ONYXGEO
CONSULTING LTD.

Phase I Desk Study

at

Lower Perryland Farm, Basing Hill,
Dial Post, West Sussex
RH13 3NT

Document Reference: ON251025-XX-XX-RP-X-701-C02
Date: 14 April 2025

Prepared for:
Lower Perrylands Limited

Project Number	ON251025	Date	14/04/25
Site Address	Lower Perryland Farm, Dial Post, West Sussex, RH13 3NT	Client	Lower Perrylands Limited
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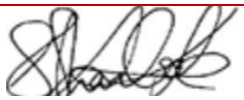
QC Checker	Sophie Shafi-Cooke	Signature	
Qualifications	MSci MSc CGeol FGS		

Document History				
Revision ref.	Date	Reason for revision	Amended by:	Approved by:
Rev 1	07/11/25	Revised development layout	AC	MW

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Appendices

1 INTRODUCTION & BACKGROUND

1.1 INSTRUCTION & APPOINTMENT

Onyx Geo Consulting Ltd (referred to as Onyx Geo) was commissioned by Lower Perrylands Limited to carry out a Phase I Desk Study for the site at Lower Perryland Farm, Basing Hill, Dial Post, West Sussex.

The appointment was confirmed on the 31st of March 2025 via email signed by Megan Smith of ECE Planning on behalf of Lower Perrlyands Limited.

The work was carried out based on Onyx Geo's fee proposal letter dated 31st March 2025, quote ref: ON251025, including the outlined terms and conditions. The quotation serves as the formal agreement between Onyx Geo and the client.

1.2 SITE LOCATION

The site comprises an irregularly shaped plot of land occupied by several derelict barns. It is situated to the southwest of the village of Dial Post and the west of the A24 (Basing Hill) centred on grid reference 514471, 118810. A site location plan is included as Figure 1 within Appendix B. The current layout is shown in Figure 2.

1.3 PROPOSED DEVELOPMENT

It is proposed to redevelop the site through demolition of the existing barns and construction of three detached residential properties, including private gardens and associated driveways and garages. The proposed development layout is presented in Figure 3.

To establish the minimum requirements for the scope and content of geotechnical investigations, BS EN 1997-1:2004+A1:2013 (Eurocode 7) requires the complexity of each geotechnical design, along with the associated risks, to be identified. The geotechnical design categories range between 1 to 3 with increasing complexity. The proposed residential properties are considered to comprise of Category 1 structures.

1.4 AIMS & OBJECTIVES

The purpose of this investigation is to identify and where possible qualify risks associated with the ground on site, which may impact the proposed development. The specific objectives are:

- Assess the geology, hydrogeology, and hydrology conditions of the site and their potential impact on the proposed development.
- Construct a preliminary conceptual model of the site, based on available information identifying potential contaminant linkages and geotechnical hazards and how they may affect identified on and off-site receptors.
- Address the requirements for Horsham District Council planning condition 1(a) for application reference DC/24/1087, which states that:

No development shall commence until the following components of a scheme to deal with the risks associated with contamination, (including asbestos contamination), of the site be submitted to and approved, in writing, by the local planning authority:

A preliminary risk assessment which has identified:

1. *All previous uses*
2. *Potential contaminants associated with those uses*
3. *A conceptual model of the site indicating sources, pathways, and receptors*
4. *Potentially unacceptable risks arising from contamination at the site.*

Parts (b), (c) and (d) of the conditions refer to intrusive investigation, remediation and verification that may be required subject to findings of the desk study.

1.5 Regulatory Framework, Guidance and Best Practice

The investigation of the site has been undertaken line following guidance and British Standards:

- BS 5930:2015+A1:2020 Code of Practice for Ground Investigations
- BS10175:2011+A2:2017 Investigation of potentially contaminated sites.
- Land Contamination Risk Management (LCRM) (https://www.gov.uk/government/publications/land-contamination-risk-managementlcrm)

The guidance outlines a systematic approach whereby the need to evaluate risks from site is understood, any potential contaminant linkages between sources of contamination, pathways, and receptors are first identified and then quantified, followed by an assessment on whether any risks are unacceptable.

A tiered approach is applied, utilizing a structured three-phase process to thoroughly evaluate the risks, namely:

- Preliminary Risk Assessment (PRA).
- Generic Quantitative Risk Assessment (GQRA) (if required); and,
- Detailed Quantitative Risk Assessment (DQRA) (if required).

1.5.1 Preliminary Risk Assessment (PRA)

This report provides the PRA and includes reference to historical maps and accessible data from several sources, including but not restricted to information from the British Geological Survey (BGS), Zetica unexploded bomb (UXB) regional risk maps, general internet searches and Groundsure Report reference GS-IO7-B6X-WV4-GY1. This is an updated report and the redline boundary has been reduced in size. The boundary shown on the Groundsure report, reflects the earlier proposed boundary, but is relevant to this report. The revised boundary is shown on Figure 1, Appendix B.

1.6 Previous Studies

Onyx Geo are not aware of any previous site investigations reports relevant to the site.

2 PHASE I – DESK STUDY

2.1 SITE LOCATION AND DESCRIPTION

The site is located at Lower Perryland Farm, Basing Hill, Dial Post, West Sussex RH13 3NT (grid ref. 514471, 118810) as shown in Figure 1, in Appendix B. Site photographs taken during the walkover survey are included in Appendix C.

The site comprises an irregularly shaped 0.65 ha plot of land. Access to the site is from the A24 via a long access track through farmland, which runs along the northern boundary of the site into an open farmyard. The yard is covered with a mix of concrete hardstanding in poor visual condition.

In the centre of the site there are a series of five barns in varying states of disrepair. The furthest west barn is of steel frame construction with an asbestos cement roof. There is a large caravan/mobile home and a boat located in this barn. There are two other barns attached to this with block brick sides and corrugated steel roofs.

There is a concrete access road through the barns, which has several rusted pieces of farm equipment on it. There are two further steel roofed barns to the east. A track runs along the northern side of all the barns with two smaller barns to the north of the track. These both have asbestos cement roofs and are in a poor state of repair.

There is a silo located in the centre of the site, likely to have been used to store grain. It is reported that the farm was used for livestock and the barns housed cows. This is reflected in the set up within the barns, each of which had a concrete track in the centre and soft ground on either side where the stalls would have been located.

There is a further barn on the eastern side of the site of brick construction with an asbestos roof and a larger barn along the northern boundary also with an asbestos roof. Two smaller barns are located on the western side of the site at the southern end of the area of hardstanding.

A large oak is located in the centre of the northern boundary of the site, immediately to the east of the smaller barns, close to the western boundary. There are smaller immature trees and shrubs growing close to the barns within the hardstanding. The site is bound to the east by a hedgerow with a residential property and gardens beyond. There is a greenhouse in the southeastern corner of the site. This area was overgrown, and it was not possible to fully inspect.

A stream runs east to west through the northern part of the site, culverted under the hardstanding access and along the eastern side of the site. There is a small, dilapidated bridge in front of the large barn on the northern boundary, the stream is approximately 1.0 - 1.5m below current ground level and the ditch is overgrown with vegetation. The stream is flowing at the base of the ditch. However, the walkover was carried out following an extremely dry preceding 30 days.

There are several spoil heaps of waste dotted around the site with concrete and breeze blocks identified within the vegetation. There are also tyres dumped in front of the central barn building and an asbestos containing material waste pile within the middle barn.

The site is relatively flat with a gentle slope down from the northeast to southwest. The current site layout is shown in Figure 2.

The google aerial image of the area suggests that some large stockpiles of unknown material have been removed from the site, as well as from the land immediately to the west. This supports the client's confirmation that the site had been cleared of rubbish and vegetation prior to the walkover.

2.2 Geology, Hydrogeology, Hydrology & Flood Risk

The anticipated geology, hydrogeological conditions and local hydrology of the site has been determined by reference to the BGS[1], the groundsure.io website[2] and the Groundsure Report

Table 1: Summary of anticipated geology, hydrogeology and ground hazards

Feature	Description and notes		
Artificial Ground	None mapped on site.		
Superficial Geology	None mapped on site. Head Deposits mapped ~50m to the east.		
Bedrock Geology	Weald Clay Formation	Comprised of grey brown to dark grey mudstones and subordinate siltstones and fine-grained sandstones. Where weathered the formation discolours to orange brown over-consolidated silty clay.	Unproductive strata. Site is not situated within a Groundwater Source Protection Zone (SPZ). No groundwater abstractions listed within 2km of the site.
BGS Borehole	None mapped within 500m of the site.		
Natural ground hazards			
Volume change potential	Groundsure classifies the risk from shrinking and swelling clays as low.		
Running Sand	The risk of running sands as negligible. Sandier horizons within the Weald Clay are generally limited and as such running sands are highly unlikely to occur on site.		
Compressible Deposits	The Groundsure Report indicates the risk from compressible ground as negligible. The Weald Clay is generally over-consolidated and as such are very unlikely to be compressible.		
Collapsible Deposits	Groundsure indicates the risk of collapsible soils as very low.		
Landslides	The site is relatively level the Groundsure Report classifies the risk as very low.		
Dissolution	Groundsure classifies the risk of ground dissolution as negligible.		

[1] British Geological Survey Geoindex (onshore) - Contains British Geological Survey materials © UKRI [2024]

[2] Groundsure.io website, https://groundsure.io/ accessed 2024.

Feature	Description and notes
Mining, ground workings and natural cavities	
The Groundsure Report states "underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered". The report notes the presence of surface ground workings (a pond) situated between 14m and 28m to the northeast of the site which is noted on mapping between 1875 and at least 1957. A review of aerial imagery indicates that a pond is still present at this location. The Groundsure Report indicates that no below ground mine workings, BritPit records or natural cavities are reported within 500m of the site.	
Radon	
The site is situated in an area where less than 1% of properties are above the action level and as such radon protection measures are reported to not be required as part of any redevelopment.	

Table 2: Summary of hydrology and flood risk

Hydrology	
Hydrology	A small stream, reportedly a tributary of the Lancing Brook, is aligned approximately east-west in the northern part of the site. The stream is culverted in two locations on site but is otherwise at the ground surface. The Lancing Brook is situated ~670m to the northwest of the site and the Groundsure Report indicates that based on data from 2019 the water body was classified as ecologically "poor" and received a chemical rating of "fail".
Flood Zones	The north and west of the site adjacent to the stream are mapped as being at risk of between 0.3m and 1.0m of surface flooding associated with a 1 in 30-year rainfall event. The site is not situated within a risk area for groundwater flooding.

2.3 Ecology and Sensitive Sites

A review of designated environmentally sensitive sites, as presented in the Groundsure Report, has been conducted. The dataset references several sensitive areas, including Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Areas of Special Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, Local Nature Reserves, and records of Ancient Woodland. The site is not situated in or adjacent to any ecologically sensitive sites, none are listed within 500m of the site according to the Groundsure Report although it is noted that deciduous woodland is present immediately north west of the site, under the Priority Habitat Inventory.

2.4 Site History

The history of the site has been determined by a search of the historical Ordnance Survey maps included within the Groundsure Report available in Appendix D, internet searches and aerial imagery. The redline boundary of the development has been amended since the original submission of this report, as is stated in S1.5.1. The redline boundary shown within the Groundsure report and historical mapping shows a larger area than is covered by this report. The correct redline boundary is as shown in Figure 1.

Table 3: Summary of site history

Data Source	On Site	Off Site
1875 1:2,500	The site is mapped as "Lower Barn." and the majority of the site is covered by fields A farm building straddles the northwestern boundary of the site with several other buildings mapped adjacent to the west. A stream is mapped aligned east-west across the north of the site. The far north of the site is shown as marshy ground.	The surrounding area is mapped as agricultural fields. A narrow strip of land just off site to the north (following the alignment of the stream) is shown as marshy or waterlogged ground. A pond is located ~20m to the northeast and a second ~80m to the west. A house (Perryland Farm) with several smaller buildings and a well are mapped 100m to the east.
1897 1:2,500	No significant change.	The layout of the buildings at Perryland Farm to the east have been altered.
1911 1:2,500	No significant change.	A house with a well is now mapped ~10m to the north of the site.
1957 1:10,560	Two further barns are now mapped in the centre of the site.	A large barn is now mapped just offsite to the north.
1973 1:2,500	Another small building is mapped in the central northern area of the site.	The offsite pond to the northeast is mapped significantly smaller than previously and has presumably been partially infilled. More residential properties are now mapped ~70m to the east of the site.
1993 1:2,500	No significant change.	No significant change.
2003 1:1,250	Two barns are mapped one in the northeast of corner of the site, and the other to the east of the centre barns. The layoutclosely resembles its present-day setting.	Two additional barns are mapped ~100 m to the northwest of the site. A large barn to the immediate west of the site is no longer shown and assumed to have been demolished.
Aerial imagery 2001 - 2022	The aerial imagery indicates that in addition to the structures, the site is occupied by several mature trees as well as vehicles, caravans and farm machinery.	The field ~50m to the north appears to have been replanted as woodland in circa 2001. Two large ponds appear to have been constructed between 2001 and 2009 approximately 340m to the southeast of the site. The land immediately offsite to the west appears to have been utilised for material storage with an excavator visible in the 2013 and 2015 imagery.

2.5 GEO ENVIRONMENTAL DATA REVIEW

A review the geoenvironmental data presented with the Groundsure Report (Appendix D) is provided in table 4 below:

Table 4: Summary of Geo-environmental Data

Section	Discussion
Historical land uses	
Historical: industrial land uses, tanks, energy features petrol stations, garages, military land.	The Groundsure Report indicates that no historical industrial land uses have occurred on site or within 500m of the site.
Waste and Landfill	
Active or recent landfill, historical landfill from BGS records, historical landfill from local authority records, historical landfill from the Environment Agency, historical waste sites, licenced waste sites waste exemptions.	The Groundsure Report indicates that there are no active or historical landfill sites, waste sites or waste exemptions situated within 500m of the site.
Current industrial land uses	
Recent industrial land uses, current petrol stations, electricity cables, gas pipelines, sites determined as contaminated land, control of major accident hazard (COMAH), regulated explosive sites, hazardous substances, historical licenced industrial activities, licenced industrial activities, licence discharges to controlled waters, pollution incidents EA/ NRW.	The Groundsure Report indicates that a discharge consent is in place for the for the site permitting the discharge of treated effluent to a freshwater river. No other current industrial land uses are reported for the site or within 500m of the site according to the Groundsure Report.

2.5.1 Other information

Documents listed on the planning portal describe the presence of a diesel store and cesspit / septic tank on site. However, these were not observed during the walkover survey.

2.6 UNEXPLODED ORDNANCE (UXO)

Based on the freely available Zetica risk mapping[3] the site falls within a low-risk area regarding UXO with no UXO finds or Luftwaffe targets mapped within 2km of the site.

2.7 PRELIMINARY GEO-ENVIRONMENTAL CONCEPTUAL SITE MODEL

As outlined within LCRM, a risk-based approach is applied to assess contaminated or potentially contaminated land. For a risk to exist, a contaminant linkage must be present, meaning a source

[3] https://zeticauxo.com/guidance/risk-maps/

of contamination, a potential receptor, and a pathway connecting the two must be present for that risk to be realised. The purpose of the preliminary conceptual site model (CSM) is to identify all potential contaminant linkages using the information gained within section 2 of this report. A site is considered suitable for use if no complete pollutant linkages can be envisaged following completion of the development.

2.7.1 Identified contaminant sources

The following potential sources of onsite contamination have been identified by the desk study:

Onsite

- Suspected asbestos cement in the existing structures.
- Suspected asbestos cement fragments on ground surface.
- Asbestos, heavy metals and polycyclic aromatic hydrocarbons (PAH) compounds in any made ground and stockpiles.
- Pesticides associated with agriculture.

Offsite

- Infilled pond to the northeast

2.7.2 Potential Receptors

The following potential receptors of ground contamination were identified:

- Human health of future residents and construction workers.
- Controlled waters, onsite stream and Lancing Brook.
- Construction material such as foundations and infrastructure such as service pipes.

Groundwater is not considered as a receptor due to the negligible permeability of the underlying Weald Clay Formation.

2.7.3 Potential Contaminant Linkages

A risk is only considered to be present where a contaminant linkage between a source and receptor could be present. For the proposed residential development at Lower Perryland Farm, which includes private residential gardens the potential linkages identified as set out in section 2.7.3.1, below.

Preliminary risk levels for each contaminant linkage are assessed considering the likelihood of exposure occurring and the severity of the impact that exposure could cause.

2.7.3.1 Human Health

All the exposure linkages between humans and potential contaminants that are considered within in the Contaminated Land Exposure Assessment (CLEA) would be expected to be present within the proposed development at Lower Perryland Farm. The CLEA model considers the following pathways:

- Direct soil ingestion.
- Direct indoor dust ingestion.
- Consumption of homegrown produce and consumption of soil attached to homegrown produce.
- Dermal contact with soils and indoor dust.

- Inhalation of indoor and outdoor dust and vapours.

Construction workers will not be exposed to risks associated with the consumption of homegrown produce but will be subject to all other potential exposure pathways.

2.7.3.2 Ground gas

The offsite pond to the northeast of the site appears to have been partially infilled based on historical mapping. Dependent on the nature of the infill the pond has the potential to represent a source of ground gas. However, based on the mapping the partial infilling appears to have occurred between 1957 and 1973, over 50 years ago, and the area infilled was relatively small between 15 and 20m in diameter. Therefore, it is likely that any gas generation that may have occurred will have passed through the methanogenic phase and any remaining ground gas would be in decline. Given the site is underlain by the Weald Clay Formation, which generally exhibits negligible permeability it is highly unlikely that any remaining ground gas present would migrate laterally through the strata, from the pond to the subject site and instead would vent directly to the atmosphere.

Based on the age of the infilling and the absence of the contaminant migration route the risk associated with ground gas is not considered further within this assessment.

2.7.3.3 Surface water

An onsite stream is present aligned roughly east to west across the site. Potential pesticides associated with farming activities could theoretically be linked to the stream via surface runoff. Given the relatively flat topography and the underlying clay based geology, significant mobilisation of potential pesticides is unlikely. However, given the streams position there is the potential that any groundworks or construction activities may mobilise any unforeseen contamination into the watercourse and therefore care should be taken to limit runoff into the stream.

2.7.3.4 Sensitive Sites

No sensitive sites were identified within the vicinity of the site and given the generally low likelihood of potential contamination, the site is not considered to pose a risk to sensitive off-site receptors.

2.7.4 Level of Risk

A risk assessment table including risk levels for each individual pollutant linkage that will be present at the site once developed, as per the proposed development is included in Appendix E. The key findings of the risk assessment are summarised below.

Suspected asbestos cement sheeting was observed within the structure of several of the buildings on site, with further fragments of these materials observed on the ground surface. There is the potential for the soils on site to be impacted with asbestos containing materials, which would pose an unacceptable (high) risk to future site users and construction workers.

The site has been occupied since prior to 1875 with additional construction taking place in the 1940s, 1970s and 2000s. It is therefore likely that made ground may be present on site surrounding and beneath the buildings. This material represents a potential source of commonly occurring contaminants of concern including heavy metals and polycyclic aromatic hydrocarbons (PAH) compounds. The risk from these contaminants is classified as low to

moderate to future residents. These contaminants also have the potential to be present within the small stockpiles situated around the site.

Given the sites agricultural use, it is likely that pesticides may have either been used or stored on site historically, though no evidence was identified during the walkover. Elevated concentrations of these contaminants would pose a risk to future residents if present in areas of soft landscaping such as private gardens.

Aerial imagery indicates that several vehicles were previously stored on site, therefore there is the potential that fuel leakage / spillage has occurred on site. However, no odours, significant ground staining or other evidence was observed on site. Furthermore, any such contamination if present would likely be minor and highly localised given the low permeability strata. Therefore, the risk is considered negligible.

Groundworkers are more likely to be exposed to any contamination present within the ground albeit for a shorter period. However, assuming that appropriate PPE is in use, and hand washing prior to meals and other breaks is adopted the risk to these workers would generally reduce to low for the contaminants identified with the exception of asbestos.

Other than asbestos cement fragments, no significant evidence for contamination, particularly liquid contaminants, was observed on site. The risk of contaminants impacting the onsite stream are generally considered low. However, care should be taken during construction to ensure that significant surface water runoff from the site does not impact the stream. Consideration should also be made to ensure that run off does not result in excessive silting up of the watercourse.

2.8 PRELIMINARY GEOTECHNICAL CONCEPTUAL SITE MODEL

The following geotechnical CSM is based on the information summarised above.

2.8.1 Anticipated ground model

Based on the preliminary assessment data, the ground conditions beneath the site are anticipated to comprise:

Table 5: Anticipated ground conditions from desk-based data review

Geological Strata		Notes
Made Ground		Shallow made ground should be anticipated within the footprint of the structures and immediately surrounding them. Made ground is by nature variable and is unsuitable as a load bearing stratum, excavations through any made ground have the potential to be unstable.
Superficial Deposits	None mapped on site	The potential for shallow alluvial deposits associated with the onsite stream cannot be entirely discounted. If present these are likely to be soft and compressible in comparison to the underlying Weald Clay. However, if present, these deposits are likely to be localised to the route of the stream.
Bedrock Geology	Weald Clay Formation	The Weald Clay comprises mudstones and subordinate siltstones and sandstones which weather to over-consolidated clays near surface. The clays often exhibit moderate plasticity with the potential to impact shallow foundation design, particularly given the presence of large trees on site. The deposits are also known to contain elevated levels of sulphides and their weathering products sulphates which can cause concrete degradation.

2.8.2 Anticipated Hydrogeology

Given the negligible permeability of the Weald Clay significant groundwater ingress into excavations is not anticipated. There is the potential for minor seepages associated with groundwater within any thin granular horizons, perched groundwater may also be present with any made ground soils above the Weald Clay.

2.8.3 Geotechnical Risk

A geotechnical risk register (GRR) is included in Appendix E of this document. The geotechnical risks identified as significant or greater are summarised below.

The Weald Clay often exhibits moderate to high plasticity, given the presence of mature trees and hedge rows along the sites boundaries, it is likely that any new foundations would require deepening to overcome the impact of shrinkage and swelling.

BRE Special Digest 1 lists the Weald Clay as one of the deposits with the potential to contain pyrite. Sulphides such as pyrite, weather to form sulphates which can have a degradational effect on concrete, therefore the potential requirement for sulphate resistance concrete as part of the development should be considered, subject to laboratory testing.

Deep made ground is not anticipated on site, however shallow made ground surrounding the existing structures may be anticipated. Made ground is not suitable as a load bearing stratum and foundations would be required to extend through this material into competent strata beneath. There is also the potential for localised shallow alluvium like soils, which similarly, are unlikely to be suitable as a load bearing stratum, to be present on site near the area of the stream.

Significant groundwater ingress is not considered likely given the underlying deposits. However, the potential for perched groundwater within the made ground (or any alluvium adjacent to the stream) cannot be discounted. Allowance should be made for light pumping of excavations during wetter periods.

In some areas the Weald Clay has a relatively high silt content, and silts can be susceptible to frost action because of their grain size and poor space. Therefore, there is the potential that the soils on site may be frost susceptible, subject to laboratory testing.

2.9 RECOMMENDATIONS

2.9.1 Geo-environmental Recommendations

This desk study has identified several potential sources of contamination on site, most notably the presence of asbestos within the structures and on the ground surface. Therefore, it is recommended that shallow site investigation is undertaken to enable chemical testing of the soils and an assessment of the risk to future site users. It is recommended that following the demolition of the existing barns a visual inspection, sampling and laboratory testing of the exposed soils is undertaken to assess whether any contamination is present beneath the current building footprints.

2.9.2 Geotechnical Recommendations

It is recommended that geotechnical investigation be undertaken as part of the geo-environmental works to enable an assessment of the stiffness/density of the deposits on site and

provide samples for geotechnical laboratory testing. The investigation should comprise a series of trial pits extending to at least 3.0m bgl providing a non-targeted coverage across the site.

APPENDIX A – LIMITATIONS

This report, including any related study, inspection, testing, sampling, or interpretation (collectively referred to as "deliverables"), was prepared by Onyx Geo Consulting Limited (Onyx Geo), for the client specified in the first paragraph, following the terms outlined in Onyx Geo's fee proposal and standard terms (the "Appointment"). Onyx Geo delivered the Services with the level of expertise typical of geo-environmental consultants at the time. The report does not imply any specific fitness for purpose. The Services were completed within the limitations of scope, timing, and resources as agreed between Onyx Geo and the Client.

Except as specified above, Onyx Geo makes no further representations or warranties, either express or implied, concerning the Services. Liability for any actions related to this report expires six years from the report date or as legally specified, unless altered within the Appointment terms.

Onyx Geo conducted the Services exclusively for the Client's intended purpose. If this report or its contents are used by any third party without explicit written consent from Onyx Geo, any risk or liability lies solely with that party. It is recommended that third parties seek their own independent geo-environmental consultation.

The Client may not transfer or assign the benefits of this report to any third party without written permission from Onyx Geo. Should an assignment be agreed upon, any third-party rights provided will require a fee and will not extend beyond the terms initially agreed with the Client.

Onyx Geo understands this report is intended for the purpose outlined in its introduction. Any alterations in the site's intended use may invalidate the report. Onyx Geo is not liable for any use of this report outside its original purpose without a formal review.

Over time, changes in site conditions, regulations, technology, or economic circumstances may affect the accuracy or relevance of this report. For future reliance, written confirmation from Onyx Geo is advised.

The conclusions in this report are based on the specific Services provided as outlined in the Appointment. Onyx Geo holds no responsibility for undiscovered conditions that fall outside the scope of services originally agreed upon.

The Services were based on visible site conditions, historical site data, and publicly available information, relying on third-party data where applicable. Onyx Geo is not liable for inaccuracies in this information or for failing to independently verify third-party data.

Drawings included in this report are illustrative and may not be suitable for precise measurements. Marked features are approximate and for reference only.

Any subsequent review or update of this report may require additional fees at the agreed rates.

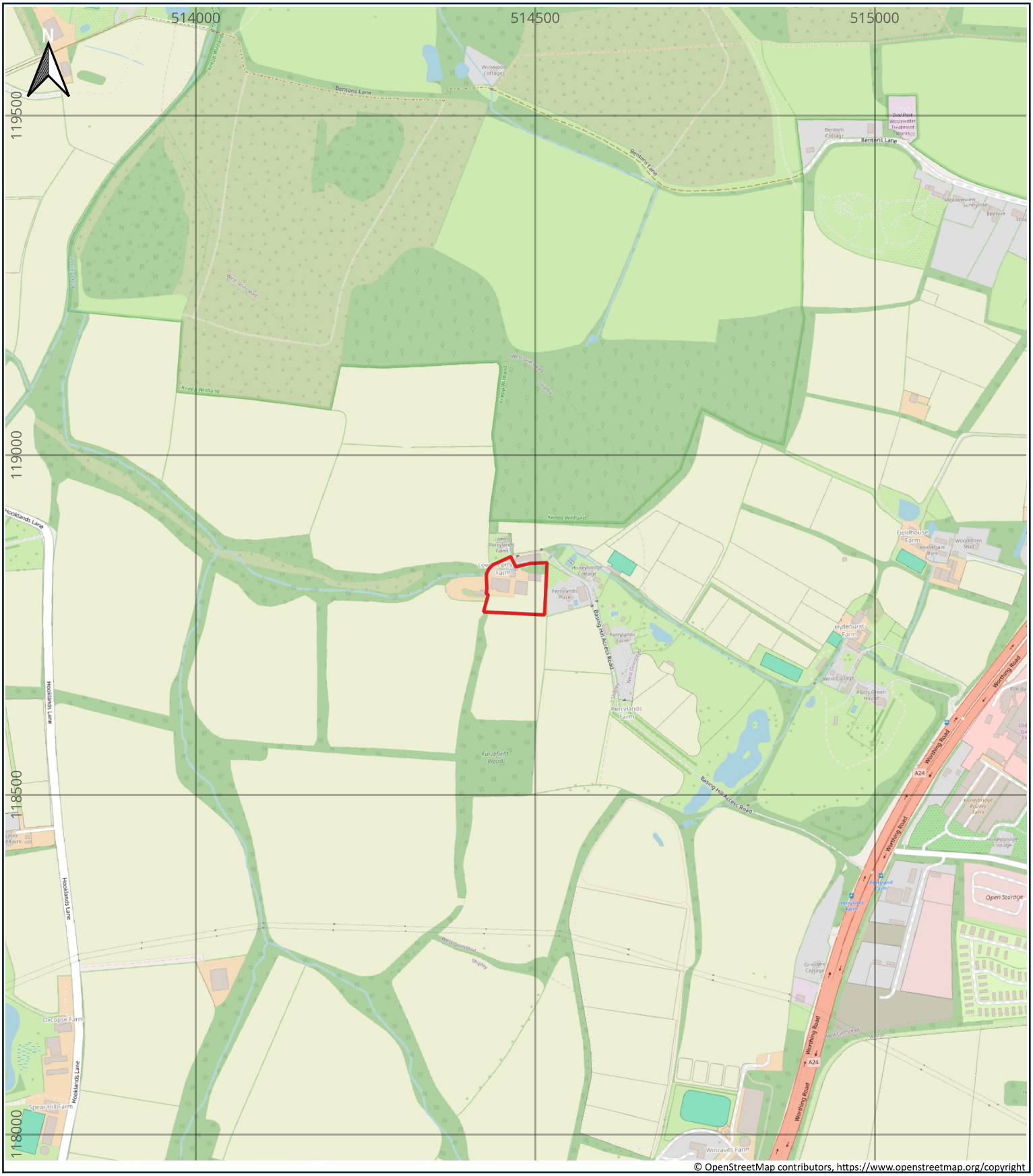
The conclusions from ground investigations rely on samples taken from specific site locations and represent only a limited area around these points.

Site conditions, particularly ground and groundwater variables, may change seasonally, and additional variation beyond that reported here cannot be ruled out.

The presence of asbestos, if any, is not fully assessed within this report. A comprehensive asbestos survey is recommended for any thorough evaluation.

Preliminary geotechnical recommendations are provided and should be validated in a final Geotechnical Design Report once structural design plans are confirmed.

APPENDIX B – FIGURES AND DRAWINGS



Project Name: Lower Perrylands Farm

Client: Lower Perrylands Limited

Drawing Number: ON251025-ON-PD-XX-DR-G-111-C02

Description: Figure 1 - site location plan

Project No: ON251025	Rev: C02	Date: 29/10/2025	Scale @A4:

Drawn: ADC	Checked: SC	Approved: SC	0 100 200 m Do not scale drawing

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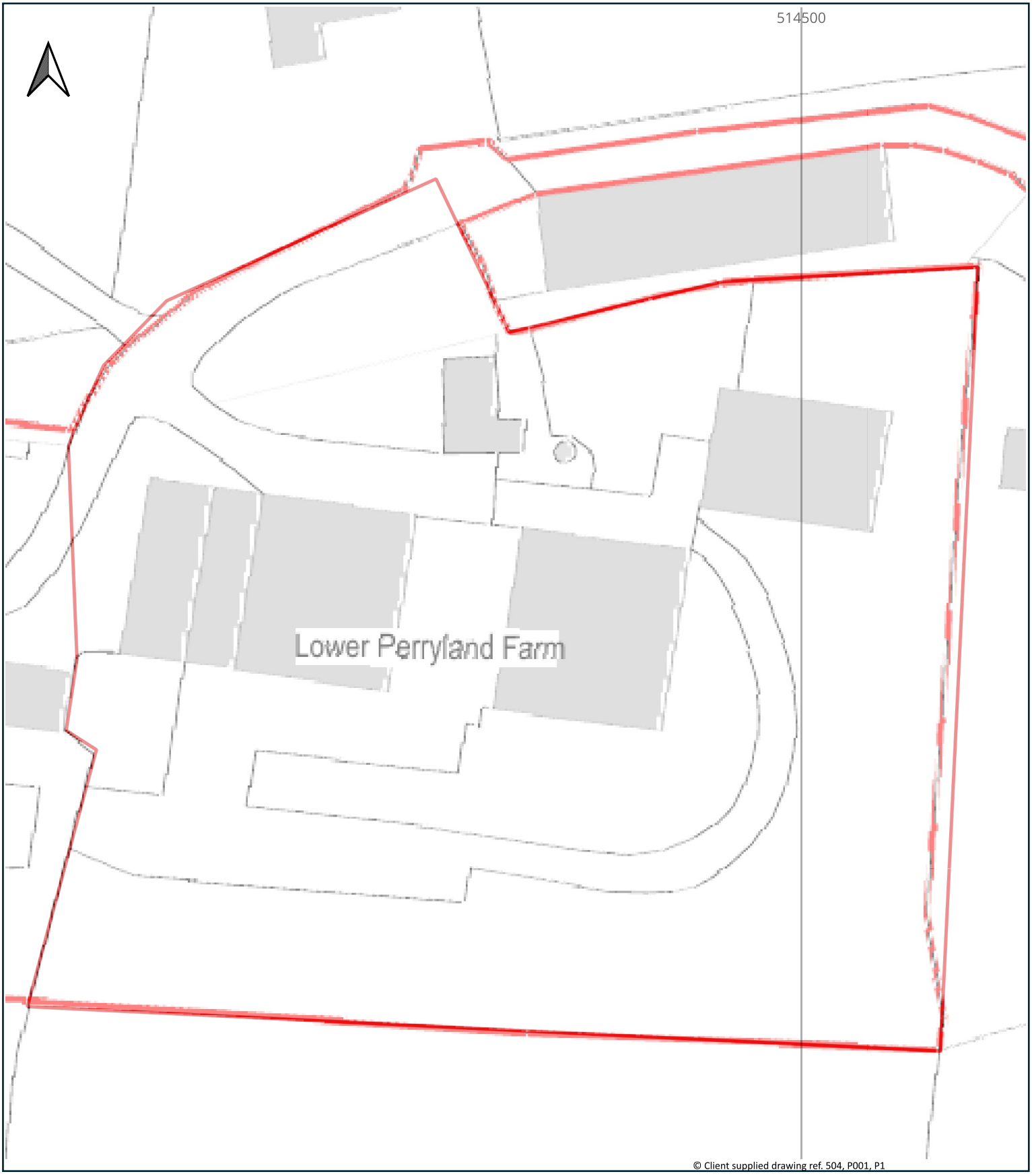

Project Name: Lower Perrylands Farm

Client: Lower Perrylands Limited

Drawing Number: ON251025-ON-PD-XX-DR-G-112-C02

Description: Figure 2 - current site layout

Project No: ON251025	Rev: C02	Date: 29/10/2025	Scale @A4:

Drawn: ADC	Checked: SC	Approved: SC	0 10 20 m — Do not scale drawing

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Project Name: Lower Perrylands Farm

Client: Lower Perrylands Limited

Drawing Number: ON251025-ON-PD-XX-DR-G-224-C02

Description: Figure 3 - proposed development layout

Project No: ON251025	Rev: C02	Date: 29/10/2025	Scale @A4:

Drawn: ADC	Checked: SC	Approved: SC	0 10 20 m Do not scale drawing

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APPENDIX C – PHOTOGRAPHS

Photo 1 – View looking east across the barns and silo.

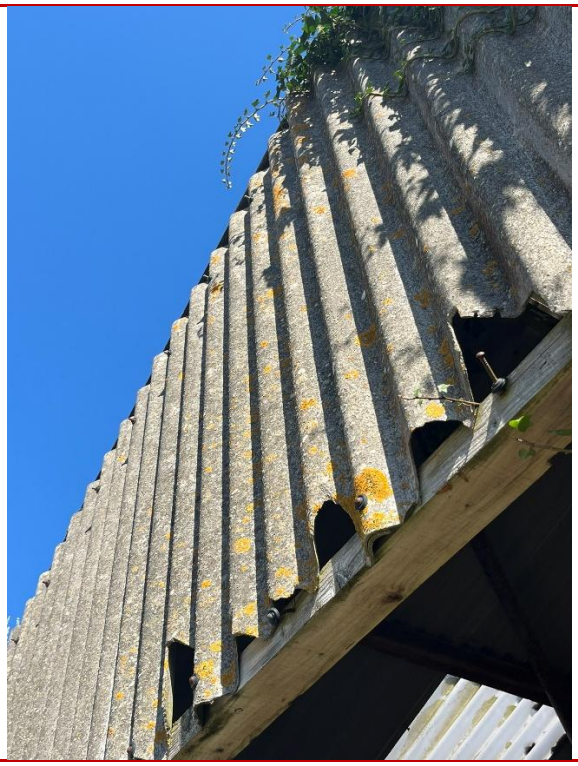

Photo 2 – Suspected corrugated asbestos cement sheeting with fragments missing.

Photo 3 – View south between the barns with agricultural machinery visible.

Photo 4 – View west towards the barns.

Photo 5 – View northwest from the southern side of the barns.

Photo 6 – Stockpile of building rubble to the south of the western barns.

Photo 7 – Southern side of the western barn with a caravan inside.

Photo 8 – Fragments of suspected asbestos cement on the ground surface.

Photo 9 – View of the onsite stream looking west.

Photo 10 - View of the onsite stream looking east.

Photo 11 – Suspected asbestos cement on the western barn with fragments missing.

Photo 12 – Darkly stained area of concrete.

Photo 13 – Fragments of suspected asbestos cement on the ground.

APPENDIX D – GROUNDSURE REPORT

Preliminary Geotechnical Risk Register (GRR)

ONYXGEO CONSULTING LTD.	**Project Name:**	Lower Perryland Farm, Dial Post
	Client:	Lower Perrylands Limited
	Report ref:	ON251025-ON-PD-XX-RP-G-712-C02

Introduction

Geotechnical risk is the risk to the construction work created by the ground conditions. This Geotechnical Risk Register (GRR) has been compiled to provide an assessment of the likely risks that may impact on the proposed development of the land Lower Perryland Farm, Dial Post with residential properties for incorporation into the Phase 1 Desk Study Report.
The risk in the register does not indicate that the risk is present, rather the likelihood of mitigation measures being required due to that risk, based on the available data. Equally, a risk classified as low indicates that mitigation measures are unlikely to be required for the hazard identified based on the available data. The potential risks should be continually reassessed throughout the design and construction process as new information comes to light or due to site specific of weather specific conditions.
The risk register is a live document and should be refined throughout the design and construction process such that it will enable the management of geotechnical risk. The risks reported in this register comprise of both H&S related risks, and project risks. The Effect of Hazard scale accounts for both types of risks.
The GRR has been developed in accordance with the guidance CD622 "Managing Geotechnical Risk" (2020). The risk is determined by combining the likelihood of a hazard occurring and the effect of the hazard on the project. The effect may be measured in one or more aspect e.g. increased cost, delays in the program, health and safety etc. The scale of the likelihood, effect and risk are determined as follows.

Likelihood of Occurrence	
Score	Likelihood
4	Probable
3	Likely
2	Unlikely
1	Negligible

Effect of Hazard		
Score	Effect	Risk
4	Very High	Fatality/major injury **or** >10% increase in project cost
3	High	Significant Injury **or** 4-10% increase in project cost
2	Low	Lost-time Injury **or** 1-4% increase in project cost
1	Very Low	First-aid/none **or** <1% increase in project cost

Degree of Risk	
Score	Risk Level
1-4	Trivial
5-8	Significant
9-12	Substantial
13-16	Intolerable

Hazard	Probability	Effect	Risk	Notes	Mitigation
Soils Susceptible to Shrinkage and Swelling	3	3	9	The Weald Clay often exhibits moderate to high plasticity. Given the presence of trees and hedges on site this is likely to impact foundation design.	Foundations may require deepening to account for the potential volume change of the shallow soils.
Aggressive Ground Conditions for Concrete Design	3	2	6	The Weald Clay is amongst those listed by the BRE Special Digest 1 on aggressive ground conditions as potentially containing pyrite.	Concrete design should account for the potential for elevated sulphide and sulphate concentrations within the ground.
Variable or Compressible Soils	2	2	4	The Weald Clay Formation generally comprises over consolidated clays and silts near surface and as such, compressible strata are not anticipated. There is the potential for some localised soft/compressible strata associated with the stream on site.	Foundations should be designed to extend through any compressible strata to intact strata at depth.
Frost Susceptible Strata	3	2	6	The Weald Clay locally contains significant proportions of silt. Silt is often susceptible to frost action.	Allowance should be made for the use of frost-resistant subbase within the construction of any hardstanding of roads.
Deep Made Ground	2	3	6	Deep made ground is not anticipated on site. Shallow made ground may be present within the footprint of the existing structures.	Foundations should extend through any made ground into suitable load bearing strata below. Excavations in made ground are likely to be unstable and lateral support may be required.

Solution Features	1	4	4	The Weald Clay which underlies the site is not susceptible to dissolution, there is no other evidence to suggest subterranean voids are present on site.	n/a
Elevated Groundwater Levels	2	2	4	The Weald Clay generally exhibits negligible permeability and as such a discrete groundwater surface is not anticipated within the shallow soils on site. However the potential for perched groundwater, and therefore minor seepages from any granular horizons or made ground cannot be entirely discounted.	Allowance should be made for light pumping of excavations.
Slope Instability	1	4	4	The site is relatively level with no steep slopes or retaining structures observed during the walkover.	Assuming no significant cut and fill activities or large retaining structures are proposed then no further assessment is required.
UXO	1	4	4	The site is situated within an area mapped as low risk for UXO according to the freely available Zetica risk mapping.	n/a

APPENDIX E – PRELIMINARY RISK ASSESSMENT AND GEOTECHNICAL RISK REGISTER

Preliminary Risk Assessment (PRA)

ONYXGEO CONSULTING LTD.	**Project Name:**	Lower Perryland Farm, Dial Post
	Client:	Lower Perrylands Limited
	Report ref:	ON251025-ON-XX-XX-RP-G-712-C02

Introduction

This preliminary risk assessment uses a qualitative approach to assess the risk posed by various source, pathway, receptor linkages. The risk is classified based on both the likelihood that a contaminant is present and that a pathway exists through which the receptor may be exposed as well as the severity of the consequences of that exposure.
The severity of the exposure is classified as either, minor, mild, moderate or severe. The Likelihood of exposure if classified as unlikely, low likelihood, likely or highly likely.
The risk is then classified as either, very low, low, low to moderate, moderate, high or very high. Whereby **very low** means that the possibility of a receptor being exposed is low and the consequence of that exposure would be minimal conversely **very high** means that it is highly likely that a receptor is exposed to a severe harm and some degree of control measure or remediation will almost certainly be required.

Source	Pathway	Receptor	Potential for exposure	Consequence of exposure	Risk Rating	Comments
Contaminants heavy metals, PAH compounds) in soil (excluding asbestos)	Direct skin contact, inhalation or ingestion of soil or consumption of produce grown in contaminated soils.	Human Health (Future residents)	Likely	Mild	Low to Moderate	Given the centre of the site was developed prior to 1875 and that subsequent structures were built in the 1940s, 1970s and 2000s it is likely that made ground is present with the potential to be impacted with contaminants. As the development includes private gardens a potential pathway exists for future residents to be exposed to any soil contaminants.
	Direct skin contact with or inhalation or ingestion of soil	Human Health (Construction workers)	Highly likely	Mild	Moderate	Groundworkers are subject to all the same exposure pathways as future residents other than those associated with home grown produce albeit for a short duration and are more likely to come into direct contact with the soil. **However, the risk to groundworkers will be reduced assuming that appropriate PPE is in use and that hand washing prior to meals and other breaks are adopted.**
	Overland water flow	Controlled waters (surface water)	Low Likelihood	Mild	Low	No significant evidence for contamination was observed on site. Given the site is relatively level it is unlikely that significant overland flow carrying contaminants has discharged into the onsite stream.
	Leaching or contaminants as percolating rainwater enters the groundwater	Controlled waters (Groundwater)	Unlikely	Minor	Very Low	Limited evidence for contamination has been observed on site (other than asbestos). The site is underlain by unproductive strata of the Weald Clay Formation which generally exhibits negligible permeability as such the risk

						to groundwater receptors is considered very low.
Pesticides in soils	Direct skin contact inhalation or ingestion of, soil or consumption of produce grown in contaminated soils	Human Health (Future residents)	Likely	Mild	Low to Moderate	Parts of the site have been agricultural land since prior to the earliest historical maps with the remainder of the site occupied by agricultural buildings. It is likely that pesticides have been used or stored on site historically.
	Direct skin contact with or inhalation or ingestion of soil	Human Health (Construction workers)	Highly likely	Mild	Moderate	Groundworkers are subject to all the same exposure pathways as future residents other than those associated with home grown produce albeit for a short duration and are more likely to come into direct contact with the soil. **However, the risk to groundworkers will be reduced assuming that appropriate PPE is in use and that hand washing prior to meals and other breaks are adopted.**
	Overland water flow.	Controlled waters (surface water)	Low Likelihood	Mild	Low	Unlikely that significant overland flow carrying contaminants has discharged into the onsite stream.
	Leaching or contaminants as percolating rainwater enters the groundwater	Controlled waters (Groundwater)	Unlikely	Minor	Very Low	The site is underlain by unproductive strata of the Weald Clay Formation which generally exhibits negligible permeability as such the risk to groundwater receptors is considered very low.
Asbestos in the soil	Inhalation of asbestos	Human Health (Future residents)	Likely	Severe	High	Some of the structures on site with built in the 1940s/50s and include suspected asbestos cement within their structure, this was noted to be broken in several locations and fragments of this material was observed on the ground surface. It is likely that asbestos may therefore have impacted the shallow soils on site.

	Inhalation of asbestos	Human Health (Construction workers)	Likely	Severe	High	Groundworkers would be exposed to any asbestos present within the soils. This would pose an unacceptable risk to their health unless suitable control measures were put in place to prevent exposure.
Petroleum Hydrocarbons in soil	Direct skin contact with or ingestion of contaminated soils or inhalation of vapours	Human Health (Future residents)	Low Likelihood	Mild	Low	Aerial imagery appears to show several vehicles parked on site and the walkover observed farm machinery. As such there is the potential that minor hydrocarbon spills / leaks have occurred on site. A single area of darkly stained concrete was observed within one of the barns which may represent a former fuel spill. Although it is noted that this was on an area of concrete so may not have directly impacted the underlying soils. Any such contamination if present is likely to be relatively minor and localised.
	Direct skin contact with or ingestion of contaminated soils or inhalation of vapours	Human Health (Construction workers)	Low Likelihood	Mild	Low	Groundworkers are subject to all the same exposure pathways as future residents other than those associated with home grown produce albeit for a short duration and are more likely to come into direct contact with the soil. **However, the risk to groundworkers will be reduced assuming that appropriate PPE is in use and that hand washing prior to meals and other breaks are adopted.**
	Overland flow	Controlled waters (surface water)	Low Likelihood	Mild	Low	No significant evidence for fuel spillage / leaked was observed on site. Therefore, there is a low likelihood that significant hydrocarbon contamination

						has impacted the stream or will impact the stream during development.
	Infiltration of aqueous product into the groundwater.	Controlled waters (Groundwater)	Unlikely	Minor	Very Low	The site is underlain by unproductive strata of the Weald Clay Formation which generally exhibits negligible permeability as such the risk to groundwater receptors is considered very low.
Offsite pond fill generating ground gas	Lateral gas migration through the subsurface and vertically into confined spaces within the structure.	Human Health (Future residents)	Unlikely	Severe	Low to Moderate	An offsite pond situated ~20m from the site appears to have been partially infilled between 1957 and 1973. Given the site and the pond are underlain by relatively impermeable Weald Clay and the backfilling occurred at least 50 years ago it is considered unlikely that significant gas generation is ongoing, or that gas would migrate onto the subject site rather than discharging directly to the atmosphere.