLAN

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VIEW 1



VIEW 2

Notes

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7. All manhole data is collected from ground level therefore discrepancies may occur. More accurate data is only achievable via confined space entry.

ABBREVIATIONS (Land & Utilities)

AR	ASSUMED ROUTE	KO	KERB OUTLET	SIL	SIGNAL LOST
AV	AIR VALVE	Lby	LIFEBOUY	SP	SIGN POST
BB	BELISHA BEACON	Lck	LOCK GATE	SPil	SHEET PILING
BD	BACKDROP	Ldr	LADDER	Spr	SPRING
Bdl	BED LEVEL	LH	LAMP HOLE	SPt	SAMPLING POINT
BH	BOREHOLE	LP	LAMP POST	ST	STOP TAP
BHch	BASEMENT HATCH COVER	LV	LOW VOLTAGE	Sti	STILE
Bin	LITTER / GRIT SALT BIN	MgP	MOORING POST	Stl	STRUCTURE TOP LEVEL
BL	BASEMENT LIGHT	mH	METERS HIGH	Stp	STUMP (TREE)
Bol	BOLLARD	Mhcy	MACHINERY	StP	STAND PIPE
BP	BOUNDARY POST	MH	MANHOLE	StPo	STAY POST
BS	BUS STOP	Mkr	MARKER POST	StW	STAY WIRE
BTIC	BRITISH TELECOM CHAMBER	MkrE	MARKER POST (ELECTRIC)	SV	STOP VALVE
CatL	CATENARY LEVEL	MkrG	MARKER POST (GAS)	SVP	SOIL VENT PIPE
CATV	CABLE TV COVER	MkrR	MARKER POST (RAILWAY)	TBM	TEMPORARY BENCH MARK
CB	CONTROL BOX	MkrT	MARKER POST (TELECOM)	TCB	TELEPHONE CALL BOX
CBlt	CONVEYOR BELT	MkrW	MARKER POST (WATER)	TEL	TELECOM CHAMBER COVER
CC	COAL CHUTE	MP	MILE POST	TFR	TAKEN FROM RECORDS
CG	CATTLE GRID	MS	MILE STONE	Thl	THRESHOLD LEVEL
ChL	CHANNEL LEVEL	NL	NOT LOCATED	TL	TRAFFIC LIGHT
Chy	CHIMNEY	NP	NAME PLATE	TP	TELEGRAPH POLE
CI	CAST IRON	OSA	OUTSIDE SURVEY AREA	Tpt	TRIAL PIT
CJB	CABLE JOINT/JUNCTION BOX	OSBM	O.S BENCH MARK	Tr	TROUGH
CL	COVER LEVEL	OGP	OVERGROUND PIPE	UTF	UNABLE TO FIND
CO	CONCRETE	OHCu	O/H CABLE (UNIDENTIFIED)	UTGA	UNABLE TO GAIN ACCESS
CP	CABLE PIT	OHE	OVERHEAD CABLE (ELECTRIC)	UTL	UNABLE TO LIFT
CpL	COPING LEVEL	OHG	OVERHEAD GANTRY	UTR	UNABLE TO ROD
Cpsn	CAPSTAN	OHP	OVERHEAD PIPE	UTS	UNABLE TO SURVEY
Cpst	CAMERA POST	OHT	OVERHEAD CABLE (TELECOM)	UTT	UNABLE TO TRACE
CR	CABLE RISER	OP	OUTLET PIPE	VC	VITREOUS CLAY
CrL	CROWN LEVEL	P	POST	VP	VENT PIPE
CulP	CULVERT PIPE	Pb	PARK BENCH	VR	VAPOUR RECOVERY
CWM	CABLE WINDING MACHINERY	PB	POST BOX	VS	VENTILATION SHAFT
d	DEPTH	POxg	PEDESTRIAN CROSSING	VW	VALVE / SLUICE WHEEL
Dia.	DIAMETER	PE	POLYETHALINE	WB	WEIGHBRIDGE
DS	DIRECTION SIGN	PF	PITCH FIBER	WL	WATER LEVEL
EIC	ELECTRIC INSPECTION COVER	Pl	PILE	WM	WATER METER
EoC	EDGE OF CANOPY	Plr	MOVEMENT DETECTOR	WO	WASH OUT VALVE
EOR	END OF RECORDS	Pmd	PLANT MOTOR DRIVE	Wr	WEIR
EOT	END OF TRACE	PP	PETROL / DIESEL PUMP	WrL	WEIR LEVEL
EP	ELECTRICITY POLE	PR	PIPE RISER	WrPl	WEIR PLATE (TOP)
ER	EARTH ROD	Psk	PENSTOCK	WWP	WASTE WATER PIPE
EShwr	EMERGENCY SHOWER	PU	PUMP		
ESP	ELECTRICITY SUPPLY POINT	PV	PIPE (VERTICAL)	FENCE TYPES:	
Esw	ELECTRICAL SWITCH	PVC	POLYVINYL CHLORIDE	AMF	ARMCO
FB	FOOTBRIDGE	Pyl	PYLON	BWF	BARBED WIRE
FH	FIRE HYDRANT	Pz	PIEZOMETER	CBF	CLOSE BOARDED
FL	FLOOR LEVEL	RE	RODDING EYE	CIF	CORRUGATED IRON
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GP	GUIDE POST	RSP	RAILWAY SIGNAL POST	PCF	POST & CHAIN
GPR	TRACED BY G.P.R	RWP	RAIN WATER PIPE	PIF	POST & IRON RAIL
Grl	GRILLE	S	SPREAD	PRF	POST & RAIL
GV	GAS VALVE	SA	SURVEY ABANDONED	PWF	POST & WIRE
Hgt	HEIGHT	SB	SIGN BOARD	SPF	STEEL PALLISADE
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HV	HIGH VOLTAGE	SI	SPUN IRON		
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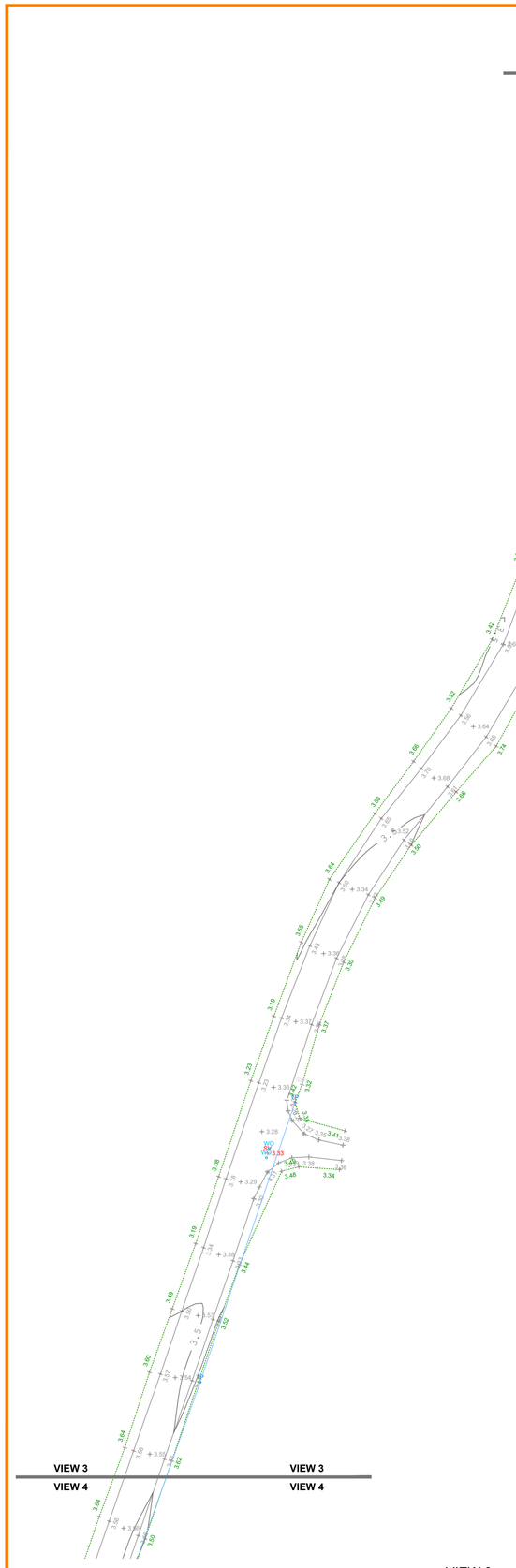
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	Checked	MD : 25-05-2022
	Approved	MD : 25-05-2022

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Drawing Number:	Sheet No.:	Status:
S5005-BOS-001-1	Sheet No 1 of 4	Preliminary Survey



VIEW 3



VIEW 4

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Topographic Survey and Photography Locations

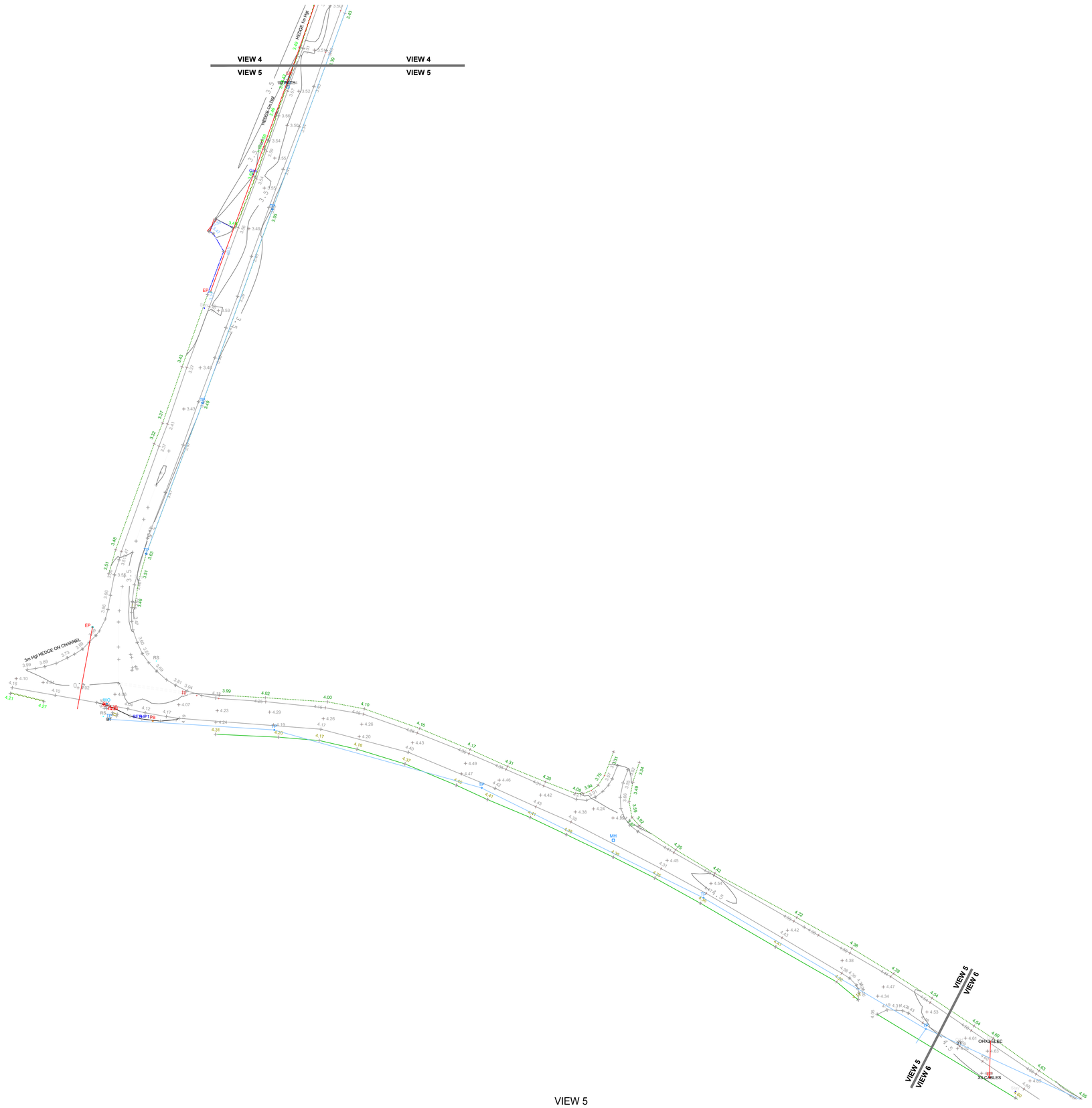
Sheet 2 of 4

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Scale: 1:500 @ A1	Drawn	MD : 25-05-2022
	Checked	MD : 25-05-2022
	Approved	MD : 25-05-2022

Digital File Name:

Drawing Number:	Sheet No.:	Status:
S5005-BOS-001-2	Sheet No 2 of 4	Preliminary Survey



VIEW 5

Notes

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7. All manhole data is collected from ground level therefore discrepancies may occur. More accurate data is only achievable via confined space entry.

ABBREVIATIONS (Land & Utilities)

AR	ASSUMED ROUTE	KO	KERB OUTLET	SIL	SIGNAL LOST
AV	AIR VALVE	Lby	LIFEBOUY	SP	SIGN POST
BB	BELISHA BEACON	Lck	LOCK GATE	SPil	SHEET PILING
BD	BACKDROP	Ldr	LADDER	Spr	SPRING
Bdl	BED LEVEL	LH	LAMP HOLE	SPt	SAMPLING POINT
BH	BOREHOLE	LP	LAMP POST	ST	STOP TAP
BHch	BASEMENT HATCH COVER	LV	LOW VOLTAGE	Sti	STILE
Bin	LITTER / GRIT SALT BIN	MgP	MOORING POST	Stl	STRUCTURE TOP LEVEL
BL	BASEMENT LIGHT	mH	METERS HIGH	Stp	STUMP (TREE)
Bol	BOLLARD	Mhcy	MACHINERY	StP	STAND PIPE
BP	BOUNDARY POST	MH	MANHOLE	StPo	STAY POST
BS	BUS STOP	Mkr	MARKER POST	StW	STAY WIRE
BTIC	BRITISH TELECOM CHAMBER	MkrE	MARKER POST (ELECTRIC)	SV	STOP VALVE
Catl.	CATENARY LEVEL	MkrG	MARKER POST (GAS)	SVP	SOIL VENT PIPE
CATV	CABLE TV COVER	MkrR	MARKER POST (RAILWAY)	TBM	TEMPORARY BENCH MARK
CB	CONTROL BOX	MkrT	MARKER POST (TELECOM)	TCB	TELEPHONE CALL BOX
CBlt	CONVEYOR BELT	MkrW	MARKER POST (WATER)	TEL	TELECOM CHAMBER COVER
CC	COAL CHUTE	MP	MILE POST	TFR	TAKEN FROM RECORDS
CGrd	CATTLE GRID	MS	MILE STONE	Thl	THRESHOLD LEVEL
ChL	CHANNEL LEVEL	NL	NOT LOCATED	TL	TRAFFIC LIGHT
Chy	CHIMNEY	NP	NAME PLATE	TP	TELEGRAPH POLE
CI	CAST IRON	OSA	OUTSIDE SURVEY AREA	Tpt	TRIAL PIT
CJB	CABLE JOINT/JUNCTION BOX	OSBM	O.S BENCH MARK	Tr	TROUGH
CL	COVER LEVEL	OGP	OVERGROUND PIPE	UTF	UNABLE TO FIND
CO	CONCRETE	OHCu	O/H CABLE (UNIDENTIFIED)	UTGA	UNABLE TO GAIN ACCESS
CP	CABLE PIT	OHE	OVERHEAD CABLE (ELECTRIC)	UTL	UNABLE TO LIFT
CpL	COPING LEVEL	OHG	OVERHEAD GANTRY	UTR	UNABLE TO ROD
Cpsn	CAPSTAN	OHP	OVERHEAD PIPE	UTS	UNABLE TO SURVEY
Cpst	CAMERA POST	OHT	OVERHEAD CABLE (TELECOM)	UTT	UNABLE TO TRACE
CR	CABLE RISER	OP	OUTLET PIPE	VC	VITREOUS CLAY
CrL	CROWN LEVEL	P	POST	VP	VENT PIPE
CulP	CULVERT PIPE	Pb	PARK BENCH	VR	VAPOUR RECOVERY
CWM	CABLE WINDING MACHINERY	PB	POST BOX	VS	VENTILATION SHAFT
d	DEPTH	PCrg	PEDESTRIAN CROSSING	VW	VALVE / SLUICE WHEEL
Dia.	DIAMETER	PE	POLYETHALINE	WB	WEIGHBRIDGE
DS	DIRECTION SIGN	PF	PITCH FIBER	WL	WATER LEVEL
EIC	ELECTRIC INSPECTION COVER	Pl	PILE	WM	WATER METER
EoC	EDGE OF CANOPY	Plr	MOVEMENT DETECTOR	WO	WASH OUT VALVE
EOR	END OF RECORDS	Pmd	PLANT MOTOR DRIVE	Wr	WEIR
EOT	END OF TRACE	PP	PETROL / DIESEL PUMP	WrL	WEIR LEVEL
EP	ELECTRICITY POLE	PR	PIPE RISER	WrPl	WEIR PLATE (TOP)
ER	EARTH ROD	Psk	PENSTOCK	WWP	WASTE WATER PIPE
EShwr	EMERGENCY SHOWER	PU	PUMP		
ESP	ELECTRICITY SUPPLY POINT	PV	PIPE (VERTICAL)	FENCE TYPES:	
Esw	ELECTRICAL SWITCH	PVC	POLYVINYL CHLORIDE	AMF	ARMCO
FB	FOOTBRIDGE	Pyl	PYLON	BWF	BARBED WIRE
FH	FIRE HYDRANT	Pz	PIEZOMETER	CBF	CLOSE BOARDED
FL	FLOOR LEVEL	RE	RODDING EYE	CIF	CORRUGATED IRON
FS	FLAG STAFF / POLE	RG	RAIN GAUGE	CLF	CHAIN LINK
G	GULLY	RMP	RESERVOIR MONITORING PNT	CPF	CHESTNUT PALING
G=	GIRTH	RP	REFLECTOR POST	IRF	IRON RAILING
GIP	GAS INLET PIPE	RS	ROAD SIGN	IWF	INTERWOVEN
GP	GUIDE POST	RSP	RAILWAY SIGNAL POST	PCF	POST & CHAIN
GPR	TRACED BY G.P.R	RWP	RAIN WATER PIPE	PIF	POST & IRON RAIL
Grl	GRILLE	S	SPREAD	PRF	POST & RAIL
GV	GAS VALVE	SA	SURVEY ABANDONED	PWF	POST & WIRE
Hgt	HEIGHT	SB	SIGN BOARD	SPF	STEEL PALLISADE
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HV	HIGH VOLTAGE	SI	SPUN IRON		
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IL	INVERT LEVEL	SltL	SILT LEVEL (TOP)		
IP	INLET PIPE	SMP	SETTLEMENT MONITORING PNT		
JN	JUNCTION				

Rev.	Modifications	Date	Drawn	Approved
-	- - -	00.00.00	JS	MD

CARTER TAYLOR

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Sheffield
South Yorkshire
S8 7BZ
United Kingdom

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AUK PE12 LIMITED

Topographic Survey and Photography Locations

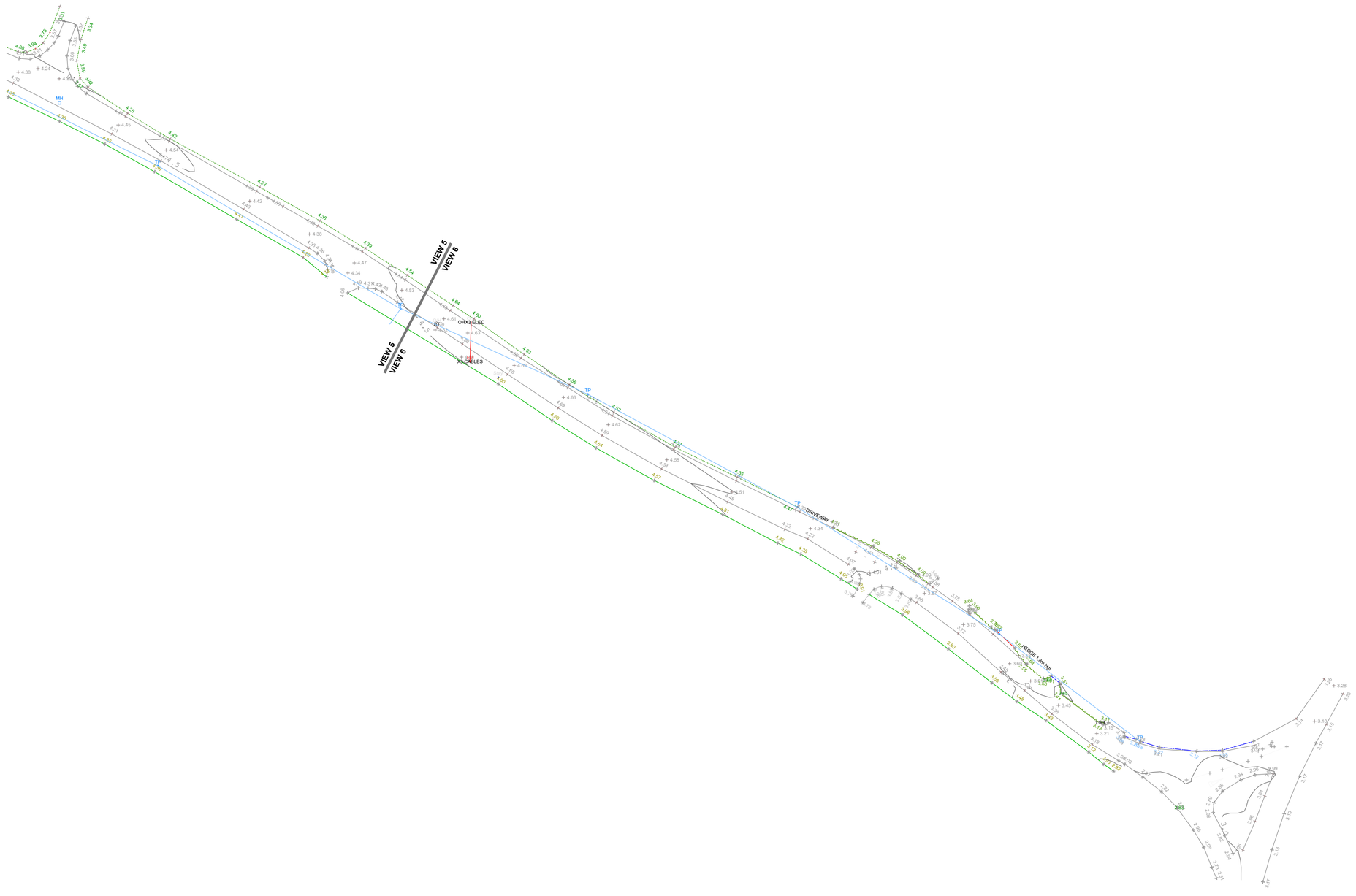
Sheet 3 of 4

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Digital File Name:

Drawing Number:	Sheet No.:	Status:
S5005-BOS-001-3	Sheet No 3 of 4	Preliminary Survey



VIEW 6

Notes

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Rev.	Modifications	Date	Drawn	Approved
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Topographic Survey and Photography Locations

Sheet 4 of 4

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Drawing Number:	Sheet No.:	Status:
S5005-BOS-001-4	Sheet No 4 of 4	Preliminary Survey

APPENDIX B

INDICATIVE PROPOSED SITE PLAN

The scaling of this drawing cannot be assured.

This drawing is based on dimensional survey information provided by others. Clendon Architecture cannot accept responsibility for the accuracy of this information.

All dimensions shown are in metric.

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Revision	Description	Date	Drawn	Checked
A	Application Boundary Amended	03.02.22	AS	-
B	Application Boundary Amended	14.02.22	AS	-
C	Application Boundary Amended	22.08.22	VB	-
D	Flood Gate added	14.09.22	VB	-

- Planning Application Boundary
- Leaseholder Site Boundary
- Site Access
- PV Solar Panel Array
- DNO Sub-station & Grid Connection Point
- Proposed areas of tree and scrub planting
- Proposed hedgerows with hedgerow trees

Client
AUK PE12 LIMITED
Project
Boston Solar
Holbeach Bank, Holbeach
Drawing Title
Proposed Site Layout

First Issue Date	Scale	Drawn by	Check by
17.01.2022	1:2500@A0	AS	VB
Project No		Status	Revision
CAL020821		-	D
Drawing No			
MP-04			

• Master Planning & Urban Design
• Architecture • Building Control
• Public Engagement • 3D Visuals
• Graphic Communication
clendon.co.uk
1 Bar Lane York YO1 6JU
01904 341408

PROPOSED SITE LAYOUT

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APPENDIX C

GROUNDSURE DATA

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Boston

Order Details

Date: 29/09/2021

Your ref: Boston

Our Ref: GSIP-2021-12269-7928

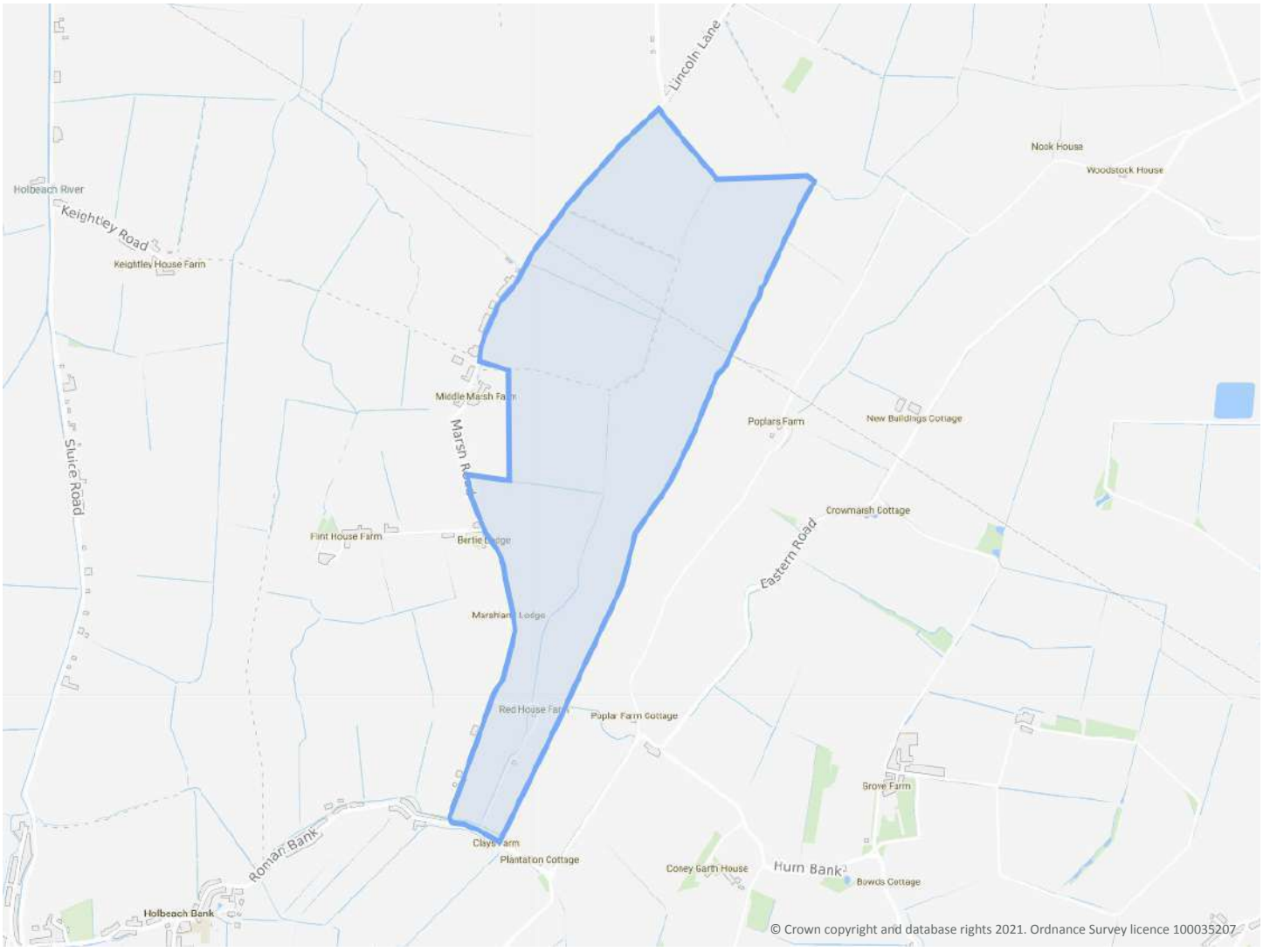
Client: AAH Planning Consultants

Site Details

Location: 537028 329144

Area: 153.6 ha

Authority: South Holland District Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
12	**1.1**	**Historical industrial land uses**	7	4	5	4	-
13	1.2	Historical tanks	0	0	0	0	-
14	1.3	Historical energy features	0	0	0	0	-
14	1.4	Historical petrol stations	0	0	0	0	-
14	1.5	Historical garages	0	0	0	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
15	**2.1**	**Historical industrial land uses**	7	6	7	5	-
16	2.2	Historical tanks	0	0	0	0	-
17	2.3	Historical energy features	0	0	0	0	-
17	2.4	Historical petrol stations	0	0	0	0	-
17	2.5	Historical garages	0	0	0	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	-
19	**3.7**	**Waste exemptions**	0	12	1	21	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
23	**4.1**	**Recent industrial land uses**	3	2	2	-	-
24	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	**4.4**	**Gas pipelines**	1	0	0	0	-
25	4.5	Sites determined as Contaminated Land	0	0	0	0	-

25	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
26	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
26	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
26	**4.13**	**Licensed Discharges to controlled waters**	0	0	4	6	-
28	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
28	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
28	**4.17**	**List 2 Dangerous Substances**	1	0	0	0	-
28	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	1	-
29	4.19	Pollution inventory substances	0	0	0	0	-
29	4.20	Pollution inventory waste transfers	0	0	0	0	-
29	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
30	**5.1**	**Superficial aquifer**	Identified (within 500m)				
31	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
32	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
34	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
34	5.5	Groundwater vulnerability- local information	None (within 0m)				
35	5.6	Groundwater abstractions	0	0	0	0	0
35	5.7	Surface water abstractions	0	0	0	0	0
35	5.8	Potable abstractions	0	0	0	0	0
35	5.9	Source Protection Zones	0	0	0	0	-
36	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
37	**6.1**	**Water Network (OS MasterMap)**	38	9	32	-	-

44	6.2	Surface water features	1	9	15	-	-
44	6.3	WFD Surface water body catchments	2	-	-	-	-
44	6.4	WFD Surface water bodies	0	0	0	-	-
45	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	Low (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48	7.6	Flood Zone 2	Identified (within 50m)				
49	7.7	Flood Zone 3	Identified (within 50m)				
Page	Section	Surface water flooding					
50	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
52	9.1	Groundwater flooding	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
53	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
53	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
53	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
54	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
54	10.7	Designated Ancient Woodland	0	0	0	0	0
54	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
55	10.10	Marine Conservation Zones	0	0	0	0	0
55	10.11	Green Belt	0	0	0	0	0
55	10.12	Proposed Ramsar sites	0	0	0	0	0

55	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
56	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
56	10.15	Nitrate Sensitive Areas	0	0	0	0	0
56	**10.16**	**Nitrate Vulnerable Zones**	1	0	0	0	1
57	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
58	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59	11.4	Listed Buildings	0	0	0	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
61	**12.1**	**Agricultural Land Classification**	Grade 1 (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62	12.4	Environmental Stewardship Schemes	0	0	0	-	-
62	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
63	13.1	Priority Habitat Inventory	0	0	0	-	-
63	13.2	Habitat Networks	0	0	0	-	-
63	13.3	Open Mosaic Habitat	0	0	0	-	-
63	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
64	**14.1**	**10k Availability**	Identified (within 500m)				
65	14.2	Artificial and made ground (10k)	0	0	0	0	-
66	14.3	Superficial geology (10k)	0	0	0	0	-

66	14.4	Landslip (10k)	0	0	0	0	-
67	14.5	Bedrock geology (10k)	0	0	0	0	-
67	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
68	**15.1**	**50k Availability**	Identified (within 500m)				
69	**15.2**	**Artificial and made ground (50k)**	0	0	1	0	-
70	15.3	Artificial ground permeability (50k)	0	0	-	-	-
71	**15.4**	**Superficial geology (50k)**	1	0	0	0	-
72	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
72	15.6	Landslip (50k)	0	0	0	0	-
72	15.7	Landslip permeability (50k)	None (within 50m)				
73	**15.8**	**Bedrock geology (50k)**	1	0	0	1	-
74	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
74	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
75	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
76	**17.1**	**Shrink swell clays**	Low (within 50m)				
77	**17.2**	**Running sands**	Moderate (within 50m)				
78	**17.3**	**Compressible deposits**	Moderate (within 50m)				
79	**17.4**	**Collapsible deposits**	Negligible (within 50m)				
80	**17.5**	**Landslides**	Very low (within 50m)				
81	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
82	18.1	Natural cavities	0	0	0	0	-
83	18.2	BritPits	0	0	0	0	-
83	**18.3**	**Surface ground workings**	0	6	14	-	-
84	18.4	Underground workings	0	0	0	0	0
84	18.5	Historical Mineral Planning Areas	0	0	0	0	-

84	18.6	Non-coal mining	0	0	0	0	0
84	18.7	Mining cavities	0	0	0	0	0
85	18.8	JPB mining areas	None (within 0m)				
85	18.9	Coal mining	None (within 0m)				
85	18.10	Brine areas	None (within 0m)				
85	18.11	Gypsum areas	None (within 0m)				
85	18.12	Tin mining	None (within 0m)				
86	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
87	**19.1**	**Radon**	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
88	**20.1**	**BGS Estimated Background Soil Chemistry**	23	1	-	-	-
89	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
90	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
91	21.1	Underground railways (London)	0	0	0	-	-
91	21.2	Underground railways (Non-London)	0	0	0	-	-
92	21.3	Railway tunnels	0	0	0	-	-
92	**21.4**	**Historical railway and tunnel features**	5	0	0	-	-
92	21.5	Royal Mail tunnels	0	0	0	-	-
93	21.6	Historical railways	0	0	0	-	-
93	21.7	Railways	0	0	0	-	-
93	21.8	Crossrail 1	0	0	0	0	-
93	21.9	Crossrail 2	0	0	0	0	-
93	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 06/05/2018

Site Area: 153.6ha

Recent site history - 2015 aerial photograph



Capture Date: 12/08/2015

Site Area: 153.6ha

Recent site history - 2007 aerial photograph



Capture Date: 16/09/2007

Site Area: 153.6ha

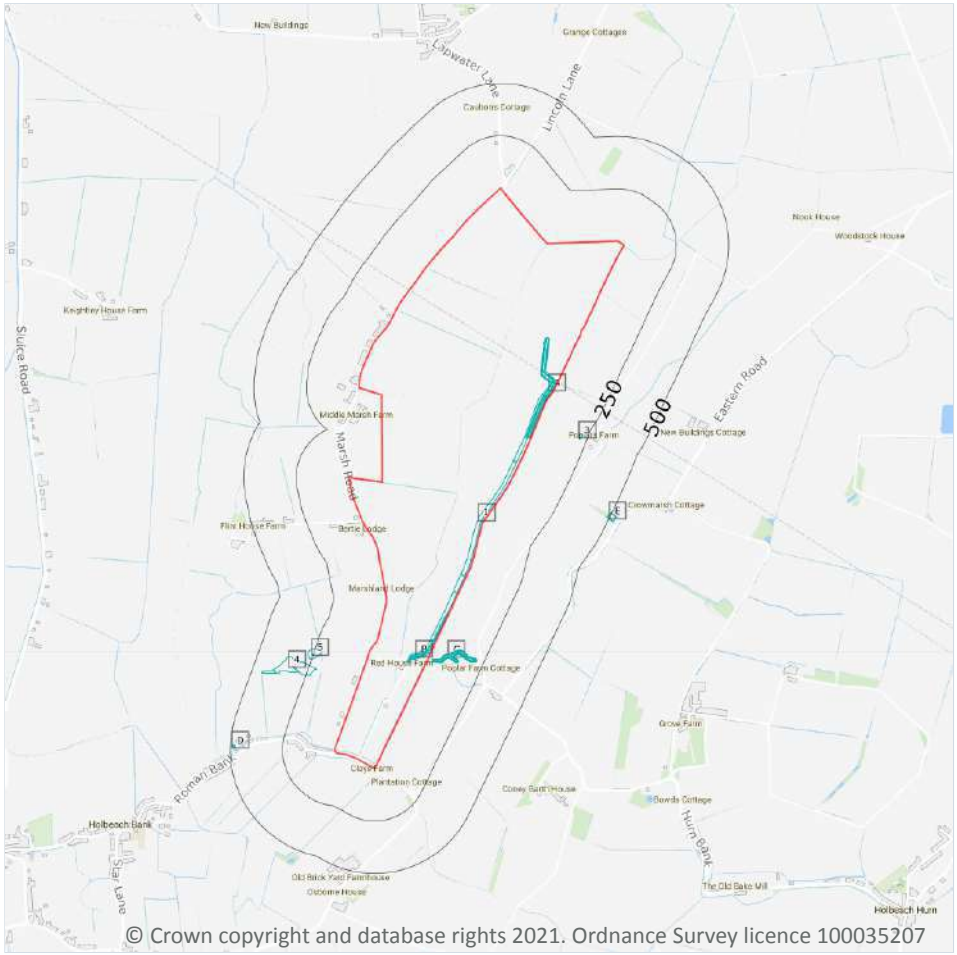
Recent site history - 1999 aerial photograph



Capture Date: 05/05/1999

Site Area: 153.6ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

1.1 Historical industrial land uses

Records within 500m	20

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**	**Disused Tramway Sidings**	**1955**	**2005494**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Tramway Sidings**	**1950**	**2020472**
A	**On site**	**Tramway Sidings**	**1946**	**2019267**
A	**On site**	**Tramway Sidings**	**1931**	**2024395**
A	**On site**	**Tramway Sidings**	**1929**	**2037567**
B	**On site**	**Tramway Sidings**	**1931**	**2017448**
B	**On site**	**Tramway Sidings**	**1929**	**2021568**
C	22m SE	Unspecified Ground Workings	1929	2011229
C	23m SE	Unspecified Heap	1931	2038287
C	28m SE	Unspecified Heap	1950	2016229
C	28m SE	Unspecified Heap	1887 - 1903	2024245
C	55m SE	Unspecified Heap	1955	2019084
C	91m SE	Unspecified Heap	1955	2024213
3	211m E	Unspecified Pit	1886	2002594
4	212m W	Unspecified Ground Workings	1887 - 1903	2024553
5	217m W	Unspecified Heap	1887 - 1903	2029046
D	477m W	Unspecified Pit	1931	2028637
D	479m W	Unspecified Pit	1955	2034256
E	490m SE	Gas Valve Compound	1976	2027769
E	490m SE	Gas Valve Compound	1992	2034440

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

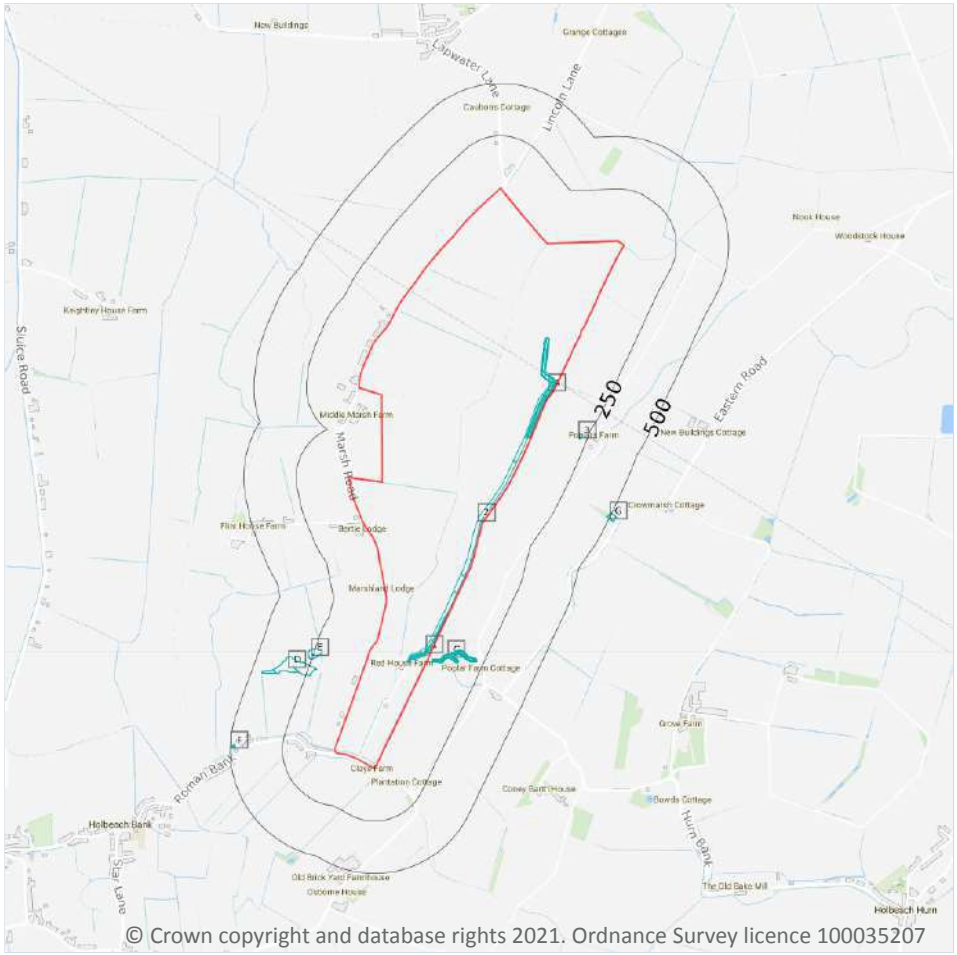
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

2.1 Historical industrial land uses

Records within 500m	25

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**	**Tramway Sidings**	**1950**	**2020472**
2	**On site**	**Disused Tramway Sidings**	**1955**	**2005494**
A	**On site**	**Tramway Sidings**	**1946**	**2019267**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Tramway Sidings**	**1931**	**2024395**
A	**On site**	**Tramway Sidings**	**1929**	**2037567**
B	**On site**	**Tramway Sidings**	**1931**	**2017448**
B	**On site**	**Tramway Sidings**	**1929**	**2021568**
C	22m SE	Unspecified Ground Workings	1929	2011229
C	23m SE	Unspecified Heap	1931	2038287
C	23m SE	Unspecified Heap	1931	2038287
C	28m SE	Unspecified Heap	1950	2016229
C	28m SE	Unspecified Heap	1903	2024245
C	28m SE	Unspecified Heap	1887	2024245
C	55m SE	Unspecified Heap	1955	2019084
C	91m SE	Unspecified Heap	1955	2024213
3	211m E	Unspecified Pit	1886	2002594
D	212m W	Unspecified Ground Workings	1903	2024553
D	212m W	Unspecified Ground Workings	1887	2024553
E	217m W	Unspecified Heap	1903	2029046
E	217m W	Unspecified Heap	1887	2029046
F	477m W	Unspecified Pit	1931	2028637
F	477m W	Unspecified Pit	1931	2028637
F	479m W	Unspecified Pit	1955	2034256
G	490m SE	Gas Valve Compound	1992	2034440
G	490m SE	Gas Valve Compound	1976	2027769

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	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

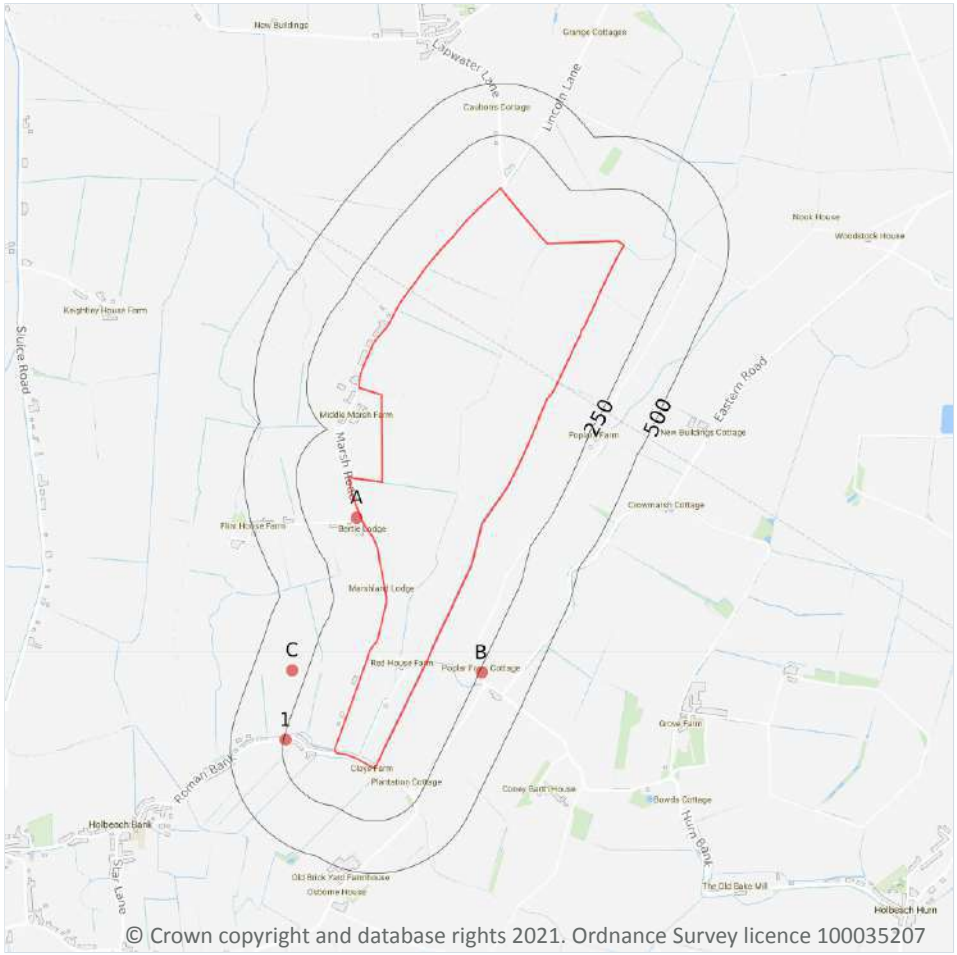
2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	34

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**

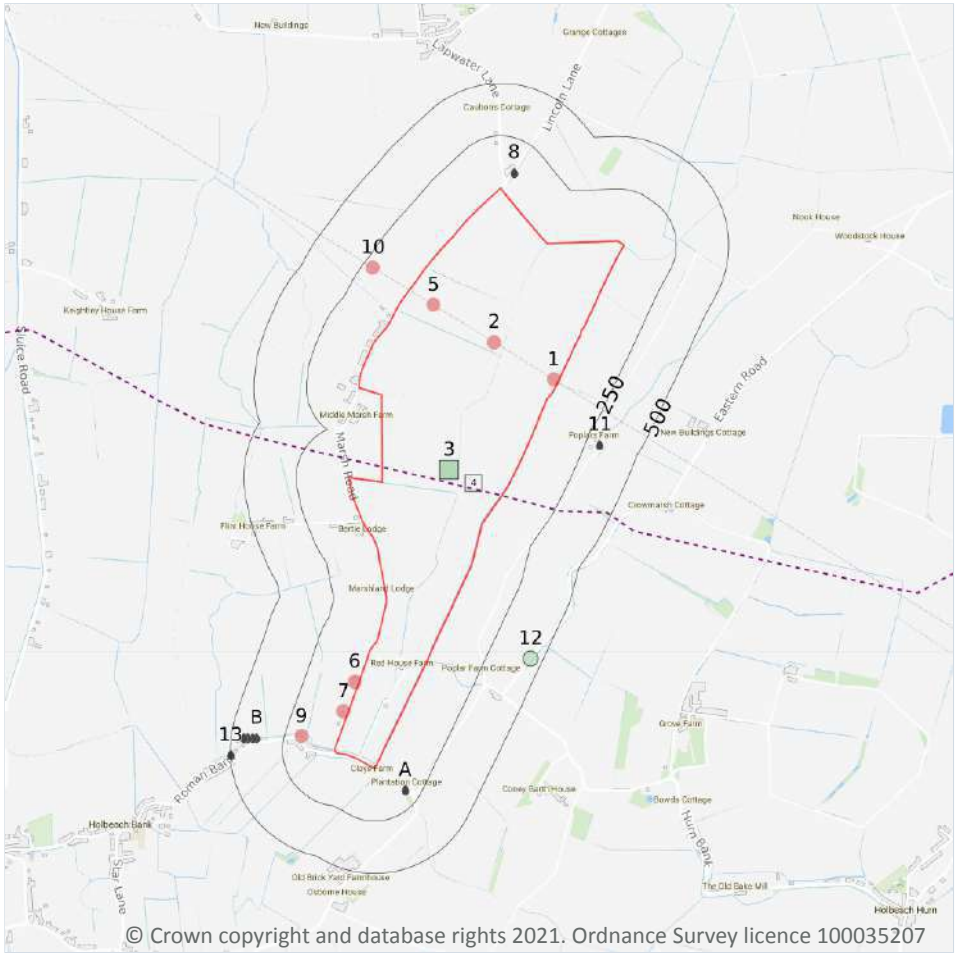
ID	Location	Site	Reference	Category	Sub-Category	Description
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Disposing of waste exemption	Agricultural Waste Only	Disposal by incineration
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Using waste exemption	Agricultural Waste Only	Use of mulch
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
A	21m SW	52 Middle Marsh Road SPALDING Lincolnshire PE12 8DT	EPR/SF0132GE/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
1	242m W	Roman Bank Holbeach Bank Holbeach Lincs PE12 8BX	EPR/FH0278SC/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open

ID	Location	Site	Reference	Category	Sub-Category	Description
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Treating waste exemption	Agricultural Waste Only	Recovery of scrap metal
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
B	258m SE	Poplars Farm Cowfield Gould Lincolnshire PE12 8DP	EPR/HF0336BF/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters

ID	Location	Site	Reference	Category	Sub-Category	Description
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
C	320m W	Major Farm SPALDING Lincolnshire PE12 8HF	EPR/VF0132TG/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	7

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
1	**On site**	**Pylon**	**Lincolnshire, PE12**	**Electrical Features**	**Infrastructure and Facilities**
2	**On site**	**Pylon**	**Lincolnshire, PE12**	**Electrical Features**	**Infrastructure and Facilities**
5	**On site**	**Pylon**	**Lincolnshire, PE12**	**Electrical Features**	**Infrastructure and Facilities**

ID	Location	Company	Address	Activity	Category
6	21m W	Scratch Magic	48, Middle Marsh Road, Holbeach, Spalding, Lincolnshire, PE12 8DT	Vehicle Repair, Testing and Servicing	Repair and Servicing
7	22m W	Tank	Lincolnshire, PE12	Tanks (Generic)	Industrial Features
9	171m W	Potato Storage Treatments Ltd	Fairfield, Roman Bank, Holbeach, Spalding, Lincolnshire, PE12 8BX	Agricultural Contractors	Contract Services
10	203m NW	Pylon	Lincolnshire, PE12	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	**1**

High pressure underground gas transmission pipelines.

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

ID	Location	Pipe Name	Details	
4	**On site**	**GOSBERTON TO TYDD ST. GILES**	**Pipe Number: -** **Pipeline Safety Regulations Number: -** **Ownership: National Grid** **Maximum Operating Pressure (Bar): -**	**Pipeline Diameter (mm): 900** **Wall Thickness (mm): -** **Year of commission: Not specified** **Abandonment Status: Not abandoned**

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	10

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

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

ID	Location	Address	Details	
8	98m NE	LAPWATER LANE, HOLBEACH ST MARKS, SPALDING	Effluent Type: UNSPECIFIED Permit Number: PRNLF02143 Permit Version: 1 Receiving Water: land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/01/1990 Effective Date: 15/01/1990 Revocation Date: 01/10/1996
A	178m SE	ROMAN BANK, HOLBEACH, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3322 Permit Version: 1 Receiving Water: land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 30/03/1976 Effective Date: 30/03/1976 Revocation Date: 01/10/1996

ID	Location	Address	Details	
A	178m SE	ROMAN BANK, HOLBEACH, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3231 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 13/06/1975 Effective Date: 13/06/1975 Revocation Date: 01/10/1996
A	178m SE	ROMAN BANK, HOLBEACH, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3259 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 08/09/1975 Effective Date: 08/09/1975 Revocation Date: 01/10/1996
11	316m E	POPLARS FARM, HOLBEACH MARSH	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PR5NF2283 Permit Version: 1 Receiving Water: -	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 20/02/1963 Effective Date: 20/02/1963 Revocation Date: 20/06/1991
B	379m W	PLOT 1, HOLBEACH BANK, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3871 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/12/1982 Effective Date: 15/12/1982 Revocation Date: 01/10/1996
B	399m W	PLOT 2, HOLBEACH BANK, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3872 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/12/1982 Effective Date: 15/12/1982 Revocation Date: 01/10/1996
B	418m W	PLOT 3, HOLBEACH BANK, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3873 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/12/1982 Effective Date: 15/12/1982 Revocation Date: 01/10/1996
B	438m W	PLOT 4 HOLBEACH BANK, SPALDING, LINCS	Effluent Type: UNSPECIFIED Permit Number: PR5LF3874 Permit Version: 1 Receiving Water: Land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 15/12/1982 Effective Date: 15/12/1982 Revocation Date: 01/10/1996
13	498m W	ECNAR, ROMAN BANK, HOLBEACH BANK, SPALDING, LINCS, PE12 8BX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRNLF00573 Permit Version: 1 Receiving Water: land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 01/03/1989 Effective Date: 01/03/1989 Revocation Date: 24/04/1997

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	1

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

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

ID	Location	Name	Status	Receiving Water	Authorised Substances
3	**On site**	**Parkside Ltd**	**Not Active**	**Na**	**pH**

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	1

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

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

ID	Location	Details	
12	445m SE	Incident Date: 26/02/2002 Incident Identification: 60754 Pollutant: Oils and Fuel Pollutant Description: Insulating and Cable Oils	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

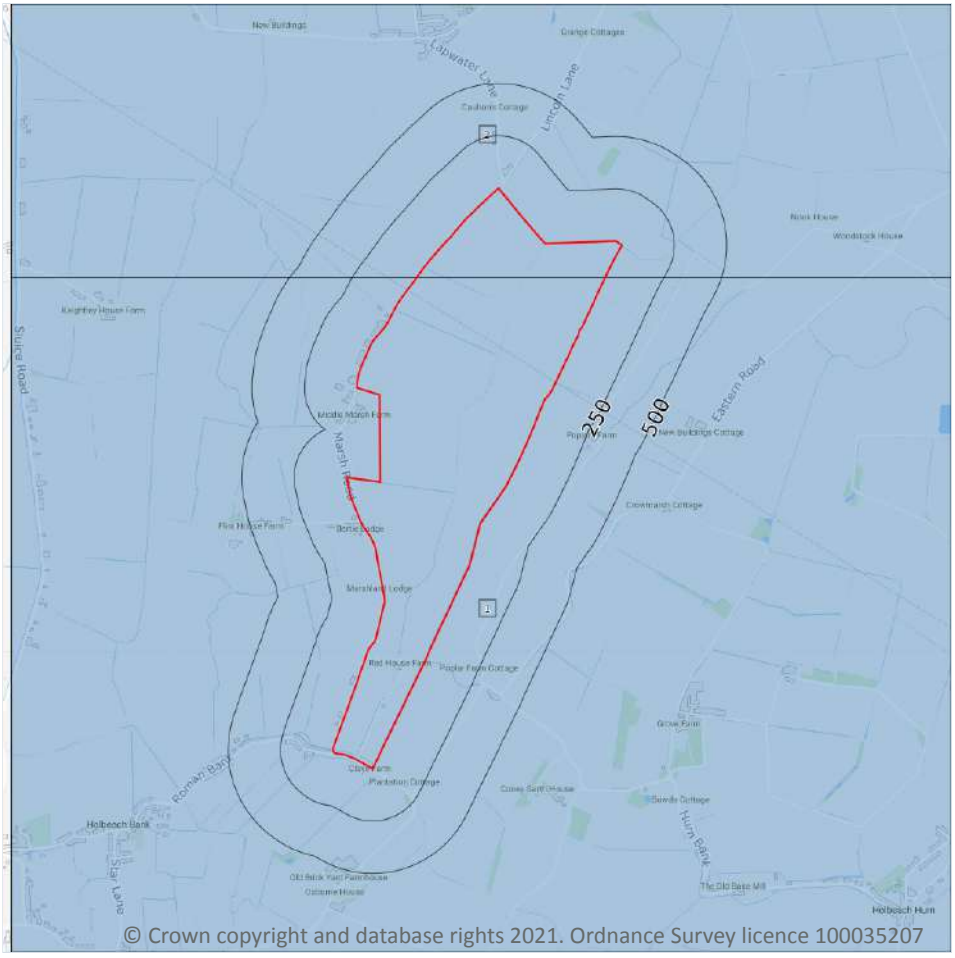
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

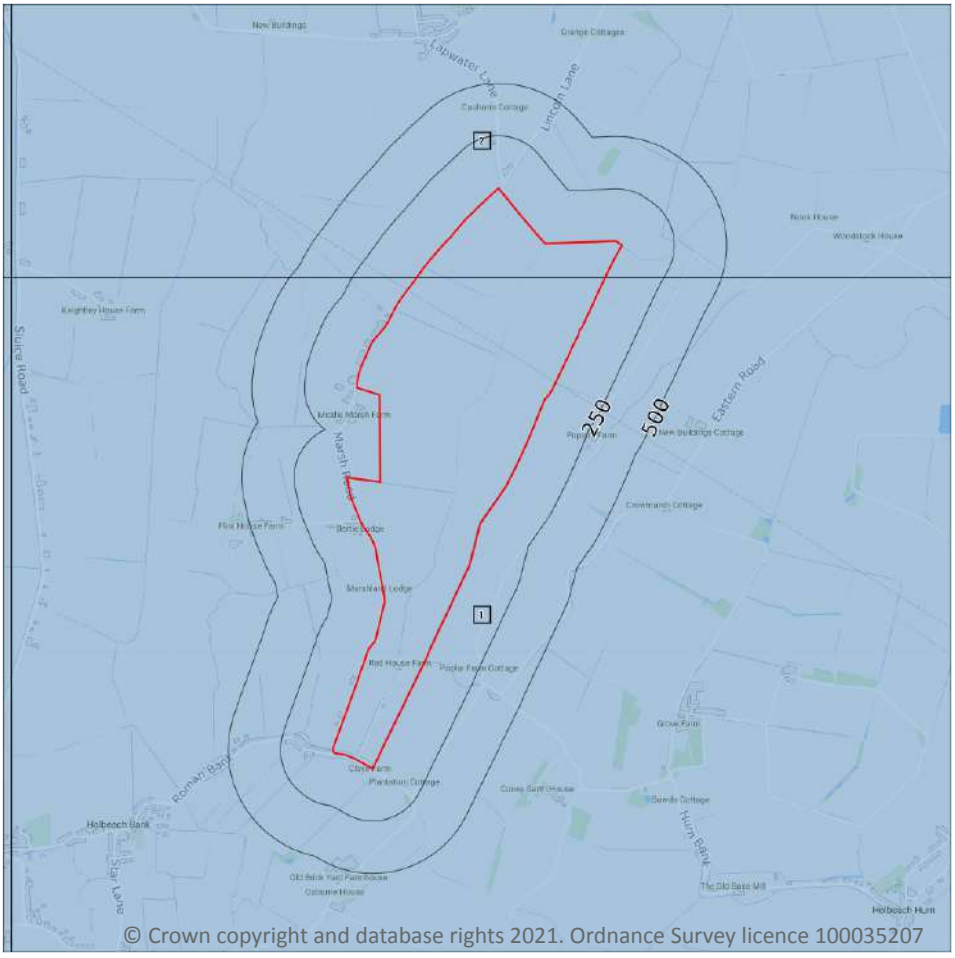
Aquifer status of groundwater held within superficial geology.

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

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



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

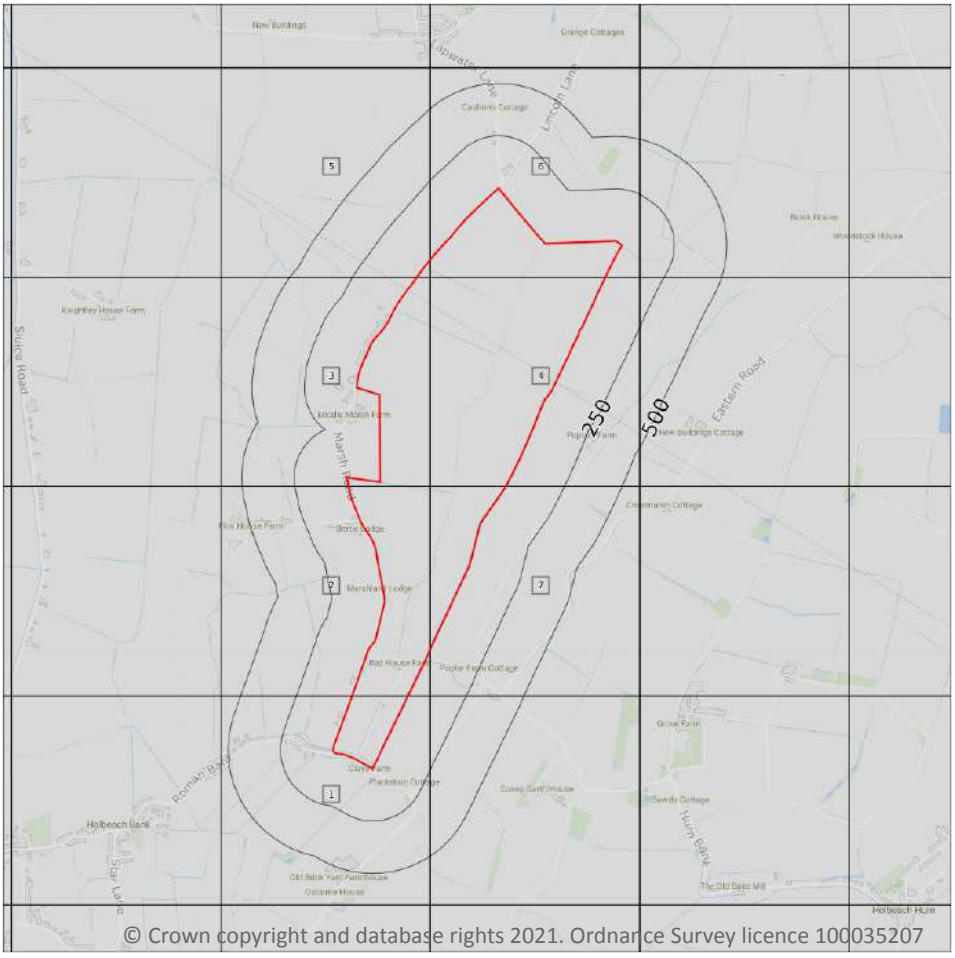
Aquifer status of groundwater held within bedrock geology.

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

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

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

Groundwater vulnerability



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Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	7

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

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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones

5.6 Groundwater abstractions

Records within 2000m	0

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

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

5.7 Surface water abstractions

Records within 2000m	0

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

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

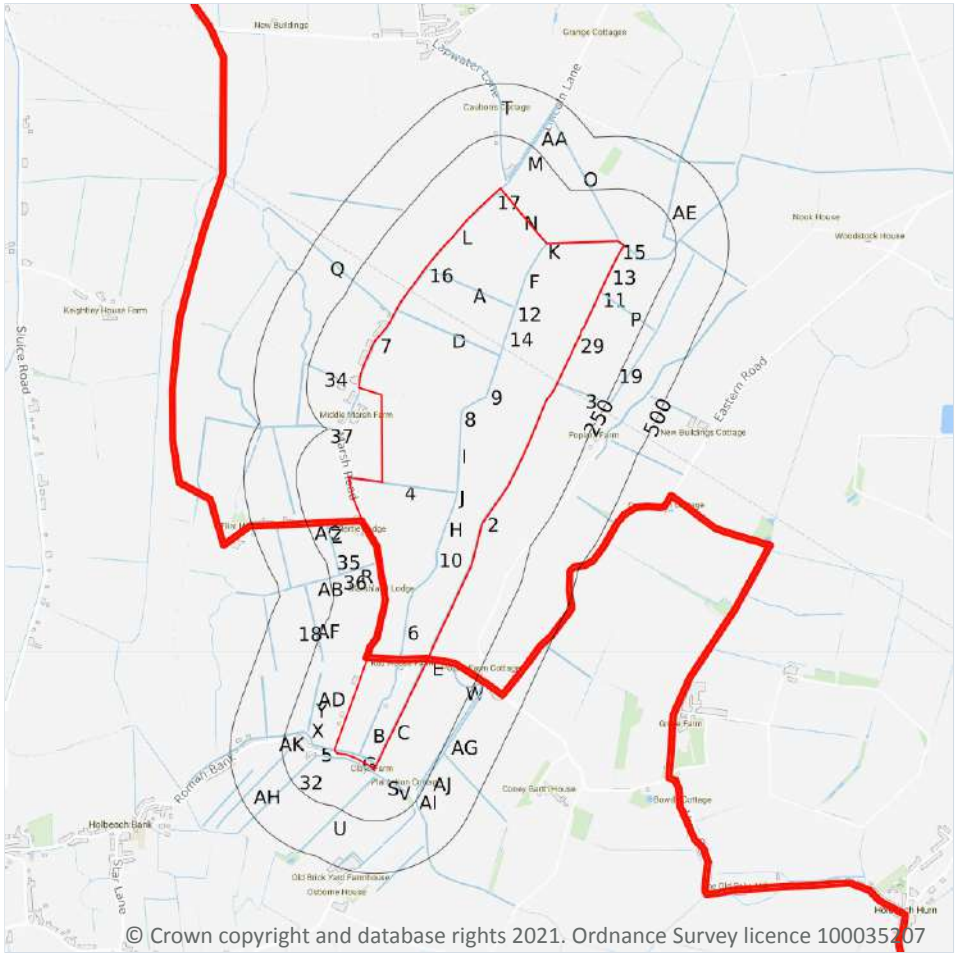
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	**79**

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 37**

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

ID	Location	Type of water feature	Ground level	Permanence	Name
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
12	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
14	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
15	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
16	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
17	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
29	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
H	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
I	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
J	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**-**
J	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
J	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
K	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
K	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
K	**On site**	**Inland river not influenced by normal tidal action.**	**Not provided**	**Watercourse contains water year round (in normal circumstances)**	**-**
L	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
M	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
N	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
P	6m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	7m NE	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
Q	9m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
32	16m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	17m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
R	25m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	31m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	39m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	45m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	60m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	75m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
U	97m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
34	99m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	115m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	121m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
V	138m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	141m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	143m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	148m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	150m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	161m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Y	162m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	163m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	163m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	166m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	168m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
35	169m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	175m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AD	176m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
36	185m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	193m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	197m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	197m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
37	214m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	223m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	223m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	237m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	239m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	239m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	241m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	242m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	25

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 37**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

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 37**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
18	**On site**	**River WB catchment**	**Whaplode River**	**GB205031055495**	**Lower Welland**	**Welland**
19	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**117**	**Lower Welland**	**Welland**

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 37**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1495m W	River	Whaplode River	GB205031055495	Moderate	Good	Moderate	2016

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

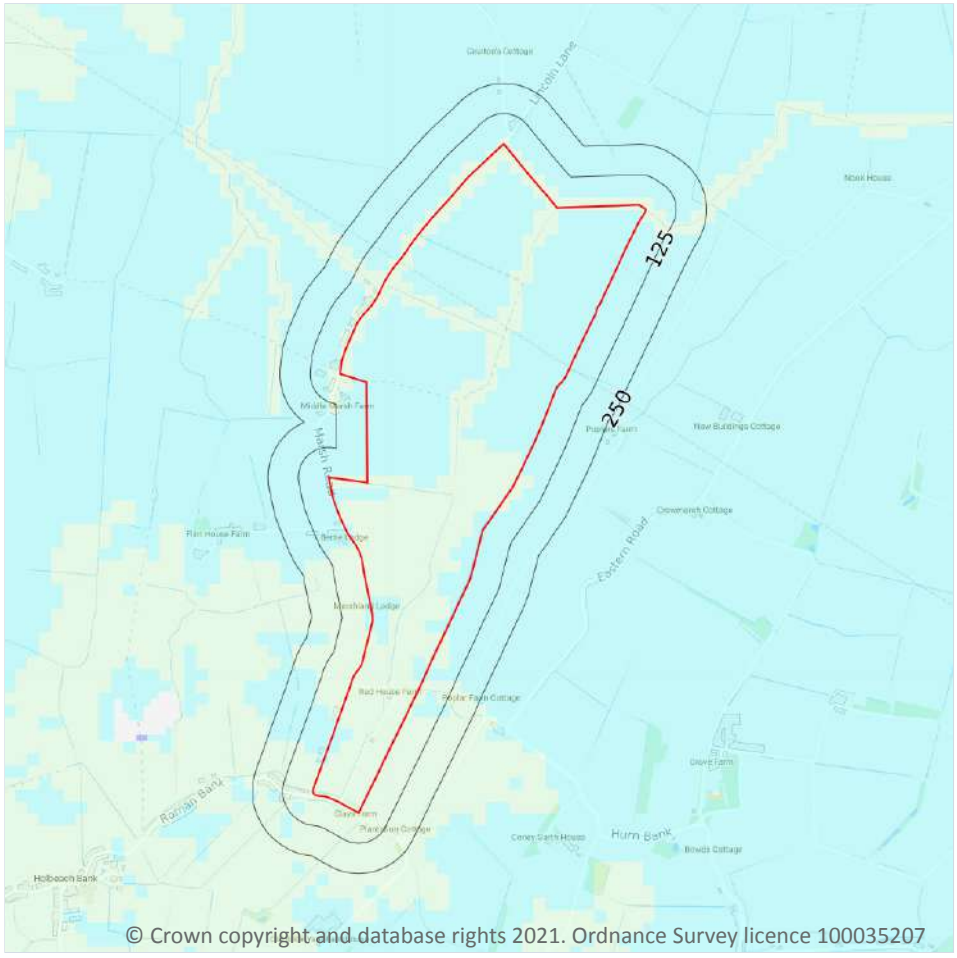
6.5 WFD Groundwater bodies

Records on site	0

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

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

Environment Agency river and coastal flooding:

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

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m	6

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

Distance	RoFRaS flood risk
On site	**Low**
0 - 50m	Low

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

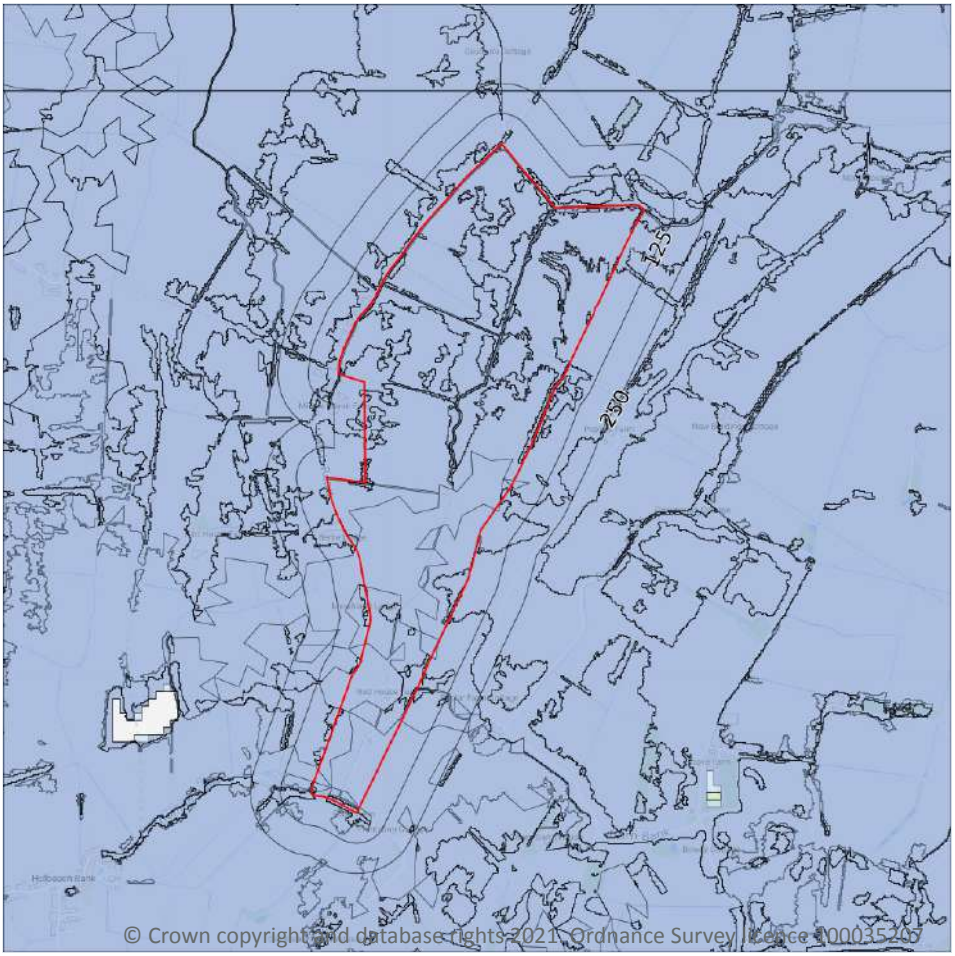
7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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

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

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

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

7.7 Flood Zone 3

Records within 50m	1

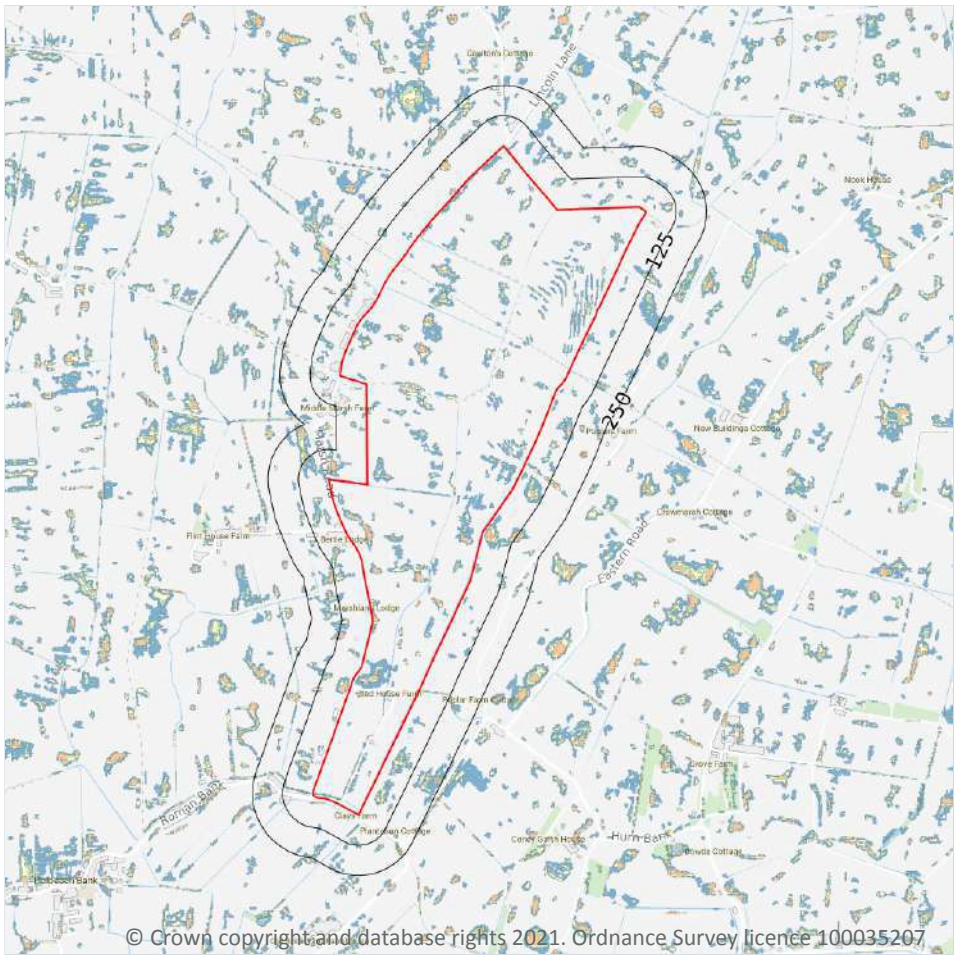
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

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

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

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

8 Surface water flooding



Site Outline
Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

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

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

Features are displayed on the Surface water flooding map on **page 50**

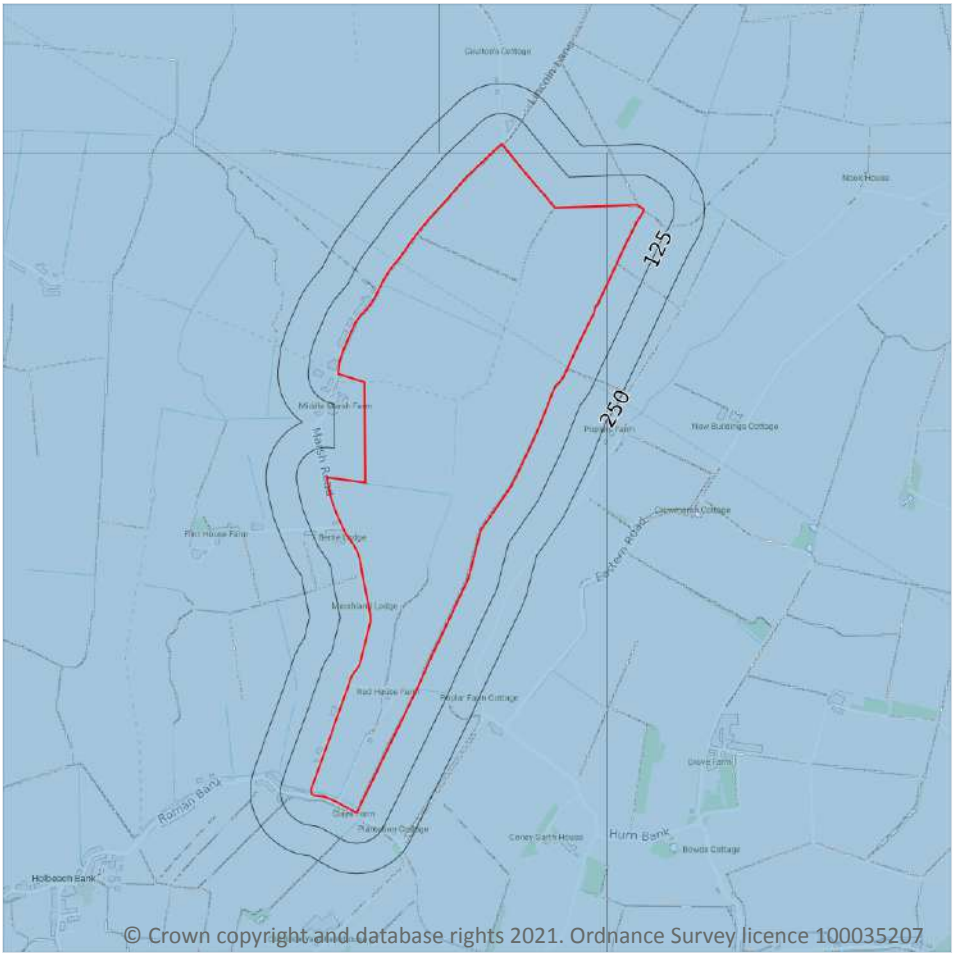
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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

Features are displayed on the Groundwater flooding map on **page 52**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

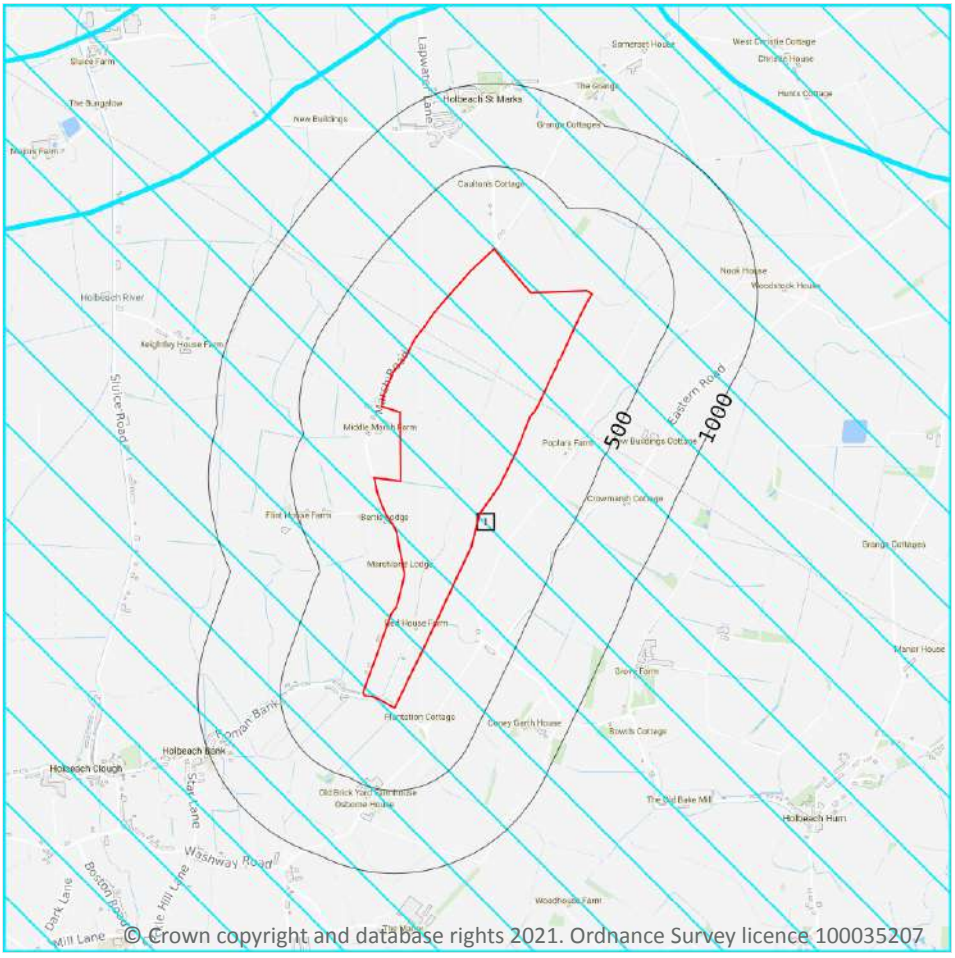
Records within 2000m	2

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

Location	Name	Type	NVZ ID	Status
On site	**Whaplode River NVZ**	**Surface Water**	**S824**	**New**
1669m S	Whaplode River NVZ	Surface Water	S824	New

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

SSSI Impact Zones and Units



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10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 57**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

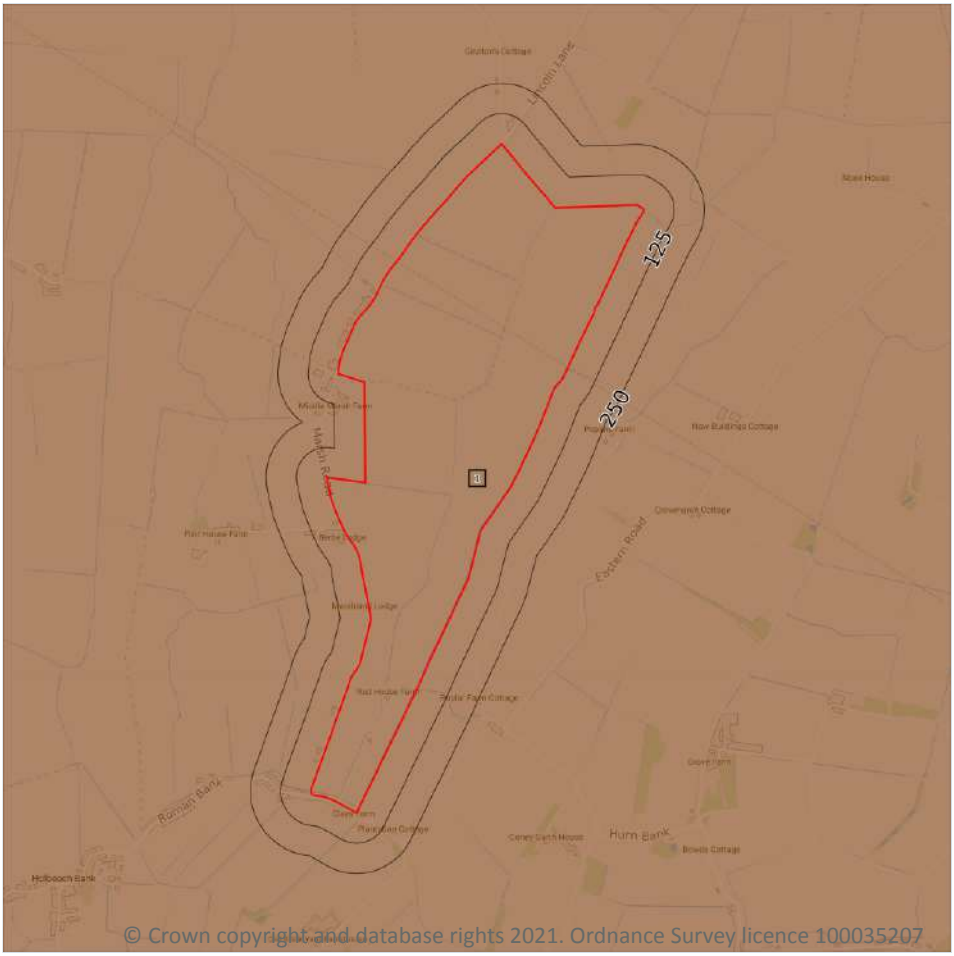
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

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

12.1 Agricultural Land Classification

Records within 250m	1

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

Features are displayed on the Agricultural designations map on **page 61**

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

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

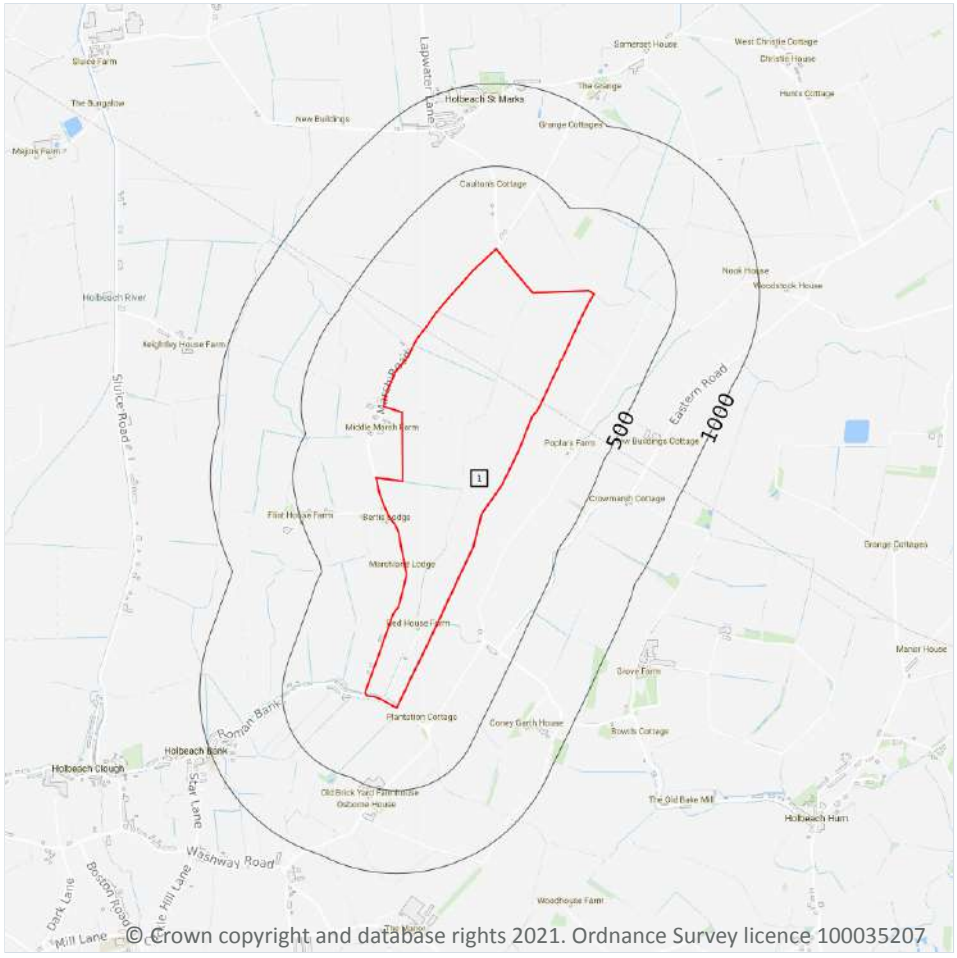
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 64**

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

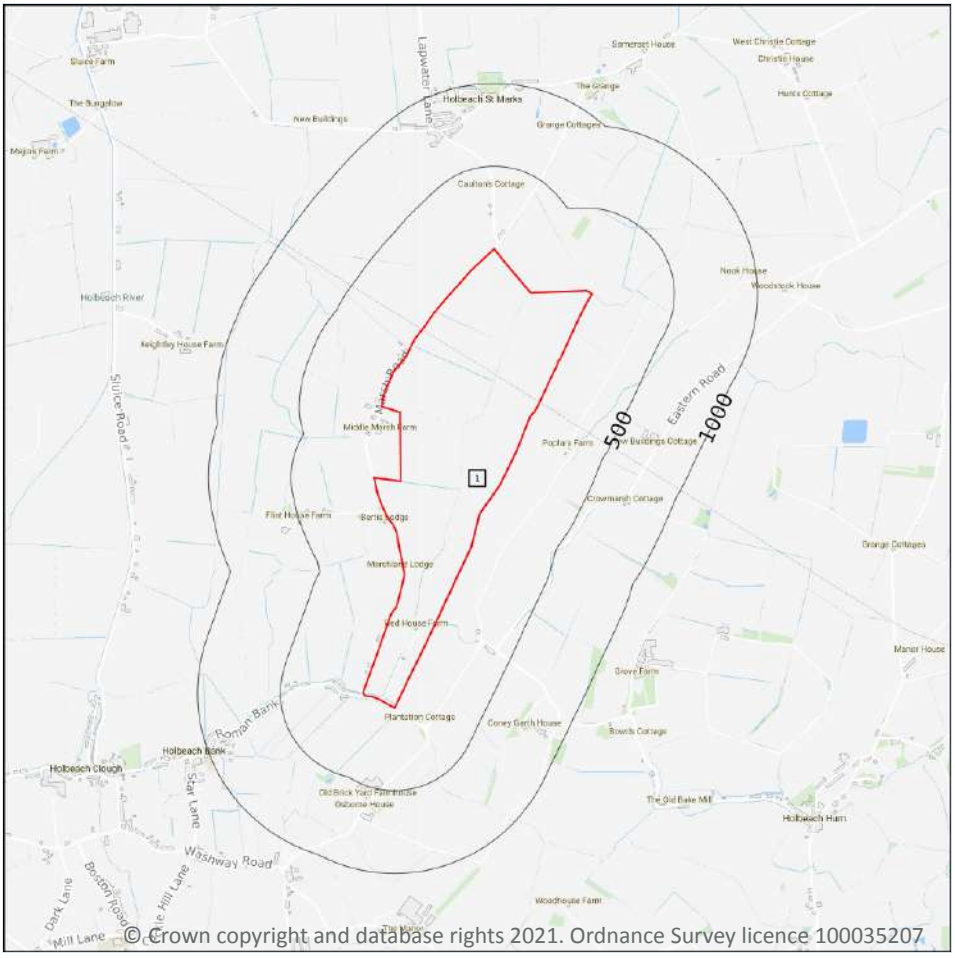
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

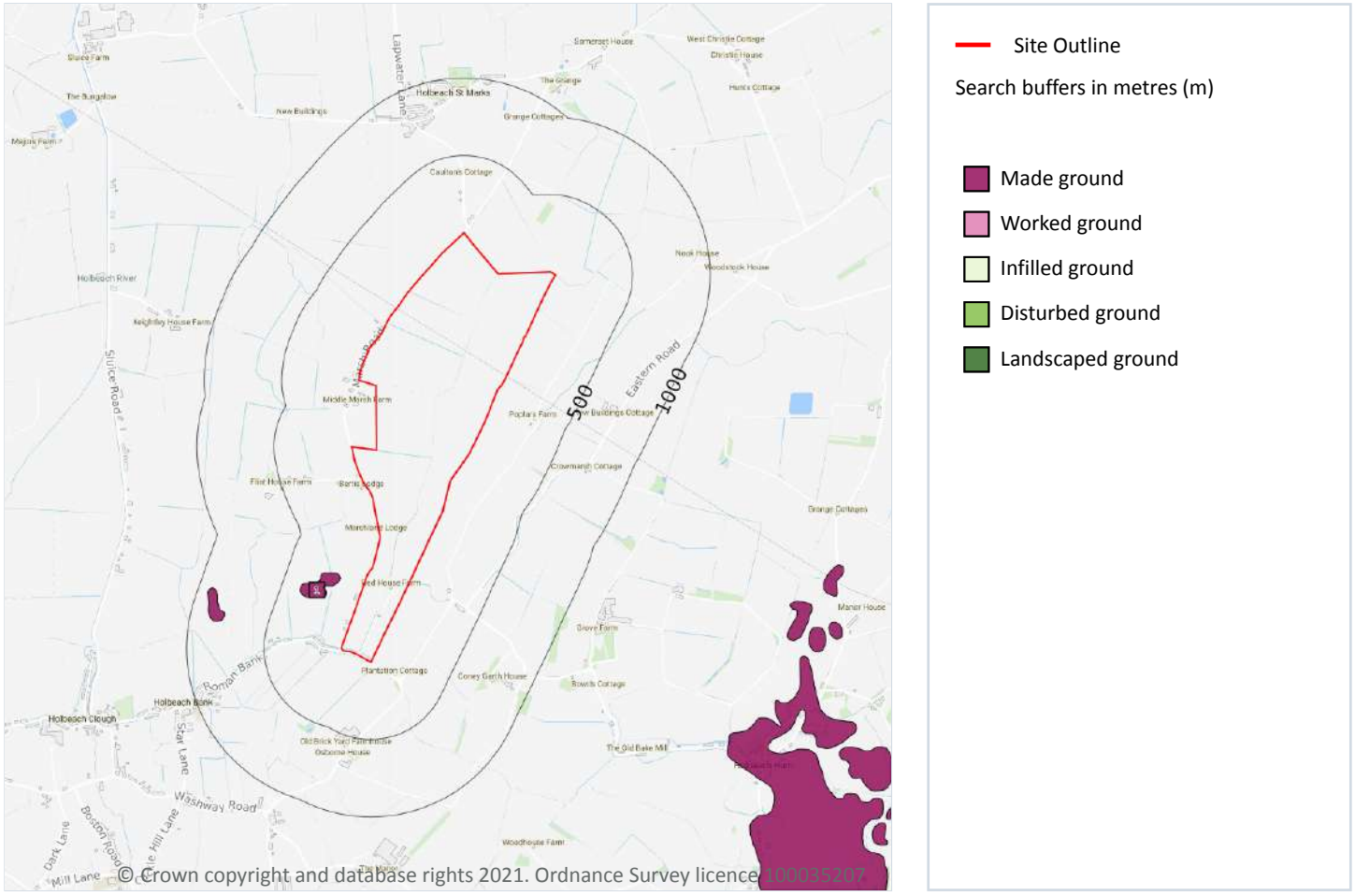
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

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

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

This data is sourced from the British Geological Survey.

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



15.2 Artificial and made ground (50k)

Records within 500m	1

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 69**

ID	Location	LEX Code	Description	Rock description
1	157m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

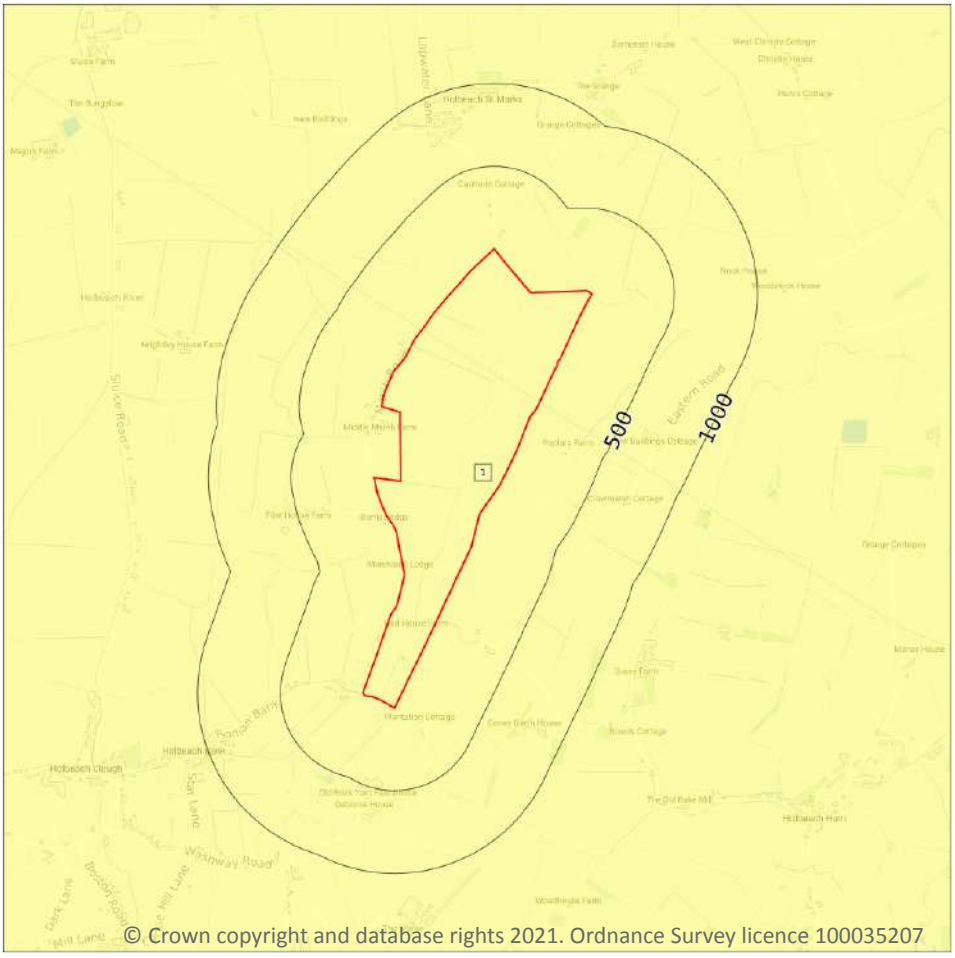
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m	1

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

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

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

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	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**	**Low**	**Very Low**
On site	**Intergranular**	**Low**	**Very Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

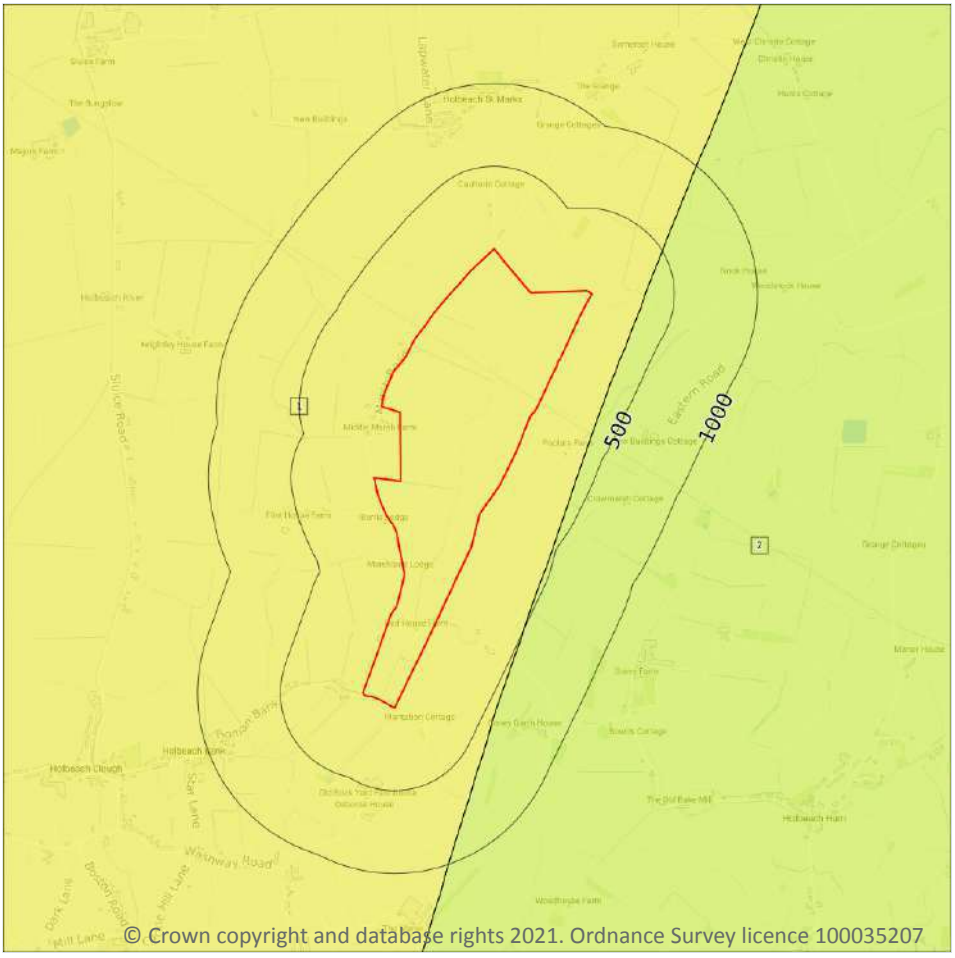
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	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 73**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**WWB-MDSI**	**WEST WALTON FORMATION - MUDSTONE AND SILTSTONE**	**OXFORDIAN**
2	306m E	AMC-MDST	AMPTHILL CLAY FORMATION - MUDSTONE	OXFORDIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes

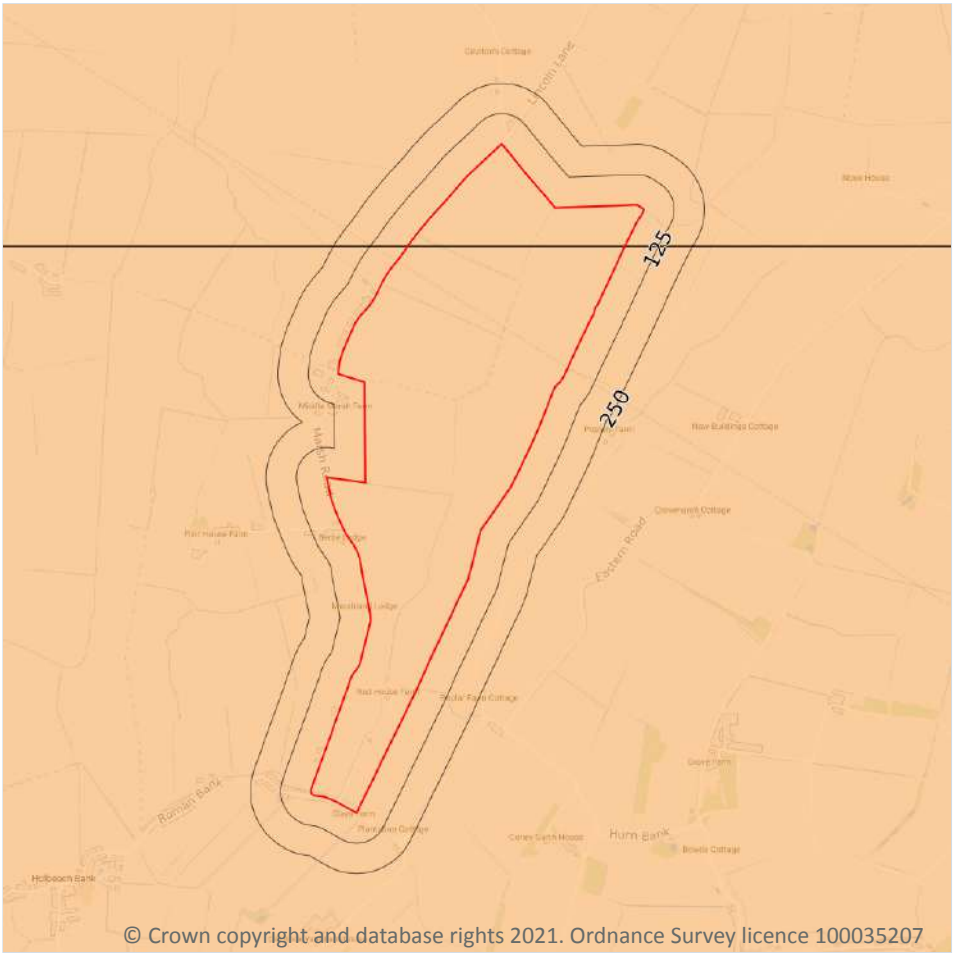
16.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

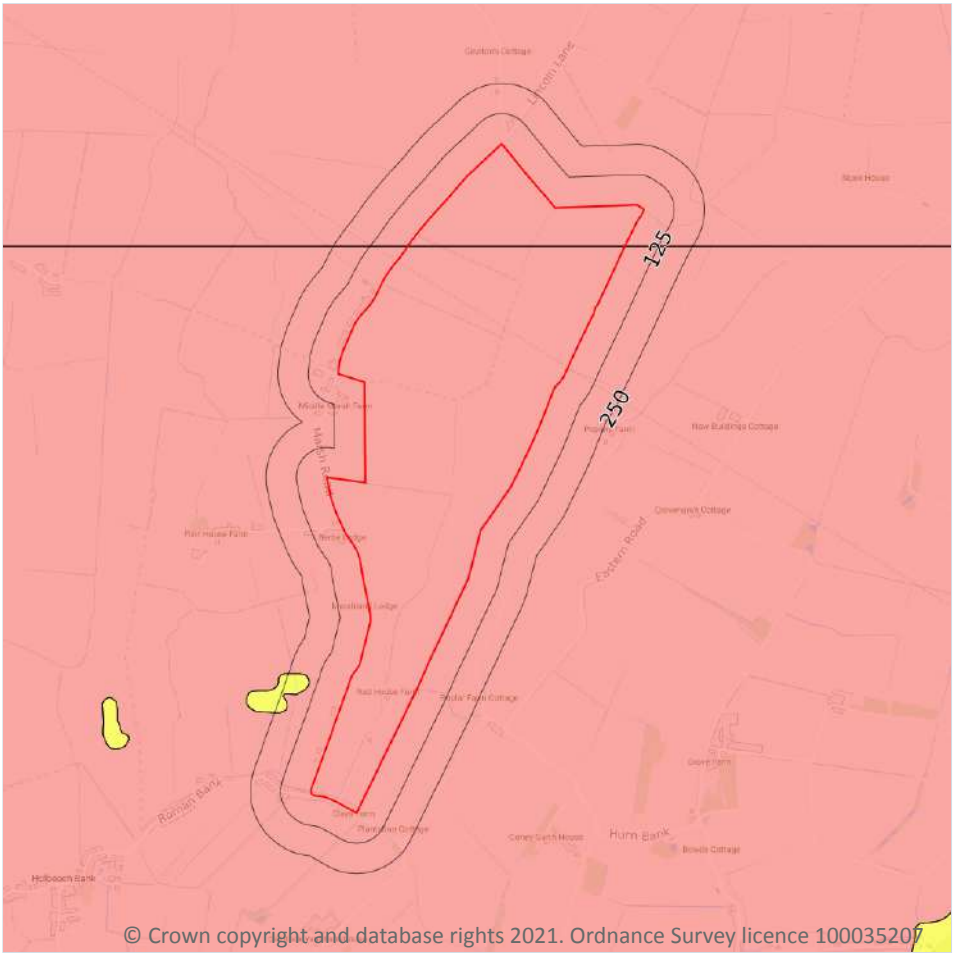
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 76**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

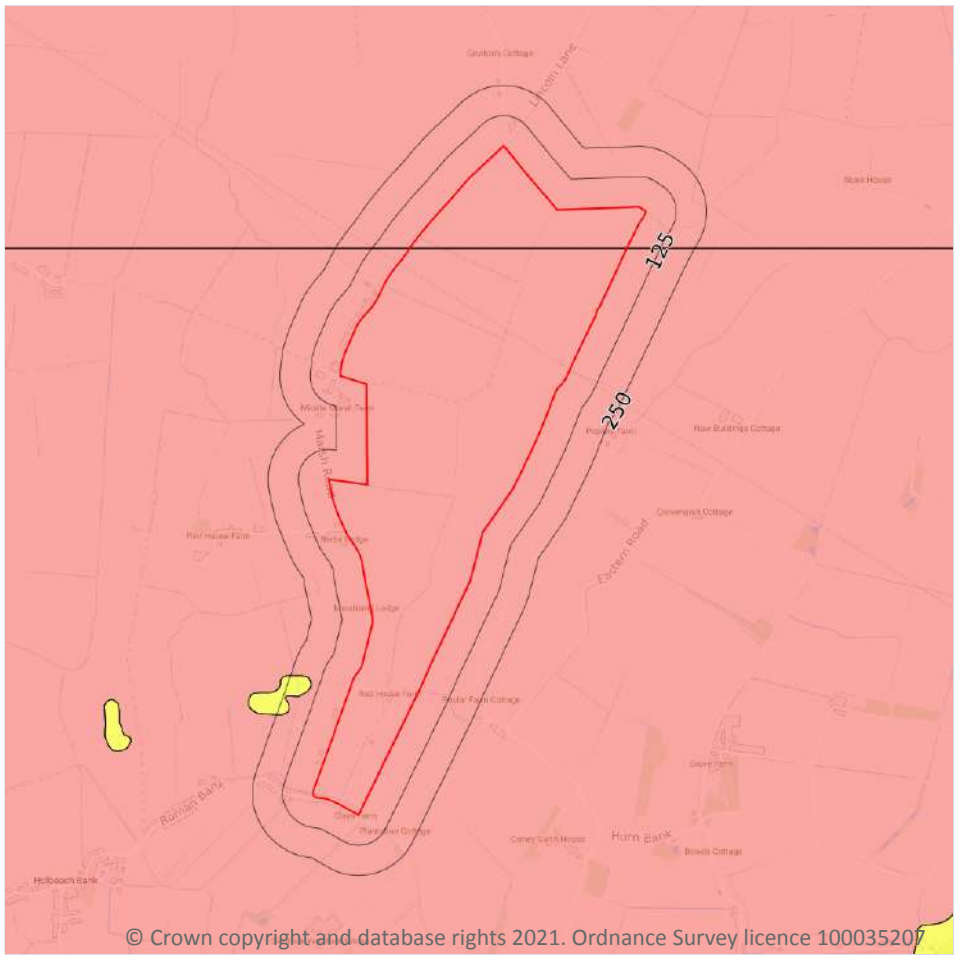
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

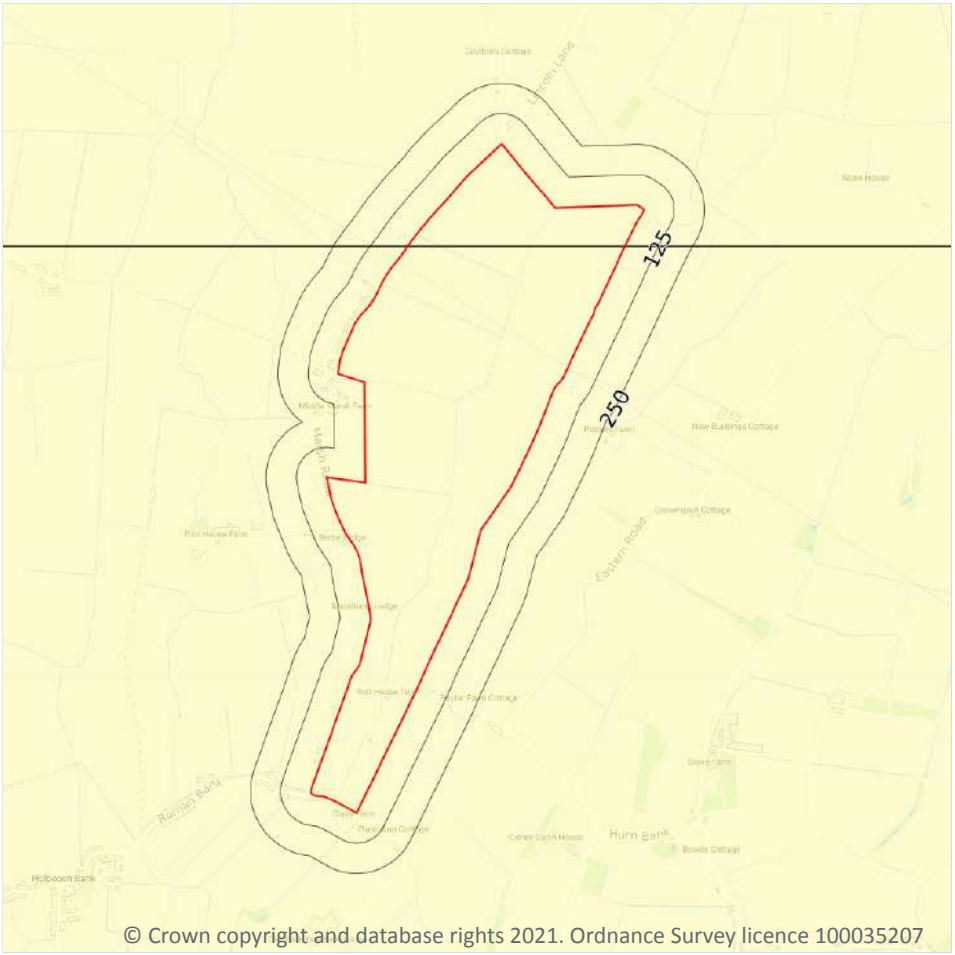
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 78**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

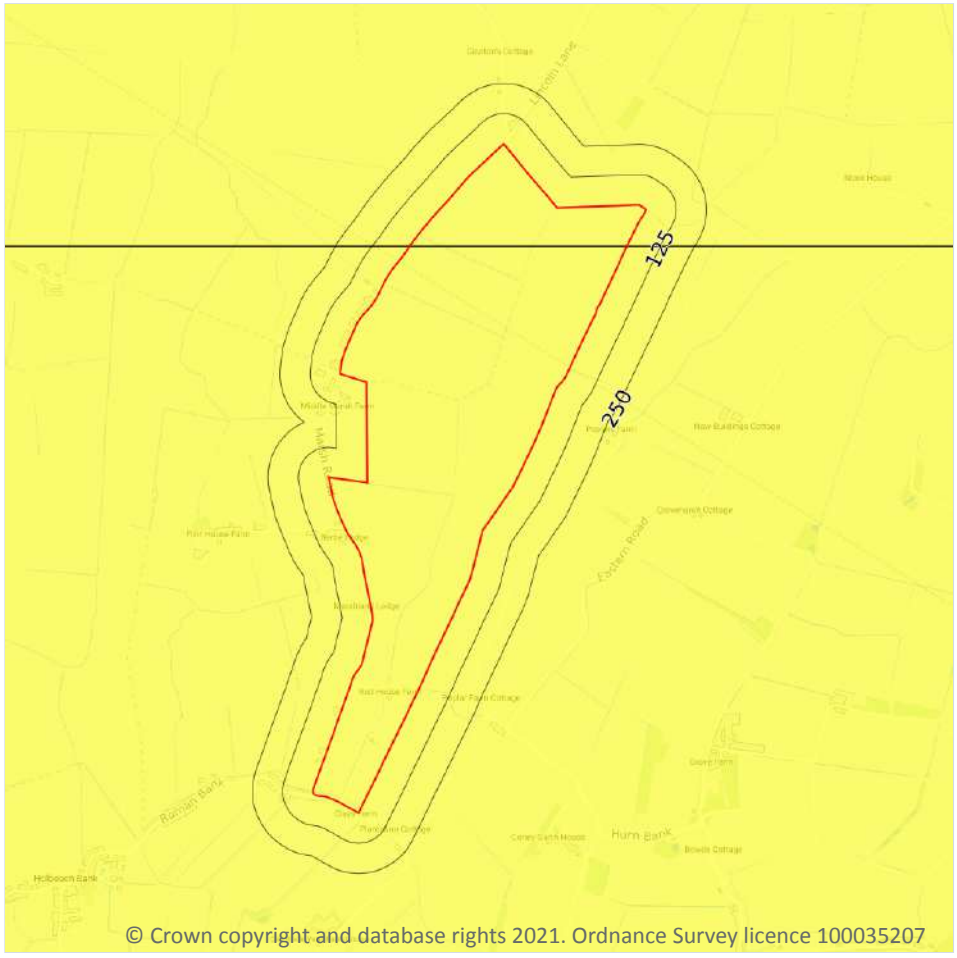
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

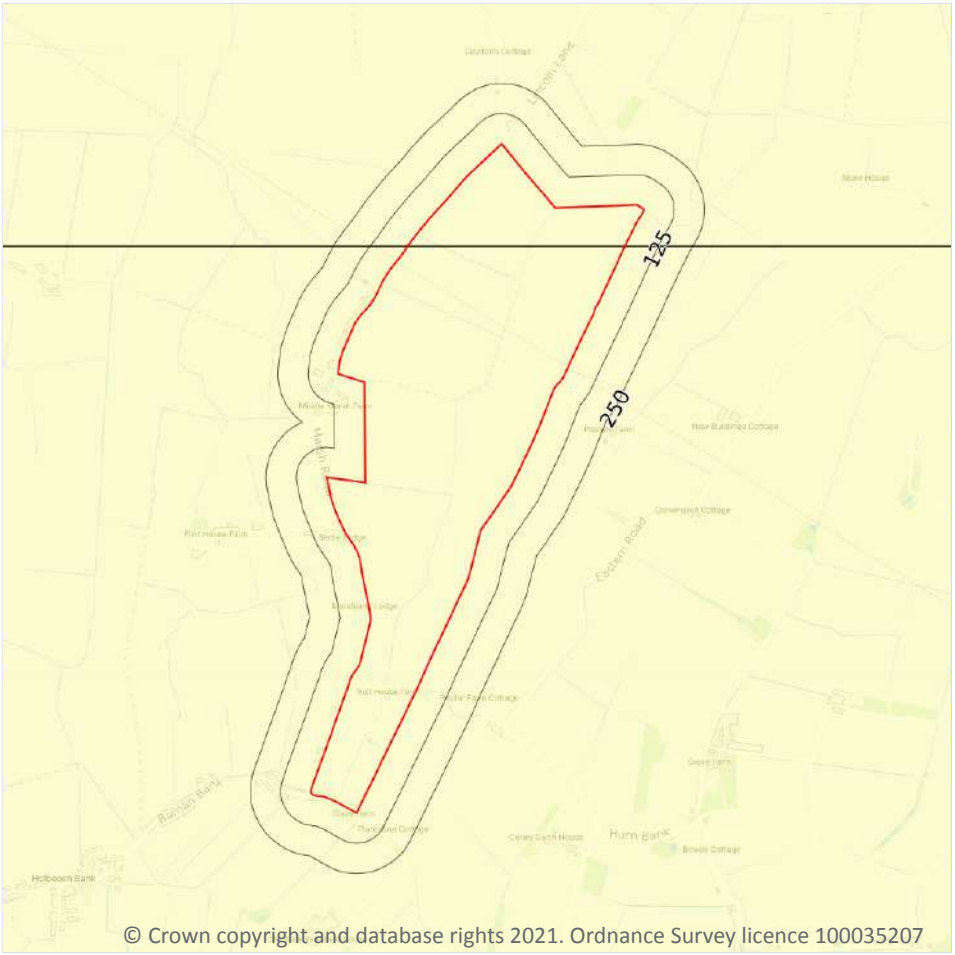
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

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

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



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

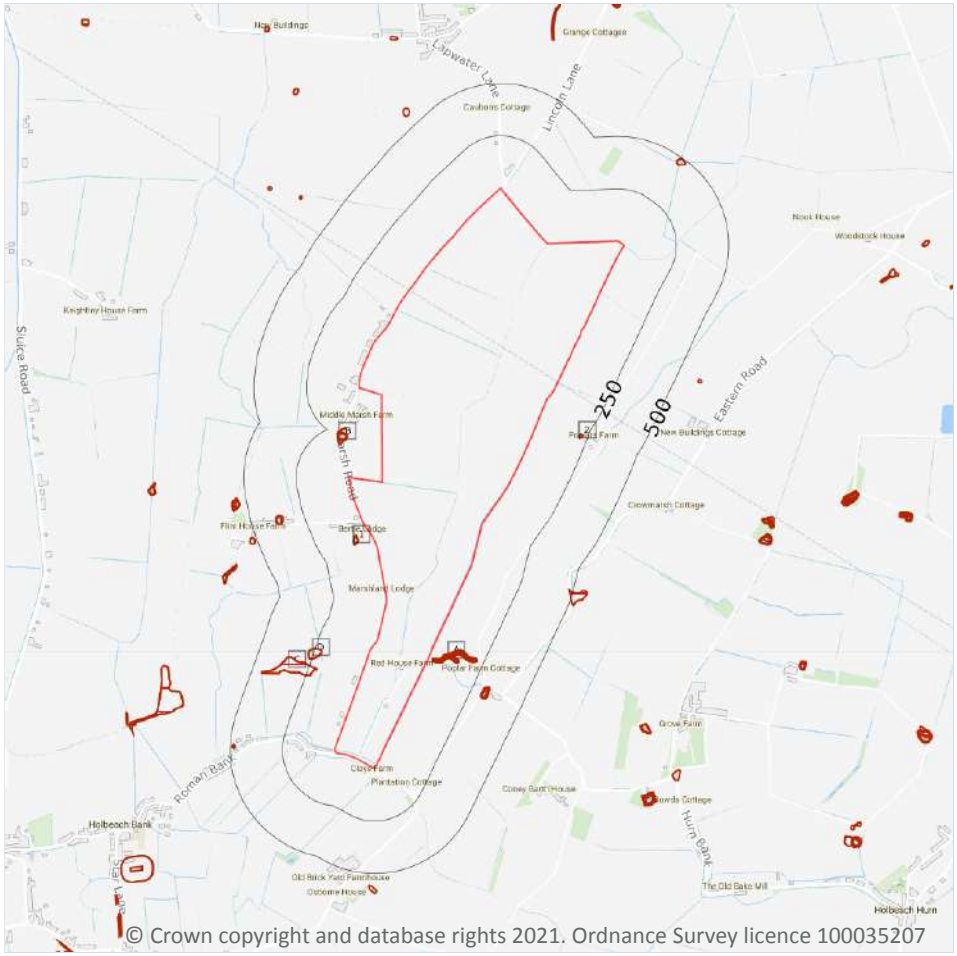
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 81**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	20

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 82**

ID	Location	Land Use	Year of mapping	Mapping scale
A	22m SE	Unspecified Ground Workings	1929	1:10560
A	23m SE	Unspecified Heap	1931	1:10560
A	23m SE	Unspecified Heap	1931	1:10560
A	28m SE	Unspecified Heap	1950	1:10560
A	28m SE	Unspecified Heap	1903	1:10560
A	28m SE	Unspecified Heap	1887	1:10560
A	55m SE	Unspecified Heap	1955	1:10560
1	60m SW	Pond	1887	1:10560
A	91m SE	Unspecified Heap	1955	1:10560
B	163m N	Pond	1955	1:10560
B	164m W	Pond	1929	1:10560
B	165m W	Pond	1931	1:10560
B	167m W	Pond	1946	1:10560
B	168m W	Pond	1903	1:10560
B	168m W	Pond	1886	1:10560
2	211m E	Unspecified Pit	1886	1:10560
C	212m W	Unspecified Ground Workings	1903	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	212m W	Unspecified Ground Workings	1887	1:10560
D	217m W	Unspecified Heap	1903	1:10560
D	217m W	Unspecified Heap	1887	1:10560

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 Mining Searches UK.

18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

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

19.1 Radon

Records on site	1

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

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

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

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	24

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

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
34m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**0**

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

This data is sourced from the British Geological Survey.

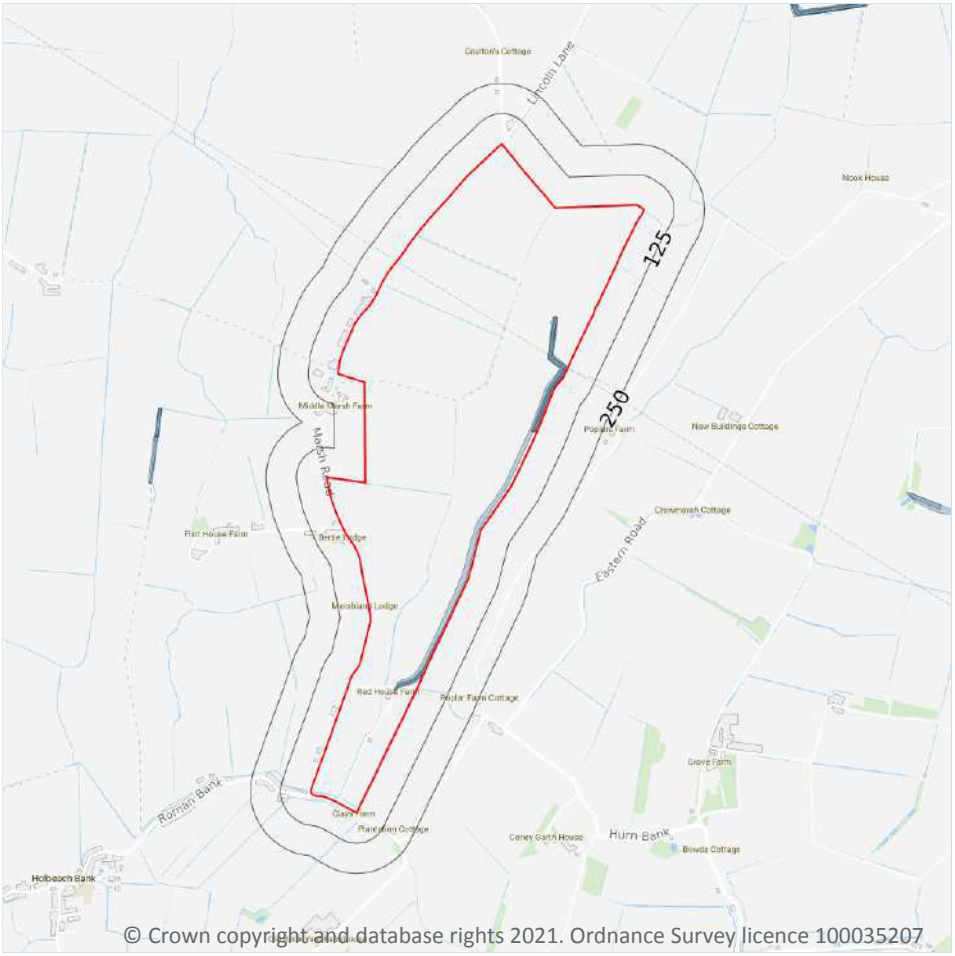
20.3 BGS Measured Urban Soil Chemistry

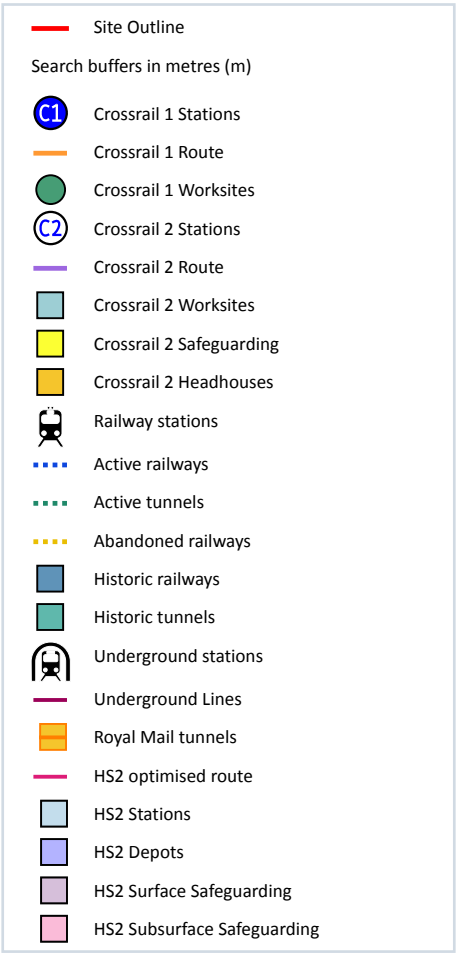
Records within 50m	0

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects





21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	5

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

Features are displayed on the Railway infrastructure and projects map on **page 91**

Location	Land Use	Year of mapping	Mapping scale
On site	**Tramway Sidings**	**1946**	**10560**
On site	**Tramway Sidings**	**1950**	**10560**
On site	**Tramway Sidings**	**1931**	**10560**
On site	**Tramway Sidings**	**1929**	**10560**
On site	**Disused Tramway Sidings**	**1955**	**10560**

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

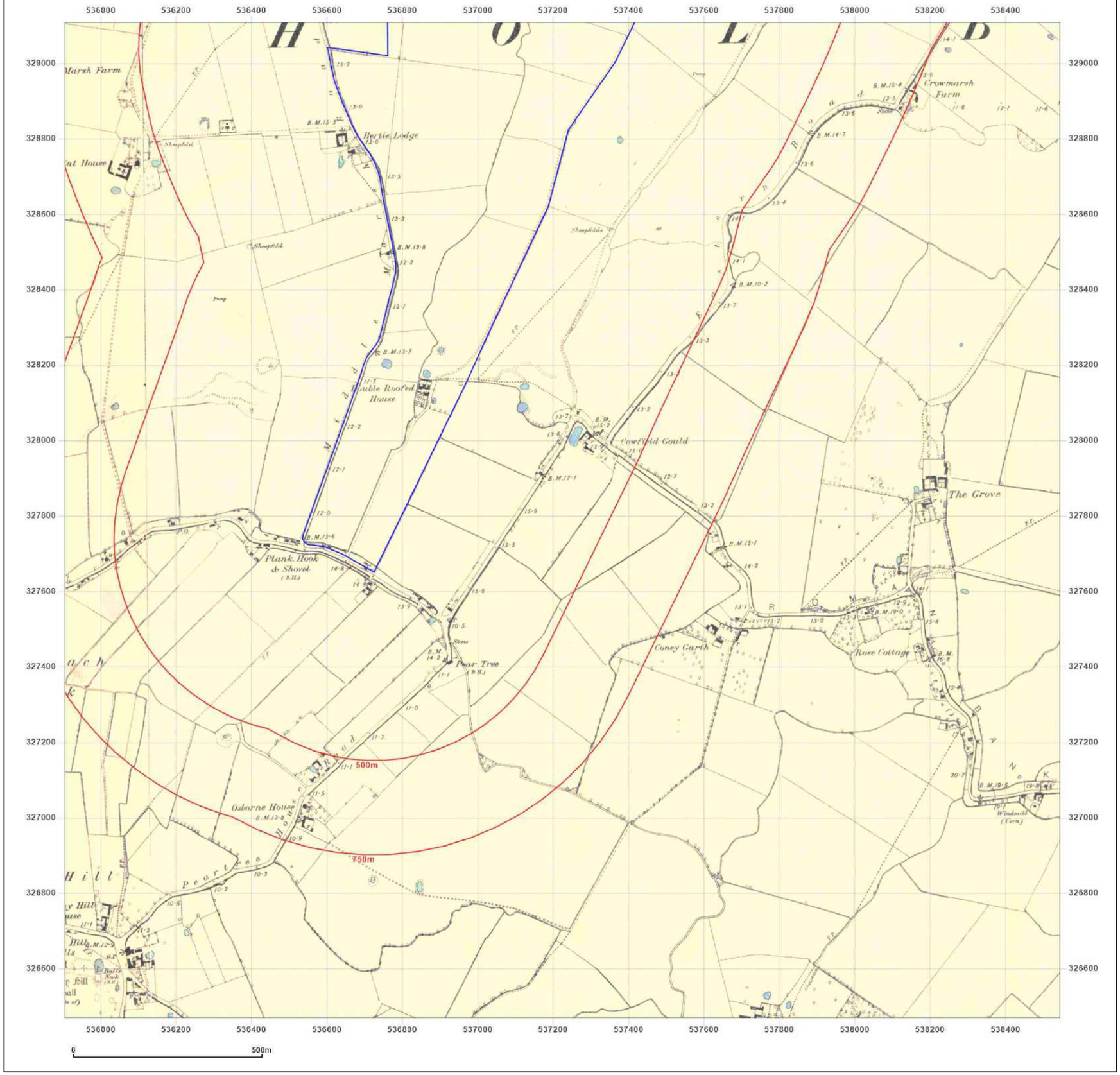
This data is sourced from HS2 ltd.

Data providers

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

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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

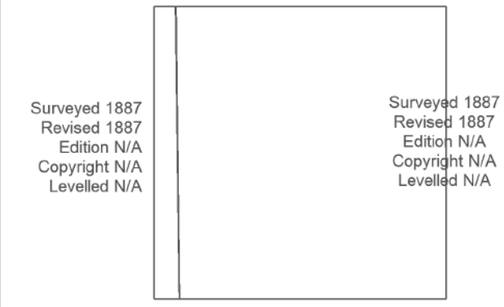
Map Name: County Series

Map date: **1887**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



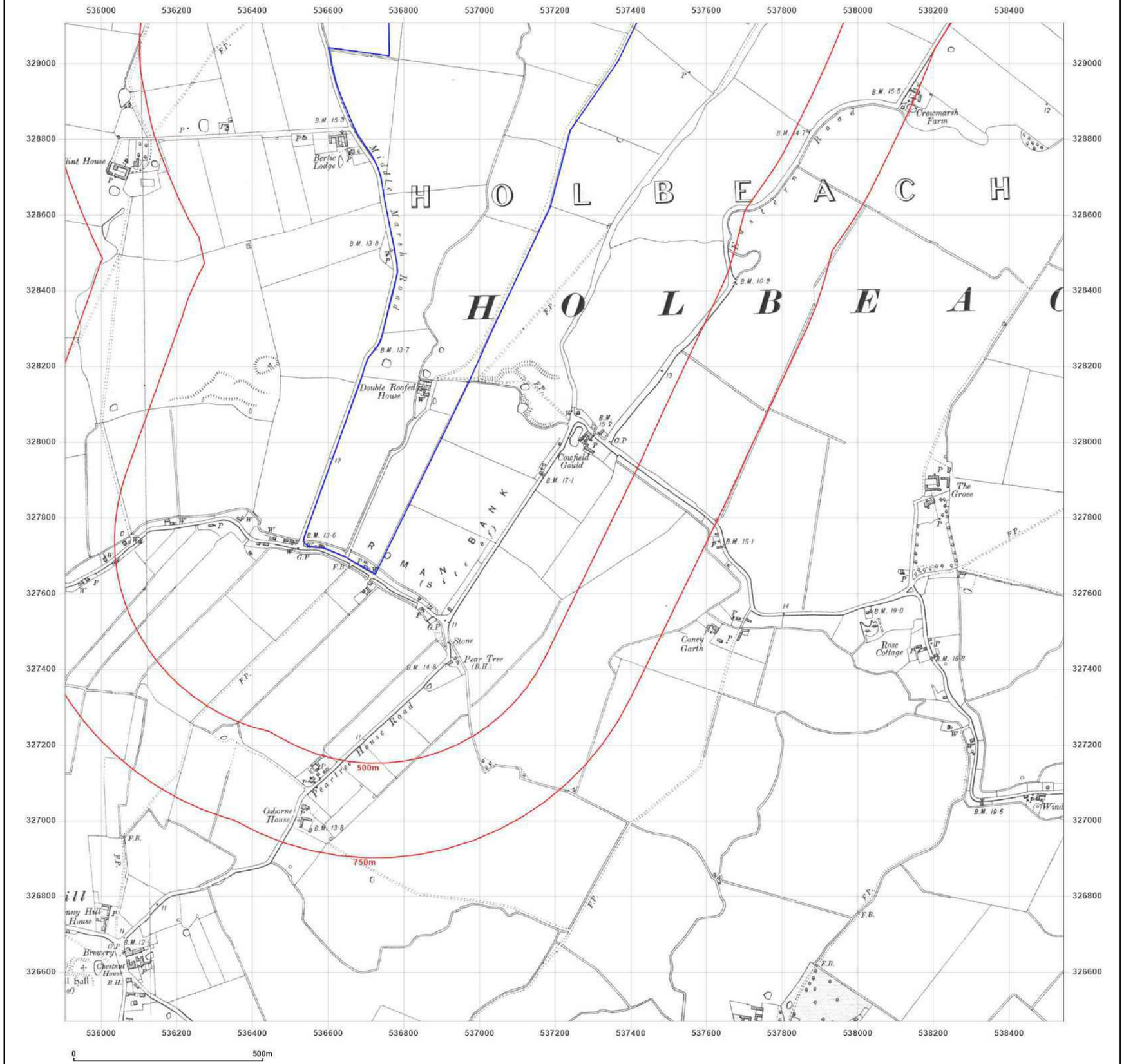
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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

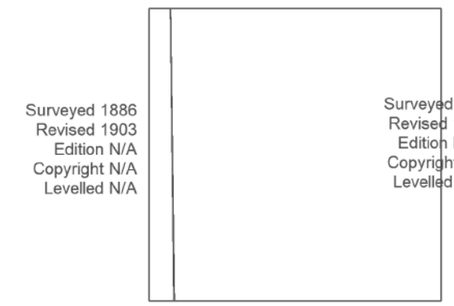
Map Name: County Series

Map date: **1903**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



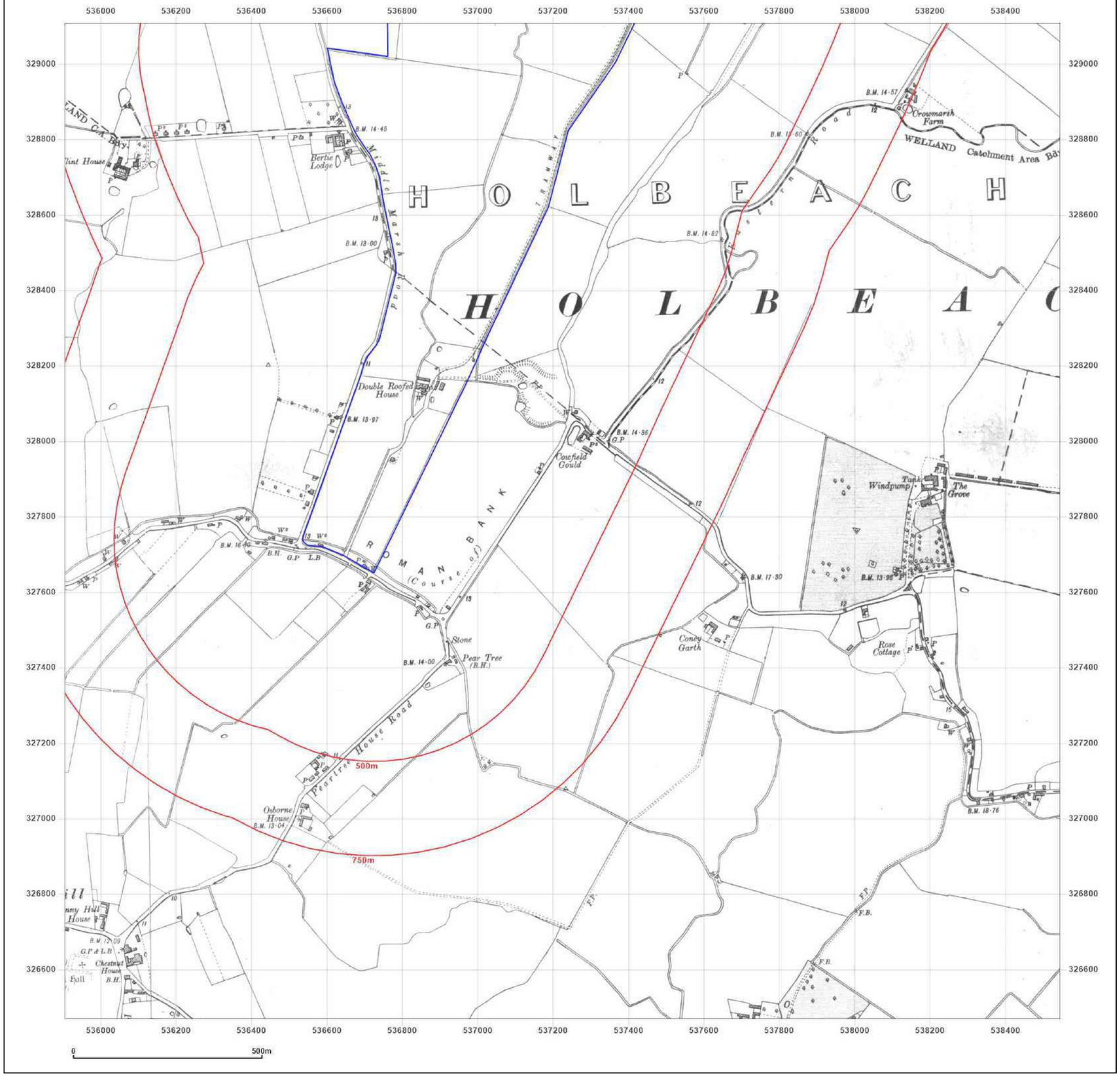
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

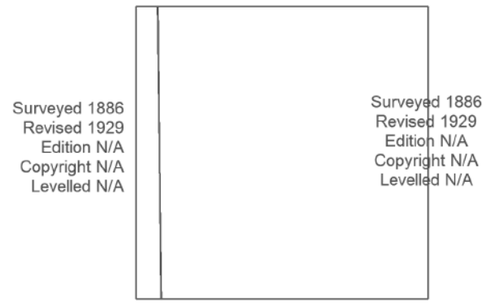
Map Name: County Series

Map date: **1929**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



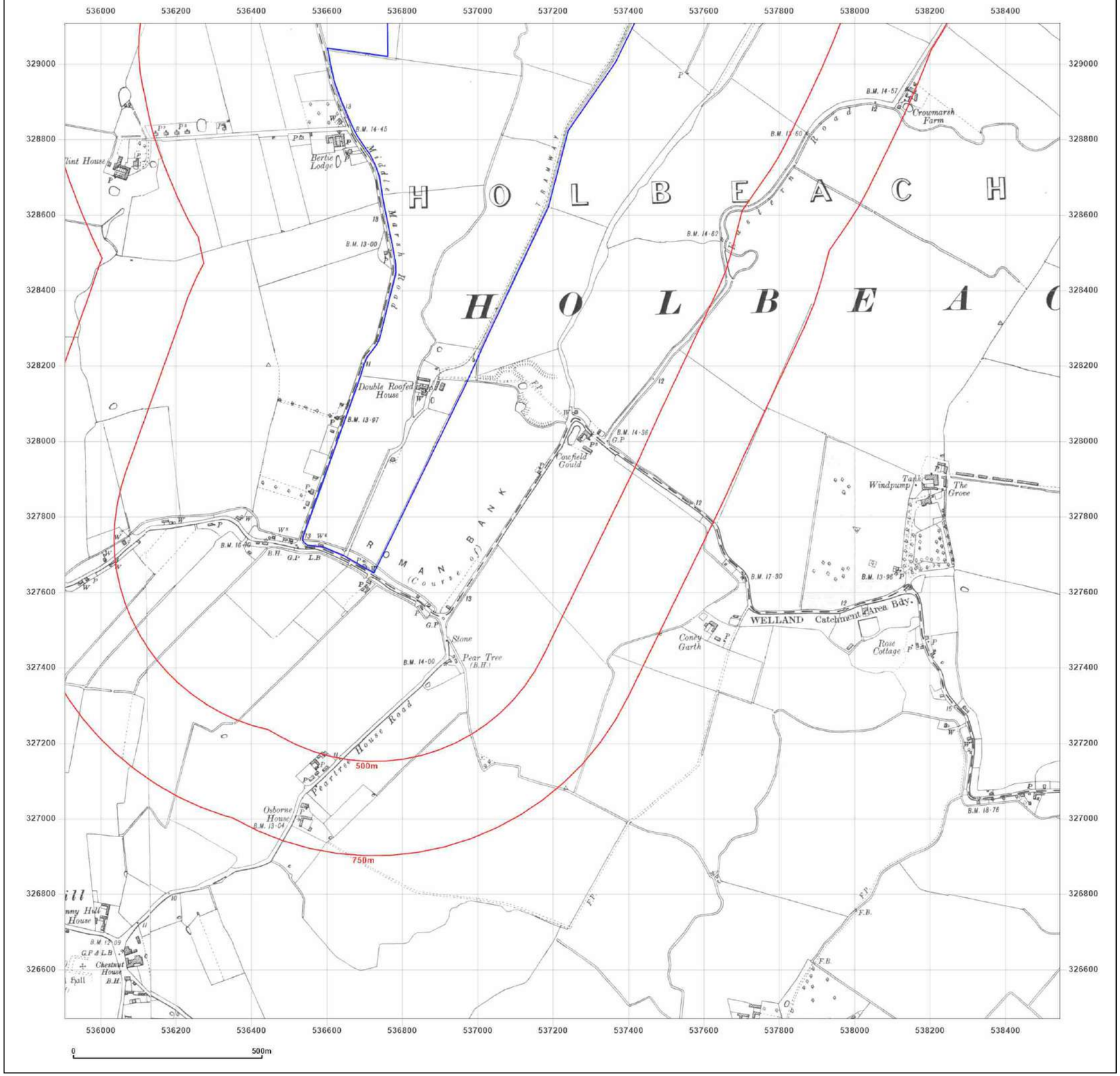
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

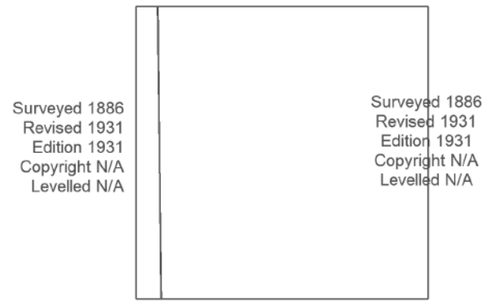
Map Name: County Series

Map date: **1931**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



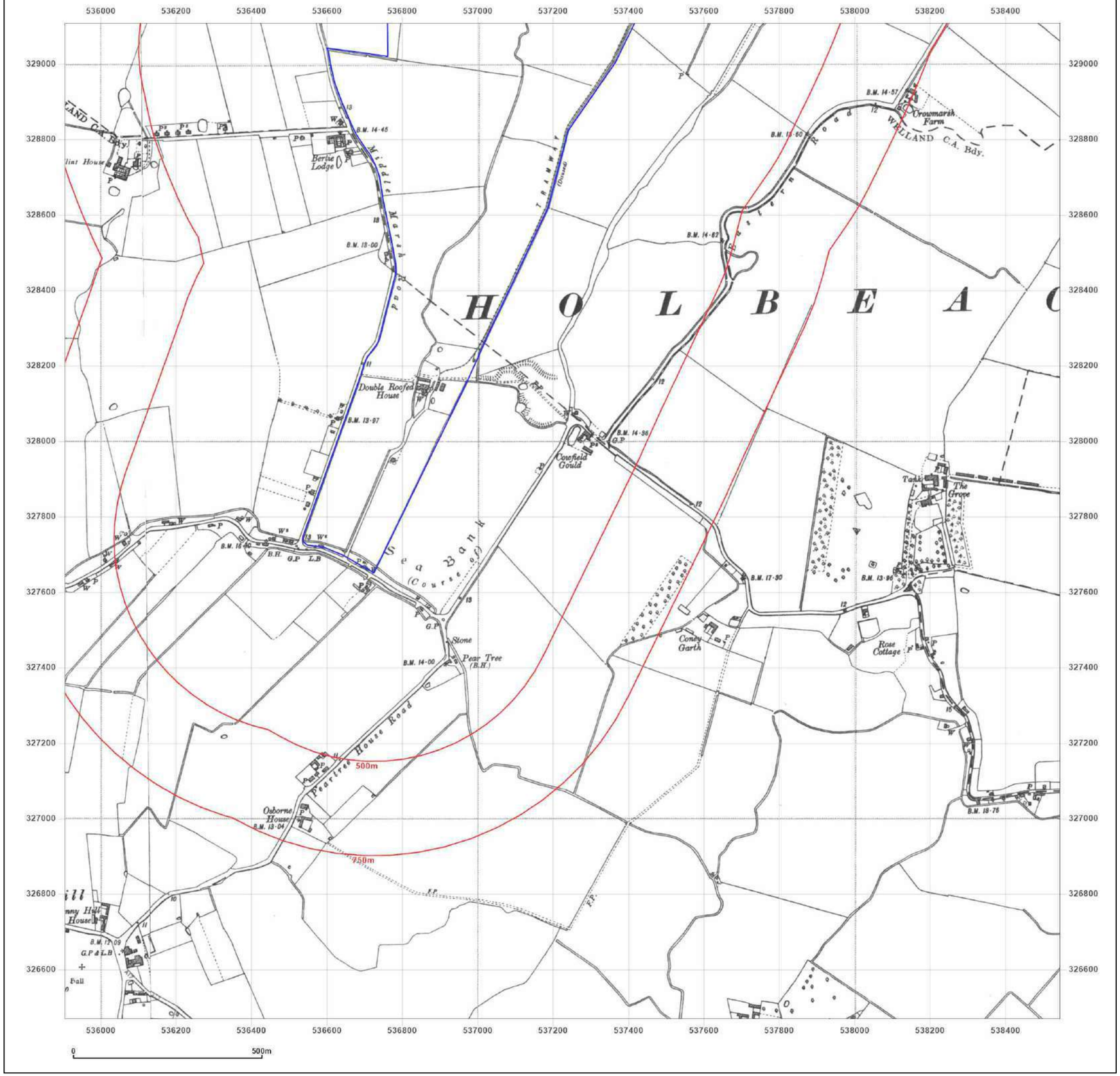
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

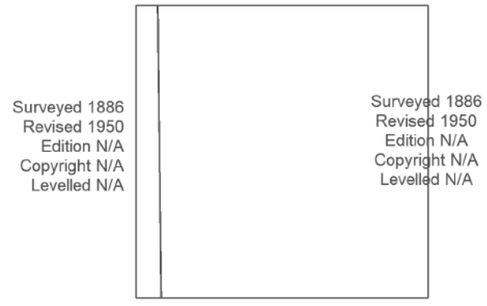
Map Name: County Series

Map date: **1950**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



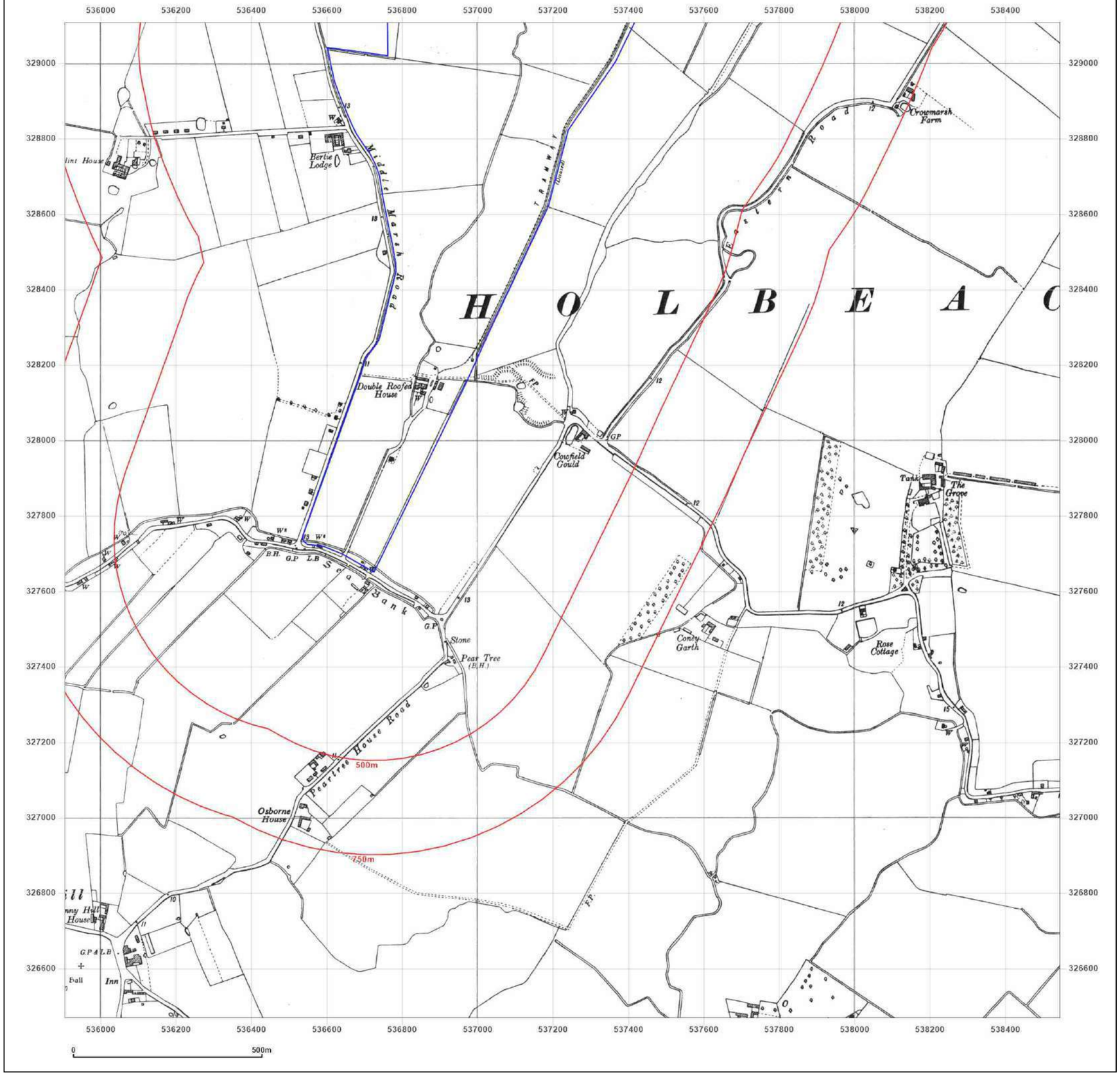
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

Map Name: Provisional
Map date: **1955**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

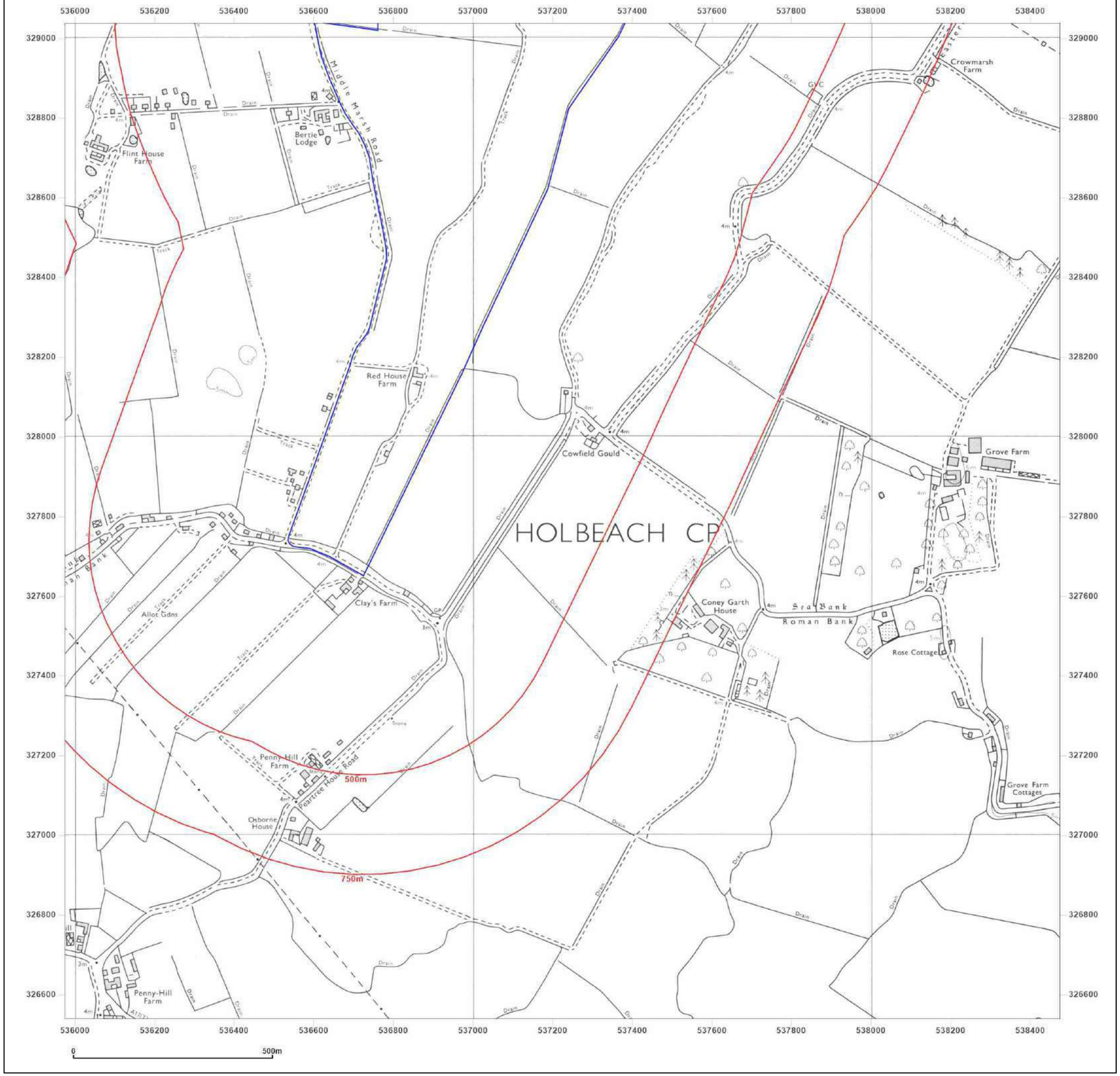
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

Map Name: National Grid

Map date: **1977**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1973
Revised 1977
Edition N/A
Copyright 1977
Levelled 1973

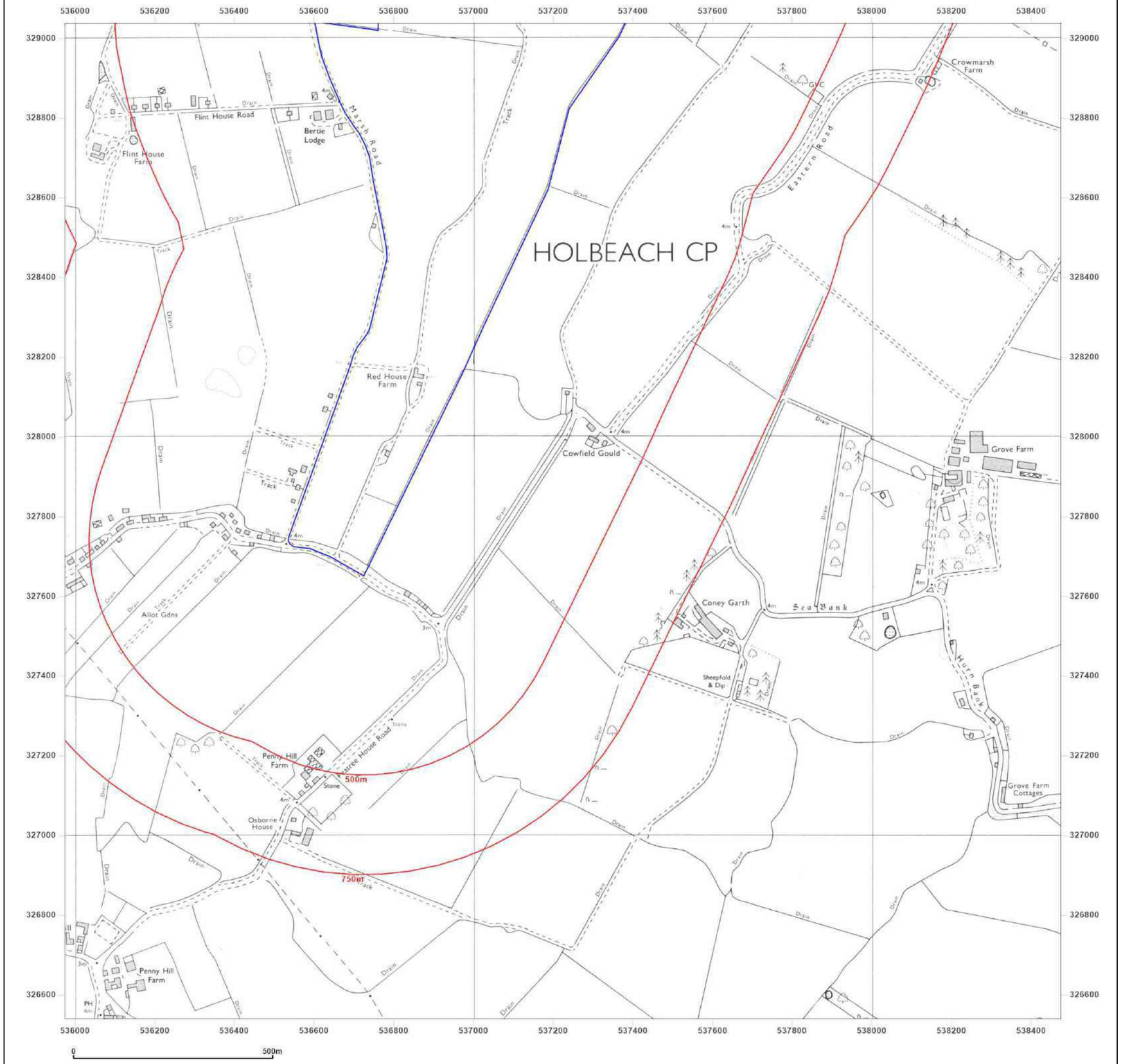
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

Map Name: National Grid

Map date: **1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1991
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

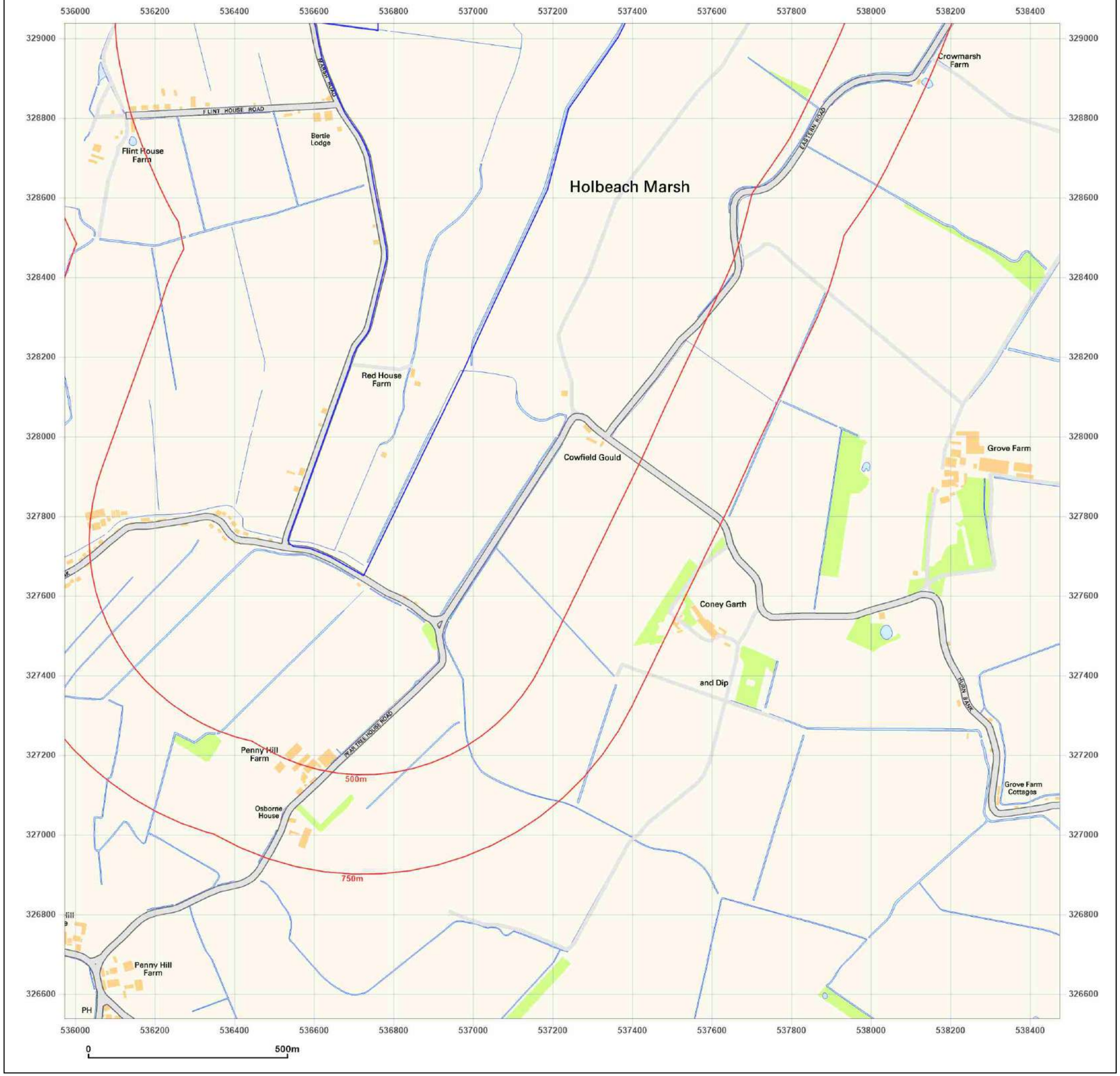
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2001

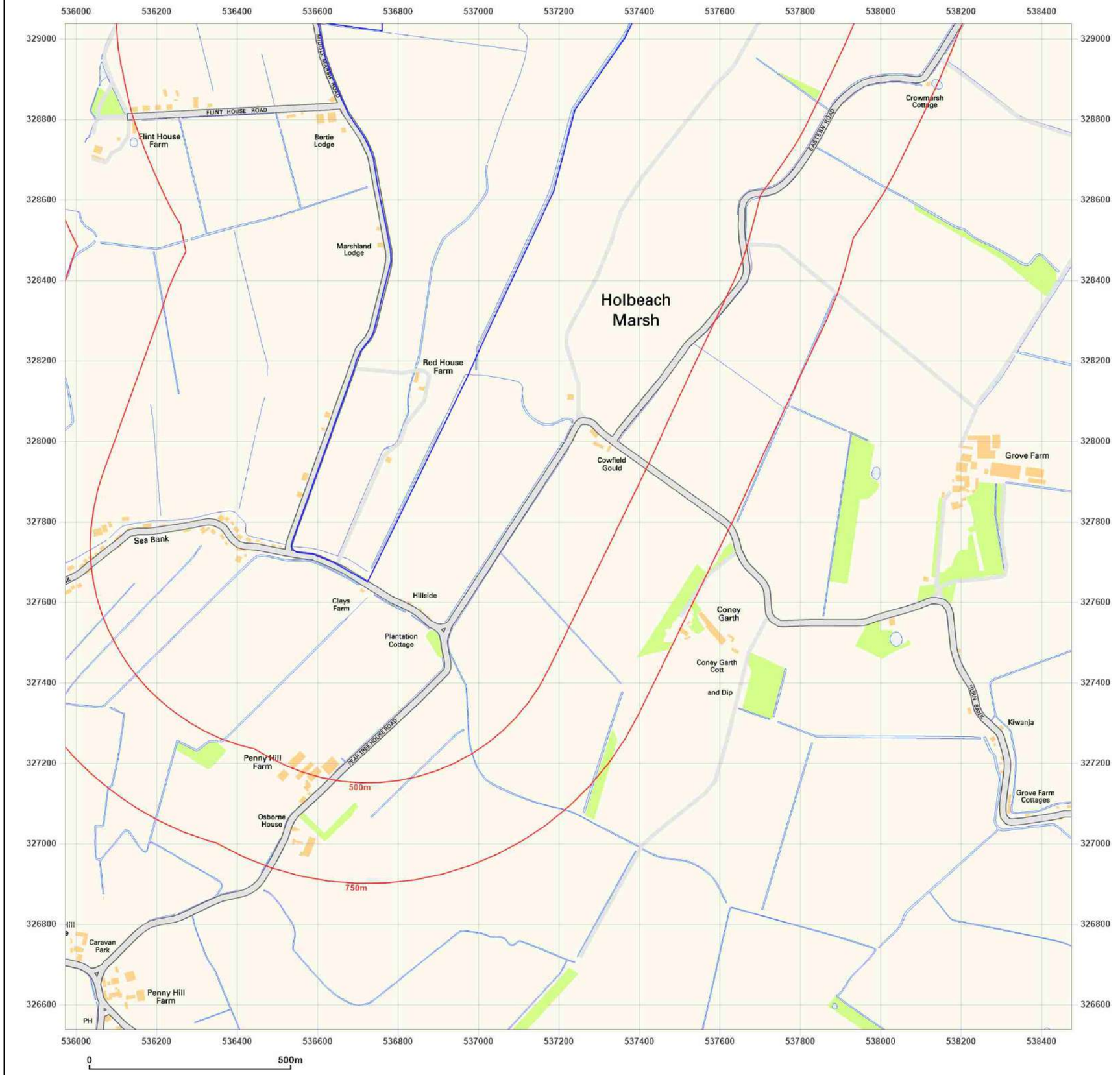
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

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

N
W E
S

2010

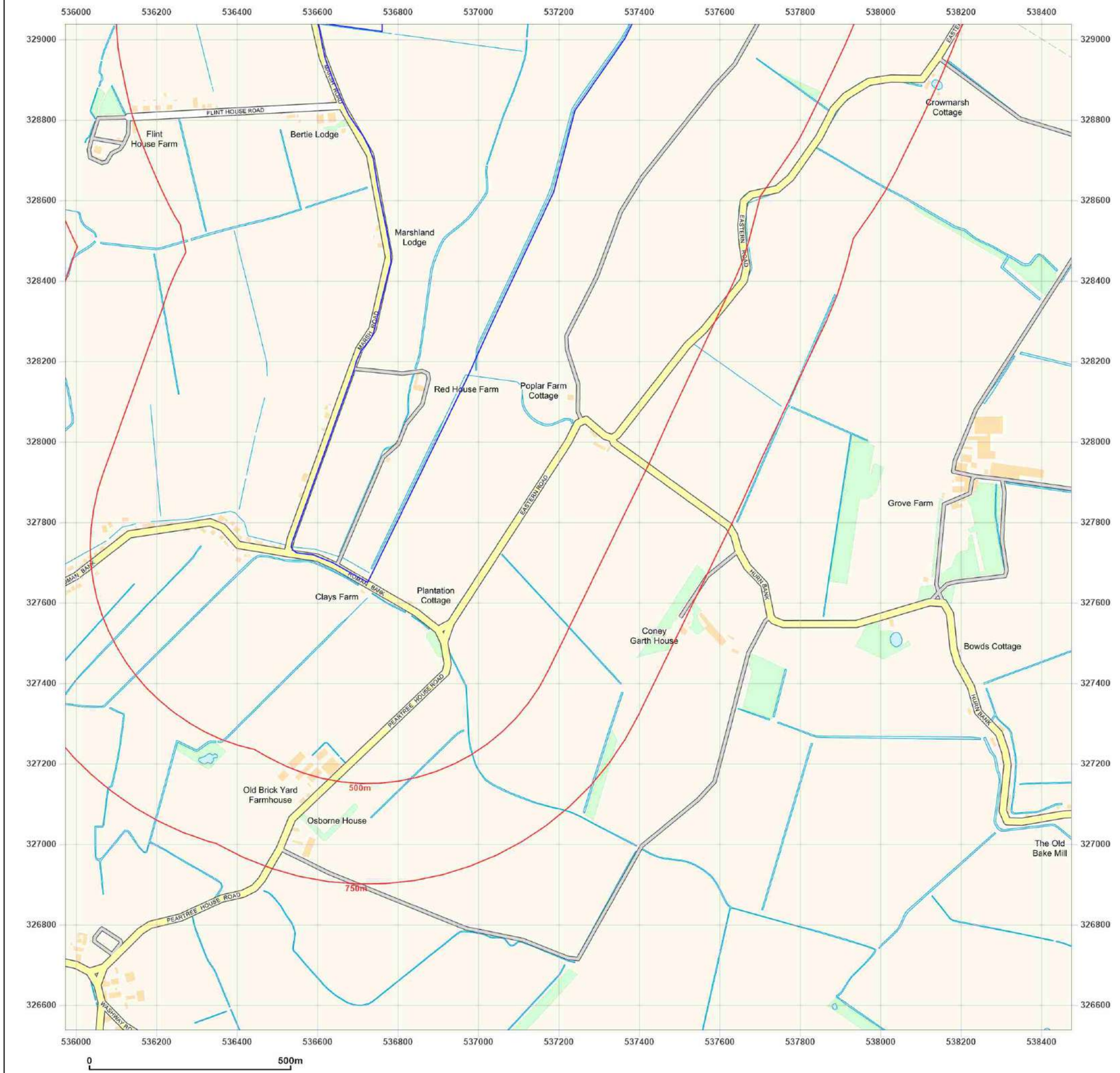
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_1
Grid Ref: 537224, 327788

Map Name: National Grid
Map date: **2021**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

2021

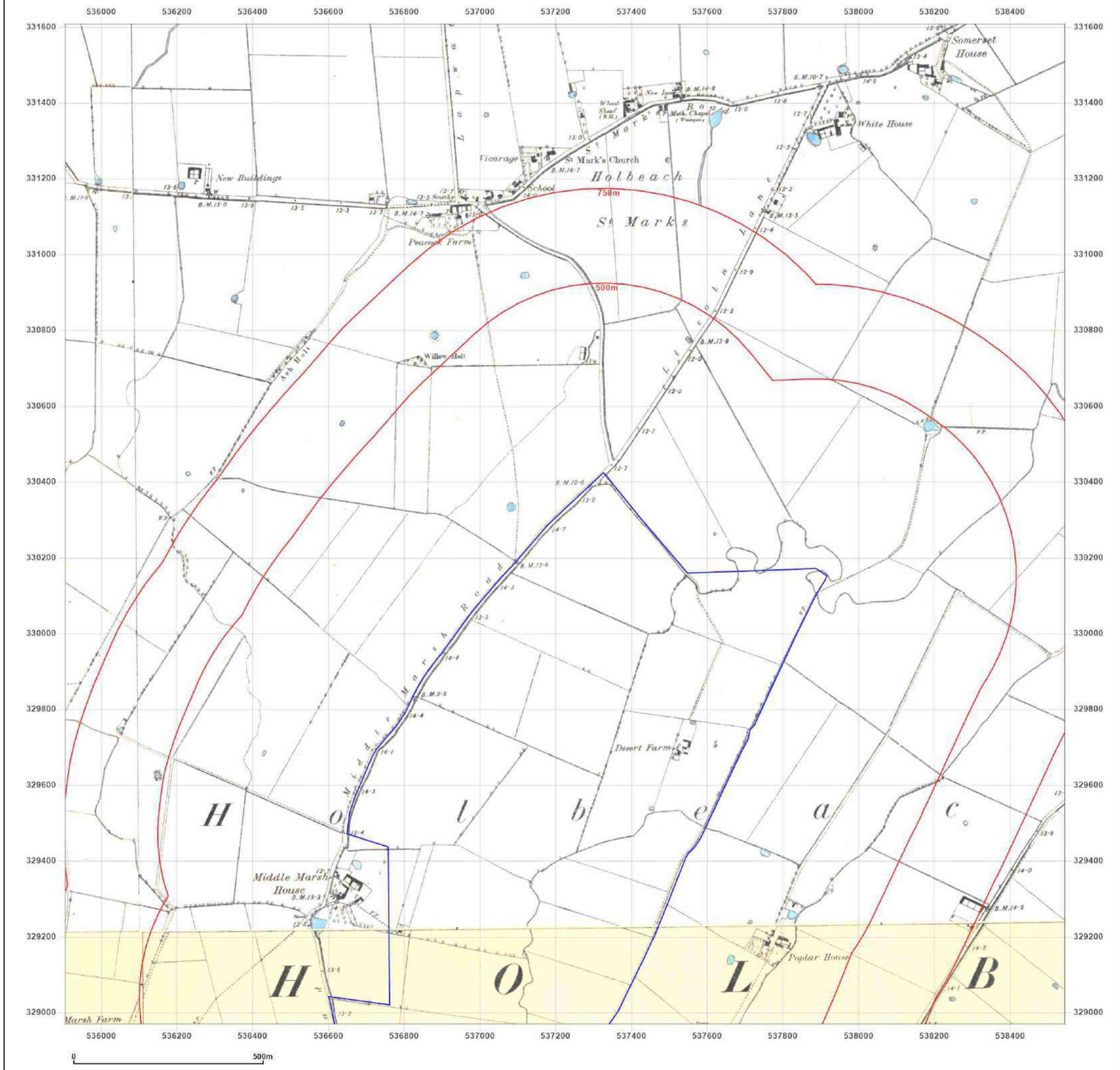
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

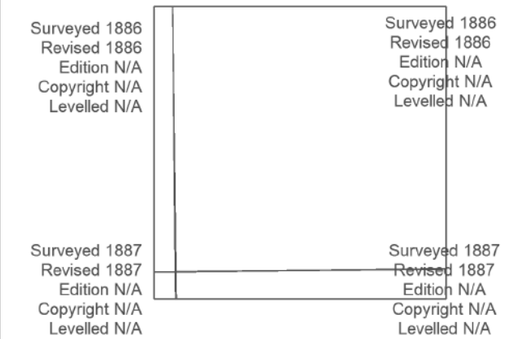
Map Name: County Series

Map date: **1886-1887**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



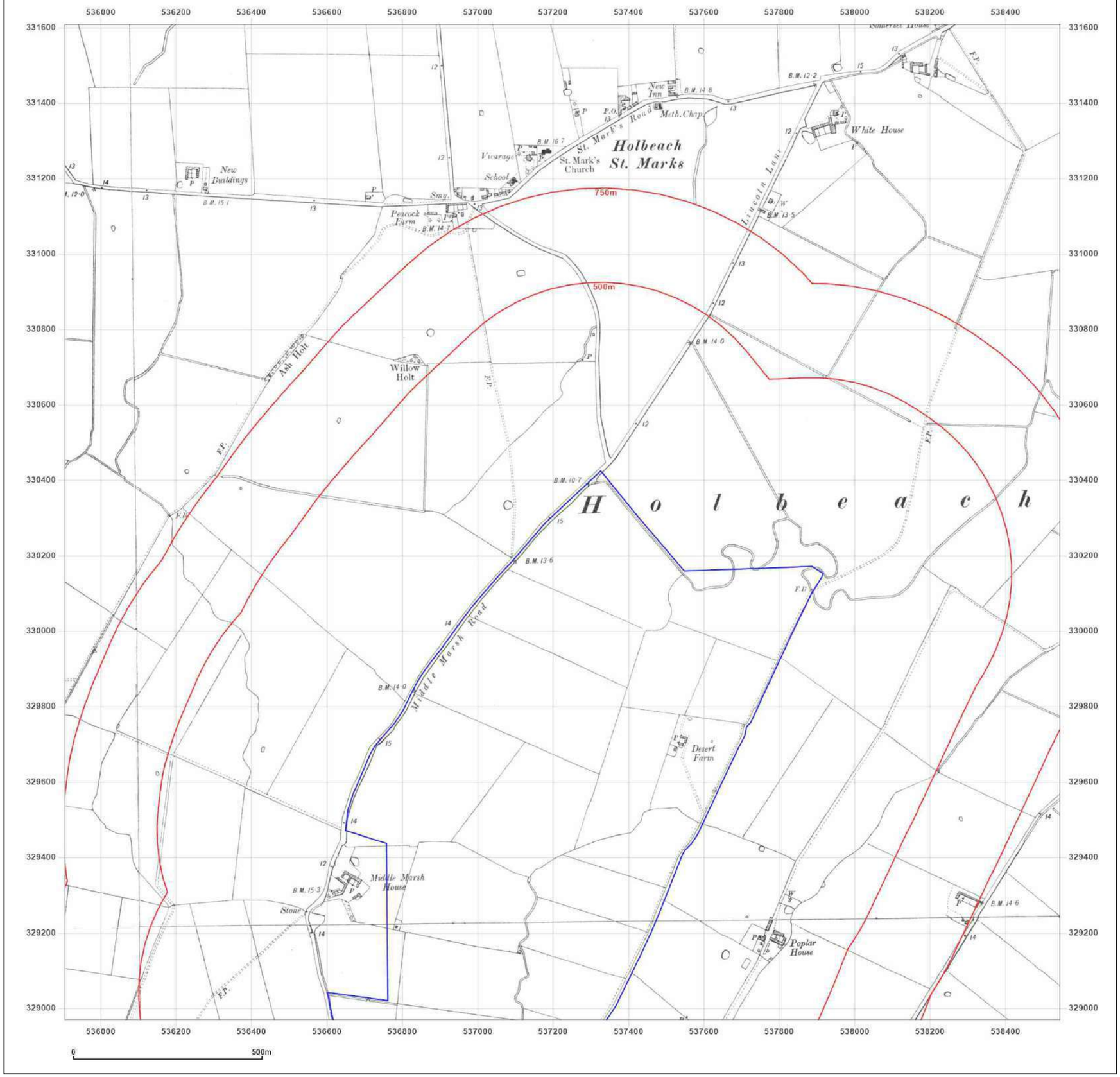
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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

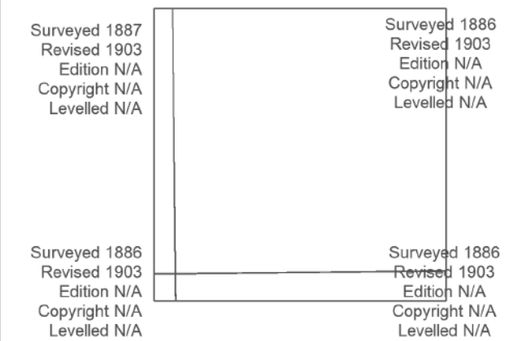
Map Name: County Series

Map date: **1903**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



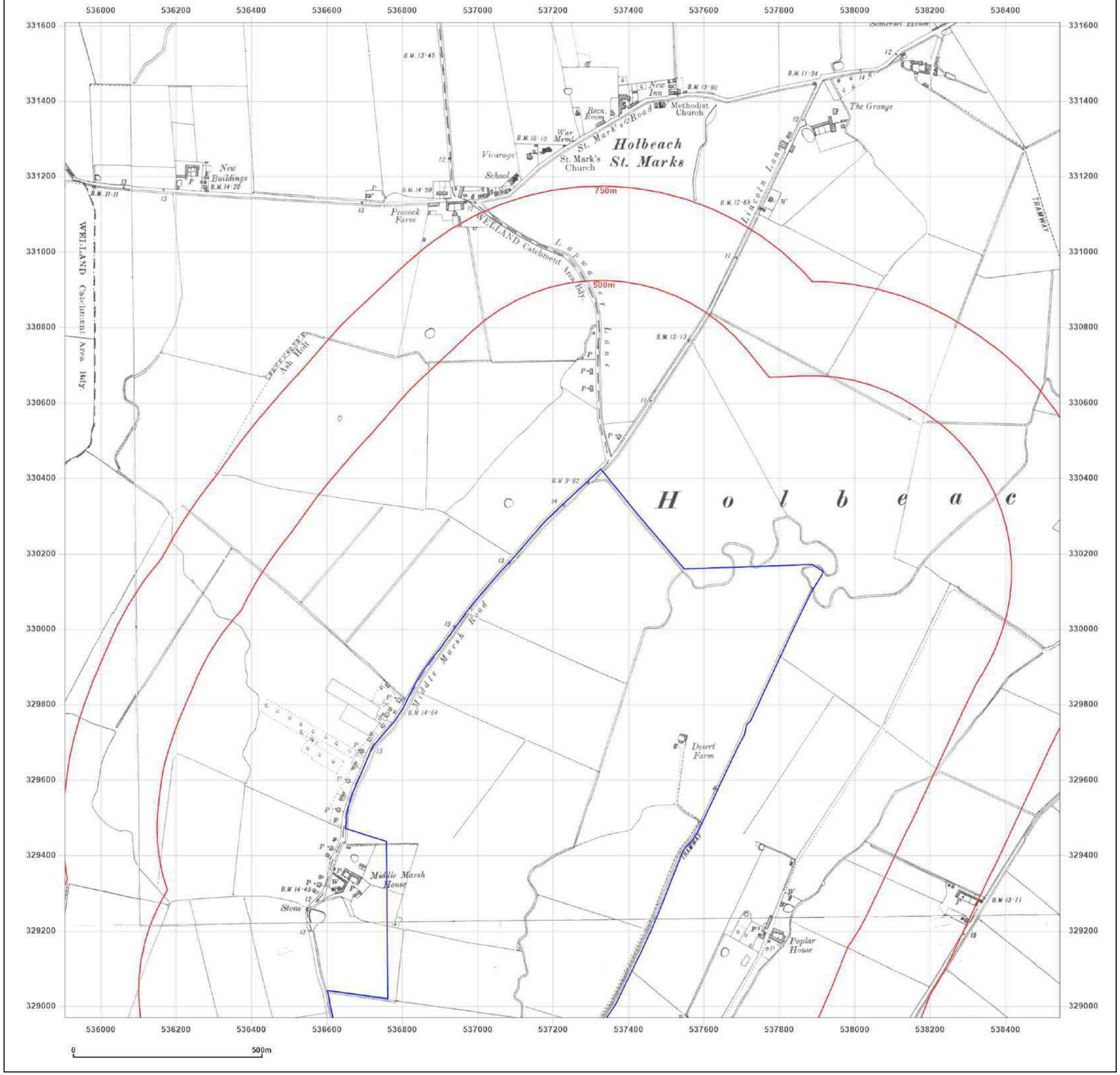
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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

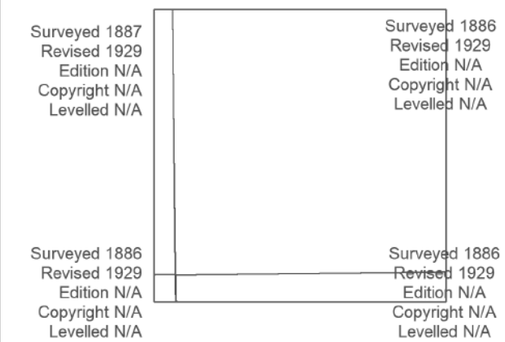
Map Name: County Series

Map date: **1929**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



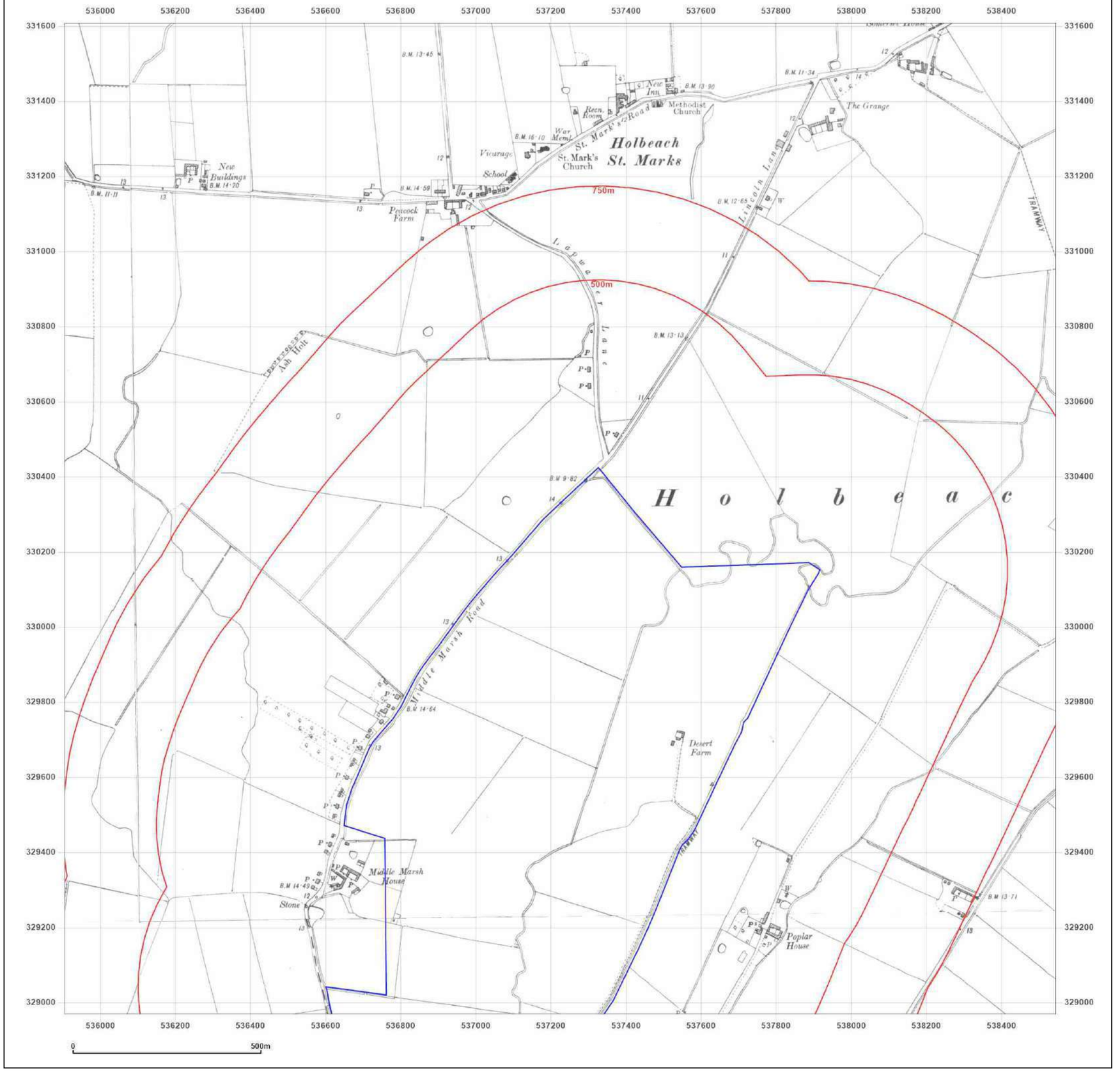
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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

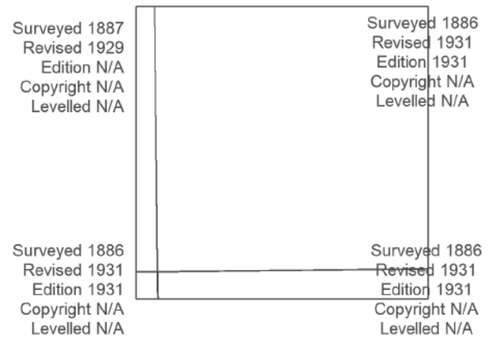
Map Name: County Series

Map date: **1929-1931**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



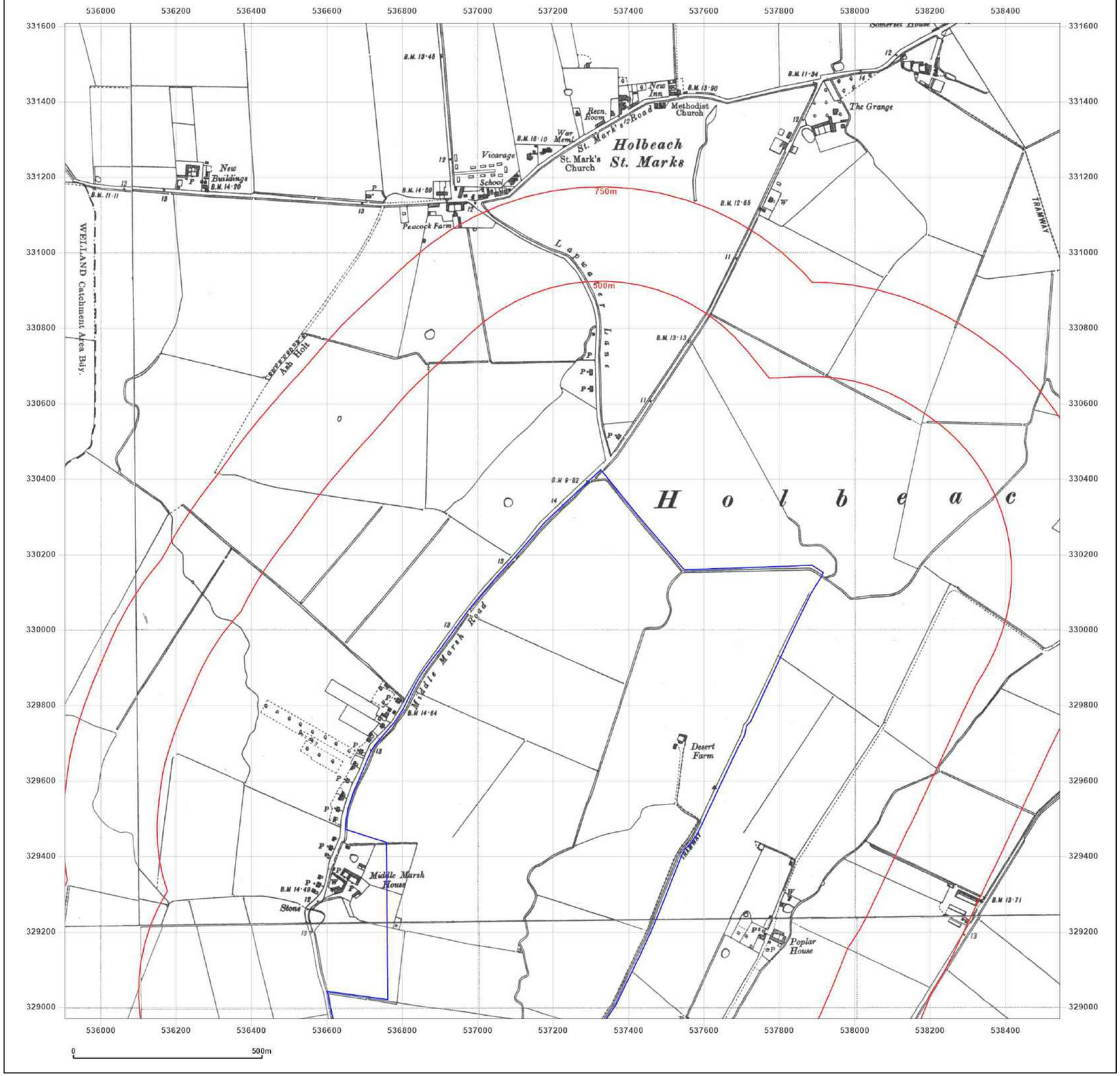
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: County Series

Map date: **1946-1950**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1887 Revised 1946 Edition N/A Copyright N/A Levelled N/A	Surveyed 1886 Revised 1946 Edition N/A Copyright N/A Levelled N/A
Surveyed 1886 Revised 1950 Edition N/A Copyright N/A Levelled N/A	Surveyed 1886 Revised 1950 Edition N/A Copyright N/A Levelled N/A

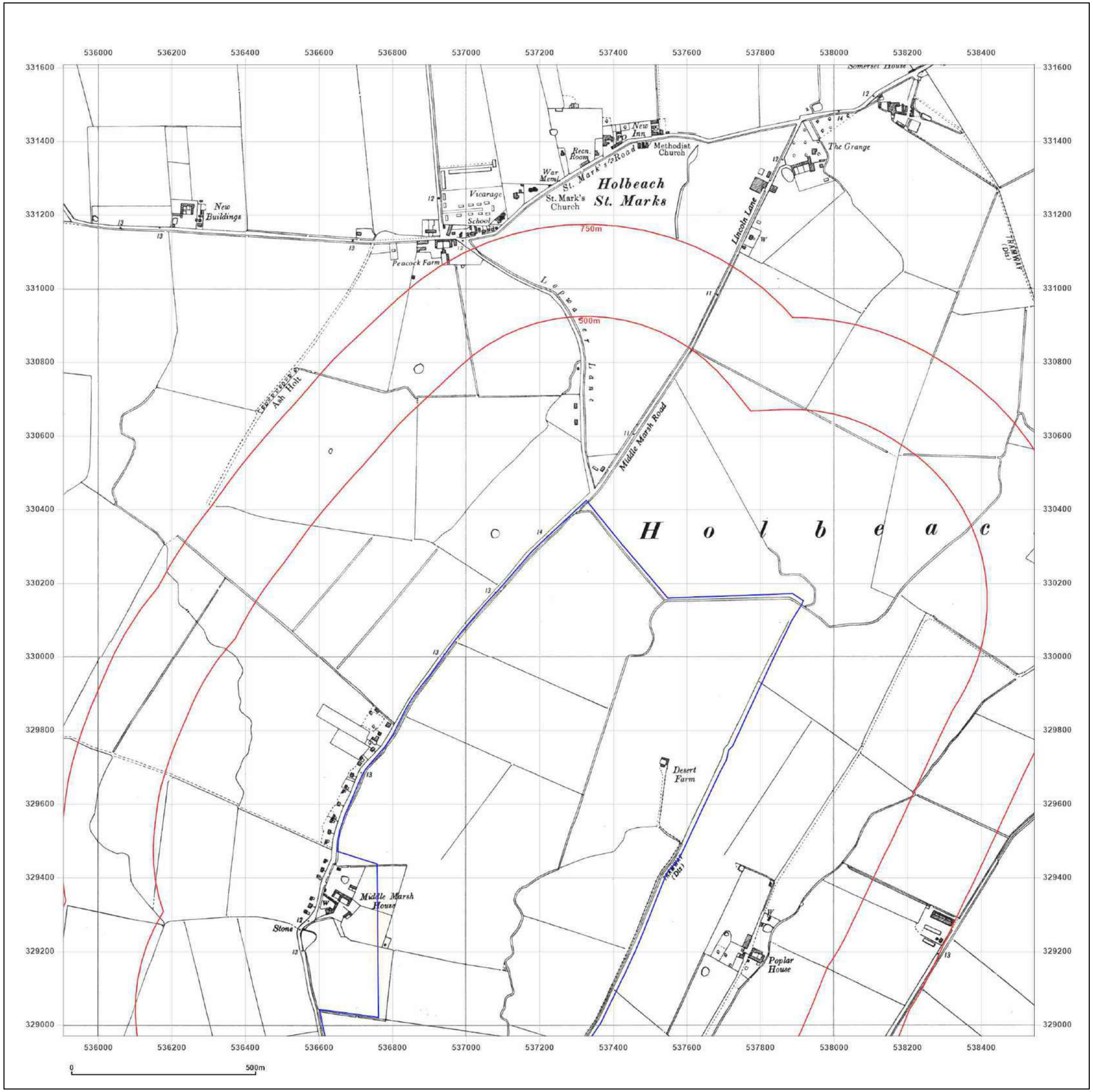
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: Provisional
Map date: **1950-1955**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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

Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

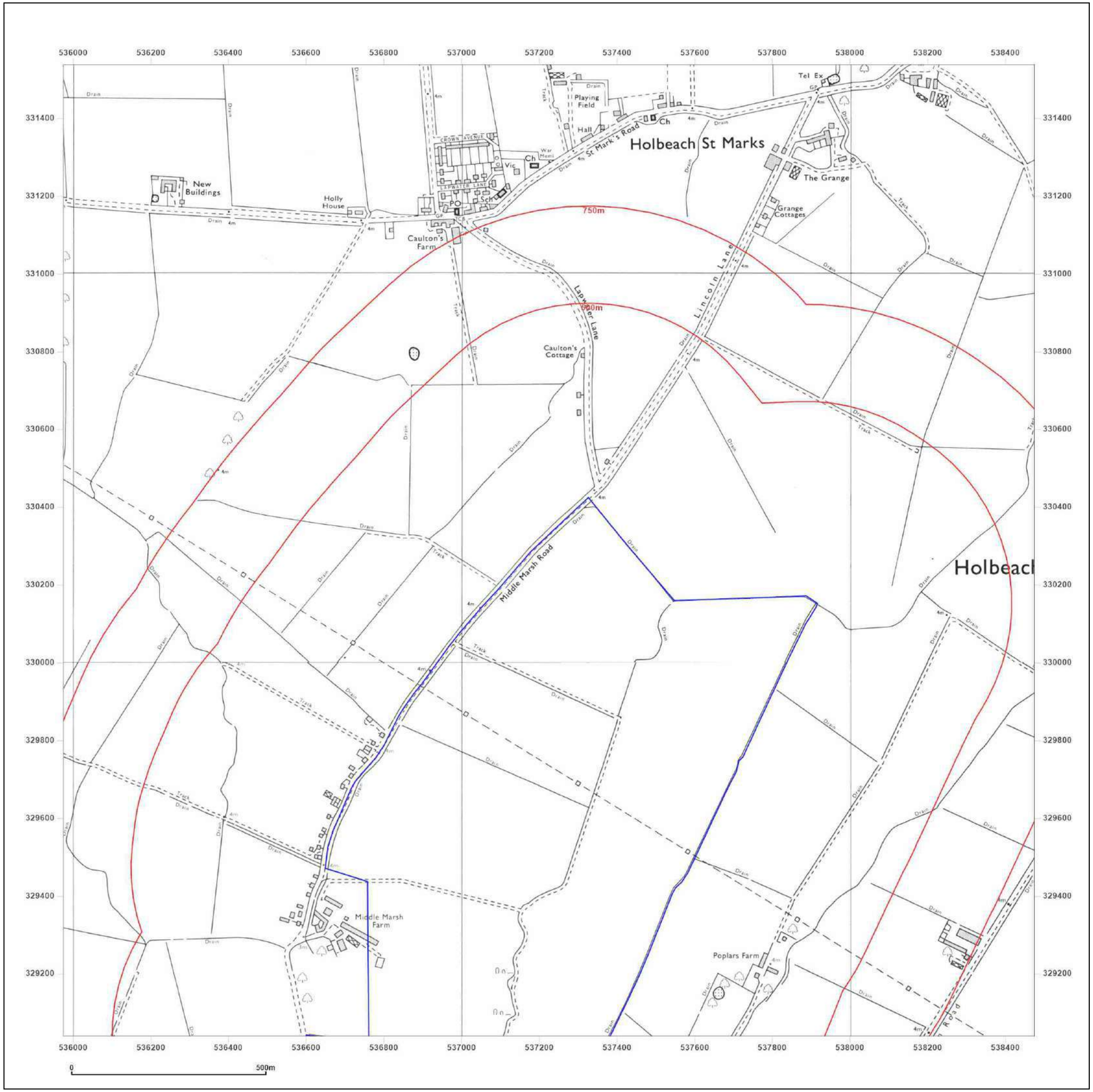
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: National Grid

Map date: **1974-1977**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1970
Revised 1973
Edition N/A
Copyright 1974
Levelled N/A

Surveyed 1973
Revised 1977
Edition N/A
Copyright 1977
Levelled 1973

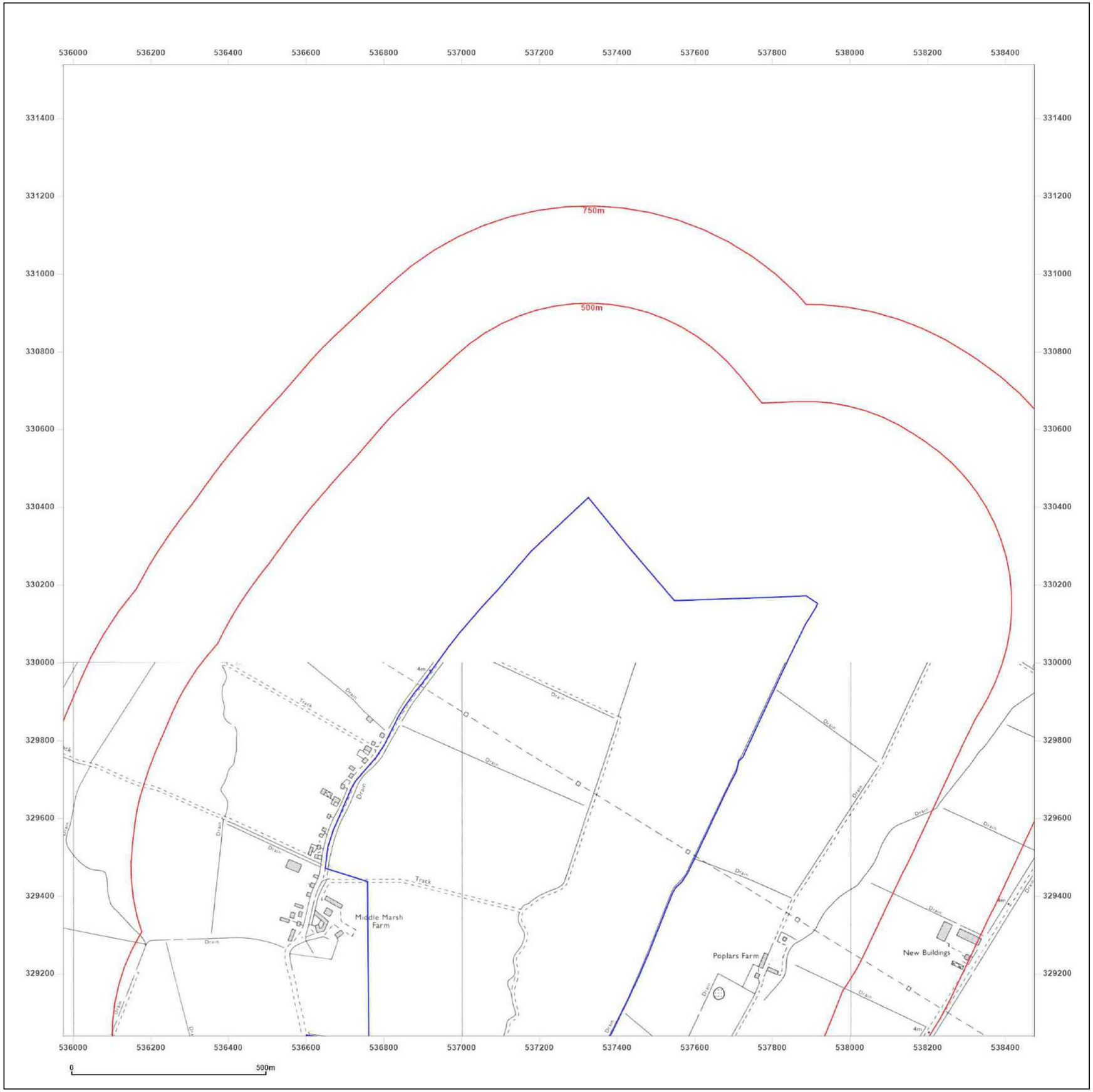
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: National Grid

Map date: **1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1991
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

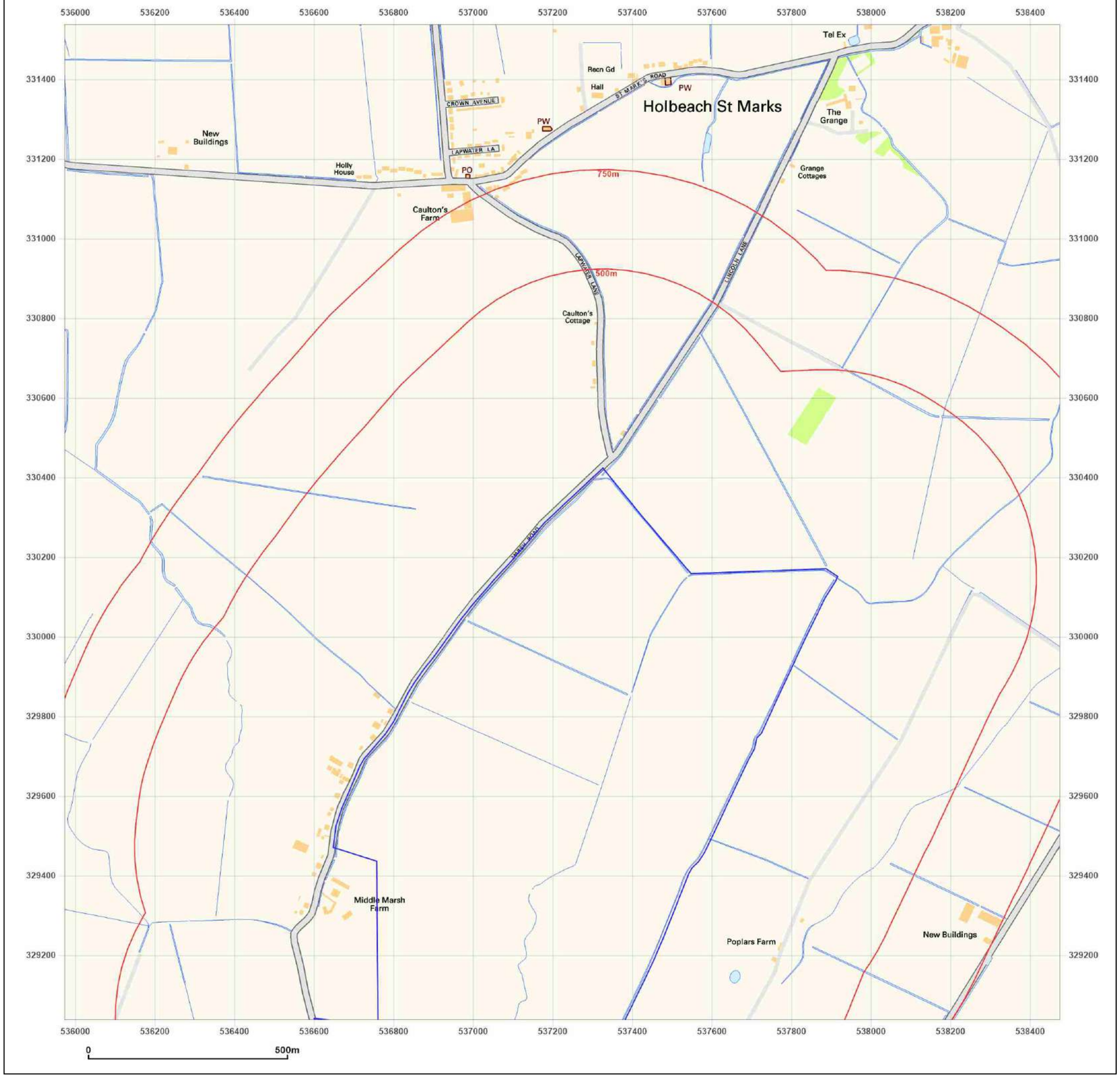
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Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

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

N
W E
S

2001

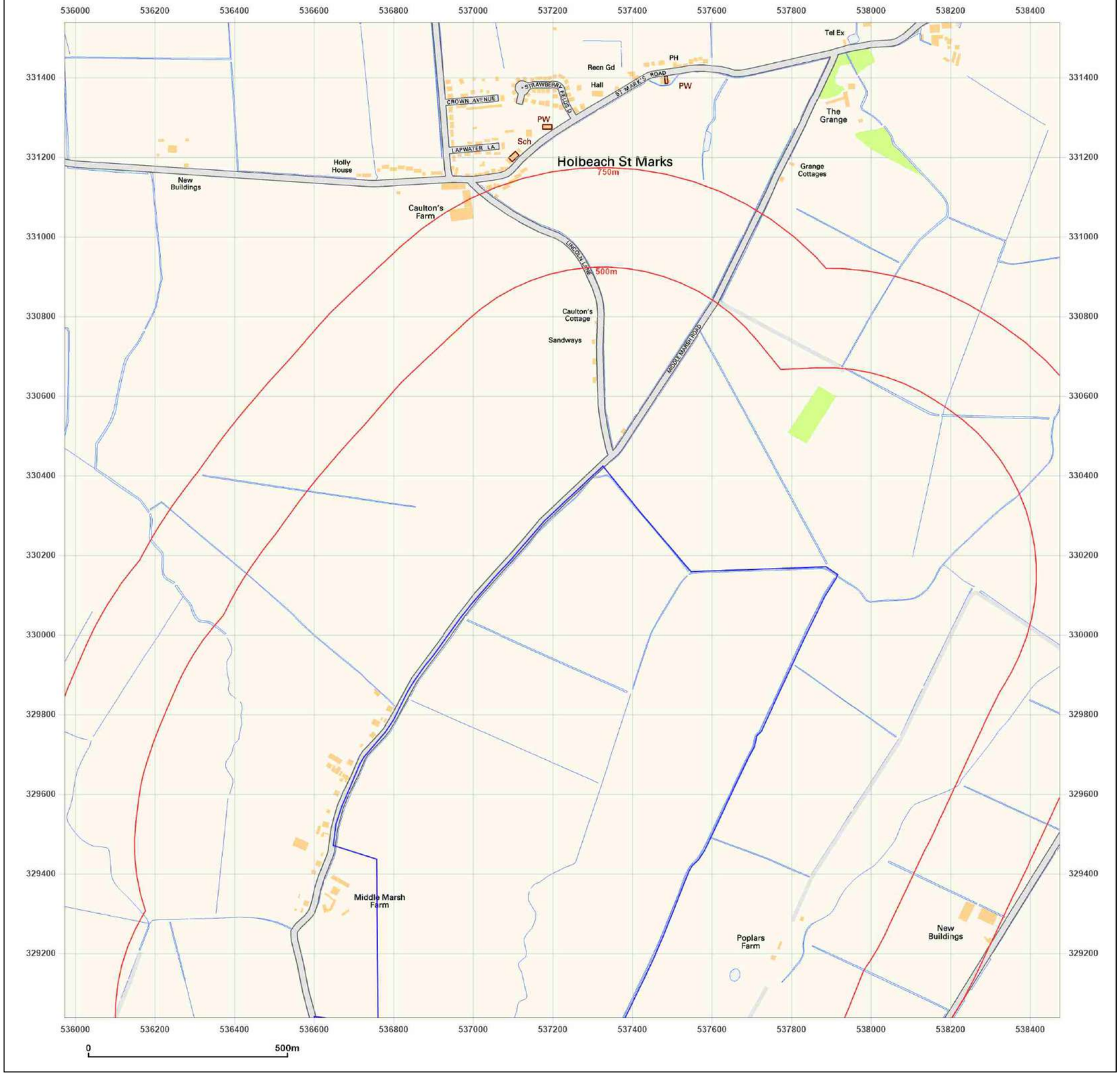
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Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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W E
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2010

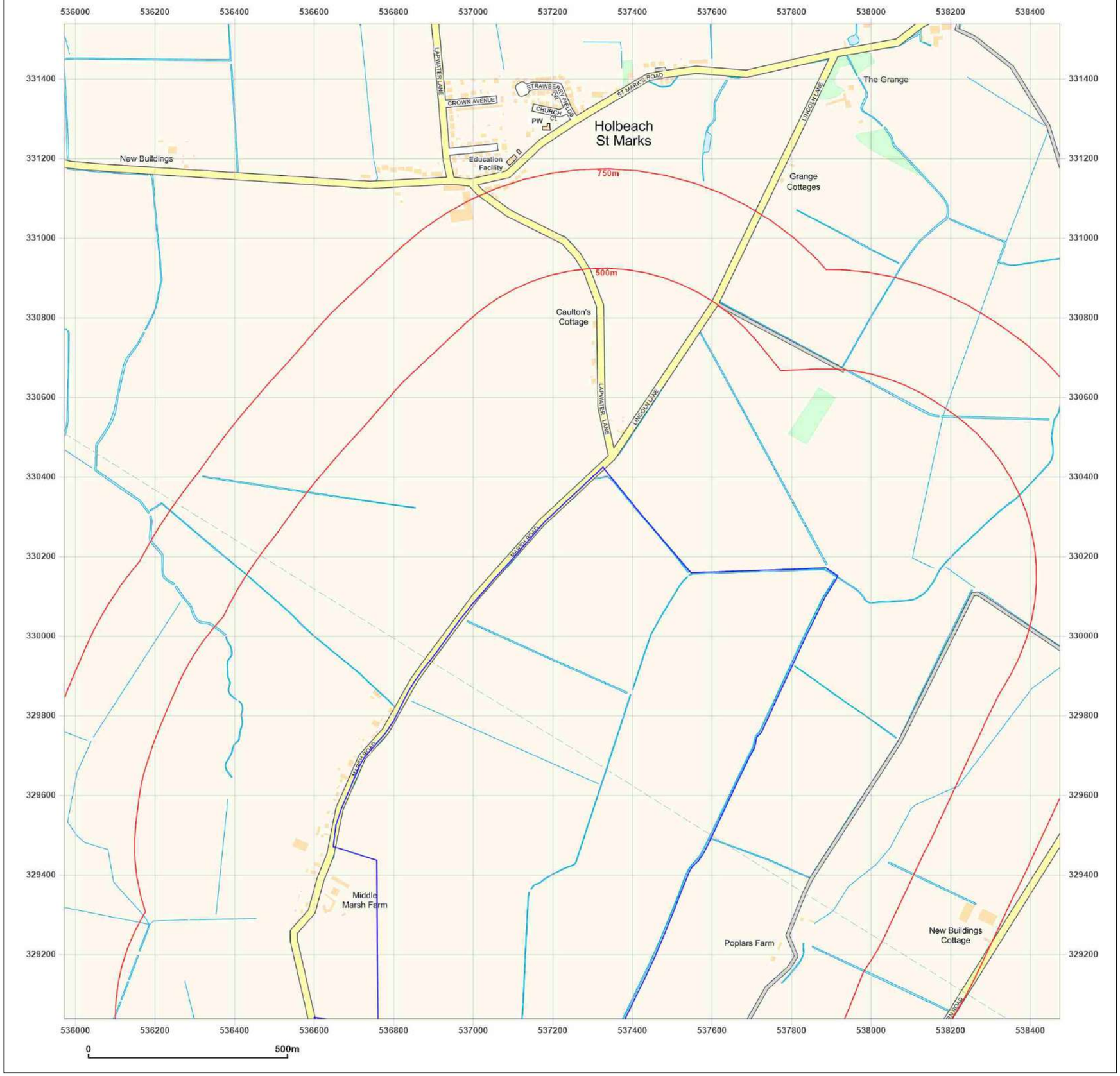
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Groundsure INSIGHTS

Site Details:

Boston

Client Ref: Boston
Report Ref: GSIP-2021-12269-7927_SS_1_2
Grid Ref: 537224, 330288

Map Name: National Grid

Map date: **2021**

Scale: 1:10,000

Printed at: 1:10,000

N
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2021

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