

3.0 REGULATORY INFORMATION, CONSULTATIONS AND OTHER

Unless otherwise stated regulatory database information has been obtained from the Envirocheck report included as **Appendix I**.

3.1 STATUTORY REGISTERS AND AUTHORISATIONS

Table 3.1 includes the statutory registers and authorisations that relate to the site and surrounding area. Pertinent registers and authorisations will be used in conjunction with the desk-based review to determine the preliminary environmental risk.

Table 3.1: Statutory Registers and Authorisations		
Item	0 – 250m	251 – 500m
Contaminated Land Register Entries and Notices	0	0
Records of Licensed Discharge Consents	0	1
Prosecutions Relating to Controlled Waters	0	0
Enforcements and Prohibition Notices	0	0
Integrated Pollution Controls	0	0
Integrated Pollution Prevention and Control	0	0
Local Authority Integrated Pollution Prevention and Control	0	0
Local Authority Pollution Prevention and Controls	0	0
Local Authority Pollution Prevention and Control Enforcements	0	0
Pollution Incidents to Controlled Waters	0	1
Substantiated Pollution Incident	0	0
Prosecutions Relating to Authorised Processes	0	0
Registered Radioactive Substances	0	0
Records of Water Industry Act Referrals	0	0

Table 3.1: Statutory Registers and Authorisations		
Item	0 – 250m	251 – 500m
Explosive Sites	0	0
Planning Hazardous Substance Consents/Planning Hazardous Substance Enforcements	0	0
Notification of Installations Handling Hazardous Substances (NIHHS) Facilities and Control of Major Accident Hazards Facilities (COMAH)	0	0
Fuel Stations	0	0
Contemporary Trade Directory Entries	Contemporary Trade Directory Entries within 500m of the site: 291m SE Pharmaceutical Manufacturers, Builders' Merchants and Car Dealers – all inactive 292m SE Car Dealers – Active 327m E Boilers (servicing) – Inactive 336m E Cleaning Services (commercial) – Inactive 349m E Coal & Smokeless Fuel Merchants – Inactive	
Commercial Services Entries	Relevant Commercial Services Entries within 250m of the site: 154m E Vehicle Cleaning Services	
Manufacturing and Production	Relevant Manufacturing and Production Entries within 250m of the site: 133m NW Tanks (Generic)	
National Grid High Voltage Underground Electricity Transmission Cables	0	0
National Grid High Pressure Gas Transmission Pipelines	0	0
Item	Immediate Vicinity	
Sensitive Land Uses	In an area of Adopted Green Belt and Nitrate Vulnerable Zone. A Local Nature Reserve is located 417m SE.	

3.2 CONSULTEES

3.2.1 Local Authority - Contaminated Land Officer

The Local Environmental Health Department has not been contacted as part of our project instruction.

3.2.2 Local Authority - Building Control Officer

The Local Authority Building Control Officer has not been contacted as part of our project instruction.

3.2.3 Local Authority - Petroleum Officer

The Local Authority Petroleum Officer has not been contacted as part of our project instruction.

3.2.4 Local Authority - Archaeological Officer

The Local Authority Archaeological Officer has not been contacted as part of our project instruction, however consideration may need to be given to the Roman Road (Icknield Way) located to the south of the site, marked on the historical mapping.

3.2.5 Environment Agency - Contaminated Land and Groundwater

The Contaminated Land and Groundwater Team of Environment Agency has not been contacted as part of our project instruction.

3.2.6 Coal Authority and Mining Searches UK

The Coal Authority and Mining Searches UK have not been contacted as part of our project instruction.

4.0 PRELIMINARY RISK ASSESSMENT

4.1 METHODOLOGY

A tier 1 PRA and CSM have been prepared in accordance with the technical approach on Land Contamination Risk Management (LCRM), which replaced 'CLR11'. Possible hazards identified by a potential source of contamination and sensitive receptors have been assessed via a source-pathway-receptor (SPR) model in accordance with current UK protocols. A risk may only exist where a plausible SPR linkage is viable and where the quantity or concentration of a contaminant (source) is sufficient to cause harm. Under the statutory definition "Contamination" may only exist where contaminants pose a risk of harm to a receptor. Risk may be defined as a function of the likelihood and severity of any adverse effects resulting from a contamination event in accordance with CIRIA C552. A summary of how risk is derived and the associated definition is presented in tables 4.1.1 and 4.1.2.

Table 4.1.1: Risk Ratings Matrix				
	Consequence			
Probability	Severe	Medium	Mild	Minor
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 4.1.2: Risk Ratings Definition	
Risk Rationale	Definition
Very high risk	A high probability that severe harm could occur to determined receptor from identified contaminant - OR - evidence exists that severe harm to receptor is currently occurring. Urgent investigation and remediation should be considered. If demonstrated this risk is likely to result in substantial liability.
High risk	Harm is likely to occur to determined receptor from identified contaminant. Urgent investigation and short-term risk minimisation remediation followed by longer term fit for purpose remediation should be considered. If demonstrated this risk is likely to result in substantial liability.
Moderate Risk	It is possible that harm could occur to a determined receptor from identified contaminant. It is relatively unlikely that any harm would be severe or should harm occur it is likely to be relatively mild.
Moderate/low risk	It is possible that harm could occur to a determined receptor from identified contaminant. It is unlikely that any harm would be severe or should harm occur it is probable to be relatively mild.
Low risk	It is possible that harm could occur to a determined receptor from identified contaminant. It is unlikely that such harm, if indeed present, would at worst be mild.
Very low risk	There is a low possibility that harm could occur to a receptor. In such event the harm would not be severe.

4.2 POTENTIAL SOURCES OF CONTAMINATION

Based on the desk-study and walkover survey completed, table 4.2 presents a summary of the potential sources identified.

Table 4.2: Potential Sources			
Source	Key Contaminants of Concern	Description	Plausible?
1. Site-wide soil contamination	Metals, hydrocarbons (TPH/PAH), asbestos.	Limited risk of soil contamination within the site associated likely limited presence of Made Ground	Yes
2. Local soil contamination	Metals, hydrocarbons (TPH/PAH), asbestos.	Limited risk of soil contamination. No on-site structures noted on the historical mapping, but an unidentified activity may have taken place, or temporary agricultural building may have been located on-site.	Yes
3. Asbestos	Asbestos	Limited risk of Asbestos Containing Soils (ACS) and Asbestos Containing Materials (ACMs). No buildings.	No
4. Groundwater	Groundwater may be located at shallow depth beneath the site.	Site is underlain by Secondary Aquifers – ‘undifferentiated’ and ‘A’. Not located in an SPZ.	Yes
5. Surface Water	Inland river along north-western site boundary.	Drainage ditch flowing in a northerly direction along the north-western site boundary.	Yes
6. Ground gases/vapours	Hazardous bio-ground gas. Complete routine bio-ground gas monitoring.	Significant hazardous ground gas sources are not anticipated on-site.	No

4.3 PATHWAYS

A pathway is one or more routes or means that a receptor can be exposed to, or affected by, a contaminant.

Table 4.3: Plausible Pathways
On-Site and Locally
Direct contact; to humans and infrastructure
Underlying geology/hydrogeology; <i>Diamicton (north) and Glaciofluvial Deposits (south) comprising Secondary Aquifers – ‘undifferentiated’ and ‘A’</i>
Inhalation and ingestion
Surface run-off/drainage

4.4 RECEPTORS

A receptor is either a living organism, a group of organisms, an ecological system, controlled waters or property that could be harmed or polluted by a contaminant. Table 4.4 examines the potential receptors.

Table 4.4: Potential Receptors			
Receptor	Description	Comments	Plausible
Construction workers	Groundworkers and general construction works.	Construction works proposed within the site.	Yes
End users	Occupants of the proposed development.	Landscaped areas proposed around the site.	Yes
Adjacent land users	Occupants of surrounding residencies.	Adjacent residential dwellings which could be affected by run-off or migration.	Yes
Soft landscaping	Areas of new planting including lawns.	Landscaped areas proposed around the site.	Yes
Water supply pipes	Plastic pipework for potable water supply may be affected if laid in contaminated soils.	New supply required for redevelopment.	Yes
Buildings & infrastructure	Buried concrete for new foundations may be in contact with aggressive ground (sulphur attack).	New building works proposed.	Yes
Groundwater	Controlled waters (aquifers) beneath the site.	Site underlain by Secondary Aquifers. No public water supply boreholes within 1000m of the site. The site is not located in an SPZ.	Yes
Surface waters	Controlled water such as lakes, streams, rivers or coastal waters.	Inland river along north-western site boundary.	Yes
Ecological receptors	Sensitive areas of ecological significance defined under Part 2A of EPA 1990.	In an area of Adopted Green Belt and Nitrate Vulnerable Zone. A Local Nature Reserve is located 417m SE.	Yes

4.5 SUMMARY OF POLLUTANT LINKAGES FOR PROPOSED LAND USE - INITIAL CSM

The initial CSM is based upon the proposed site end use and the information currently consulted relating to various risk sources and plausible pollutant linkages and is presented within table 4.5.

Table 4.5: Initial Conceptual Site Model (for plausible pollutant linkage pathways)

Source	Receptor	Pathway	Probability	Consequence	Risk & Justification	Linkage No.
Sources 1 and 2 Site-wide and local soil contamination	Construction workers	Direct contact	Unlikely	Mild	Very Low <i>Note 1.</i> Site in use as agricultural land or pasture. It is not occupied with buildings. Very limited potential for made ground and contaminants that may normally be associated with any buildings locally.	1
	End users	Direct contact	Low Likelihood	Mild	Low <i>See Note 1.</i>	2
	Adjacent land users	Direct contact via run-off	Unlikely	Mild	Very Low <i>Note 2.</i> Secondary aquifers beneath the site, overlying unproductive strata. Site predominantly soft surfaced.	3
	Soft landscaping	Root uptake	Low Likelihood	Mild	Low <i>Note 3.</i> No evidence of made ground following walkover and desk based study. Vegetation is well established with no signs of die-back.	4
	Water supply pipes	Direct contact	Low Likelihood	Mild	Low <i>Note 1.</i>	5
	Buildings & infrastructure	Direct contact	Low Likelihood	Mild	Low <i>Note 1.</i>	6
	Groundwater	Vertical migration through hydrogeology	Unlikely	Mild	Very Low <i>Note 4.</i> Secondary aquifers beneath the site, unproductive strata. The site is not located in an SPZ. No evidence of significant potential contamination sources following walkover and desk based study	7
	Surface water	Run-off	Unlikely	Mild	Very Low <i>See Note 4.</i>	8

Table 4.5: Initial Conceptual Site Model (for plausible pollutant linkage pathways)

Source	Receptor	Pathway	Probability	Consequence	Risk & Justification	Linkage No.
	Ecology	Direct contact via run-off	Unlikely	Mild	Very Low <i>See Note 4.</i>	9
Source 3 Asbestos	Construction workers	Inhalation	Low likelihood	Minor	Very Low <i>Note 5. No potential for ACMs due to absence of existing buildings.</i>	10
	End users	Inhalation	Low likelihood	Minor	Low <i>See Note 5.</i>	11
	Adjacent land users	Inhalation	Unlikely	Mild	Very Low <i>See Note 5.</i>	12
Sources 4 and 5 Groundwater	Construction workers End users Adjacent land users Water supply pipes	Direct contact	Unlikely	Mild	Very Low <i>Note 6. Secondary A aquifer beneath the site, overlying a unproductive strata.</i> Groundwater and surface water contamination from site unlikely as risk of soil contamination is low.	13
	Soft landscaping	Root uptake	Unlikely	Mild	Very Low <i>See Note 6.</i>	14
	Groundwater Surface water Ecology	Lateral migration through hydrogeology	Unlikely	Mild	Very Low <i>See Note 6.</i>	15
Source 6 Ground gases and Soil vapours (on/off site source)	Construction workers	Inhalation of vapours/gas	Low likelihood	Minor	Very Low <i>Note 7. No potential sources of ground gas risk identified.</i>	16
	End users	Inhalation of vapours/gas	Low likelihood	Minor	Very Low <i>See Note 7.</i>	17

The overall environmental risk classification for the site is considered to be generally **VERY LOW**.

Due to the sensitivity of the proposed land use and site investigation and suitable risk assessment should be completed, to include:

1. Complete precautionary site-wide soil contamination testing of overlying soils to determine the presence or absence of contaminants. Additionally, pH, sulphate and sulphur testing should be completed to enable design of buried concrete.
2. Complete precautionary ground gas monitoring to provide quantification to the qualitative risk assessment.

To assess the risk, the following analysis should be completed:

-  Aviron's "ES-1" of laboratory analysis shall be applied to future site investigations which includes; arsenic, barium, cadmium, total chromium, copper, nickel, zinc, lead, mercury, selenium, water soluble boron, total cyanide, total sulphate, water soluble sulphide, speciated Polycyclic Aromatic Hydrocarbons (PAH), speciated Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) and Methyl Tert-Butyl Ether (MTBE), organic matter, total phenols, pH and asbestos. **Provides broad analysis of common soil contaminants.**

The listed suite of analysis is considered suitable and will provide a screening for the majority of commonly found soil contaminants.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This PRA comprising a Desk Study review was undertaken for environmental and geotechnical purposes. Through evaluating all the relevant information Aviron have been able to assess the relevant linkages in terms of risk and identified any area where further information may be required to increase the certainty in the recommendations.

5.1 ENVIRONMENTAL

Through evaluating the relevant and commercially available desk-based information Aviron have been able to assess the relevant pollutant linkages in terms of risk the 'source – pathway – receptor' method. Accordingly, an initial Conceptual Site Model was prepared for relevant pollutant linkages with through qualitative means has determined a LOW risk. The contaminative risk principally emanates from the use of the site as farmland.

An increase in certainty in the risk assessment can be achieved by the collection of quantitative data, typically by means of site investigation, which should target pollutant linkages considered to be of greater risk than low. Accordingly, site investigation is recommended to refine the risk assessment. Table 5.1 summarises the pertinent environmental risks providing advice on further works and assessment.

Table 5.1: Environment Risk Summary			
Medium	Item	Risk Description	Comments/Recommendations
Soils	1	Very Low and Low soil contamination risk to construction workers, end users, new planting, new water mains, buried concrete, groundwater, surface water and ecology.	Complete precautionary site-wide investigation and collect suitable soil samples for chemical analysis to complete risk assessment.
Ground Gas	2	Very Low risk of ingress of hazardous ground gases (CH ₄ + CO ₂) and soil vapours into new buildings and depleted oxygen.	Install monitoring wells during site investigation to complete precautionary/routine gas/vapour monitoring to quantify the risk assessment.

Once the above risks have been investigated the corresponding linkages within the CSM can be revaluated and the environmental risk assessment refined.

5.2 NEW FOUNDATIONS AND DRAINAGE SUMMARY

5.2.1 New Foundations

Ordinarily the overlying natural strata would be expected to provide the required bearing resistance to support lightly loaded buildings on conventional shallow foundations.

Typically, mixed soil types including low to high volume change potential Clay should be expected of the superficial strata. Therefore, the suitability of conventional footings would be subject to, though not limited to:

-  the required bearing resistance to support the proposed buildings.
-  the volume change potential of the overlying soils and the proximity of trees to new buildings in accordance with NHBC Chapter 4.2.
-  elevated groundwater, implications for reduced bearing resistance and temporary works: dewatering and excavation stability.

A suitable site investigation would confirm an appropriate foundation solution and should include in-situ and laboratory soil strength and material property testing.

5.2.2 Soakaway Drainage

Shallow soakaway drainage may be successful should coarse superficial soils be encountered beneath the site.

Soil infiltration testing and groundwater monitoring is however recommended to confirm the drainage strategy for the site.

Alternative means for disposal include the possibility of utilising the drainage ditch along the north-western boundary, as well as other forms of sustainable drainage.

5.2.3 Pavement Design

A low California Bearing Ratio (CBR) value should be anticipated, likely in the order of 2-5% for any overlying fine soils at shallow depth.

6.0 PROJECT INSTRUCTION AND LIMITATIONS

6.1 SCOPE OF WORKS

The following scope of work was undertaken to an agreed brief set out in Aviron's proposal and involved the following:

-  Site reconnaissance survey, to include inspection of the infrastructure and potential discussions with the owner or occupant regarding site activities.
-  Procurement of available historical mapping editions, geo-environmental sensitivity data and British Geological Survey (BGS) borehole records.
-  Identification of potential areas of environmental concern relating to current and/or historic site use and surroundings to prepare a refined CSM.
-  Preparation of suitable conclusions and recommendations with regard to the site's suitability for use or the requirement for further assessment and site investigation on the basis of the CSM.

Aviron has relied upon information received from the Client and their agents as accurate, unless contradicted by written documentation or site observations.

6.2 PUBLISHED GUIDANCE

This report follows the technical approach presented on Land Contamination Risk Management (LCRM), accessed on gov.uk website. The guidance replaced the Contaminated Land Report 11 (CLR11) "Model Procedures for the Management of Land Contamination" prepared by the Environment Agency in 2004. CLR11, which was withdrawn in 2020, provided guidance on the application of management processes when assessing potentially contaminated land.

This project and report have been designed to fulfil the information requirements set out in LCRM.

This report is additionally prepared in accordance with current guidance notes, standards and practices as set out by the Environment Agency and statutory organisations in order to establish potential and significant contaminant linkages as defined in Part IIA of the Environmental Protection Act 1990.

6.3 LIMITATIONS

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the information review and current landuse. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled previously and the number of soil gas or groundwater samples tested. No liability can be accepted for the information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate.

Changes in legislation, statutory requirements or industry practices may mean that this the conclusions of this reports should be reviewed.

7.0 REFERENCES AND OTHER SOURCES OF INFORMATION

Landmark Envirocheck database search report package reference 387515715 dated 9 October 2025

Land Contamination Risk Management (LCRM) - LCRM: Stage 1 risk assessment - GOV.UK (www.gov.uk)

British Geological Survey. Solid and drift edition sheet BGS map 221 – Hitchin

British Geological Survey Website. www.bgs.ac.uk and <https://mapapps2.bgs.ac.uk/geoindex/home.html>

Environment Agency Website: www.environment-agency.gov.uk

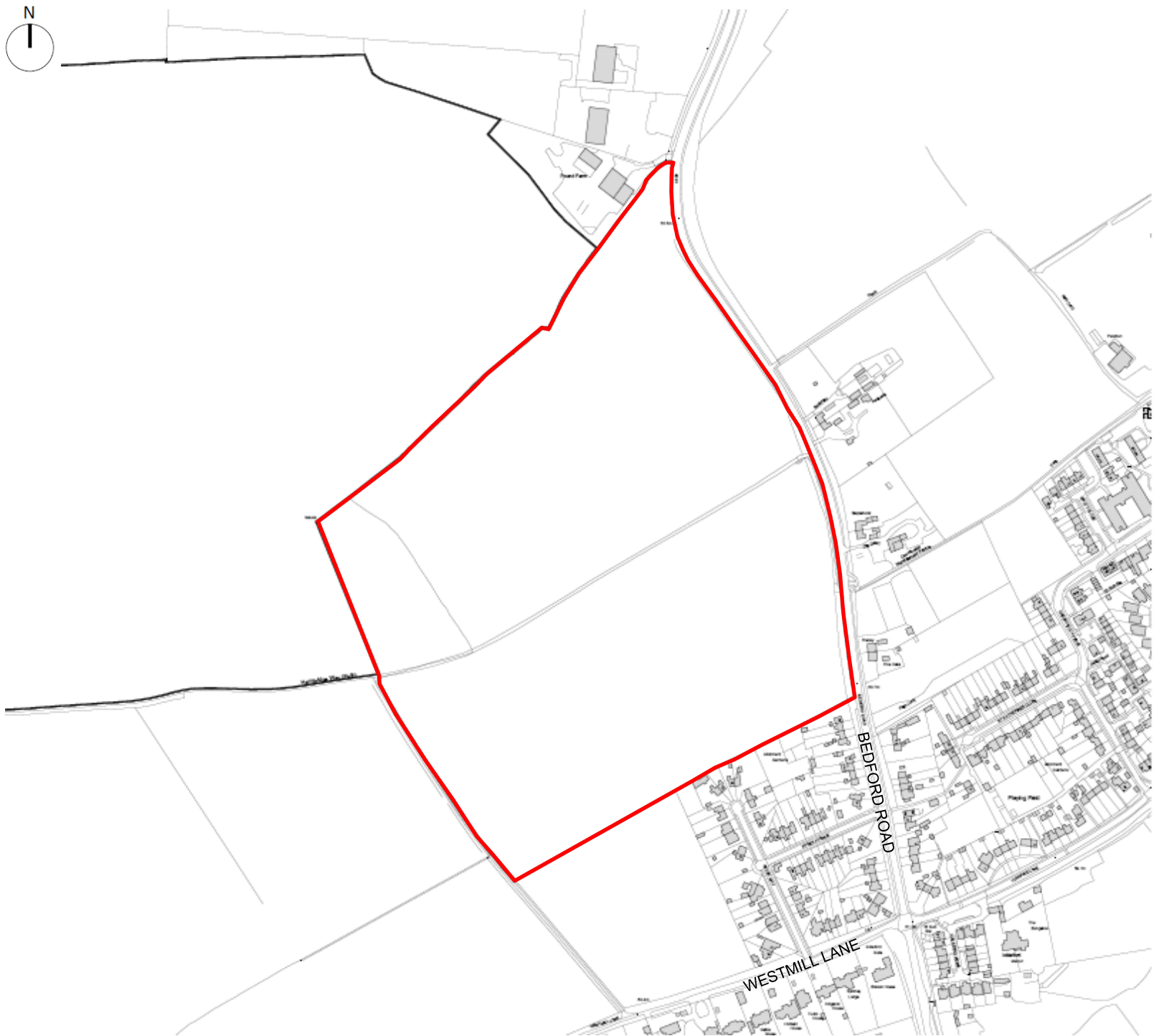
BS 10175:2011+A2:2017. British Standards Institute, Investigation of Potentially Contaminated Land - Code of Practice.

Environment Agency. July 2005. Guidance on Requirements for Land Contamination Reports.

CIRIA. C552. Contaminated Land Risk Assessment. A Guide to Good Practice. January 2001.

Figures

- | | |
|---|---|
| 1 | Site Location Plan |
| 2 | Existing Site Layout Plan – Aerial View |
| 3 | Existing Site Layout Plan – Topographical |
| 4 | Site Photographs |
| 5 | Proposed Development Plan |



Legend

— Approximate Site Boundary

Notes

Drawing supplied by Client

Figure 1

Drawing Title

Site Location Plan

Project Number 25-267.01

Project Title

Land at Pound Farm, Bedford Road,
Ickleford, Hitchin, SG5 3RS

Drawn by DN

Checked by JB

Scale NTS

