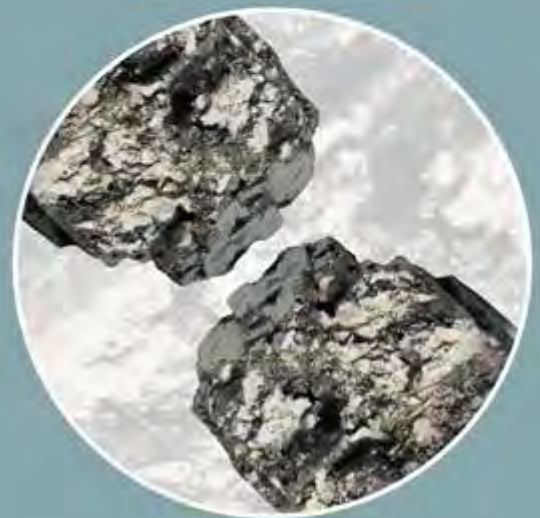




**Document:** Desk Study Report  
**Project:** Bicester Health Care Hub  
**Reference No:** GN23319\_DS  
**Date:** February 2021  
**Prepared for:** Rossi Long Consulting Ltd

**harrison**geotechnical  
**ENGINEERING**



## HARRISON GROUP ENVIRONMENTAL LIMITED

**Document:** Desk Study Report

**Project:** Bicester Health Care Hub

**Reference No:** GN23319\_DS

**Date:** February 2021

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## FOREWORD

### General Conditions Relating To A Desk Study Report

This investigation has been devised to generally comply with the relevant principles and requirements of BS10175:2011+A2:2017 'Investigation of potentially contaminated sites - Code of practice', the Contaminated Land Report series (Department for Environment, Food and Rural Affairs and the Environment Agency) and the EA 'Guiding Principles for Land Contamination'. This report is a preliminary stage of investigation designed to identify potential contamination hazards and undertake preliminary hazard assessment, as such it is possible that further work may be recommended based on the findings.

The recommendations made and opinions expressed in this report by the writers are based on the information obtained from the sources described using a methodology intended to provide reasonable consistency and robustness.

The desk study has been compiled and extended into hazard identification and assessment in line with the risk-based methods referred to in Part IIA of the Environment Protection Act 1990, introduced by section 57 of the Environment Act 1995 and brought into force in April 2000.

Information gained during the initial stages of the desk study was collated to form a conceptual ground model of the site, which detailed the characteristic ground conditions and the elements of the surrounding environment. The ground model assists with identifying the potential sources of contamination, the possible receptors to the contamination and the conceivable pathways between them. It is referred to as the source-pathway-receptor linkage (or pollutant linkage), and is defined in Part IIA of the Environment protection Act 1990, and is in accordance with BS10175:2011+A2:2017.

Some items of the desk study have been provided by third parties and whilst Harrison Group have no reason to doubt the accuracy, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report.

Parts of the study based on non-invasive techniques cannot guarantee that the area investigated has the properties described in the report. Furthermore, there may be additional issues on the site, not foreseen during the survey, which involve potentially hazardous substances.

This report is produced in accordance with the scope of Harrison Group's appointment and is subject to the terms of appointment. Harrison Group accepts no liability for any use of this document other than by its client and only for the purposes, for which it was designed and produced. No responsibility can be accepted for any consequences of this information being passed to a third party who may act upon its contents/recommendations.

Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document are not to be construed as providing legal, business or tax advice or opinion.

## EXECUTIVE SUMMARY

<b>Location</b>	The site is located off Gravenhill Road, Bicester, identified by National Grid Reference 458886, 221227.
<b>Previous Site Use</b>	Historically agricultural fields and developed with Rodney House in 1960s with associated fields and storage.
<b>Current Site Use</b>	The site is currently disused after the demolition of the buildings associated with Rodney House. The eastern side of the site consisted of asphalt hard standing and to the far west of the site rough grass was noted.
<b>Geology/Hydrology</b>	The site is anticipated not to be underlain by any superficial deposits. The bedrock geology is shown to comprise the Peterborough Member (mudstone). The groundwater table is anticipated to be variable and can be expected at depths between 8-9m.
<b>Background Information</b>	<p>Potential on site sources of contamination relate to historical tanks on site as well as various waste piles around the site. There is also the potential for made ground from demolition of buildings as well as asbestos containing materials (ACM).</p> <p>One surface water feature was noted just west of the site boundary, a flooded drainage ditch. The site is classified as non-productive strata and it does not lie within a groundwater source protection zone (SPZ).</p>
<b>Geotechnical Hazards</b>	There is the potential for shrinkable deposits and uncontrolled backfill (made ground) and buried relict structures may be present.
<b>Contamination</b>	From the desk-based research, the identified potential sources of contamination are considered to be from historical tanks on site as well as various waste piles and made ground present site. These have the potential to contain contaminated near-surface soils and to generate ground gases.
<b>Recommendations</b>	<p>A Phase 2 Ground Investigation is recommended in order to quantify for the potential identified contaminative hazards to impact sensitive receptors along with the identified geotechnical hazards. The Phase 2 investigation should include the following elements:</p> <ul style="list-style-type: none"> <li>• Drilling of dynamic continuous (window sampler) boreholes and trial pit excavations across the site to confirm ground conditions and allow the collection of samples.</li> <li>• Soakaway testing to BRE 365 method to provide infiltration data for suitability/design of conventional soakaways or SuDS features.</li> <li>• Targeted investigation of historical features and where possible ACM have been observed.</li> <li>• Collection of soil samples and laboratory testing to provide data for contamination assessment and define geotechnical soil parameters.</li> <li>• Contamination hazard assessment and evaluation.</li> <li>• Groundwater/leachate testing if elevated total soil concentrations are recorded.</li> <li>• Ground gas monitoring and assessment.</li> </ul>

# PHASE ONE CONTAMINATION ASSESSMENT (DESK STUDY)

## FOR A SITE AT

### BICESTER HEALTH CARE HUB

## 1 TERMS OF REFERENCE & INTRODUCTION

The work covered by this report was undertaken on behalf of Rossi Long Consulting Limited (the client), in accordance with Harrison Group Environmental Limited quotation dated 20<sup>th</sup> January 2021, with an emailed instruction to proceed from the client dated 26<sup>th</sup> January 2021.

The purpose of the report was to provide environmental and geotechnical information for a site off Gravenhill Road, Bicester, to inform the client of possible hazards prior to redevelopment as a medical centre, as well as for submission to the local authority as part of the planning process.

The site is located on land between Anniversary Avenue and Gravenhill Road, Bicester, as shown on drawing GN23319-DR001 presented in the appendix. At the time of our assessment the site comprised a demolished area with hardstanding on the eastern side and overgrown vegetation to the west.. A copy of the annotated site plan has been presented in the appendix as GN23319-DR002, showing the approximate boundary and features within the site.

## 2 BACKGROUND INFORMATION







### 2.1 Site Description





The site is bounded to the east by Graven Hill Road and the A41, and to the south by Anniversary Avenue, It covers an area of approximately 1.18 hectares (ha) and is centred at approximately National Grid Reference 458886, 221227. Examination of Ordnance Survey data for the area shows elevation of the site as approximately 68 to 69 metres above Ordnance Datum (maOD).

A site walkover was undertaken on the 28<sup>th</sup> January 2021 and the findings are presented in Table 2.1 below, which should be read in conjunction with the appended annotated site plan (GN23319-DR002). Some photographs of salient features have been included with the site reconnaissance records below.

<b>Current Site Use</b>	The site is currently comprises an area of disused land and shows evidence of a former building which is now demolished. The eastern portion of the site was covered in hardstanding (asphalt) while the western portion was open ground with localised area of pooled water and tall overgrown vegetation. Some overhead cables were present on the western portion of the site but have been damaged (presumably during former demolition of the building) and were trailing on the ground. The site had significant litter present across the surface and three large waste plastic pipes were also present towards the northern boundary of the site.
<b>Access</b>	<p>The site was accessible via Graven Hill road.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 1</b> View looking southwest from the north-western corner of the site. Showing access for the site.</p> </div> <div style="text-align: center;">  <p><b>Photograph 2</b> View looking northeast along Graven Hill Road access.</p> </div> </div>



<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Topography</p>	<p>Approximately half of the site comprised overgrown vegetation of mostly teasles and brambles. Water pooled was noted on the ground and the shallow soil was very waterlogged.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 3 Looking northeast from the southwest corner.</b></p> </div> <div style="text-align: center;">  <p><b>Photograph 4 Looking northeast towards the eastern portion of the site.</b></p> </div> </div>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Existing Buildings / Structures</p>	<p>There were no buildings or structures present on site at the time of the walkover. Three pipes were observed towards the northern boundary (see Photograph 5 below). Additionally, a manhole cover was noted towards the southwest of the site, the cover could not be lifted.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 5 Showing the three large diameter plastic pipes located close to the northern boundary</b></p> </div> <div style="text-align: center;">  <p><b>Photograph 6 Showing cover located along the southwest portion of the site.</b></p> </div> </div> <p>The western boundary of the site had pooled water present running to the sewer in the southwest corner.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 7 Showing the full drainage ditch forming the western boundary, looking from the northwest corner towards the south.</b></p> </div> <div style="text-align: center;">  <p><b>Photograph 8 Showing the culvert headwall located in the southwest corner.</b></p> </div> </div>

Site Surface	<p>The ground surface was split into hardstanding in the east and overgrown vegetated topsoil to the west. On the hardstanding especially it was noted that water was pooling due to recent heavy rainfall. There was a limited quantity of litter noted on the site surface. General waste was also identified across the site as comprising building materials from where structures have been removed.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 9</b> Example of litter present on site.</p> </div> <div style="text-align: center;">  <p><b>Photograph 30</b> Showing pooling water towards the north eastern boundary of the site.</p> </div> </div>
Above / Below Ground Tanks	<p>There were no above or below ground tanks observed on site during the walkover.</p>
Services	<p>Overhead power cables present and had partially fallen down and were trailing on the ground.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p><b>Photograph 11</b> Overhead cable trailing on the ground noted at the western portion of the site.</p> </div> <div style="text-align: center;">  <p><b>Photograph 12</b> Overhead cable trailing on the ground noted at the western portion of the site.</p> </div> </div>
Surface Water	<p>Water within a drainage ditch was noted along the western boundary. In addition, pooling surface water was present on hardstanding located in the eastern portion of the site.</p>



<b>Surrounding Area</b>	<p>The site was situated to the east of the A41 roundabout in Bicester. Open fields were present to the northwest and northeast of the site with Graven Hill and the A41 beyond. To the west there is a warehouse located north off Anniversary Avenue. Immediately south of the site is open ground with scrub and mature trees, with a surface water attenuation pond and public walkway beyond. The proposed site access route runs north of Anniversary Avenue between the drainage ditch to the west and the attenuation pond to the east.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <p><b>Photograph 13</b> fields located to the south.</p> <p><b>Photograph 14</b> western boundary of the site taken from outside site boundaries.</p> </div>
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**Table 2.1 Details of the Site Walkover**

## 2.2 Environmental Setting

The environmental setting background information (geology, hydrology, hydrogeology and database information) and site history have been researched as part of this report. A summary of the environmental and geological setting is given in the following sections.

Table 2.2 below gives background information from mapping, online and literature sources.

	<b>Data Source</b>	<b>Data Summary</b>
<b>Topography</b>	Online resource, Google Earth, accessed February 2021.	The site is positioned south of Bicester. Lidar data indicates a surface elevation range of approximately 68 to 69m aOD.
<b>Geology</b>	<p>GroundSure Geo+Enviro Insight Report Reference GS-7546289.</p> <p>Online resource, British Geological Survey, Geology of Britain, accessed February 2020.</p> <p>Online resource, British Geological Survey website previous borehole records, BGS ID: 336804, 336744, 336807 and 336801 all accessed February 2021.</p>	<p>The site is not recorded as being underlain by superficial deposits with the nearest recorded superficial soils comprising Alluvium located 222m to the northwest of the site.</p> <p>The site is recorded as being directly underlain by bedrock of the Peterborough Member (mudstone). It should also be noted that the Kellaway Sand Member is recorded 41m north of the site.</p> <p>BGS boreholes drilled in close proximity to the site (within 1km) and within the same formation outlined that the geology on the site was consistent. A borehole drilled to the east encountered clay to depths of 10m. To the north another borehole recorded Glacial Till overlying weathered Oxford Clay (brown clay).</p>
<b>Hydrogeology</b>	<p>Hydrogeological Map (1:625,000) 1975.</p> <p>Online resource, British Geological Survey website previous borehole records, BGS ID: 336803 accessed February 2021.</p> <p>GroundSure Geo+Enviro Insight Report Reference GS-7546289.</p>	<p>The site area is classified as being underlain by Unproductive Strata described as a low permeability that have negligible significance for water supply or river base flow.</p> <p>However, a Secondary A Aquifer is recorded approximately 240m north of the site. This is described as permeable layers capable of supporting water supplies at a local scale, and in some cases forming an important source of base flow to rivers.</p> <p>Study of the hydrogeological maps and the nearby borehole records indicate that the water table is at approximately 60m aOD.</p>

Hydrology	GroundSure Geo+Enviro Insight Report Reference GS-7546289.	The site does not lie within a source protection zone (SPZ) or within 1km of any groundwater abstraction.
		On site there is an inland river which contains water year round but is not influenced by tidal action. There are also 6 instances of inland rivers within 250m of the site, these watercourses are not influenced by tidal action.
		The site is not considered to be at risk of flooding from rivers or the sea, groundwater or surface water flooding.
Radon Potential	GroundSure Geo+Enviro Insight Report Reference GS-7546289.	The site is not in an area where full or basic protection measures are required, nor where a geological assessment is required. No radon protection measures required at this location.
Pollution and Landfill	GroundSure Geo+Enviro Insight Report Reference GS-7546289.	The pollution inventory did not reveal any significant pollution incidents on or in close proximity to the site. There was one record of a minor sewage pollution incident 476m west of site. There was no Environment Agency historical landfill site within 1km of the site but there were two waste exemption site; 106m east and 491m north respectively. Two on-site tanks were noted as potentially contaminative industrial land use. With ten more industrial land use noted within 250m of site. These related to electrical features, tanks, pipelines, water pumping stations, construction and tool hire and containers and storage. Four tanks were notes between 1966-1996 to have been on site as part of the previous land use.
Environmental Sensitivity	GroundSure Geo+Enviro Insight Report Reference GS-7546289	The site is within a Nitrate Vulnerable Zone (NVZ).
Geotechnical Hazards	GroundSure Geo+Enviro Insight Report Reference GS-7546289	Risk of ground dissolution of soluble rocks is indicated as negligible. Risk of compressible deposits is indicated as negligible. Risk of running sands is indicated as negligible. Risk of shrink/swell clays is indicated as moderate. Risk of collapsible deposits is indicated as very low. Risk of landslides is indicated as very low.
Non-Coal Mining	GroundSure Geo+Enviro Insight Report Reference GS-7546289	No underground mining is recorded on-site or within 1km. Some small-scale surface ground working pits are shown in the general locality but none are present on or adjacent to the site. The nearest surface working ('pond') recorded 244m north of the site

Table 2.2 Background Information

## 2.3 Site History

The history of the site has been researched from historical mapping sources along with information provided from the client. Copies of the Ordnance Survey maps examined have been presented in the appendix and a summary is provided in Table 2.3.

Date of Mapping	Scale of Mapping	Detail
1880	1:2,500 1:10,560	<b>On-site:</b> The site appeared to have been part of an agricultural field, with a field boundary along the northern edge of the site and partially along the west, both are bounded with trees. <b>Off-site:</b> Surrounding land was predominantly used for agriculture with a few farm buildings and lodges, Langford Farm is approximately 500m west of the site. A railway runs northeast to south west approximately 500m northwest of the site. To the north of the site the town of Bicester is present. Gravenhill wood present 500m south of the site. A disused brick works is present approximately 600m north of the site.
1898, 1900,1920, 1922 & 1958	1:2,500 1:10,560	No significant changes were noted on or off-site.

Date of Mapping	Scale of Mapping	Detail
1966	1:2,500	<p><b>On-site:</b> The site is now occupied by Rodney House with buildings present in the north and southwest of the site. A tank is present within the road spaces towards the south of the site.</p> <p><b>Off-site:</b> A sport ground is present immediately east of the site with a pavilion towards the northeast corner. Two buildings lie immediately south of the site as part of Rodney house. A depot is now labelled approximately 100m within site with the railway expanding to encircle it.</p>
1970 & 1986	1:2,500 1:10,000	<p><b>On-site:</b> No changes noted on site.</p> <p><b>Off-site:</b> The depot to the south of the site has expanded with 15 new industrial buildings built. In 1970 a sewage farm in present to the east of the railway. The roundabout to the east of the site is present in the 1986 map.</p>
1992 & 1995	1:2,500 1:10,000	<p><b>On-site:</b> Two small square buildings have been constructed toward the north of the site.</p> <p><b>Off-site:</b> The surrounding area is developed with housing estates shown as Langford Village to the northeast of the site. Gravenhill wood has become smaller.</p>
2003 & 2010	1:10,000	<p><b>On-site:</b> No changes were noted on-site.</p> <p><b>Off-site:</b> The surrounding area is further developed; by 2010 a road had been created linking the site to the nearby roundabout.</p>

**Table 2.3 Summary of Site Setting from Historical Mapping**

## 2.4 Summary of Background Information

The geology underlying the site is anticipated to comprise bedrock of the Peterborough Member (mudstone) from ground level with no superficial soils recorded. Historically, the site was agricultural farmland and was developed in the 1960s with a club called Rodney House with various associated buildings and gardens, with a sports pitch to the east. Historically, the site consisted of hardstanding toward to northeast with gardens towards the south and west before being cleared of structures more recently (understood to have occurred between 2013 and 2017). During the walkover, the site surface was noted to comprise areas of hardstanding in the east with open ground with overgrown vegetation in the west. There was evidence of pooled water towards the west of the site and across the areas of hardstanding in the east.

There were three large waste plastic pipes noted as present towards the northern boundary of the site and a manhole cover located along the southwest which could not be lifted. No buildings were present on site having been demolished, litter was present frequently with tall teasles and brambles present in the centre of the site. There was one main access road into the site which consisted of a asphalt road (Graven Hill) running north off Anniversary Avenue, with the site entrance secured with a gate.

There is one record of a minor pollution incident within 500m of the site comprising a minor sewage spill; this is considered unlikely to pose significant contamination issues on site. Two on site tanks were historically recorded as shown on the 1966 historical map, but were not observed during the site walkover. The potential for unknown made should be considered as a possible source of contamination. There are no current or historical landfills, underground mining or surface workings in the vicinity of the site. No significant ground gas sources were noted.

## 3 HAZARD IDENTIFICATION AND ASSESSMENT

Contamination hazard identification has been undertaken and this has been developed to include source-pathway-receptor principles. Geotechnical hazards are also identified and commented upon.

### 3.1 Geotechnical Hazard Identification

Table 3.1 below contains an initial assessment of the likely geotechnical hazards that could be present at the site.

Hazard	Requires further consideration?	Comment
Sulphate bearing soils	Yes	Considered to be a medium risk from encountering soils high in sulphate, but chemical testing is recommended.
Uncontrolled backfill	Yes	No evidence to suggest uncontrolled backfill on-site, however as the site has had previously demolished buildings present there may be the potential for undocumented made ground. Made ground should be expected below the asphalt hardstanding.
Low permeability soil	Yes	It was anticipated the bedrock geology of the site may include mudstone which will have a lower permeability, particularly if weathered to a clay.
Shrink/ swell potential	Yes	The site may include cohesive (potentially shrinkable) soils within the bedrock deposits.
Slope stability	No	Insufficient slope to suffer instability on-site.
Underground obstructions and structures	Yes	Examination of available historical map data suggests the likely presence of relic structures/footings relating to its former development.
High groundwater level/flooding	No	Groundwater anticipated to be found at approximately 60maOD (approx. 8mbgl). Flooding risk associated with groundwater is indicated as being negligible.
Dissolution Features	No	The background information suggests a very low hazard rating for the site.
Potential variable deposits	Yes	The site is recorded as being underlain by bedrock of the Peterborough Formation and no variation is indicated on available mapping. However, Made Ground may be present at a shallow level which is likely to be variable in its composition, thickness and extent.
Unexploded ordnance	No	UXO study suggests a 'low' risk although UXO awareness training and emergency plan recommended for intrusive works.

**Table 3.1 Initial Geotechnical Hazard Identification**

This table is based on local empirical knowledge, geology and topography; however, it should be revised if additional relevant data was identified at any time.

### 3.2 Environmental Hazard Identification

In this part of the report, environmental hazard identification is undertaken, leading to the development of a conceptual ground model for the site. Contamination sources are specified based on the information previously presented in this report as well as our experience and identified receptors, in association with a list of potential contaminants.

As an initial step, the viability of the potential sources are considered in Table 3.2.1 below.

Potential Source	Distance (m)	Direction	Initial Assessment	Requires Further Consideration?
Current/historical tanks	On Site		Contaminants associate with this potential source are considered most likely to flow down the hydrological gradient taking them away from the site.	Yes
Railway	0 - 203	S, SW, SE, W,	Contaminants associate with this potential source are considered most likely to flow down the hydrological gradient taking them away from the site.	Yes
Six current industrial sites	0 – 243	N, NE, NW SW, SE, W	Various land uses identified, however none with sufficient potential impact to warrant specific consideration. May be considered a low risk source of a general suite of contaminants.	Yes
Electricity infrastructure	133 174 243	N SE SE	Contaminants (PCBs) associated with this source are generally relatively immobile and considered unlikely to impact on the site.	No
Pollution incident	476	W	Water Impact: Minor Land Impact: No Impact Air Impact: No Impact	No

Potential Source	Distance (m)	Direction	Initial Assessment	Requires Further Consideration?
Eleven licence discharge consents	1km +		No significant impact on the site anticipated.	No

**Table 3.2.1 Initial Assessment of Potential Sources of Contamination**

Of these potential sources, the historic and current tanks and current industrial uses are believed to be the most significant sources of potential contamination and will be considered further in the assessment process.

The hazard identification is based on the assumptions presented below:

- The site under consideration is proposed for redevelopment for residential use.
- The site will be assessed based on its former and proposed use from information provided in DEFRA/ Environment Agency (EA), 2019 'land contamination: risk management' and Science Report 3 'Updated technical background to the CLEA model' (Environment Agency, 2009).
- Drinking water will be from mains supply.

In advance of any demolition or further site clearance, it is advisable for asbestos testing to be completed of the shallow soils/Made Ground in the area of former buildings. If identified, asbestos impacted soils should be removed and disposed of in accordance with the 'Duty of Care' and applicable legislation.

The identified contamination hazards/sources and sensitive receptors are summarised in tables 3.2b and 3.2c below.

Contamination Hazards/Sources			
On Site		Off Site	
Source	Implication	Source	Implication
Historical and current tanks on site.	Soils and groundwater impacted by total & leachable contaminants.	Industrial features.	Soil and groundwater impacted by total and leachable contaminants.
Corroded metals, spills and waste piles from demolition of buildings.	Soil and groundwater impacted by total and leachable contaminants.	Railway.	Soil and groundwater impacted by total and leachable contaminants.
Potential for unknown made ground, from the demolition of buildings.	Soil and groundwater impacted by total and leachable contaminants.		
Potential asbestos containing materials (ACMs).	Inhalation of dust/fibres.		

**Table 3.2.2 Potential Contamination Sources and Implications**

Sensitive Receptors
People using the site during and post development construction.
Water supply pipes.
Local flora & fauna.

**Table 3.2.3 Potential Sensitive Receptors**

### 3.3 Key Contaminants

The investigation of the site history has indicated potentially contaminative past uses associated with the site. These include past/present tanks, waste piles, potential made ground from demolition of buildings and possible ACM containing materials. Additionally, off-site potential contaminant sources including the railway and industrial infrastructure to the north and south of the site respectively. These varied activities



present the potential risk of contamination to be present in the near surface soils, drain runs, and groundwater.

It is normal to consider the contamination implications of a specific land use to formulate a list of key contaminants, using documents such as CLR 8 'Potential Contaminants for the Assessment of Land', and the relevant Department of the Environment Industry Profiles. In this case, given the nature of the previous use and potential for redevelopment at the site, a key contaminant list that may be adopted for an initial screening could include: metals, acids/alkalis, asbestos, hydrocarbons (fuels and oils), and pesticides/herbicides. The potential for spilled chemicals also warrants consideration of analysis for volatile and semi-volatile organic compounds (VOC and SVOC) where sources are identified.

### 3.4 Schematic Section

In order to identify potential pollutant linkages, a schematic section has been included below as Figure 3.4.2, with Figure 3.4.1 showing the trend line for the section.



Figure 3.4.1 Trend Line of the Schematic Cross-Section

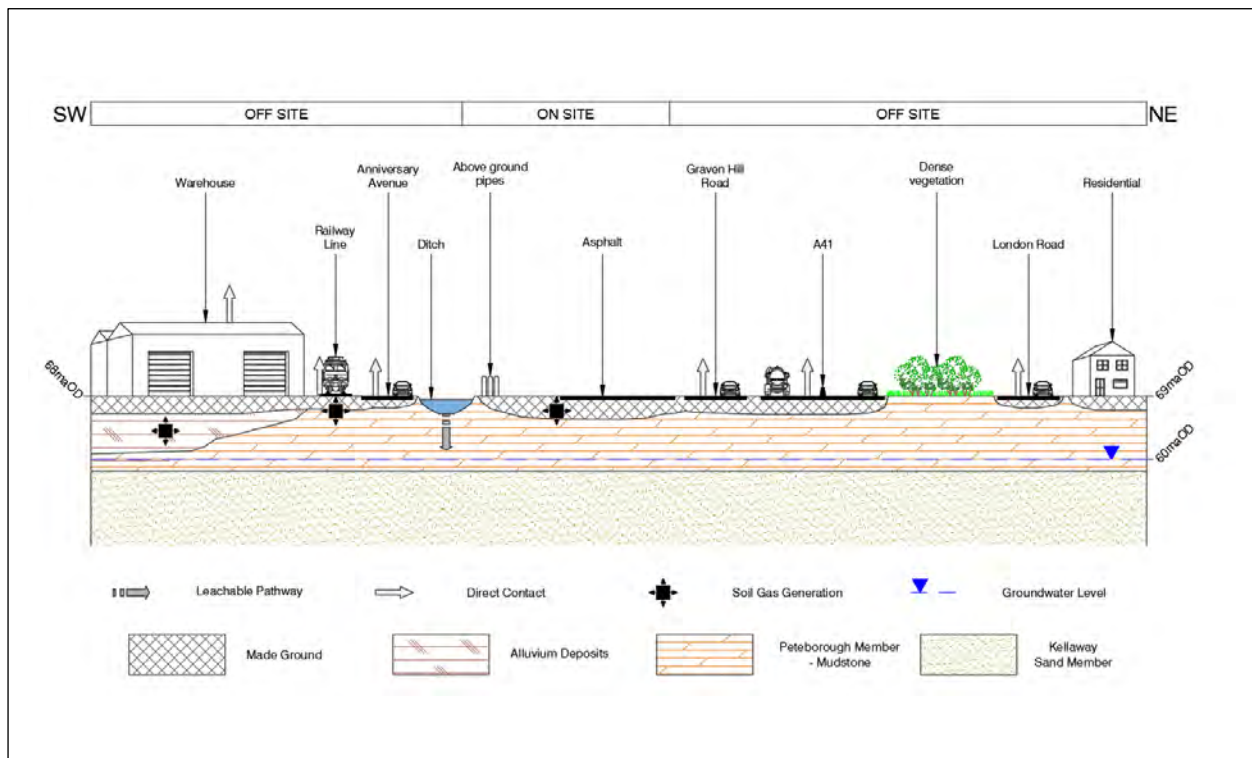


Figure 3.4.2 Schematic Cross-Section

### 3.5 Hazard Assessment

An initial assessment of the risk posed by each pollutant linkage has been carried out. This is included as Table 3.5 below and identifies a medium to high hazard with recommended subsequent activity having the potential to include:

- Action required (AR) in the short term to break existing source-pathway-receptor link;
- Site investigation (SI) with objectives for risk estimation; or,
- No action (NA) at this stage.

Some pollutant linkages (source-pathway-receptor relationships) have been assessed to require further action. Recommendations for further work are largely with regard to the investigation of the ground conditions; these are discussed in Section 4.

Hazard Identification				Hazard Assessment			
Link No.	Source/ Hazard	Pathway	Receptor	Probability	Consequence	Hazard Ranking	Hazard Assessment: Action required (AR) Site Investigation (SI) No Action (NA)
1	Hazardous vapours / soil gas from made ground or migrating to site from backfill material on-site and off-site.	Ingress into excavations, structures and confined spaces, and subsequent inhalation.	People on the site during development construction.	Likely	Severe	High Risk	SI - Ground gas monitoring/assessment with ground worker risk assessment required.
2		Ingress into structures and confined spaces, and subsequent inhalation.	People using the site post development construction.	Low Likelihood	Severe	Moderate Risk	
3	Contaminated soil from previous and present contamination sources both on and off site	Ingestion of soil through direct contact, eating with dirty hands and dust inhalation.	People on the site during development construction.	Likely	Medium	Moderate Risk	SI - Possibility of contamination across the site. Requires quantification through investigation and chemical testing followed by ground worker risk assessment.
4			People using the site post development construction.	Likely	Medium	Moderate Risk	SI - Possibility of contamination across the site. Requires quantification, through investigation and chemical testing followed by risk assessment.
5		Leaching.	Groundwater (Secondary Aquifer)	Low Likelihood	Medium	Moderate / Low Risk	NA – Likelihood of groundwater contamination through leaching of shallow made ground considered unlikely give the low permeability of the underlying bedrock soils.
6		Via service pipes.	People using site after development completion.	Likely	Medium	Moderate Risk	SI - Possibility of contamination across the site. Requires quantification, through investigation and chemical testing followed by risk assessment to assess whether barrier pipe will be required for new water mains.
7		Plant uptake.	Local flora and fauna.	Low Likelihood	Medium	Moderate / Low Risk	NA - Chemical testing and assessment of risk required only if significantly deleterious conditions encountered during invasive investigation works.
8		Direct contact.	Building structures	Likely	Mild	Moderate/ Low Risk	SI - Possibility of contamination across the site. Requires quantification, through investigation and chemical testing followed by appropriate assessment.

**Table 3.5 Initial Hazard Identification and Hazard Assessment (Table of Pollutant Links)**

## **4 DISCUSSION & RECOMMENDATIONS**

### **4.1 Discussion**

This phase one contamination and geotechnical assessment (desk study report) was undertaken for a site located off Graven Hill, Bicester. This phase one investigation was undertaken in order to establish how potential contamination and geotechnical hazards could impact the future development of the site. The proposed end use of the site is for residential purposes and this has been considered throughout this report.

No intrusive investigation has been undertaken as part of the phase one assessment. Based on the site history and background information, it is deemed necessary to consider an investigation in relation to the potential for contamination and the assessment of geotechnical issues. It should be made clear that the contamination hazards may not prove to be significant, but their nature and number lead us to recommend site investigation in order to properly assess them.

### **4.2 Geotechnical Risks**

Potential shrinkable deposits are considered likely within the bedrock deposits of mudstone immediately underlying the site. The potential for uncontrolled backfill across the site and relict structures have been identified as potential geotechnical hazards at this location. An intrusive investigation is recommended across the site prior to any construction, to provide information of the design of foundations and to confirm the underlying ground conditions. The anticipated ground conditions are likely to be suitable for shallow spread foundations, provided that deep made ground and relict structures are absent.

Consideration of the sulphate content of the soils should be given with respect to the grade of concrete suitable for use at this location. The shear strength and California Bearing Ratio of shallow soils should be assessed in order to consider pavement design. The nature of the deposits covering the site and expected depth to groundwater level, suggest that conventional soakaways are unlikely to be suitable for the proposed development.

### **4.3 Environmental Risks**

The site is understood to have been used as “Rodney House” since the early 1960’s, and by 2017 the structures had been demolished leaving the asphalt hardstanding only in the east. Historical activity on site is unlikely to have caused significant contamination, however, the demolition of buildings may have included ACMs and uncontrolled made ground to be deposited on site. The soils should be investigated for the potential presence of ACM.

Potentially contaminative applications at the site included storage tanks, potential for spills/leakage, general waste, building demolition and the resulting waste piles now present on site. Prior to the commencement of any redevelopment we recommend completion of an intrusive investigation to identify if contamination is present, and if so, assess risks posed to sensitive receptors.

### **4.4 Site Investigation Strategy**

Prior to redevelopment of the site, characterisation of the existing ground conditions recommended. The following scope of works should be completed to form an initial assessment of potentially contaminated land, and for the purposes of geotechnical hazard assessment. In particular, the site investigation should aim to assess the potential for contamination from the past uses and the potential for uncontrolled fill in discrete locations. To assess the potential presence of contamination and the risk to the sensitive receptors, soil chemical laboratory analysis should be undertaken. If elevated total soil contaminant concentrations are recorded, leachate and groundwater analyses may be advisable.

Investigation should include the following scope of works:

- Direct investigation of the ground by trial pitting and the drilling of dynamic continuous (window sampler) boreholes to determine the soil types and to enable collection of shallow soils samples. This should also include measurement of shear strength within trial pits and SPT testing within boreholes.
- Selective analysis of shallow soil samples collected to provide quantitative information for a contamination assessment.
- Targeted investigation of historical structures/features and where possible ACM have been observed.

- Preparation of contamination hazard assessment and evaluation.
- Groundwater/leachate testing if elevated total soil concentrations are recorded.
- Geotechnical analysis to quantify risks in relation to shrink/swell and aggressive ground conditions for concrete.
- Installation of ground gas monitoring wells may be considered should a significant thickness of made ground is encountered.

The scope of works outlined above is designed to aid in the assessment of contamination issues on the site, and determine geotechnical properties to inform the design of foundations and pavements. The exact scope of work could vary, depending on client and regulator requests and recommendations. Additionally, certain aspects of the work could be reduced or increased, depending on the initial findings from in-situ investigation, as outlined in the guidance given by the British Standard 10175:2011+A2:2017 investigation of potentially contaminated sites - code of practice, and the principles of European Code 7 – geotechnical design.

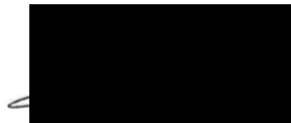
#### **4.5 Summary and Implications**

The basic requirement for redevelopment standards in the UK is that land should be 'suitable for use' or 'fit for purpose', rather than apply a blanket 'clean' or 'all uses policy'. It is important to consider the limited nature of this investigation, and the possibility of unidentified contaminant sources existing.

The potentially contaminative uses and geotechnical hazards identified on site lead us to the conclusion that intrusive investigation is appropriate before the site can be considered suitable without remedial action. The investigation should include an assessment of the potential for contaminated soil from the historical uses of the site and the potential for migration of contamination from surrounding areas. However, based on the information available, it is not considered likely that gross contamination is likely to be present which may otherwise limit the development potential.

Harrison Group Environmental Limited would be pleased to offer further assistance with the recommended works if requested, and if the client or regulators have any comments or questions we would be glad to discuss them.

Report prepared by:



**Theodora Clark BSc (hons)**  
Graduate Geotechnical Engineer

Report checked by:



**Jamie Austin BSc (hons) MSc FGS CGeol**  
Principal Geotechnical Engineer



## LIST OF APPENDICES

Datasheet: General Risk Assessment Methodology

### **Drawings**

Site Location Plan

GN23319-DR001

Annotated Site Plan

GN23319-DR002

### **Background Information**

GroundSure Enviro+Geo Insight Data Report

GS-7546289

Historical Ordnance Survey Maps

GS-7546288\_largeScale

GS-7546288\_smallScale

## DATASHEET: GENERAL RISK ASSESSMENT METHODOLOGY

The pollutant links and initial conceptual ground model provide a potential 'source-pathway-receptor' analysis for the site based on the information presented in the report. Qualitative risk assessment allows for a consideration of the relative risk or hazard due to each potential linkage. Risk assessment is an iterative process, and as such must start at a general level, gradually becoming more specific as more cycles are performed based on better information.

An initial estimation of risk can be undertaken using the methodology set out in CIRIA 552 (2001), "Contaminated land risk assessment. A guide to good practice". This involves classification of the magnitude of the potential consequence (severity) of risk occurring (Table D1) and magnitude of the probability (likelihood) of the risk occurring (Table D2). These are then used to produce a risk category (Table D3).

Classification	Definition	Examples
<b>Severe</b>	Short-terms (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-terms risk to a particular ecosystem or organism forming part of such ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
<b>Medium</b>	Chronic damage to human health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic or site-specific assessment criteria. Leaching of contaminants from a site to a principal or secondary aquifer. Death of a species within a designated nature reserve.
<b>Mild</b>	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the <i>Draft Circular on Contaminated Land</i> , DETR, 2000). Damage to sensitive buildings/structures/ services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
<b>Minor</b>	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table D1: Classification of Consequence

Classification	Definition
<b>High Likelihood</b>	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
<b>Likely</b>	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
<b>Low Likelihood</b>	There is a pollution linkage and circumstances are possible, under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
<b>Unlikely</b>	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table D2: Classification of Probability

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table D3: Definition of Risk (Comparison of consequence against probability)

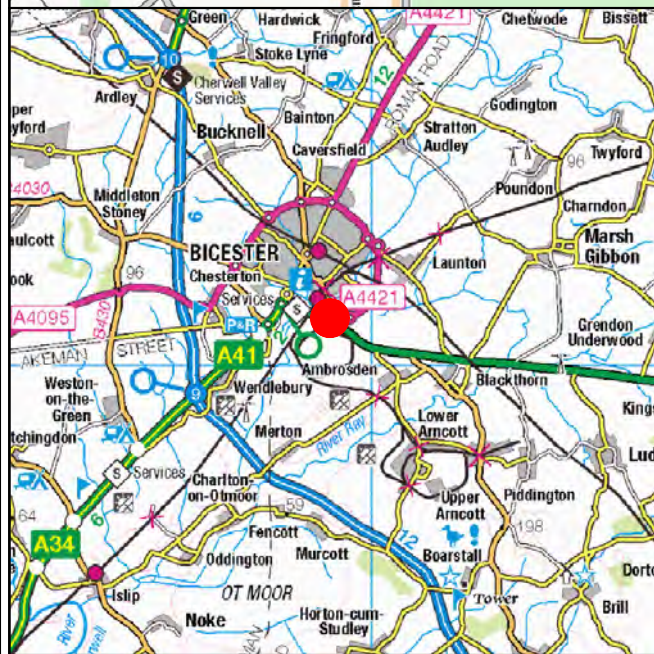
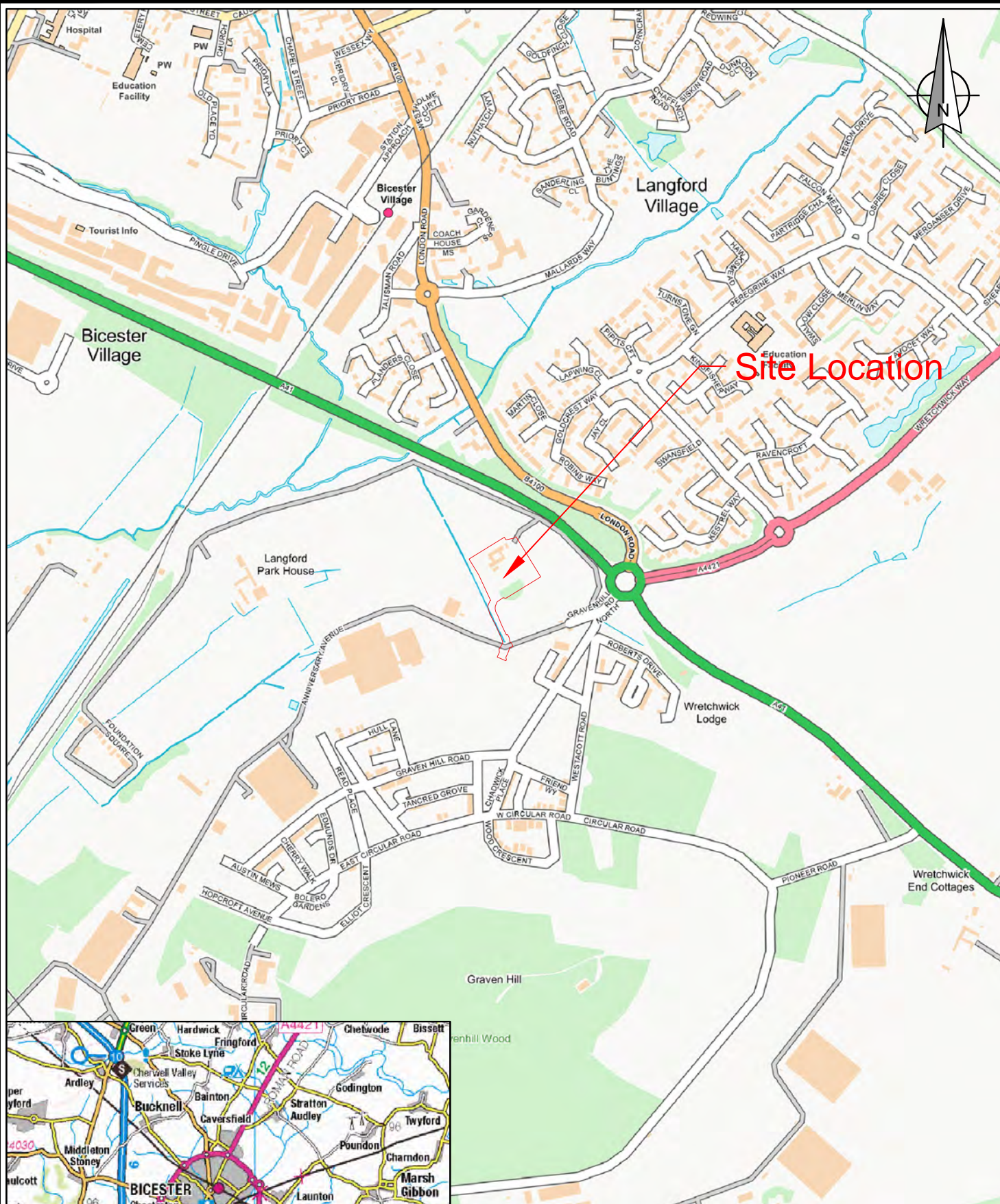
## DATASHEET: GENERAL RISK ASSESSMENT METHODOLOGY (CONT.)

<b>Very High Risk</b>	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
<b>High Risk</b>	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term, and are likely to be necessary over the longer term.
<b>Moderate Risk</b>	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
<b>Low Risk</b>	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
<b>Very Low Risk</b>	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

**Table D4: Description of the classified risks and likely action required**

The process described above represents the general qualitative risk assessment methodology used by Harrison Group Environmental in the context of the report in which it was represented, and may not necessarily be transferable to all situations.





**Rossi Long Consulting**

**harrisongroup**  
ENVIRONMENTAL

Norwich: 01603 613111 London: 020 7537 9233  
Cambridge: 01223 781585 Laboratory: 01603 416333

Email: [info@harrisingroupuk.com](mailto:info@harrisingroupuk.com)  
Website: [www.harrisingroupuk.com](http://www.harrisingroupuk.com)



Certificate Number 5933  
ISO 9001, ISO 14001

4031

Client : Rossi Long Consulting Ltd  
Project : Bicester Health Care Hub  
Job No : GC23319 Date : February 2021  
Drawing No : GC23319 - DR001  
Scale : 1:10000 @ A4  
Drawn by : RW Checked by : TC  
Eastings : 458880 Northings : 221240  
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458886, 221227,

## Order Details

**Date:** 04/02/2021  
**Your ref:** GC23319\_36582-CS  
**Our Ref:** GS-7546289  
**Client:** Harrison Group UK

## Site Details

**Location:** 458886 221227  
**Area:** 1.18 ha  
**Authority:** [Cherwell District Council](#)



**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

p.13

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Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>14</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	4	0	3	4	-
<b>15</b>	<b>1.2</b>	<b><u>Historical tanks</u></b>	4	0	0	5	-
<b>16</b>	<b>1.3</b>	<b><u>Historical energy features</u></b>	0	0	1	2	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<b>18</b>	<b>2.1</b>	<b><u>Historical industrial land uses</u></b>	10	0	3	8	-
<b>19</b>	<b>2.2</b>	<b><u>Historical tanks</u></b>	13	0	0	18	-
<b>21</b>	<b>2.3</b>	<b><u>Historical energy features</u></b>	0	0	1	12	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
<b>24</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	0	2	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>26</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	2	0	9	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>29</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	0	0	1	3	-
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
31	4.17	List 2 Dangerous Substances	0	0	0	0	-
<b>31</b>	<b>4.18</b>	<b><u>Pollution Incidents (EA/NRW)</u></b>	0	0	0	1	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
<b>33</b>	<b>5.1</b>	<b><u>Superficial aquifer</u></b>	Identified (within 500m)				
<b>34</b>	<b>5.2</b>	<b><u>Bedrock aquifer</u></b>	Identified (within 500m)				
<b>36</b>	<b>5.3</b>	<b><u>Groundwater vulnerability</u></b>	Identified (within 50m)				
<b>37</b>	<b>5.4</b>	<b><u>Groundwater vulnerability- soluble rock risk</u></b>	Identified (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>39</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	0	0	7
<b>41</b>	<b>5.7</b>	<b><u>Surface water abstractions</u></b>	0	0	0	0	3
<b>42</b>	<b>5.8</b>	<b><u>Potable abstractions</u></b>	0	0	0	0	1
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
<b>44</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	1	1	8	-	-



45	6.2	<u>Surface water features</u>	1	0	5	-	-
46	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
46	6.4	<u>WFD Surface water bodies</u>	0	0	1	-	-
47	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
48	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50	7.6	Flood Zone 2	None (within 50m)				
50	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
51	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
53	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
54	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
55	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
55	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
55	10.4	Special Protection Areas (SPA)	0	0	0	0	0
55	10.5	National Nature Reserves (NNR)	0	0	0	0	0
56	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
56	10.7	<u>Designated Ancient Woodland</u>	0	0	0	1	0
56	10.8	Biosphere Reserves	0	0	0	0	0
56	10.9	Forest Parks	0	0	0	0	0
57	10.10	Marine Conservation Zones	0	0	0	0	0
57	10.11	Green Belt	0	0	0	0	0
57	10.12	Proposed Ramsar sites	0	0	0	0	0



57	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
57	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
58	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<b>58</b>	<b>10.16</b>	<b><u>Nitrate Vulnerable Zones</u></b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>59</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
60	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
61	11.1	World Heritage Sites	0	0	0	-	-
61	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
61	11.3	National Parks	0	0	0	-	-
61	11.4	Listed Buildings	0	0	0	-	-
62	11.5	Conservation Areas	0	0	0	-	-
62	11.6	Scheduled Ancient Monuments	0	0	0	-	-
62	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>63</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	Grade 3b (within 250m)				
64	12.2	Open Access Land	0	0	0	-	-
64	12.3	Tree Felling Licences	0	0	0	-	-
64	12.4	Environmental Stewardship Schemes	0	0	0	-	-
64	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>65</b>	<b>13.1</b>	<b><u>Priority Habitat Inventory</u></b>	0	0	6	-	-
66	13.2	Habitat Networks	0	0	0	-	-
66	13.3	Open Mosaic Habitat	0	0	0	-	-
66	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>67</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	Identified (within 500m)				
<b>68</b>	<b>14.2</b>	<b><u>Artificial and made ground (10k)</u></b>	1	0	1	0	-
<b>69</b>	<b>14.3</b>	<b><u>Superficial geology (10k)</u></b>	0	0	1	0	-



70	14.4	Landslip (10k)	0	0	0	0	-
<b>71</b>	<b>14.5</b>	<b><u>Bedrock geology (10k)</u></b>	1	1	1	1	-
72	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>73</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
<b>74</b>	<b>15.2</b>	<b><u>Artificial and made ground (50k)</u></b>	1	0	0	0	-
<b>75</b>	<b>15.3</b>	<b><u>Artificial ground permeability (50k)</u></b>	1	0	-	-	-
<b>76</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	0	0	1	0	-
77	15.5	Superficial permeability (50k)	None (within 50m)				
77	15.6	Landslip (50k)	0	0	0	0	-
77	15.7	Landslip permeability (50k)	None (within 50m)				
<b>78</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	1	1	1	1	-
<b>79</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
79	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
<b>80</b>	<b>16.1</b>	<b><u>BGS Boreholes</u></b>	0	4	9	-	-
Page	Section	Natural ground subsidence					
<b>82</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Moderate (within 50m)				
<b>83</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Low (within 50m)				
<b>85</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Negligible (within 50m)				
<b>86</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Very low (within 50m)				
<b>87</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Very low (within 50m)				
<b>88</b>	<b>17.6</b>	<b><u>Ground dissolution of soluble rocks</u></b>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
90	18.1	Natural cavities	0	0	0	0	-
91	18.2	BritPits	0	0	0	0	-
<b>91</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	0	0	1	-	-
91	18.4	Underground workings	0	0	0	0	0
91	18.5	Historical Mineral Planning Areas	0	0	0	0	-



92	18.6	Non-coal mining	0	0	0	0	0
92	18.7	Mining cavities	0	0	0	0	0
92	18.8	JPB mining areas	None (within 0m)				
92	18.9	Coal mining	None (within 0m)				
92	18.10	Brine areas	None (within 0m)				
93	18.11	Gypsum areas	None (within 0m)				
93	18.12	Tin mining	None (within 0m)				
93	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<b>94</b>	<b>19.1</b>	<b><u>Radon</u></b>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<b>95</b>	<b>20.1</b>	<b><u>BGS Estimated Background Soil Chemistry</u></b>	1	2	-	-	-
95	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
95	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
96	21.1	Underground railways (London)	0	0	0	-	-
96	21.2	Underground railways (Non-London)	0	0	0	-	-
97	21.3	Railway tunnels	0	0	0	-	-
<b>97</b>	<b>21.4</b>	<b><u>Historical railway and tunnel features</u></b>	4	6	4	-	-
98	21.5	Royal Mail tunnels	0	0	0	-	-
<b>98</b>	<b>21.6</b>	<b><u>Historical railways</u></b>	0	0	3	-	-
<b>98</b>	<b>21.7</b>	<b><u>Railways</u></b>	0	2	4	-	-
99	21.8	Crossrail 1	0	0	0	0	-
99	21.9	Crossrail 2	0	0	0	0	-
99	21.10	HS2	0	0	0	0	-

## Recent aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 05/07/2019

Site Area: 1.18ha



Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

Date: 4 February 2021



## Recent site history - 2015 aerial photograph



Aerial photograph by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 06/09/2015

Site Area: 1.18ha



Contact us with any questions at:

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08444 159 000

Date: 4 February 2021

## Recent site history - 2009 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 19/08/2009

Site Area: 1.18ha



Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

Date: 4 February 2021

10



## Recent site history - 2006 aerial photograph



Capture Date: 12/10/2006

Site Area: 1.18ha





## Recent site history - 1999 aerial photograph



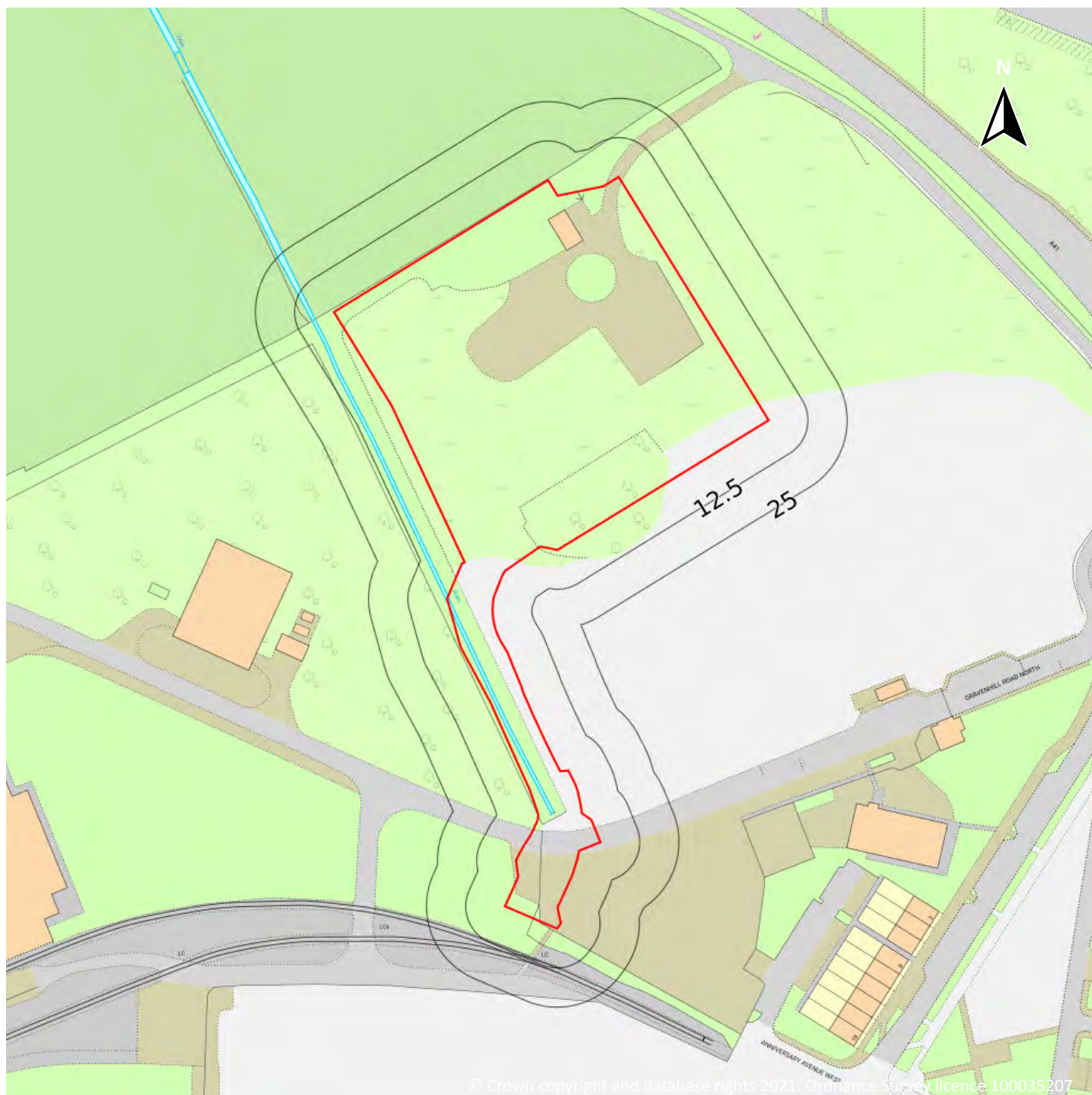
Capture Date: 05/10/1999

Site Area: 1.18ha





## OS MasterMap site plan

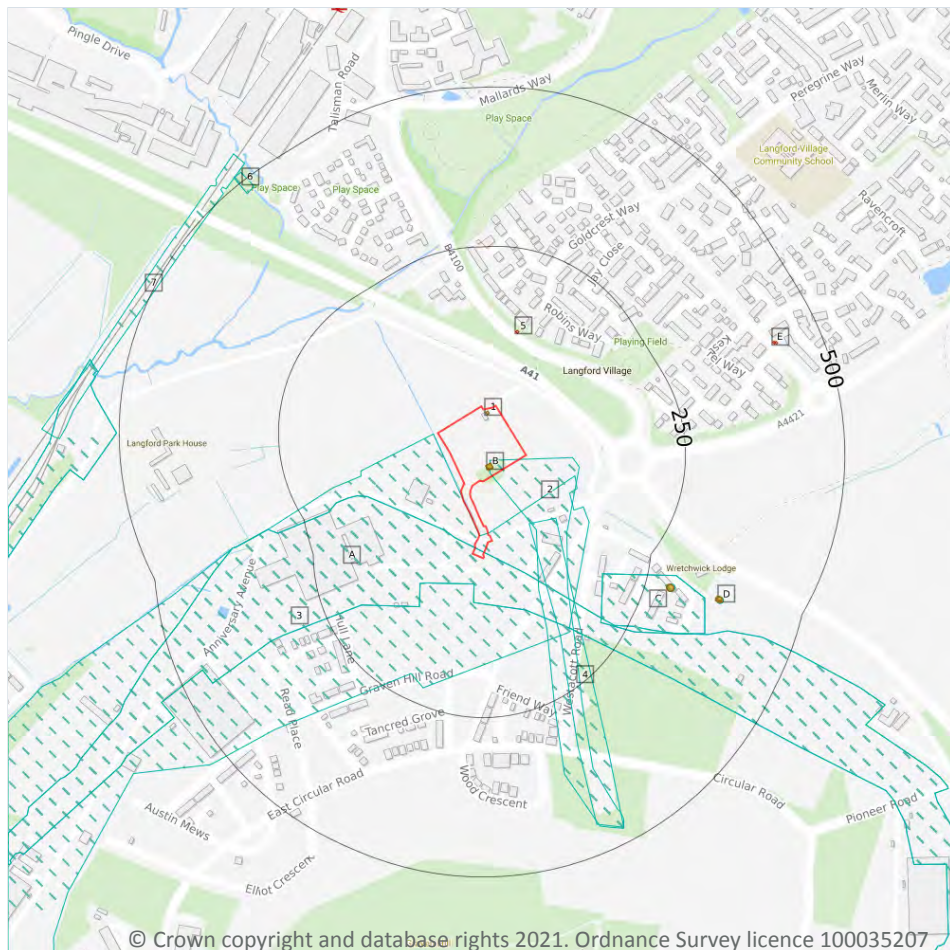


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Site Area: 1.18ha



## 1 Past land use



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

### 1.1 Historical industrial land uses

#### Records within 500m

11

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

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

ID	Location	Land use	Dates present	Group ID
2	On site	Rifle Range	1919 - 1950	1842343



ID	Location	Land use	Dates present	Group ID
3	On site	Unspecified Depot	1966 - 1995	1815314
A	On site	Railway Sidings	1966 - 1970	1790603
A	On site	Railway Sidings	1980 - 1995	1831952
4	63m E	Rifle Range	1898	1826141
C	181m E	Unspecified Commercial/Industrial	1995	1842699
C	181m E	Unspecified Commercial/Industrial	1970	1848165
C	286m E	Unspecified Tank	1970 - 1995	1790597
D	365m E	Unspecified Tank	1970	1769026
6	480m NW	Unspecified Heap	1898 - 1950	1839557
7	492m NW	Cuttings	1880	1752580

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

## 1.2 Historical tanks

### Records within 500m

9

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

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

ID	Location	Land use	Dates present	Group ID
1	On site	Unspecified Tank	1986 - 1996	290382
B	On site	Unspecified Tank	1995 - 1996	297295
B	On site	Unspecified Tank	1966	299623
B	On site	Unspecified Tank	1986 - 1992	300187
C	283m E	Unspecified Tank	1992 - 1997	294003
C	284m E	Unspecified Tank	1966	299504
D	362m E	Unspecified Tank	1992	291945
D	364m E	Unspecified Tank	1966	291286



ID	Location	Land use	Dates present	Group ID
D	365m E	Unspecified Tank	1986	289326

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

### 1.3 Historical energy features

<b>Records within 500m</b>	<b>3</b>
----------------------------	----------

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

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

ID	Location	Land use	Dates present	Group ID
5	119m N	Electricity Substation	1996	170665
E	425m NE	Electricity Substation	1992	180183
E	428m NE	Electricity Substation	1995 - 1997	181218

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

### 1.4 Historical petrol stations

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

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

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

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.*





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ID	Location	Land Use	Date	Group ID
C	On site	Railway Sidings	1985	1831952
C	On site	Railway Sidings	1970	1790603
C	On site	Railway Sidings	1995	1831952
D	On site	Unspecified Depot	1966	1815314
D	On site	Unspecified Depot	1985	1815314
D	On site	Unspecified Depot	1970	1815314
D	On site	Unspecified Depot	1995	1815314
1	63m E	Rifle Range	1898	1826141
F	181m E	Unspecified Commercial/Industrial	1970	1848165
F	181m E	Unspecified Commercial/Industrial	1995	1842699
F	286m E	Unspecified Tank	1985	1790597
F	286m E	Unspecified Tank	1970	1790597
F	286m E	Unspecified Tank	1995	1790597
G	365m E	Unspecified Tank	1970	1769026
I	480m NW	Unspecified Heap	1950	1839557
I	480m NW	Unspecified Heap	1919	1839557
I	480m NW	Unspecified Heap	1898	1839557
3	492m NW	Cuttings	1880	1752580

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

## 2.2 Historical tanks

### Records within 500m

**31**

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

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

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Tank	1995	290382
A	On site	Unspecified Tank	1986	290382



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Tank	1992	290382
A	On site	Unspecified Tank	1996	290382
A	On site	Unspecified Tank	1996	290382
A	On site	Unspecified Tank	1995	290382
E	On site	Unspecified Tank	1995	297295
E	On site	Unspecified Tank	1966	299623
E	On site	Unspecified Tank	1986	300187
E	On site	Unspecified Tank	1992	300187
E	On site	Unspecified Tank	1996	297295
E	On site	Unspecified Tank	1996	297295
E	On site	Unspecified Tank	1995	297295
F	283m E	Unspecified Tank	1992	294003
F	284m E	Unspecified Tank	1996	294003
F	284m E	Unspecified Tank	1996	294003
F	284m E	Unspecified Tank	1966	299504
F	284m E	Unspecified Tank	1997	294003
F	284m E	Unspecified Tank	1997	294003
F	284m E	Unspecified Tank	1995	294003
F	284m E	Unspecified Tank	1996	294003
F	284m E	Unspecified Tank	1995	294003
F	284m E	Unspecified Tank	1996	294003
F	284m E	Unspecified Tank	1995	294003
F	284m E	Unspecified Tank	1995	294003
F	284m E	Unspecified Tank	1995	294003
F	284m E	Unspecified Tank	1995	294003
G	362m E	Unspecified Tank	1992	291945
G	364m E	Unspecified Tank	1966	291286
G	365m E	Unspecified Tank	1986	289326
G	365m E	Unspecified Tank	1986	289326



ID	Location	Land Use	Date	Group ID
G	366m E	Unspecified Tank	1966	291286

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

## 2.3 Historical energy features

**Records within 500m**

**13**

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

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

ID	Location	Land Use	Date	Group ID
2	119m N	Electricity Substation	1996	170665
H	425m NE	Electricity Substation	1992	180183
H	428m NE	Electricity Substation	1996	181218
H	428m NE	Electricity Substation	1996	181218
H	428m NE	Electricity Substation	1997	181218
H	428m NE	Electricity Substation	1997	181218
H	428m NE	Electricity Substation	1995	181218
H	428m NE	Electricity Substation	1996	181218
H	428m NE	Electricity Substation	1995	181218
H	428m NE	Electricity Substation	1996	181218
H	428m NE	Electricity Substation	1995	181218
H	428m NE	Electricity Substation	1995	181218
H	428m NE	Electricity Substation	1995	181218

*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



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

### 3.1 Active or recent landfill

Records within 500m

0

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

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

### 3.2 Historical landfill (BGS records)

Records within 500m

0

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

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



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

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

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

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

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

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

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

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

### 3.5 Historical waste sites

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

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

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

### 3.6 Licensed waste sites

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

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

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

### 3.7 Waste exemptions

**Records within 500m****4**

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

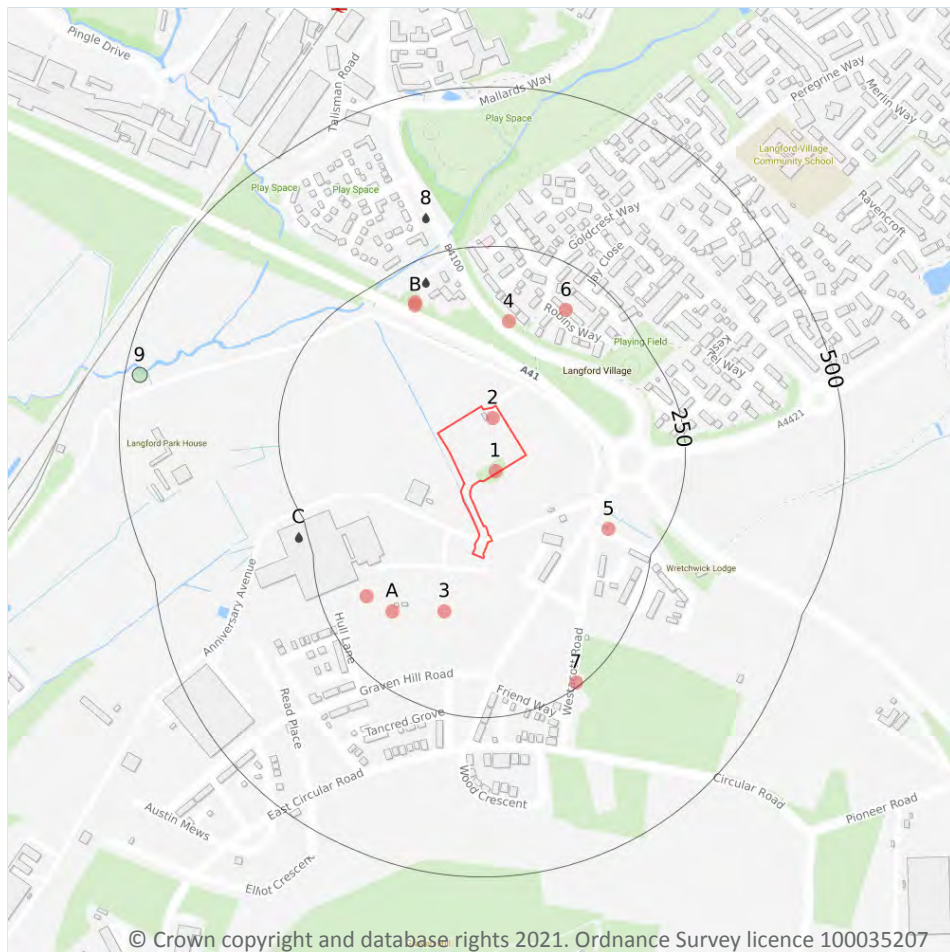
Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	106m E	Defence Transport and Movements Agency Bicester International Freight Terminal Graven Hill BICESTER Oxfordshire OX26 6JP	EPR/AF0403W A/A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
A	106m E	Defence Transport and Movements Agency Bicester International Freight Terminal Graven Hill BICESTER Oxfordshire OX26 6JP	EPR/AF0403W A/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
B	491m N	Parklands Place	EPR/TE5541NT /A001	Disposing of waste exemption	Non-Agricultural Waste Only	Deposit of waste from dredging of inland waters
B	491m N	Parklands Place	EPR/TE5541NT /A001	Using waste exemption	Non-Agricultural Waste Only	Spreading waste on non-agricultural land to confer benefit

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



## 4 Current industrial land use



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

### 4.1 Recent industrial land uses

Records within 250m

11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Company	Address	Activity	Category
1	On site	Tank	Oxfordshire, OX26	Tanks (Generic)	Industrial Features
2	On site	Tank	Oxfordshire, OX26	Tanks (Generic)	Industrial Features
3	101m SW	Depot	Oxfordshire, OX25	Container and Storage	Transport, Storage and Delivery



ID	Location	Company	Address	Activity	Category
4	133m N	Electricity Sub Station	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities
A	155m SW	Tank	Oxfordshire, OX25	Tanks (Generic)	Industrial Features
5	174m SE	Electricity Sub Station	Oxfordshire, OX25	Electrical Features	Infrastructure and Facilities
A	180m W	Pipeline	Oxfordshire, OX25	Pipelines	Industrial Features
6	186m NE	F L Scaffolding	7, Robins Way, Bicester, Oxfordshire, OX26 6XJ	Construction and Tool Hire	Hire Services
B	190m NW	Pumping Station	Oxfordshire, OX26	Water Pumping Stations	Industrial Features
B	193m NW	Sewage Pumping Station	Oxfordshire, OX26	Waste Storage, Processing and Disposal	Infrastructure and Facilities
7	243m SE	Electricity Sub Station	Oxfordshire, OX25	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**

**0**

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*





## 4.5 Sites determined as Contaminated Land

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

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

## 4.7 Regulated explosive sites

Records within 500m

0

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

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

## 4.8 Hazardous substance storage/usage

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

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

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

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

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

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

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

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

*This data is sourced from Local Authority records.*

#### 4.12 Radioactive Substance Authorisations

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

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

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

#### 4.13 Licensed Discharges to controlled waters

**Records within 500m****4**

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 26**

ID	Location	Address	Details	
B	213m NW	M.O.D. Rodney House	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1419 Permit Version: 1 Receiving Water: LANGFORD BROOK	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 26/11/2002



ID	Location	Address	Details	
C	265m W	M.O.D. Site 13E	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1423 Permit Version: 1 Receiving Water: LANGFORD BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 02/09/2010
C	265m W	M.O.D. Site 13E	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1423 Permit Version: 2 Receiving Water: Langford Brook	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 13/10/2015
8	307m N	NEW GAS WORKS, EAST SIDE OF LAUNTON, NEW GAS WORKS EAST SIDE OF LAUN, TON ROAD BICESTER OXON	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CTCR.0919 Permit Version: 1 Receiving Water: LANGFORD BROOK	Status: REVOKED - UNSPECIFIED Issue date: 13/04/1967 Effective Date: 13/04/1967 Revocation Date: 01/08/1986

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

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

**Records within 500m**

**0**

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

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

#### 4.15 Pollutant release to public sewer

**Records within 500m**

**0**

Discharges of Special Category Effluents to the public sewer.

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

#### 4.16 List 1 Dangerous Substances

**Records within 500m**

**0**

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

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



## 4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

## 4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Details	
9	476m W	Incident Date: 17/04/2002 Incident Identification: 72341 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

## 4.19 Pollution inventory substances

Records within 500m

0

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

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

## 4.20 Pollution inventory waste transfers

Records within 500m

0

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

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





## 4.21 Pollution inventory radioactive waste

Records within 500m

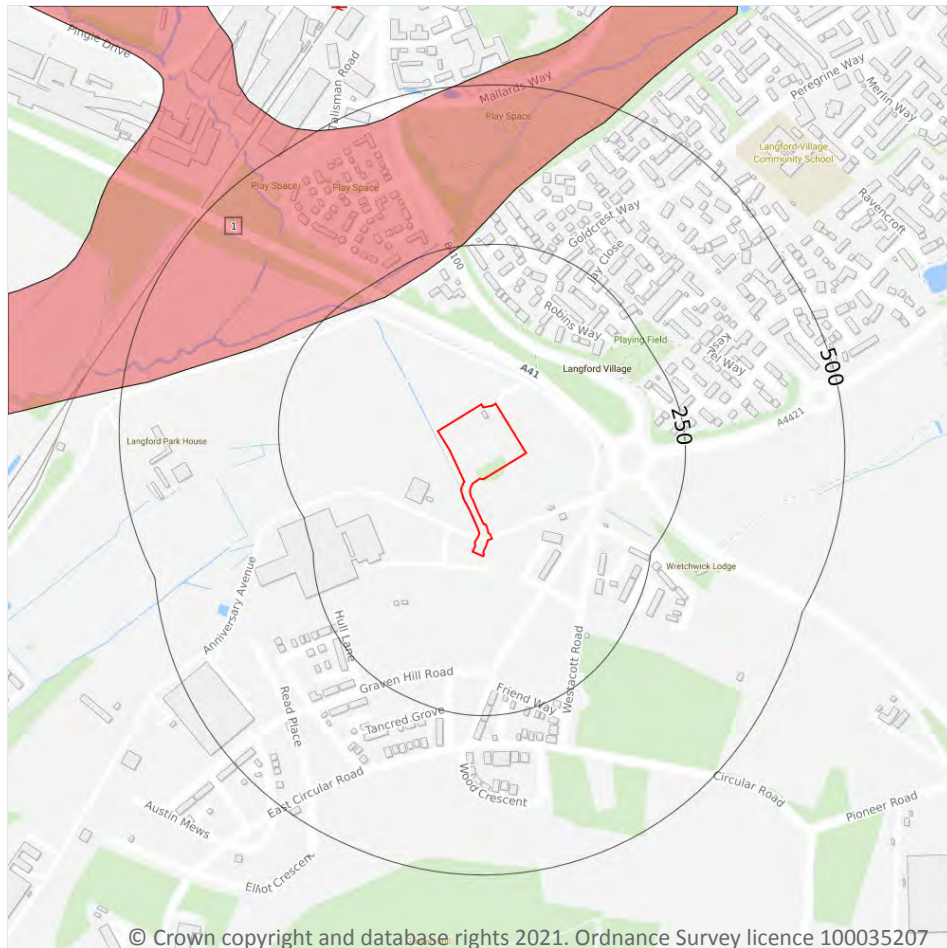
0

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

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



## 5 Hydrogeology - Superficial aquifer



— Site Outline  
Search buffers in metres (m)

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

### 5.1 Superficial aquifer

Records within 500m

1

Aquifer status of groundwater held within superficial geology.






Features are displayed on the Hydrogeology map on **page 33**

ID	Location	Designation	Description
1	222m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Map of Langford Village showing three numbered locations (1, 2, 3) and their distances from a central point. Location 1 is at Wood Crescent, 250m away. Location 2 is at Robins Way, 250m away. Location 3 is at Telsman Road, 500m away. The map includes various roads, green spaces, and buildings.

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

## 3

Features are displayed on the Bedrock aquifer map on **page 34**

ID	Location	Designation	Description
1	On site	Unproductive	<b>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</b>
2	41m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

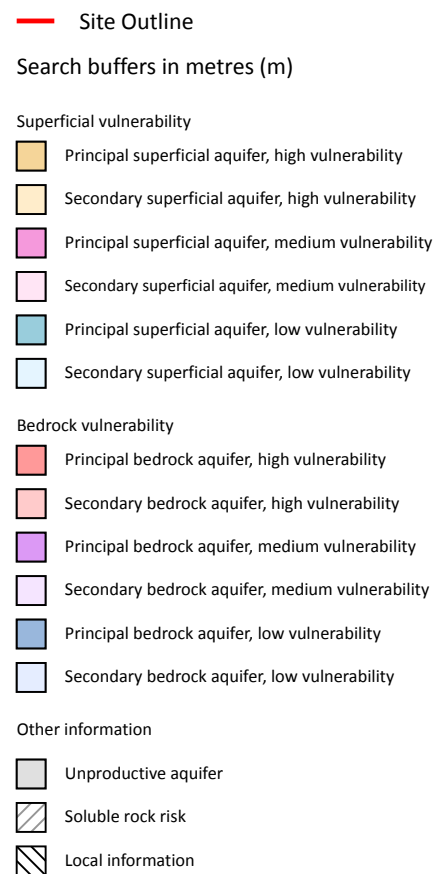
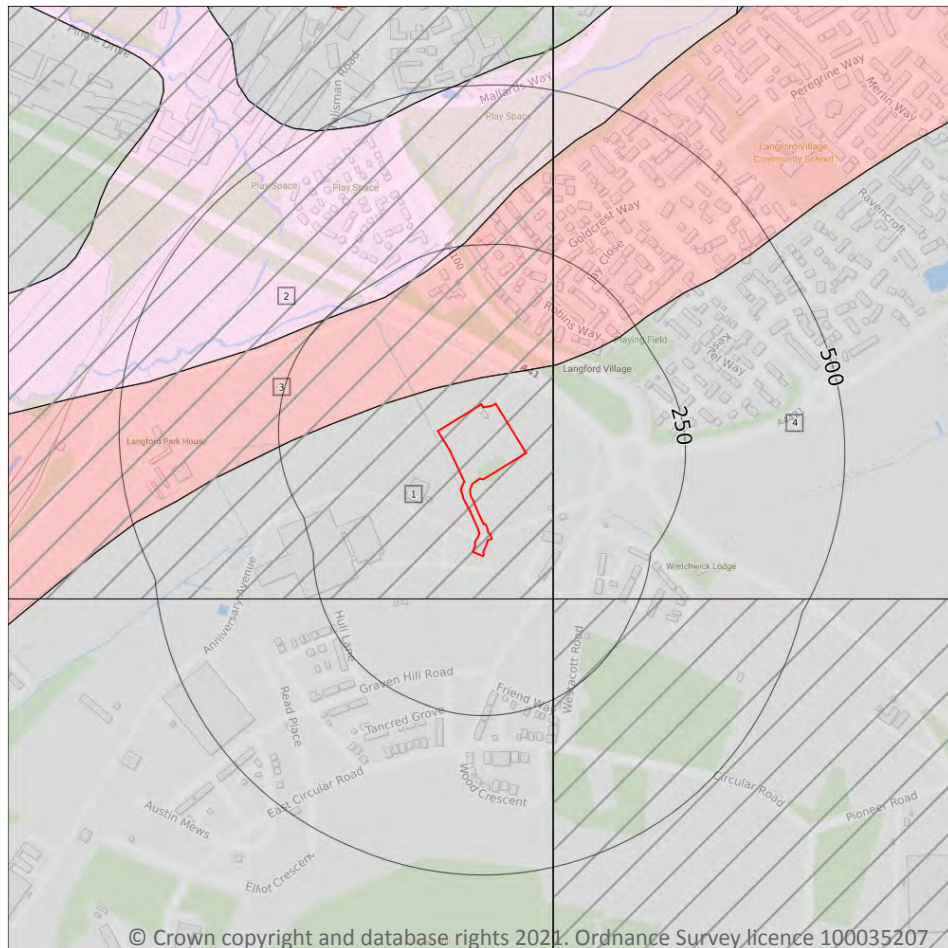
ID	Location	Designation	Description
3	222m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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





## Groundwater vulnerability



### 5.3 Groundwater vulnerability

#### Records within 50m

3

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

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

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

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	<b>Summary Classification:</b> Unproductive aquifer (may have productive aquifer beneath) <b>Combined classification:</b> Unproductive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Well connected fractures
3	40m N	<b>Summary Classification:</b> Secondary bedrock aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> Well connected fractures
4	42m E	<b>Summary Classification:</b> Unproductive aquifer (may have productive aquifer beneath) <b>Combined classification:</b> Unproductive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Well connected fractures

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

## 5.4 Groundwater vulnerability- soluble rock risk

Records on site		1
This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.		
ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk

- |   |  |             |
|---|--|-------------|
| 2 | <b>Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.</b> | <b>1.0%</b> |
|---|--|-------------|

*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](mailto:enquiries@environment-agency.gov.uk).

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



## Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1  
Inner catchment
- Source Protection Zone 2  
Outer catchment
- Source Protection Zone 3  
Total catchment
- Source Protection Zone 4  
Zone of Special Interest
- Source Protection Zone 1c  
Inner catchment - confined aquifer
- Source Protection Zone 2c  
Outer catchment - confined aquifer
- Source Protection Zone 3c  
Total catchment - confined aquifer
- Drinking water abstraction licences  
Polygon features
- Drinking water abstraction licences  
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

### 5.6 Groundwater abstractions

#### Records within 2000m

7

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**



ID	Location	Details	
-	1109m NW	Status: Historical Licence No: 28/39/14/0349 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: PRINGLE DRIVE FILLING STATION BICESTER OXON Data Type: Point Name: ARCADIS GERAGHTY & MILLER INT INC. Easting: 457990 Northing: 222000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 28/09/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 28/09/2004 Version End Date: -
-	1249m E	Status: Historical Licence No: 28/39/14/0035 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LITTLE WRETCHWICK FARM, BICESTER (A) Data Type: Point Name: MARLOW Easting: 460200 Northing: 221100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 13/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/07/1966 Version End Date: -
-	1348m E	Status: Historical Licence No: 28/39/14/0035 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LITTLE WRETCHWICK FARM, BICESTER (C) Data Type: Point Name: MARLOW Easting: 460300 Northing: 221100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 13/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/07/1966 Version End Date: -
-	1361m E	Status: Historical Licence No: 28/39/14/0035 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LITTLE WRETCHWICK FARM, BICESTER (B) Data Type: Point Name: MARLOW Easting: 460300 Northing: 221000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 13/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/07/1966 Version End Date: -
-	1492m W	Status: Active Licence No: 28/39/14/0295 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WENDLEBURY LANE, BICESTER (A) Data Type: Point Name: FACCENDA CHICKEN LTD Easting: 457400 Northing: 220800	Annual Volume (m <sup>3</sup> ): 16,593 Max Daily Volume (m <sup>3</sup> ): 68.20 Original Application No: - Original Start Date: 08/07/1983 Expiry Date: - Issue No: 100 Version Start Date: 08/07/1983 Version End Date: -





ID	Location	Details	
-	1739m W	Status: Historical Licence No: 28/39/14/0329 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: PROMISED LAND FARM, BICESTER (A) Data Type: Point Name: PROMISED LAND FARM Easting: 457200 Northing: 220600	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 16/11/1994 Expiry Date: - Issue No: 100 Version Start Date: 16/11/1994 Version End Date: -
-	1780m W	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY Data Type: Point Name: M & L ROSSITER Easting: 457100 Northing: 220800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 19/03/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/03/1987 Version End Date: -

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

## 5.7 Surface water abstractions

### Records within 2000m

**3**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**

ID	Location	Details	
-	1598m SW	Status: Historical Licence No: 28/39/14/0350 Details: Make-Up Or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: LANGFORD BROOK AT MERTON GROUNDS FARM, MERTON Data Type: Line Name: Emma Keeble and Francois Rodrigues-Pereire Easting: 457560 Northing: 219140	Annual Volume (m <sup>3</sup> ): 16256 Max Daily Volume (m <sup>3</sup> ): 145.47 Original Application No: - Original Start Date: 06/05/2005 Expiry Date: 31/03/2018 Issue No: 3 Version Start Date: 09/06/2017 Version End Date: -



ID	Location	Details	
-	1827m NE	Status: Historical Licence No: 28/39/14/0335 Details: Make-Up or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: WEST END. LAUNTON, OXON Data Type: Point Name: PASKIN Easting: 460430 Northing: 222320	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 16/12/1996 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1996 Version End Date: -
-	1827m NE	Status: Historical Licence No: 28/39/14/0335 Details: Make-Up or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: WEST END, LAUNTON, OXON -TRIB OF R.RAY Data Type: Point Name: PASKIN Easting: 460430 Northing: 222320	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 16/12/1996 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1996 Version End Date: -

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

## 5.8 Potable abstractions

### Records within 2000m

**1**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**

ID	Location	Details	
-	1780m W	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY Data Type: Point Name: M & L ROSSITER Easting: 457100 Northing: 220800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 19/03/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/03/1987 Version End Date: -

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



## 5.9 Source Protection Zones

Records within 500m

0

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

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

## 5.10 Source Protection Zones (confined aquifer)

Records within 500m

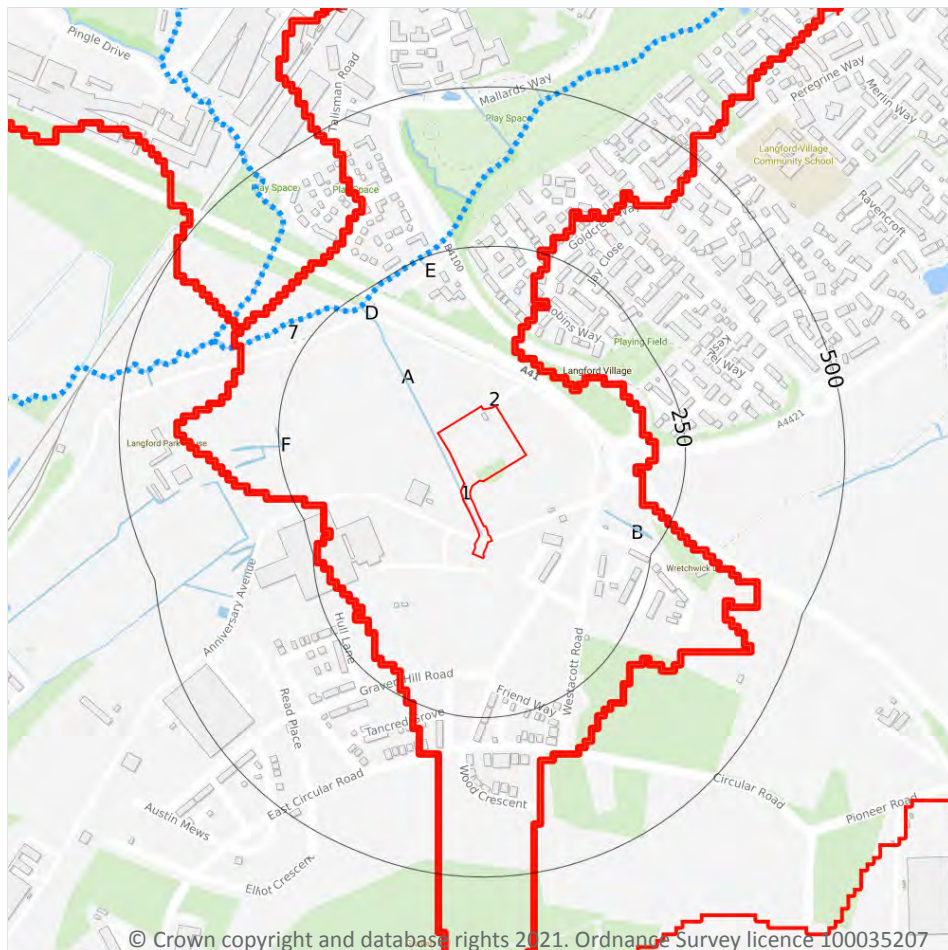
0

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

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



## 6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ... WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

### 6.1 Water Network (OS MasterMap)

Records within 250m

10

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

Features are displayed on the Hydrology map on **page 44**

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



ID	Location	Type of water feature	Ground level	Permanence	Name
A	7m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	150m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	232m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	232m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	234m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	237m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	243m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	246m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	246m 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

**6**

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

Features are displayed on the Hydrology map on **page 44**

*This data is sourced from the Ordnance Survey.*





### 6.3 WFD Surface water body catchments

#### Records on site

1

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Langford Brook (source to downstream A41)	GB106039030160	Oxon Ray	Cherwell and Ray

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

### 6.4 WFD Surface water bodies

#### Records identified

1

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
6	232m NW	River	Langford Brook (source to downstream A41)	<a href="#">GB106039030160</a>	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

### 7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

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).

*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

### 7.6 Flood Zone 2

Records within 50m

0

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

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

### 7.7 Flood Zone 3

Records within 50m

0

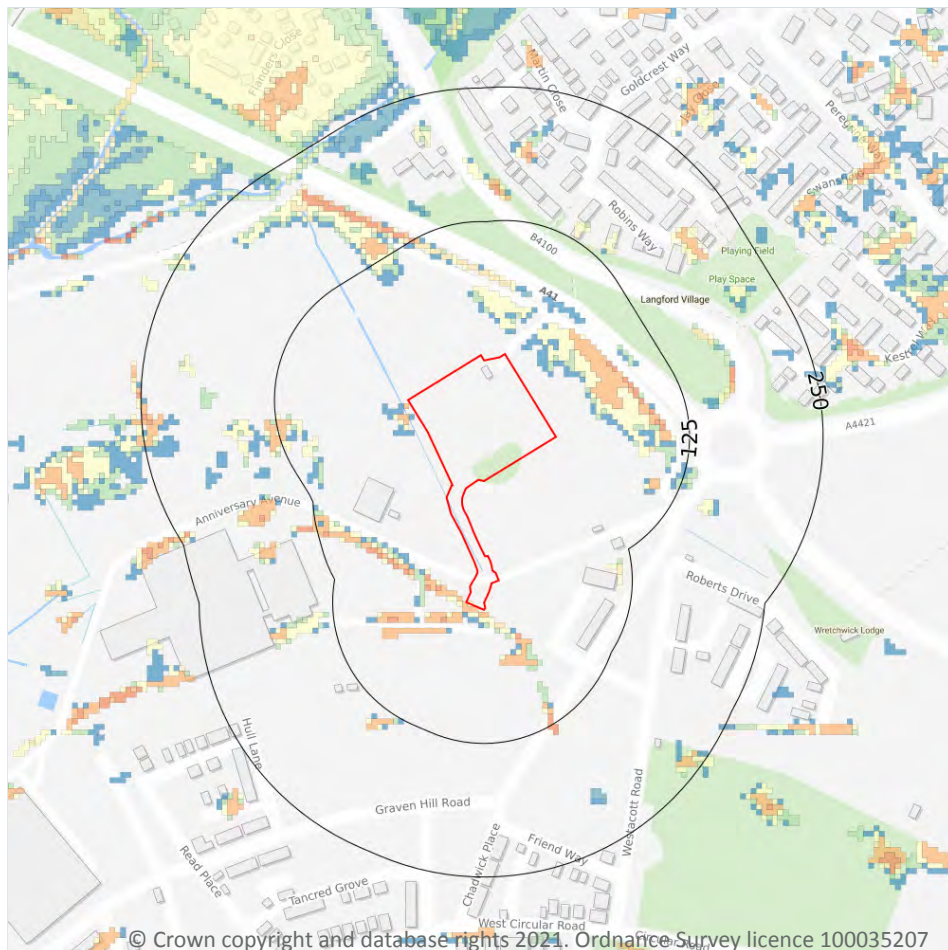
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

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





## 8 Surface water flooding



— 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, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 51**

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

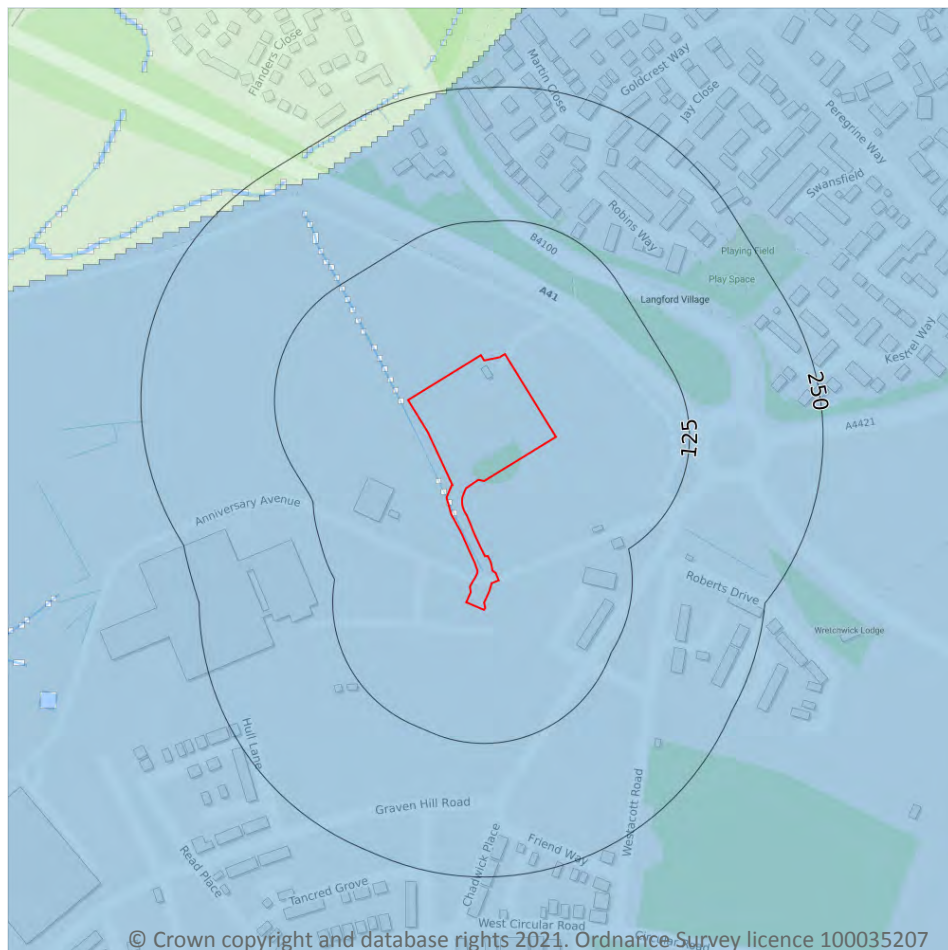
a site. The table below shows the maximum flood depths for a range of return periods for the site.

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

*This data is sourced from Ambiantal 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**

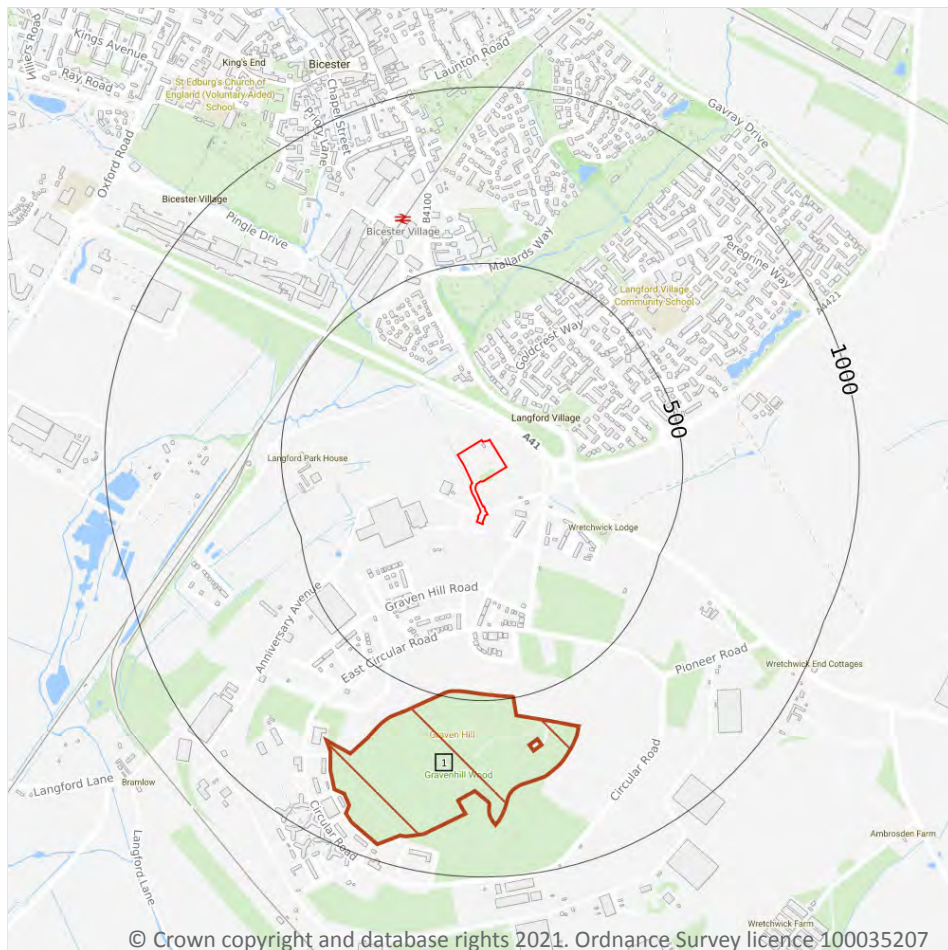
**Negligible**

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 53**

*This data is sourced from Ambient Risk Analytics.*

## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland

### 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

1

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.

Features are displayed on the Environmental designations map on **page 54**

ID	Location	Name	Woodland Type
1	477m S	Gravenhill Wood	Ancient & Semi-Natural Woodland

*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**

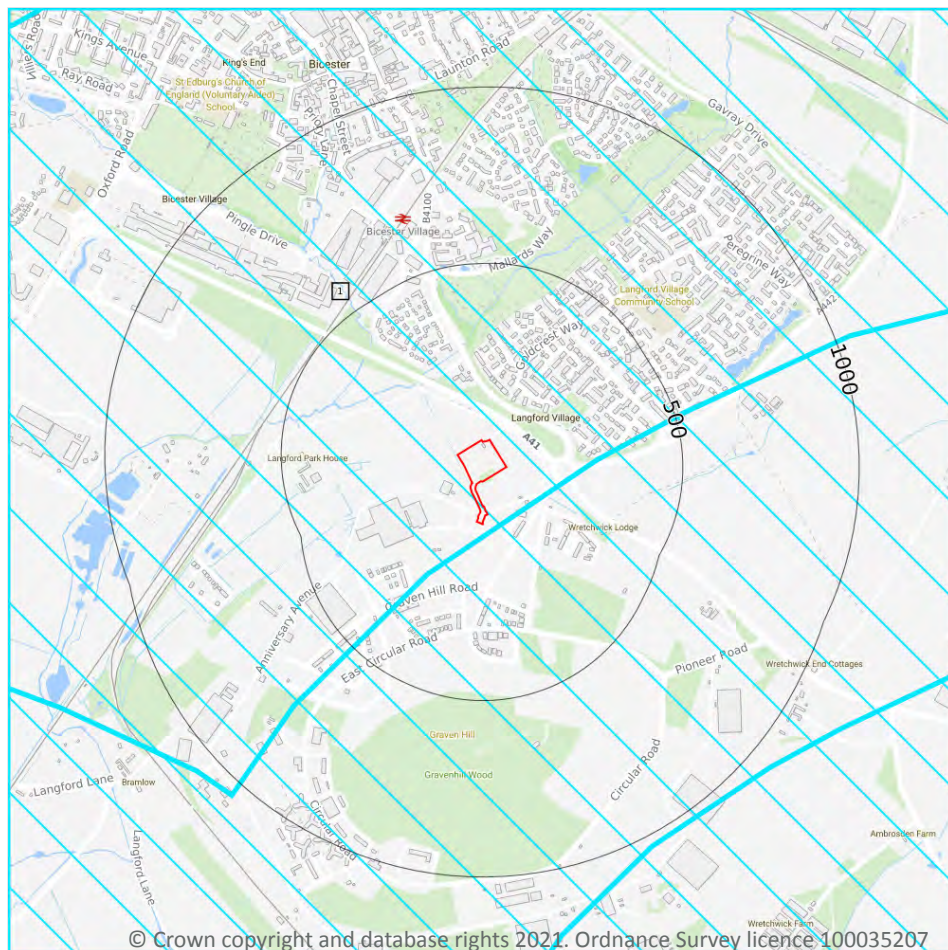
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	S472	Existing
831m N	Bicester North	Groundwater	G162	Existing

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



## SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

### 10.17 SSSI Impact Risk Zones

#### Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 59**

ID	Location	Type of developments requiring consultation
1	On site	<b>Infrastructure - Airports, helipads and other aviation proposals.</b> <b>Air pollution - Livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &gt; 750m<sup>2</sup> &amp; manure stores &gt; 3500t.</b>

*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 English Heritage, Cadw and Historic Environment Scotland.*

## 11.5 Conservation Areas

**Records within 250m**

**0**

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

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

## 11.6 Scheduled Ancient Monuments

**Records within 250m**

**0**

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

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

## 11.7 Registered Parks and Gardens

**Records within 250m**

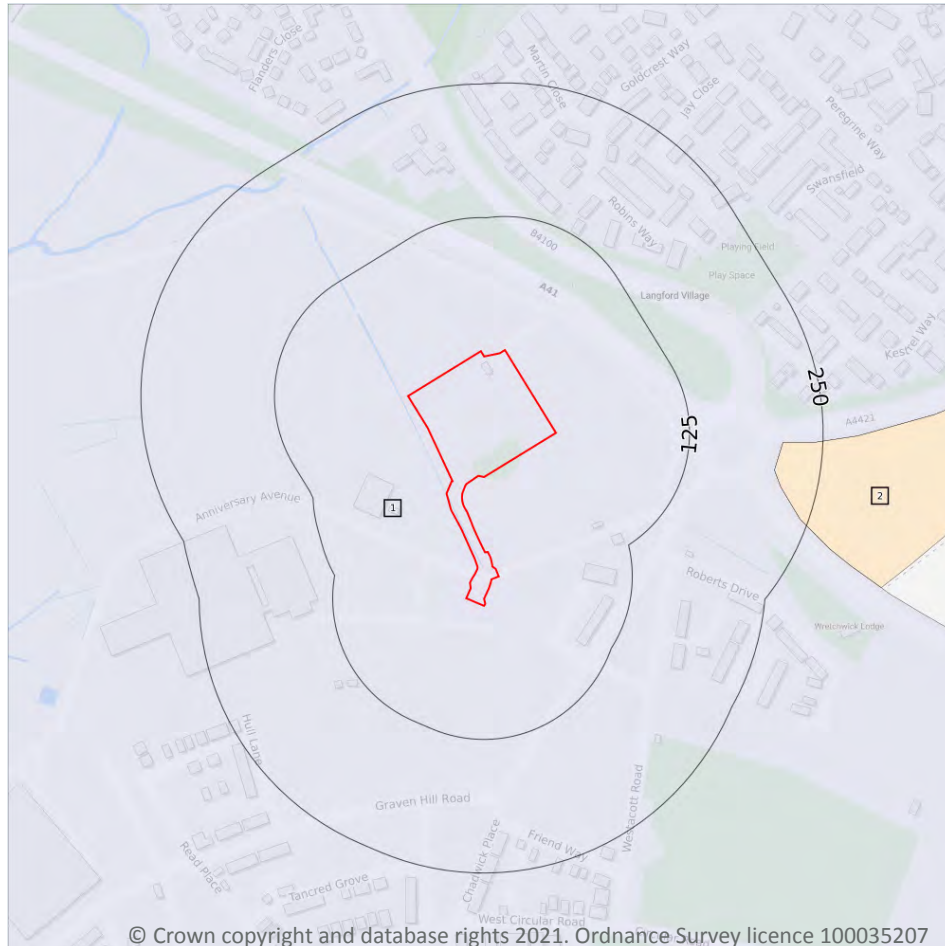
**0**

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

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



## 12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

### 12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 63**

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.



ID	Location	Classification	Description
2	207m E	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

*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.

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

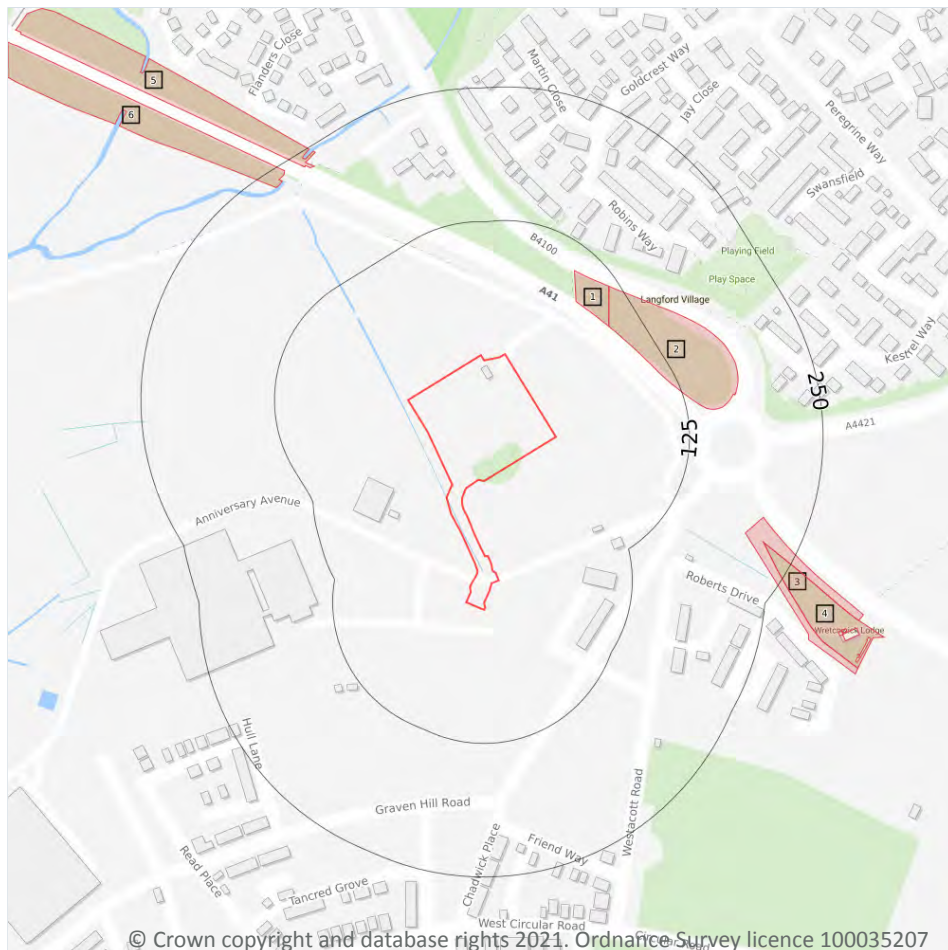
**Records within 250m**

**0**

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

*This data is sourced from Natural England.*

## 13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

### 13.1 Priority Habitat Inventory

Records within 250m

6

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

Features are displayed on the Habitat designations map on **page 65**

ID	Location	Main Habitat	Other habitats
1	83m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	96m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	199m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	218m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)





ID	Location	Main Habitat	Other habitats
5	232m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	234m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

### Records within 250m

0

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

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

### Records within 250m

0

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

*This data is sourced from Natural England.*

## 13.4 Limestone Pavement Orders

### Records within 250m

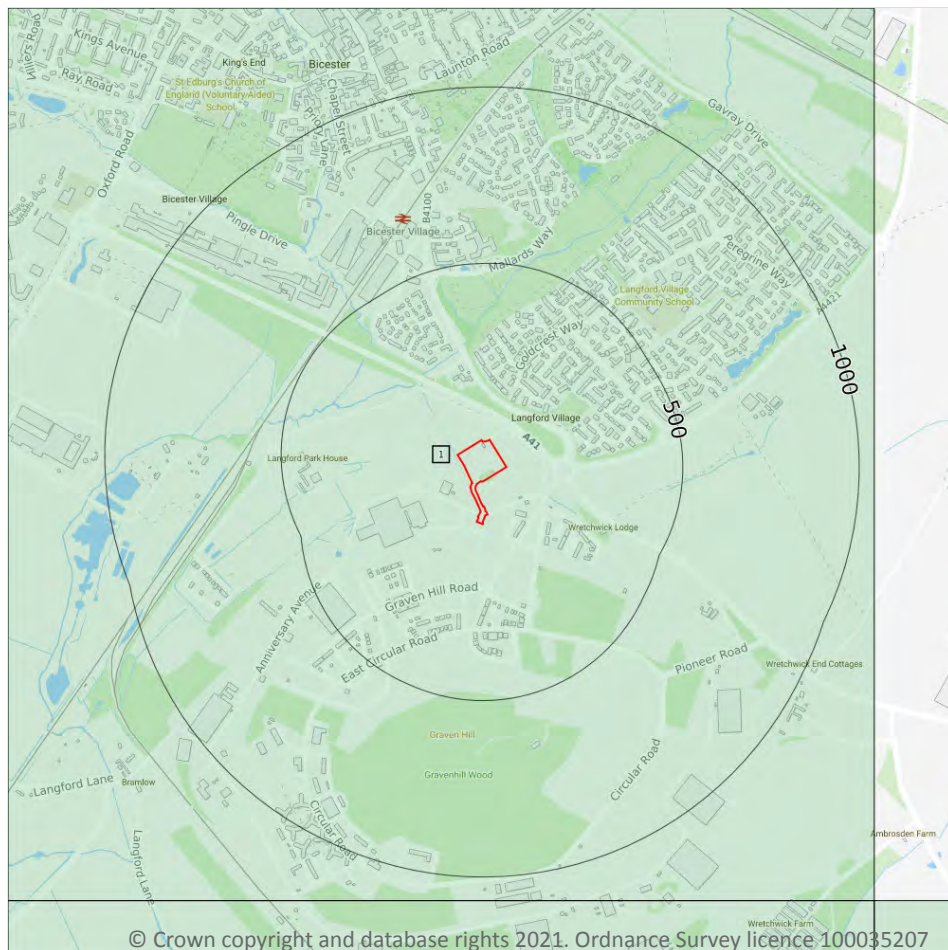
0

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

*This data is sourced from Natural England.*



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



— Site Outline  
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

### 14.1 10k Availability

#### Records within 500m

1

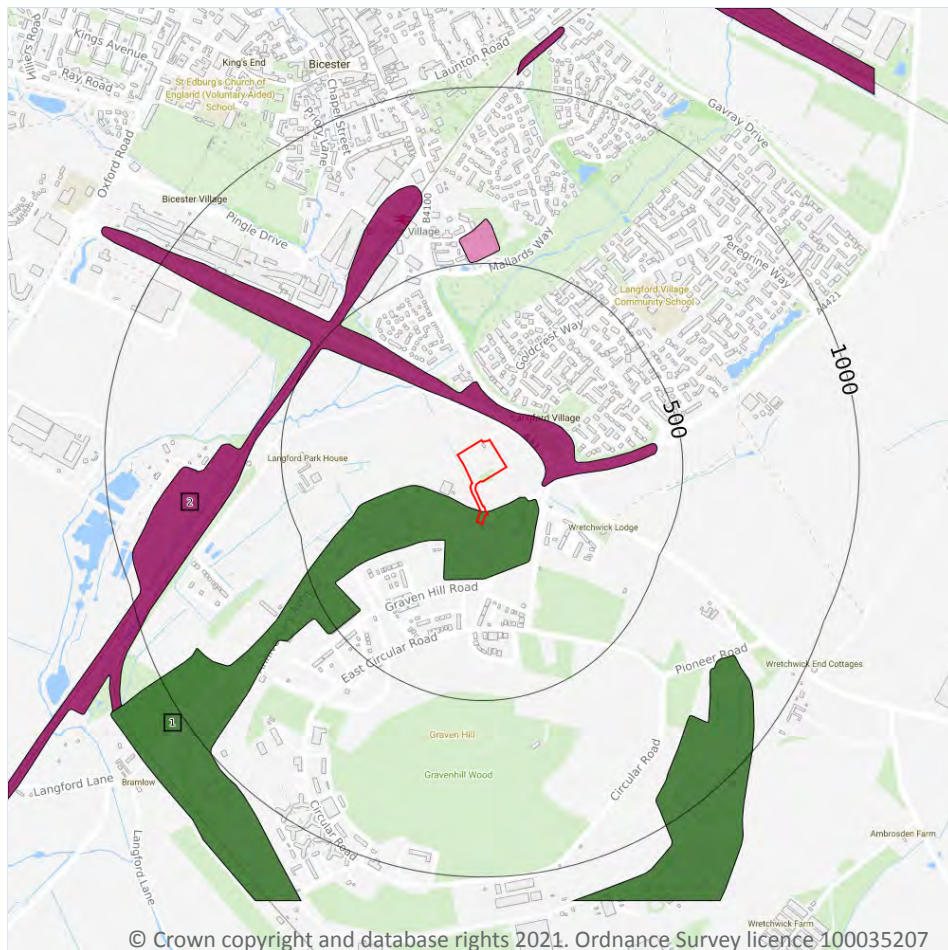
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme. Features are displayed on the Geology 1:10,000 scale - Availability map on **page 67**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SP52SE

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



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



- Site Outline
- Search buffers in metres (m)
- Reclaimed ground
  - Made ground
  - Worked ground
  - Infilled ground
  - Disturbed ground
  - Landscaped ground

### 14.2 Artificial and made ground (10k)

#### Records within 500m

2

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. Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 68**

ID	Location	LEX Code	Description	Rock description
1	On site	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
2	58m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

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





## Geology 1:10,000 scale - Superficial



**Site Outline**

**Search buffers in metres (m)**

**Landslip (10k)**

**Superficial geology (10k)**  
Please see table for more details.

### 14.3 Superficial geology (10k)

#### Records within 500m

1

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 69**

ID	Location	LEX Code	Description	Rock description
1	221m NW	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly

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



## 14.4 Landslip (10k)

Records within 500m

0

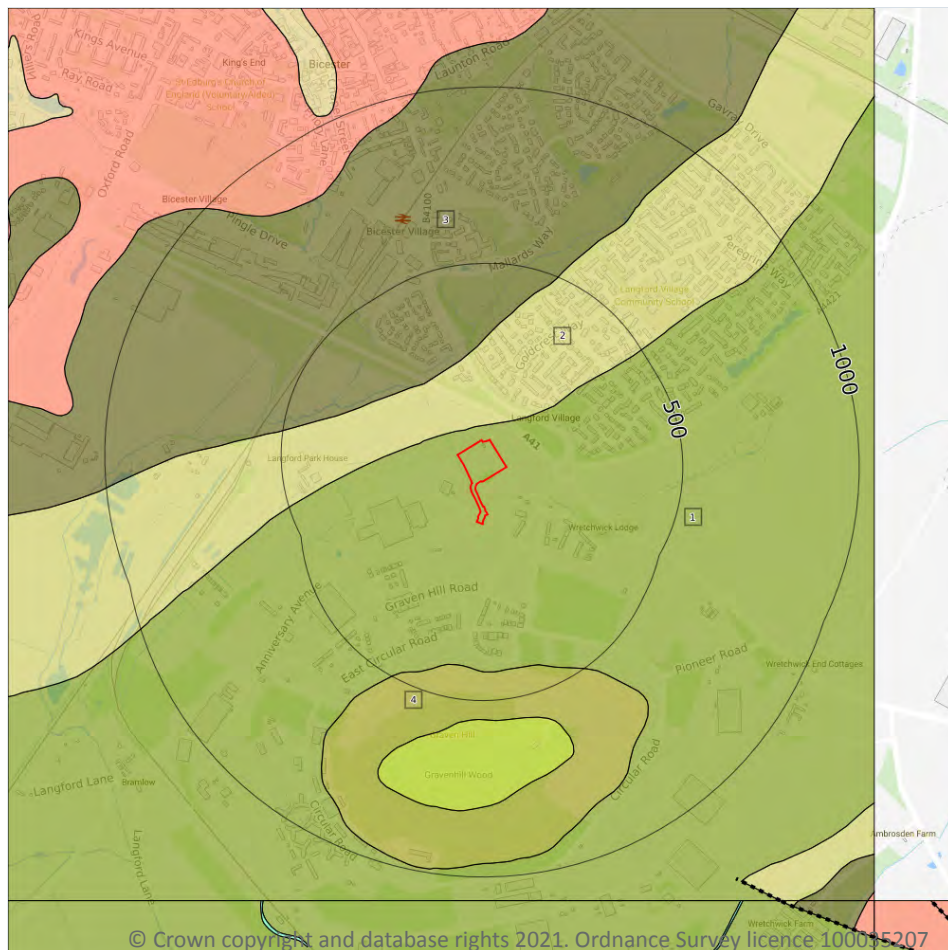
Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

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





## Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- .... Bedrock faults and other linear features (10k)
- Bedrock geology (10k)  
Please see table for more details.

### 14.5 Bedrock geology (10k)

Records within 500m

4

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 71**

ID	Location	LEX Code	Description	Rock age
1	On site	PET-MDST	Peterborough Member - Mudstone	Callovian Age
2	40m N	KLS-SDSL	Kellaways Sand Member - Sandstone And Siltstone, Interbedded	Callovian Age
3	221m NW	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age



ID	Location	LEX Code	Description	Rock age
4	405m S	SBY-MDST	Stewartby Member - Mudstone	Callovian Age

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

## 14.6 Bedrock faults and other linear features (10k)

Records within 500m

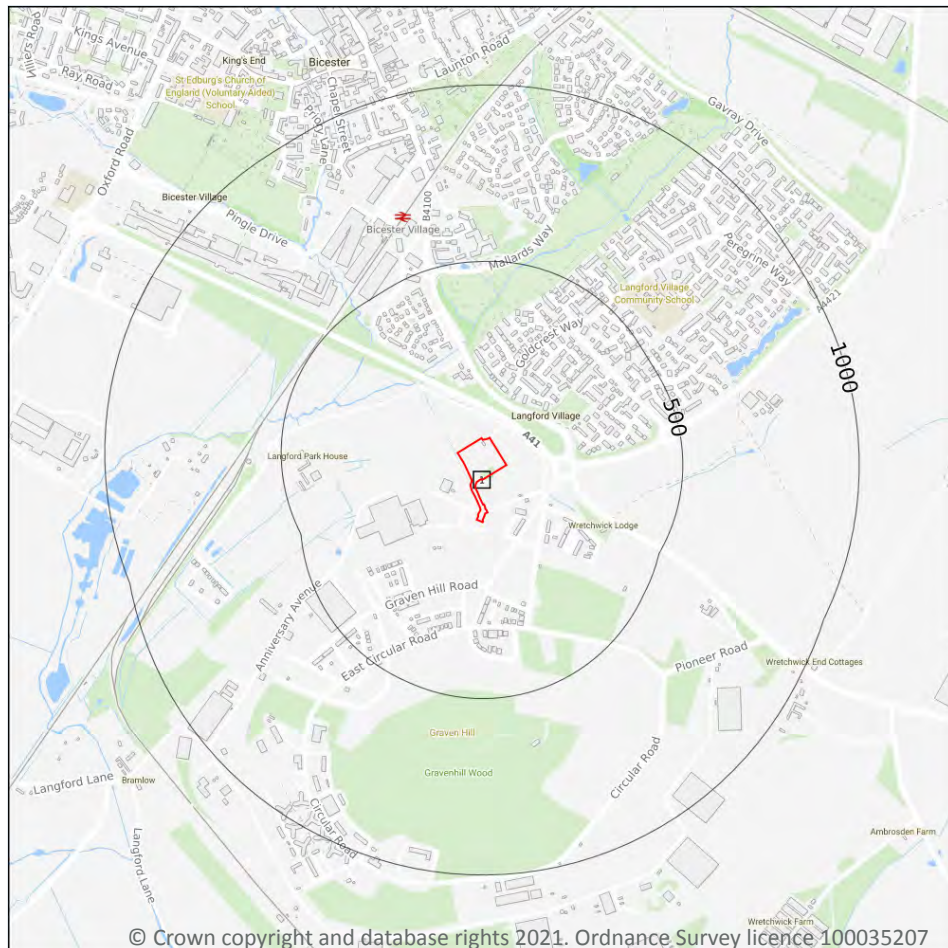
0

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 73**

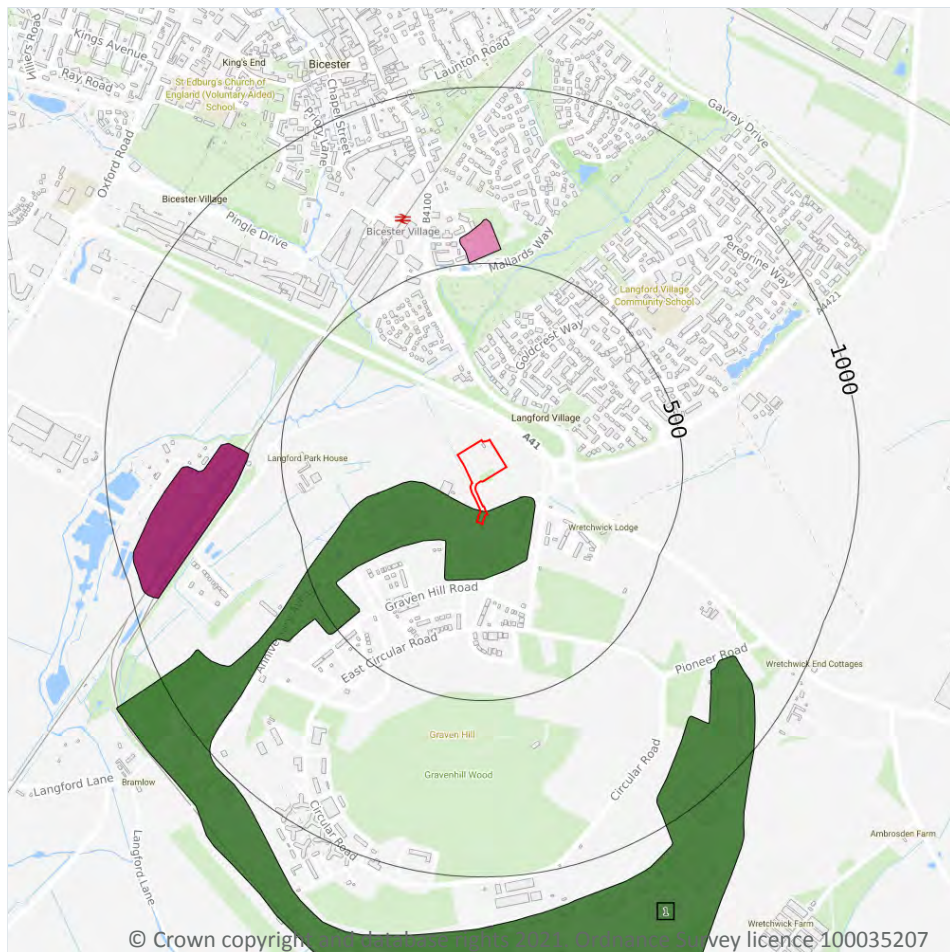
ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW219_buckingham_v4

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





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



- Site Outline
- Search buffers in metres (m)
- Made ground
  - Worked ground
  - Infilled ground
  - Disturbed ground
  - Landscaped 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 74**

ID	Location	LEX Code	Description	Rock description
1	On site	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND

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



### 15.3 Artificial ground permeability (50k)

**Records within 50m****1**

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

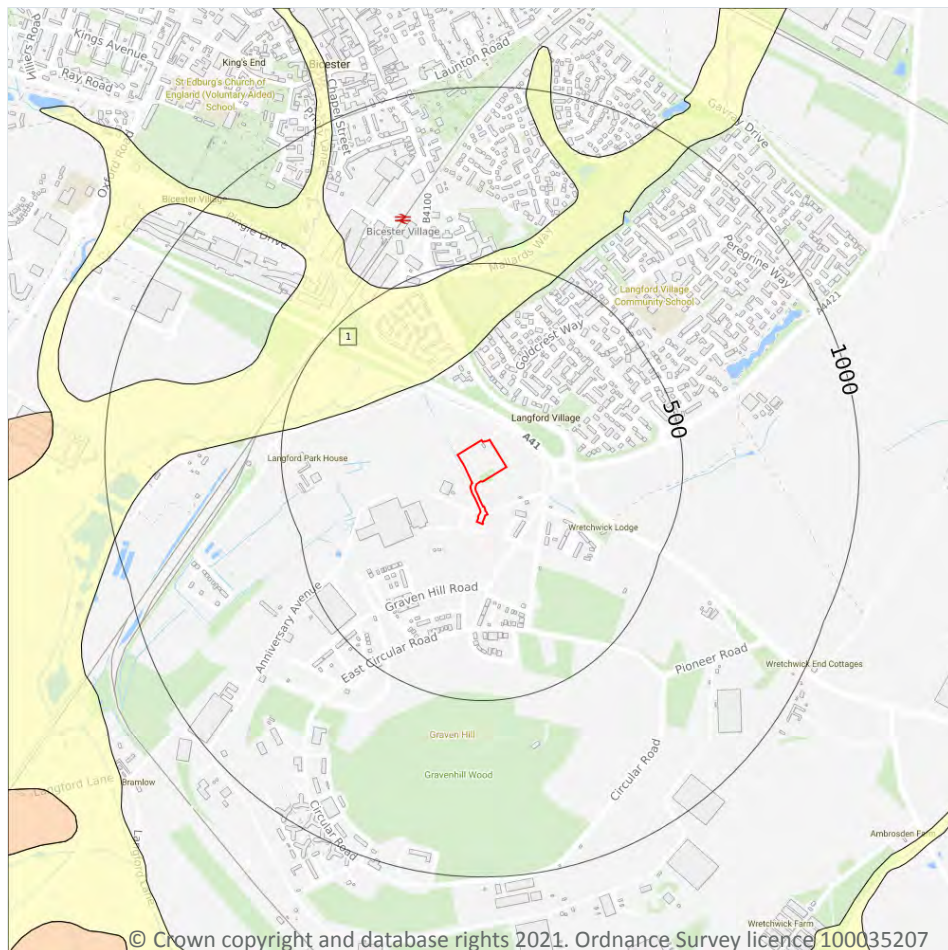
Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Very High	Low

*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 76**

ID	Location	LEX Code	Description	Rock description
1	222m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

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



## 15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

*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.*

