



GEOTECHNICAL
ENGINEERS

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Desk Study Report

Richborough Estates

Brascote Lane, Newbold Verdon

24th February 2022

Ref: PJSG21-47-RT-01-A

1. Executive Summary

Instruction	In October 2021, PJS Geotechnical Engineers Limited (PJSG) were instructed by Richborough Estates (the Client) to undertake a Geo-Environmental Desk Study report for a site at land off Brascote Lane, Newbold Verdon, Leicestershire, LE9 9LE (the site).
Site Location & Description	The site is located at land adjacent to Brascote Lane, Newbold Verdon, Leicestershire, LE9 9LE, approximately centred at 444690E, 303055N. The site predominantly comprises agricultural fields devoid of any structures or significant features.
Proposed Development	It is understood that the site will be developed for a residential end use with associated areas of hardstanding used for access and parking and soft landscaping within gardens and Public Open Space. [REDACTED]
Mining	Based on [REDACTED] activities [REDACTED]
Unexploded Ordnance (UXO)	Low risk area for UXO; no further action considered necessary.
Potentially Contaminative Land Uses	Based on the former historical / current land uses that have occurred at or in close proximity to the site, [REDACTED] materials and [REDACTED] hydrocarbons [REDACTED] Several potential off-site sources of contamination have been identified in close proximity to the site. The potential exists for impact to the site boundaries / groundwater under the site to have occurred from potential inorganic / organic contaminants.
Human Health Contamination Risk Assessment	The majority of the site is however currently in use as agricultural farmland. As such, there is considered to be a LOW risk to Human Health end users / construction workers based on redevelopment of much of the site. Where localised on-site and off-site potential sources of contamination have been identified, the preliminary risk assessment has indicated that, in the absence of any mitigation measures, the site poses a LOW / MODERATE risk to human health in these areas until proven otherwise.
Controlled Waters Risk Assessment	Based on the former historical / current land uses that have occurred at or in close proximity to the site, the preliminary risk assessment has indicated that the site poses a LOW risk to Controlled Waters. There is a stream located on the northern boundary that is considered sensitive to site contamination; however, given the lack of significant sources present, the risk to the stream is considered low.
Ground Gas / Vapours / Radon	Generally low risk across the site but rising to low / moderate due to potential for ground gas arising from potential localised sources. Any Made Ground has the potential to generate elevated ground gas at the site, particularly if any putrescible material is present. Confirmatory gas and groundwater monitoring on 6 No. occasions over 3-months across proposed residential development areas of the site is recommended to be undertaken. (CIRIA C665). Low / moderate localised potential for vapours arising from contaminated soils and / or groundwater below the site associated with leaks / spills of fuels from surrounding land uses migrating towards and under the site. The site is not in a radon area; radon protection measures not required.
Ecological Risk	Low risk from potential Impacts from identified contamination sources and proposed construction to ecological receptors.

Geotechnical Summary	Intrusive works shall be required in order to identify ground conditions. Generally, the recorded geology would suggest that traditional shallow foundations, such as strip or trenchfill foundations may be appropriate for the majority of the site, subject to the loadings of the proposed structures and verification of the ground conditions by intrusive investigation. Localised deepening of foundations / alternative foundations may however be required coinciding with any potential areas of superficial alluvium / loose sand and gravel deposits on site should they be encountered. Piled foundations may be required should foundations be positioned within cohesive strata and in close proximity to trees and hedgerows in accordance with NHBC Guidelines. Although considered unlikely, piled foundations may also be required should any unexpected deep made ground be identified during the intrusive investigation. The under [REDACTED] content. [REDACTED] as part of [REDACTED] with these soils. A tree survey shall be required which extends beyond the site boundaries for use in foundation.
Drainage	The under [REDACTED] drainage if [REDACTED] assessment [REDACTED] BRE365 guidance. Soakaway drainage may be possible within deeper deposits of sands and gravels that are indicated to be present across the site.
Recommendations	To more accurately determine the ground conditions beneath the site an intrusive investigation of the site should be undertaken. The main objective of the investigation would be to confirm the absence and / or presence of significant contamination and to determine geotechnical characteristics of the ground for foundation design, drainage.



2. Document Issue Record

Document Number					
PJS Reference		PJSG21-47-RT-01-A			
Status	Revision	Date of Issue	Author	Checked	Approved
Original	-	29/10/21	Nicholas Brown MSc AMIEnvSc	Adrian McVey BSc (Hons)	Martin Parker BSc (Hons) ICIOB
Original	A	24/02/22	Nicholas Brown MSc AMIEnvSc	Vinny Hallifield BSc (Hons)	Martin Parker BSc (Hons) ICIOB

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PJS Geotechnical has undertaken the work in accordance with our understanding of current best practice at the time of undertaking the report. Except as otherwise requested by the client, PJS Geotechnical is not obliged to and disclaims any obligation to update the report for events taking place after the date on which this assessment was undertaken, and the date on which the final report is delivered.

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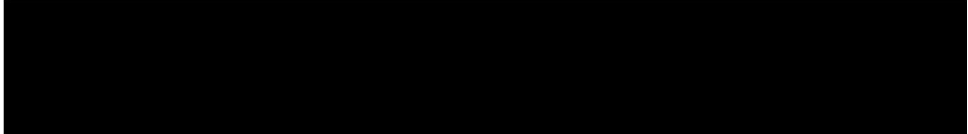


Appendices

Appendix A - Site Photographs
Appendix B - Historical Maps
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Drawings

PJSG21-38-DR-001 – Site Location Plan
PJSG21-38-DR-002 – Site Features Plan
Proposed Illustrative Masterplan (n17-4-0001)



1. Introduction

1.1 Instruction

In October 2021, PJS Geotechnical Engineers Limited (PJSG) were instructed by Richborough Estates (the Client) to undertake a Geo-Environmental Desk Study report for a site at land off Brascote Lane, Newbold Verdon, Leicestershire, LE9 9LE (the site).

1.2 Objectives

The purpose of the Geo-Environmental Desk Study is to collect information in order that an 'Initial Conceptual Site Model' (ICSM) can be established. [REDACTED] defined as a contaminant line Management (LCRM) 2020.

The main objectives of this assessment are outlined below:

Table 1-1 Objectives

Objectives
To assess historical activities at the site with respect to their potential impact on the site environment;
To characterise the geological and environmental setting of the site.
Undertake a Preliminary Risk Assessment and develop and rationalise an Initial Conceptual Site Model (ICSM) which identifies risks associated with potential land contamination.
Provide conclusions as to the perceived geo-environmental condition of the site with respect to ground related risks.
Make recommendations for any further assessment, if considered necessary.

1.3 Proposed Development

It is understood that the site will be developed for a residential end use with associated areas of hardstanding used for access and parking and soft landscaping within gardens and Public Open Space (POS).

A proposed Illustrative Masterplan (n1741_006A) is included within the Drawings Section.

1.4 Previous Reports

No previous geo-environmental reports or investigations have previously been undertaken for the site.

2. The Site

2.1 Site Description

A site walkover was undertaken by a PJS representative on 7th October 2021 to provide a general description of the site and to identify any significant constraints associated with development of the site. Detailed surveys such as structural, wildlife or tree surveys were outside the scope of this report.

A detailed description of the site and overview of the main features observed during the site walkover is presented in Table 2-1 below. Reference has also been made to satellite imagery where available.

A Site Location Plan (PJSG21-
Drawings Section of this report

Table 2-1 Summary of Site Information

Specifics	Details
Location	Land adjacent of Brascote Lane, Newbold Verdon, Leicestershire, LE9 9LE.
Site Centre Coordinates	
Approximate Site Area	14.34 hectares (ha).
Current Site Use	The site is used as agricultural farm land. Evidence of a recent crop was observed due to the presence of crop stubble.
Topography	The highest area of the site was observed on the east and west of the site dipping slightly to the lowest area in the centre of the site. Localised undulations where significant pooling of rainwater was noted.
Surface Conditions	Agricultural topsoil overlies the site.
Existing Buildings / Structures	No buildings or structures were observed on site.
Services / Utilities	No services were observed on site. Overhead telecommunications lines were observed on Brascote Lane running parallel to the boundary.
Access & Security	Access on foot is suggested to the wider site. Vehicular access can be gained via an open gap in the north west of site. A padlocked steel gate is present to the south of the site via a gravel track,.
Fuel Tanks	None observed.
Energy Features	None observed.
Asbestos Containing Materials (ACMs)	No structures observed on site. Fly-tipped materials were observed in the north-west of the site by the site access point which could potentially contain ACMs. Although no visual evidence of ACMs within the waste was observed.
Evidence of surface staining & odours	None noted.

Specifics	Details
<i>Vegetation / Invasive Plants</i>	No assessment has been made for the presence of pernicious plant species e.g. Japanese Knotweed, Giant Hogweed, within the remit of this investigation. It is recommended a specialist arboriculture survey be undertaken prior to design works commencing.
<i>Existing Boundaries</i>	Boundaries across the site consisted of mature hedgerows and trees. The southern boundary is located partially adjacent to a residential property and the boundary is formed of a wooden post and rail fence.
<i>Surrounding Land Use</i>	 adjacent northwest and southwest. A public house is located adjacent west of the site.
<i>Local Surface Water Features</i>	A small stream was observed flowing west to east along the northern boundary. The channel is shallow and runs behind the mature hedgerows and trees.
<i>Anecdotal Evidence</i>	
<i>Identified Potential Contamination Sources from Reconnaissance</i>	• ACMs / other potential contaminants in fly-tipped materials located on site. • Potential leaks and spills of fuels / oils from plant / vehicles using adjacent road located west and south of the site. • Potential leaks and spills of fuels / oils from plant / vehicles using the site.
<i>Identified Receptors from Reconnaissance</i>	Potential leaks and spills of fuels / oils from plant / vehicles using adjacent roads located west and south of the site.



3. Site History

3.1 Ordnance Survey Map Review

A review of historical maps has been undertaken for the site and surrounding area, using Ordnance Survey Maps at 1:2,500, 1:10,560 and 1:10,000 scale, dating from 1887 – 2021 presented in Appendix B. The pertinent historical features and changes in land use over time both on and off-site are discussed below in Table 3-1.

Table 3-1 Summary of Site Development History

Map Dates	Pertinent Features On-site	Pertinent Features Off-site
Pre - 1900	The site consists of several agricultural fields intersected by field boundaries of hedgerows and sporadic trees. A pond is located in the central-northern site area.	The Old Mill Inn and a Windmill processing corn is located adjacent west of the site in the northern portion of the site. The village of Newbold Verdon lies ~500m to the north of the site. The surrounding land use comprises agricultural farmland.
1900 - 1950	No significant change.	Allotment gardens are located adjacent north-west circa. 1903. The windmill adjacent to site has been demolished by circa. 1950.
1950 - 1975	By circa. 1972, the pond located in the central-northern site area is no longer indicated, presumed in-filled. Internal field boundaries have also been removed from the site and the site consists of a single field with the majority of the field located in the north and a longer thinning area towards the south.	Allotment gardens are located adjacent south-west of the site. A sewage works has been constructed ~250m west of the site boundary. Farms are also noted ~350m north and 500m southwest by the mid-1960.
1975 - 2000	No significant change.	An unnamed works is located ~450m south and two Farms are located ~500m south by 1980. Increased residential development throughout the wider environs of Newbold Verdon is noted during this period and is now present to within ~100m north of the site.

Map Dates	Pertinent Features On-site	Pertinent Features Off-site
2000 - 2016	No significant change.	Two ponds are located to the south and southwest of the site. The sewage works to the west of the site is now no longer indicated on mapping; however, aerial photography indicates the sewage works to still be present. A farm is located ~250m east by 2010.
Post 2016	A large pond to the [REDACTED] mapping to the south [REDACTED]	[REDACTED]

3.2 Aerial Photographs

Aerial photographs dated 1999 to [REDACTED]
 essentially unchanged from historical [REDACTED]

The GroundSure Insight Report is [REDACTED]

3.3 Summary of Site History

The site has remained undeveloped agricultural land since the start of historical records and has remained as such up to the present day. A pond was historically located in the central-northern area but was shown to have been infilled in the early 1970s. No further potential contaminative land uses or features have been noted on site.

The wider area surrounding the site has also predominantly comprised agricultural land with localised residential development also having occurred within the vicinity. However, a number of potential contaminative land uses have been identified in the vicinity which have comprised:

- A number of farms historically / currently located within 500m of the site, the closest located adjacent south and east.
- Allotment gardens located adjacent northwest and southwest of the site.
- Localised areas of Made Ground associated with a public house and former windmill located adjacent to the west.
- A large pond is present to the south and south west.
- Sewage treatment works ~250m west of site.

4. Geology, Hydrogeology & Hydrology

Information regarding the geology, hydrogeology and hydrology in regard to the site's setting has been obtained via a GroundSure Report. Only the information considered pertinent to the site has been included in this report.

A copy of the GroundSure Report is included in Appendix C.

4.1 Geology

Geological information pertinent to the site is summarised below reviewed at a scale of 1:10,000 and 1:50,000.

Table 4-1 Summary of Site Geology

Geological Type	Name & Description	*Location & Distance	Permeability & Flow Type
Artificial Deposits	None recorded.	n/a	n/a
Superficial Geology	Glaciofluvial Deposits – sand and gravel.		
	Alluvium – clay, silt, sand and gravel.	Underlies the central-northern boundary in the area of the stream.	Mixed – low to moderate
	Oadby Member – Diamicton.	Underlies the central and north eastern portions of the site. A small pocket is present within the very southern extremities of the site.	Mixed – low to moderate
Bedrock Geology	Gunthorpe Member – Mudstone	Present across the entirety of the site and surrounding areas.	Fracture - low

4.2 Landslips

There are no landslip records for the site or within 500m of the site boundary.

4.3 Bedrock Faults & Linear Features

There are no faults or linear features mapped on site or within 500m of the site.

4.4 BGS Borehole Records

There are no pertinent BGS borehole records within 250m of the site. However, the client has requested PJSG obtain records for 4 No. boreholes located at a distance >250m of the site boundary to try and establish groundwater levels in the vicinity of the site. One of the requested BGS borehole records (SK40SE48), alongside a second unrequested borehole located in the vicinity of the site has been made available to PJSG for review as summarised in Table 4-2 below. A copy of the available BGS borehole records is presented as Appendix D for reference.

Table 4-2 BGS Borehole Records

Borehole Ref & Distance (m):	Description	Depth to top of Stratum (m bgl)	Thickness (m)	Groundwater
*SK40SE48 (~250m East)	Topsoil	Ground Level	0.30	~2.60m
	Silty gravelly clay	0.30	~2.13	
	Sand and gravel	~2.43	Not proven	
*SK40SE53 (~400m East)	Topsoil	Ground Level	0.30	~2.60m
	Silty sand	0.30	~0.91	
	Sand and gravel			
	Sand	~3.65	Not proven	

**BGS records have been converted from imperial units to metric with approximate depths given.*

BGS records indicate that the geology is composed of sand and gravel /or gravel. Groundwater was encountered at a depth of approximately 2.60m.

A further 3 No. BGS records were requested by the client (SK40SE49, SK40SE50, and SK40SE51) but are noted as confidential records, the property of Tarmac CRH. Tarmac were approached to request a copy of the records however did not reply to the request and therefore PJSG were unable to retrieve a copy of these borehole records.

4.5 Estimated Soil Chemistry

The soil chemistry estimated at the site is detailed in Table 4-3, based upon rural topsoil data collected at a sample density of approximately 1 No. sample per 2 km².

Table 4-3 Estimated Soil Chemistry

Arsenic mg/kg	Lead mg/kg	Cadmium mg/kg	Chromium mg/kg	Nickel mg/kg
15	100	1.8	20-90	15 - 30

4.6 Hydrogeology

Table 4-4 provides a summary of the hydrogeological setting of the site.

Table 4-4 Summary of Hydrogeological Conditions

Details	Records, Location & Distance	Summary / Comments
*Superficial Aquifers		

Details	Records, Location & Distance	Summary / Comments
Secondary A Aquifer	On-site and present within 250m of the boundary.	Relates to the glaciofluvial and alluvium deposits underlying site.
Secondary (undifferentiated)	On-site and present within 250m of the boundary.	Relates to the Oadby Member deposits predominantly underlying the central portions of site.
*Bedrock Aquifers		
Secondary (B) Aquifer	On-site and present within 250m of the boundary.	Relates to the Gunthorpe Member mapped across the site and surrounding area.
Groundwater Vulnerability & Flow		
Leaching Class	On-site	The soil at the site has been given a leaching class of high. The soils have an expected infiltration value >70% and a dilution value of <300mm / year to 550mm / year.
Superficial Deposits	On-site	High vulnerability with high recharge potential. Described as 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
Bedrock Deposits	On-site	Medium to high vulnerability. Flow mechanisms are likely by well connected fractures.
Soluble Rock Risk	-	No records within 1km.
Groundwater Flow	-	Likely to be locally towards the north in the direction of the surface water stream located along the northern boundary.
Abstractions, Source Protection Zones & WFD Groundwater Bodies.		
Groundwater Abstractions	4 within 1km.	All 4 records relate to historical boreholes located in the surrounding area between ~260m – ~765m from site for general use within farming and agricultural land uses.
Potable Groundwater Abstractions	1 record within 2km.	Located ~1.15km south-west for use at a Tarmac Trading Limited.

Details	Records, Location & Distance	Summary / Comments
Source Protection Zones (SPZ)	No records within 500m.	-
Water Framework Directive (WFD) Groundwater Bodies	On site	Soar – Secondary combined - GB40402G990600 – Overall good rating in 2015.

**Definition of the Aquifer terms are defined in the GroundSure report.*

Given the available information [REDACTED]
sources on site. Protection of [REDACTED]
proposed redevelopment works undertaken at this site.

4.7 Hydrology

Table 4-5 provides a summary of [REDACTED]

Table 4-5 Summary of Hydrology

Details	Records, Location & Distance	Summary / Comments
Surface Water Features – OS Mapping	- 11 No. records within 250m.	The closest record to site relates to an inland river (stream) located along the northern boundary of the site. Off-site entries relate to numerous ponds located to the south of the site and an unspecified surface water feature (narrower than 5m) located ~15m SE.
WFD Surface Water Body Catchment	On site.	Thurlaston Brook Catchment. ID GB104028046940 located within the Soar River catchment.
WFD Surface Water Bodies / Water Quality	On Site.	Recorded as having a 'good' chemical rating and a 'poor' ecological rating in 2016.
Surface Water Abstractions	No records within 1km.	-
Surface Water Discharge Consents	2 No. records within 250m.	Refers to sewage discharges into the Thurlaston Brook located ~60m and ~70m to the north-east.
Surface Water Flow	-	Based on observations undertaken during site reconnaissance, surface water within the stream adjacent north flows west to east.

Given the available information, surface water is indicated to flow through the site and would be considered to be sensitive to any potential contamination sources on site. Protection of surface water resources should therefore be taken into consideration during any proposed redevelopment works undertaken at this site.

4.8 Flood Risk

Table 4-6 provides a summary of the preliminary flood risk.

Table 4-6 Preliminary Flood Risk

Flood Risk Summary	
Risk of Flooding from Rivers	No risk given
Historical Flooding	The Environment Agency (EA) Historical Flood Map indicates no previously recorded flooding events at or directly adjacent to the site.
Flood defences	None.
Flood Zones	No [REDACTED]
Surface Water Flooding	Highest risk on site: 1 in 30 year, between 0.3m to 1.0m depth. Highest risk within 50m: 1 in 30 year, between 0.3m to 1.0m depth.
Groundwater Flooding Susceptibility	Highest risk on site: Moderate Highest risk within 50m: Moderate

Given the above information, flooding of the site is considered unlikely but this preliminary assessment should be confirmed prior to construction.



5. Mining & Ground Constraints

The section below details any ground related constraints that could impact on future development of the site such as the historical mining legacy and subsidence risk detailed within the GroundSure Report. A copy of the GroundSure Report is included in Appendix C.

Only the information considered pertinent to the site has been included in this report.

5.1 Mining, Mineral Extraction, Ground Workings, & Cavities

Table 5-1 provides a summary of the mining, quarrying and ground workings affecting the site. Records have been obtained from various sources s [REDACTED]

This is generally based on features [REDACTED]
greater or lesser distances may be considered, based on professional judgement.

The Coal Authority interactive map (<https://mapapps2.bgs.ac.uk/coalauthority/home.html>) has been used in the below assessment. [REDACTED]

Table 5-1 Summary of Mining [REDACTED]

Details	Distance				Details / Comments
	On Site	<250m	250-500m	500 – 1km	
Natural Cavities	-	-	-	-	No records
BritPits	-	-	4	-	Records relate to 4 No quarry's for sand and gravel extraction located between ~250m and 480m distance site. All status records listed as ceased.
Surface Ground Workings	-	2	-	-	Off-site records relate to former sewage works (~220m W) and filter beds (~230m W) detailed on 1980 mapping.
Underground Workings	-	-	-	-	No records
Non-Coal Mining / Mineral Extraction	-	-	-	-	No records
Mining Cavities	-	-	-	-	No records
JPB Mining Area	On Site				In addition to being located in an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. However, as there are no records of mining activities recorded within the site boundary, at this stage JPB have not been contacted for information.

Details	Distance				Details / Comments
	On Site	<250m	250-500m	500 – 1km	
Coal Mining	On site				The site is located within a coal mining area as defined by the Coal Authority. A Coal Authority Report has therefore been obtained and is reviewed in further detail in Section 5.2.
Brine Extraction	-	-	-	-	No records.
Gypsum Extraction	-	-	-	-	No records.
Tin Mining	-	-			
Clay Mining	-	-	-	-	No records.

x = distance not included within the C

5.2 Coal Mining Review

According to The Coal Authority The site lies within a Coal Mining Reporting Area but is not indicated to be within a Development High Risk Area (DHRA). A Coal Authority report has been obtained; the contents of which have been summarised in Table 5-2 below. The full report can be found within Appendix E.

Table 5-2 Coal Authority Report Summary

Mining Feature	Comments
Coal Seams	No past mining recorded.
Present / future coal mining.	None identified.
Mine Entries	None located on site or in the vicinity.
Coal mining subsidence	No records.
Coal Mining Geology	No faults present.
Open cast mines on or within 500m of the site.	No records or future plans.
Mine gas	No records.
Remedial works	The property has not been subject to remedial works, by or on behalf of the Coal Authority
Withdrawal of Support	The property is not in an area where notices to withdraw support were given.
Overall Risk	Based on the available information, it is considered that the site is at negligible risk from coal mining and there is no identified gas egress risk.

5.3 Natural Ground Subsidence Risk

Records of the natural ground subsidence risks for the site are recorded below in Table 5-3.

Table 5-3 Natural Ground Subsidence Hazard Summary

Ground Hazard	Stability	Hazard Rating	Comments
Shrink-swell Clays		Very low to negligible.	Ground conditions expected to be predominantly medium plasticity to non plastic.
Running Sands		Low to very low.	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
Compressible Deposits		Moderate to negligible.	Moderate risk relates to the Alluvium mapped on the northern boundary Compressibility and uneven settlement hazards are probably present in this area. Land use should consider specifically the compressibility and variability of the site.
Collapsible Deposits		Very low to negligible	Deposits with potential to collapse when loaded and saturated are
Landslides		Very Low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
Ground Dissolution of Soluble Rocks		Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

The most significant ground stability hazards are related to the alluvium localised to the northern boundary with moderate risk of compressible. Any potential risk should be determined by undertaking an intrusive site investigation targeted across this portion of the site to confirm the ground conditions.

5.4 Railway Infrastructure & Projects

Records of any railway infrastructure or planned projects that could impact on the site

5.5 Potential for Unexploded Ordnance (UXO).

Regional Unexploded Bomb Risk maps from Zetica indicates that the site has a low risk in regard to UXO. Zetica state that low-risk regions are those with a bombing density of up to 15 bombs per 1000 acres or less. In general, further action to mitigate the risk is not considered necessary.

The bomb risk map is presented in Appendix F.

5.6 Potential for Radon

The Groundsure Report indicates [REDACTED] (estimated to be at or above the Action Level). This indicates that no radon protective measures would be required in this area.

The dataset used within the Groundsure Report is the 'residential property' buffer. The dataset available for the UK and Ireland is based on the 'residential property' buffer. The dataset of Radon in Great Britain.



6. Environmental Review

Environmental data, including Environment Agency and Local Authority regulatory information, has been obtained via the Groundsure Report contained within Appendix C.

The Groundsure Report contains factual information, which has been obtained from various sources, including Ordnance Survey Mapping, Local Authorities, Environment Agency, National Radiological Protection Board, the National Archives and English Nature. The environmental records pertinent to the site have been reviewed in the sections below.

6.1 Environmental Records

The environmental records have been reviewed within a distance of the site in relation to the Groundsure report within 500m of the site boundary; however greater or lesser distances may be considered, based on professional judgement.

6.1.1 Historical Land Uses

A summary of the historical land uses is provided below.

Table 6-1 Historical Land Uses

Historical Land Uses (Digitised from OS Mapping)	Distance from Site (m)			Summary	Comments
	On Site	<250	>250 to 500		
Historical Industrial Potential Contaminative Land Use Features	-	5	8	No records on site. Off site: Former windmill located adjacent west. Other notable records within 500m include: Sewage works & filter beds (~220mW) and unspecified tanks (~235mW) and gravel workings (305mW)	The records would suggest most of these features all relate to the sewage works. Low risk to site and localised to the source.
Historical Tanks	-	3	2	Unspecified Tanks 200m W. Settling tanks ~260m W.	Most of these tanks relate to the sewage works to the west. Low risk to site.
Historical Energy Features	-	2	1	Closest to site: ~228m NE.	Very low risk to site.
Historical Petrol Stations	-	-	-	No records.	
Historical Garages	-	-	-	No records.	
Historical Military Land	-	-	-	No records.	

KEY: N - North. S - South. E - East. W - West

6.1.2 Landfills and Waste Disposal Sites

No landfill records / waste sites have been identified within 1km of the site boundary.

6.1.3 Current Industrial Land Uses

A summary of current industrial land uses sites that could impact the site are given below.

Table 6-2 Current Industrial Land Use

Current Industrial Land Use	Distance from Site (m)			Summary	Comments
	On Site	<250	>250 to 500		
Current potentially contaminative industrial land uses	-	3	-	Closest to site: ~220m W listed as a sewage farm.	The sewage farm and ESS's are considered a very low risk to
Current or recent petrol stations	-	-	-	No records.	No risk to site.
Sites determined as Contaminated Land under Part 2A	-	-	-	No records.	No risk to site.



6.1.4 Environmental Regulatory Records

A summary of the Environmental Regulatory Records that could impact the site are given below.

Table 6-3 Environmental Regulatory Records

Environmental Regulatory Records	Distance from Site (m)			Summary	Comments
	On Site	<250	>250 to 500		
Pollution Incidents (EA / NRW)	-				
				and acts as a barrier in 2001.	
				Remaining entries: Category 3 minor impact to land ~90m E in 2001 including land at the site	

KEY: N - North. S - South. E - East. W - West

x = distance not included within the Groundsure search results

6.1.5 Environmental Designations

There are no records for Environmental Designations on site or in close proximity to the site that could be impacted by the site listed in the Groundsure Report. As such, the site and surrounding area is not considered to be environmentally sensitive.

6.2 Environmental Records Summary

There are 2 No. historical minor pollution incidents which have occurred relatively close to the northwest boundary of the site involving fuel oils / diesel. However, it is expected that any ground contaminants related to the pollution incidents would be fairly localised to the boundary and would be unlikely to impact the majority of the site.

The environmental records indicate that there may be potential low localised risk to the site related to an historical windmill located adjacent to the site. In addition, the sewage works located ~200m – 250m west of site may pose a low potential risk.

Surface water adjacent to the northern boundary of the site is considered to be of high sensitivity and could potentially be impacted by the site also acting as a pathway for contamination to migrate further downstream.

6.3 Visual and cultural designations

Visual and cultural designations are only assessed in this desk study in relation to their potential to be environmental receptors for contamination at the site. However, within 250m of the site, there are no visual and cultural designation records and will therefore not be considered further.

The site is recorded as being part of the Countryside Stewardship Scheme.

7. Preliminary Risk Assessment

7.1 Introduction

This section provides a qualitative Preliminary Risk Assessment (PRA) of the risk posed from potential on and off-site contamination sources, identified by the information presented in the previous sections of this report and outlines the assessment process and procedures employed and the assessment findings.

A PRA is the first tier of risk assessment that develops the Initial Conceptual Site Model (ICSM) to establish whether there are any potentially unacceptable risks associated with the site.

The legislative framework for Land Contamination Risk Management (LCRM) was established by the Environment Agency on 8th October 2020 (the LCRM 2020). The framework is provided on the following government website:

<https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

The Environment Agency expects that there will be some contamination.

7.2 Initial Conceptual Site Model

The first stage in the assessment of a site is the derivation of an ICSM. As mentioned above, the information previously gathered will be used to develop an ICSM which is representative of the characteristics of the site. This will be in a written or tabulated form, considering all possible sources of contamination, all potential receptors and whether there is a plausible pathway between the two.

The ICSM has been developed based on the commonly adopted source-pathway-receptor (S-P-R) model as recommended within the LCRM 2020. The risk assessment procedures to derive contaminant linkages and an ICSM are described in Appendix E.

In the context of LCRM, there are three essential elements to a given risk. All three elements can exist independently, but without the three being linked there is no risk. A contaminant linkage is formed when a contaminant affects a receptor through a given pathway. The risk elements are detailed in Table 7-1 below.

Table 7-1 Summary of Risk Elements

Risk Element	Definition
Source (S)	A contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution.
Pathway (P)	A route by which a receptor is or could be affected by a contamination.
Receptor (R)	Something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops or animals

If a contaminant linkage exists on site there is a risk, and if realised may result in:

- A potential liability under current environmental legislation including Part 2A of the Environmental Protection Act 1990 (if 'significant harm' or the 'possibility of significant harm' is occurring) or Groundwater Regulations 1998.
- Redevelopment of the site could lead to risks to new property, site personnel and, if no intervention, future occupiers from existing contamination. These risks would have to be mitigated under the planning regime.
- Liabilities associated with pollution of adjacent land & damage to adjacent property.

By considering the S-P-R (contaminant linkage) regarding the significance and of contamination can reach a re

7.3 Contaminant Linkage Assessment

The qualitative contaminant linkage is in further detail below.

7.4 Identified Potential Sources of Contamination

The following potential on and off-site sources of contamination have been identified based on the review of historical investigation reports, desk study review (including a review of historical mapping), regulatory information and a site reconnaissance visit. Their associated contaminants have also been outlined.

Table 7-2 Potential On-Site Sources of Contamination

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S1	Potential for localised Made Ground located in in-filled pond	Heavy Metals comprising Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, Sulphate, sulphide, sulphur, Free Cyanide and elevated pH	Poly-Aromatic Hydrocarbons (PAH), Total Petroleum Hydrocarbons (TPH), BTEX and Volatile Organic Compounds (VOCs) in groundwater.
S2	Potential for localised spills of fuels / oils from farm machinery using the land.	-	As above.
S3	Agricultural land - existing agricultural Topsoil.	Naturally occurring metals and pH and asbestos.	Pesticides
S4	Localised areas of fly tipped materials in NW of the site.	Potential for asbestos containing materials (ACMs) and fibres. Potential for other common contaminants to be present.	Potential for TPH should oils and fuels be identified.

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S5	Natural subsoils	Potential for elevated sulphates and pyrites.	-

The most significant risk of potential contamination on-site is associated with the unrecorded Made Ground that may be present (potential in-filled pond), alongside potential localised areas of contamination associated with fly tipped materials. However, any associated contamination is likely to be localised and small scale.

Table 7-3 Potential Off-Site Sources of Contamination

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S6	Potential leaks and spills of fuels / oils / chemicals from plant / vehicles using adjacent Brascote Lane located west and south of the site.	Heavy Metals comprising Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, Sulphate, sulphide, sulphur, Free Cyanide and elevated pH	Poly-Aromatic Hydrocarbons (PAH), Total Petroleum Hydrocarbons (TPH), BTEX and Volatile Organic Compounds (VOCs) in groundwater.
S7	Spills and leaks of fuels / oils / chemicals occurring from adjacent / nearby farms.	Dissolved metals in groundwater comprising Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, Sulphate, sulphide, sulphur, Free Cyanide and elevated pH	TPH & BTEX, VOCs in groundwater.
S8	Localised Made Ground adjacent to west boundary associated with former windmill.	As S6	As above
S9	Spills and leaks of fuels / oils occurring from 2 No. historical Pollution incidents - NW boundary.	n/a	As S6.
S10	Sewage works with associated tanks ~250m west	As S6	As S6

Source Number (S)	Potential Sources	Inorganic Contaminants	Organic Contaminants
S11	Allotment gardens located adjacent NW & SW.	Potential for asbestos containing materials (ACMs) and fibres.	Soils may contain pesticides & naturally occurring metals. Potential for localised TPH contamination to occur to site boundaries.

As identified on the previous page, the potential exists for dissolved metals and organic contaminants to be present within any soils on site boundaries and / or any groundwater below the site (if it exists) associated with the current / historical industrial land use. [REDACTED] associated contaminants would [REDACTED] the site.

7.5 Identified Potential Sources of Ground Gas / Vapours

It is considered that the following [REDACTED] surrounding area as detailed in Table 7-4.

Table 7-4 Potential Sources of Ground Gas / Vapours

Source Number (S)	Location	Details	Source Potential (CIRIA C665)	Generation
S1 & S8.	On-site & off-site Made Ground associated with infilled pond on site. Localised Made Ground associated with demolition of windmill.	Any Made Ground has the potential to generate elevated ground gas at the site. Particularly if any putrescible material is present.	Generally, very low but would be dependent on nature of any materials identified. Source is likely to be very localised	
S2, S4, S6 to S11	On-site & Off-site: Spills / leaks of fuels / oils from the various sources identified in Table 7-3.	The potential exists for localised VOCs to be present within any soils and / or groundwater below the site associated with leaks or spills of fuels / oils from the various sources identified.	Generally low and localised.	

7.6 Identified Potential Pathways (P)

Migration pathways are defined as the routes that chemicals take from a source to an exposed organism or receptor. Potential human exposure to contaminants is feasible through three principal pathways (P1 – P3) as defined in the LCRM 2020 guidance. Other potential pathways (P4 – P8) potentially affecting the wider environment such as controlled waters, buried structures and ecological receptors have also been included and are summarised in Table 7-5 below. This is based on a proposed residential end-use of the site.

All plausible pathways (P) between the potential contaminant sources (S) and the receptors (R), i.e. S-P-R linkages, have been identified and are outlined in Table 7-7 (the ICSM).

Table 7-5 Potential Pathways

P1	Ingestion of Soils / Dust / Groundwater	Eating and swallowing of contaminated soil and/or groundwater either by deliberate consumption, indirectly by eating or smoking with dirty hands or by ingestion of fugitive dust.
P2	Dermal Contact with Soils / Dust / Groundwater	Direct contact with contaminated soil and groundwater, causing skin
P3	Inhalation (Outdoor / Indoor) of Dust and / or Vapours	Breathing dust and vapours from contaminated soil in outdoor air. Vapours can also migrate into buildings resulting in inhalation by the occupants, as can dusts which may be tracked back to the school buildings.
P4	Leaching	
P5	Migration of Contaminated Water	Contaminated groundwater can migrate laterally and/or vertically dependent on permeability, preferential pathways, within the aquifer and via man-made voids etc. Surface water run-off of contaminated water can also occur.
P6	Aggressive Attack	Building materials can be damaged by direct contact with aggressive ground conditions, for example sulphate attack on concrete and hydrocarbon attack on plastics, causing embrittlement.
P7	Direct Contact & Uptake by Plants	Plants on-site / surrounding area are susceptible to site-based contamination.
P8	Migration of Ground Gases / Vapours	Generated ground gases / vapours can migrate laterally and / or vertically dependent on permeability, preferential pathways, man-made voids etc.

7.7 Identified Potential Receptors

Receptors are defined as human (site occupiers, end users etc) or non-human (controlled waters, property and ecological) receptors that have the potential to experience adverse effects from direct or indirect exposure to contaminated material. The following receptors are currently present on and off the site or likely to be present in the future as detailed in Table 7-6 based on the proposed residential end-use:

Table 7-6 Potential Receptors

Receptor Category			Receptor Reference (R)	Present	Type of Receptor / Comment
Human Health	Future Occupants (End Users)		R1	Y	A female child will be regarded as the critical receptor.
	Construction Workers		R2	Y	A female adult will be regarded as the critical receptor.
	Adjacent Site Users		R3	Y	A female child will be regarded as the critical receptor
Controlled Waters	Groundwater		R4	Y	Secondary (A) Aquifer & Secondary (undifferentiated) (Superficial deposits) Secondary (B) Aquifer (Bedrock)
	Surface Water		R5	Y	Adjacent stream present along northern boundary (inland river). Numerous inland rivers located ~16m to 155m distance from site.
Property	Underground Structures		R6	Y	Buried Services (Future).
			R7	Y	Buried concrete (Future).
Ecological	Flora and fauna		R8	Y	Grassed areas and plants on site and adjacent to the site and trees / hedgerows located adjacent.

7.8 Potential Contaminant Linkages

Based on the information above, the following potential contaminant linkages are considered applicable to the site. The risk classification has been qualitatively derived in accordance with Land Contamination Risk Management (LCRM) and the updated online guidance published in October 2020.

There is the potential for localised contamination at the site resulting from past / present on-site & off-site land uses which may have potentially impacted the site. Plausible contaminant linkages have been identified and therefore a risk assessment is required.

The risk classification has been qualitatively derived in accordance with CIRIA C552 (2001). The methodology is presented in Appendix G. Based on the information above, the ICSM and following potential contaminant linkages considered applicable to the site are detailed in Table 7-7 overleaf.

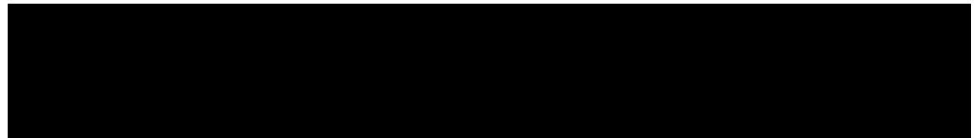
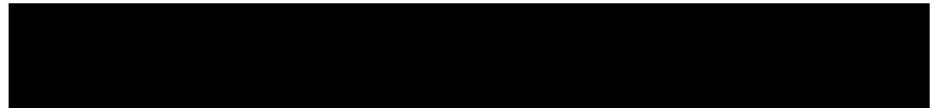


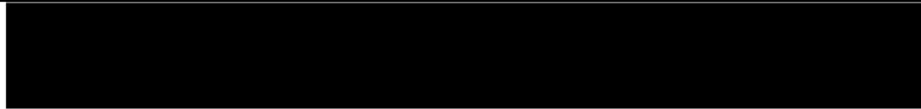
Table 7-7 ICSM & Potential Contaminant Linkages

Contaminant Linkage	Source (S)	Pathway (P)	Receptor (R)	Probability	Consequence	Current Risk	Investigation
Human Health							
1	On Site: S1: Potential for localised Made Ground located adjacent to a filled pond	P1: Ingestion of contaminated particulates.	R1: Site end users.	Unlikely	Medium	Low	The site is currently in use as agricultural farmland. As such, there is considered to be a low risk to Human Health end users / construction workers based on redevelopment of the majority of the site. However, where localised on-site and off-site adjacent / nearby potential sources of contamination have been identified, the preliminary risk assessment has indicated that, in the absence of any mitigation measures, the site poses a low / moderate risk to human health. Site investigation recommended to establish current levels of contamination and risk.
2	S2: Spills and fuels / oils occurring on site from farm vehicles / plant utilising the site S3: Agricultural existing agricultural Topsoil. S4: Localised areas of fly tipped materials in NE of the site. Off Site: S6 to S11: Spills and leaks of fuels / oils occurring adjacent to site boundary impacting the site.	P2: [REDACTED] contaminated dust / particles.	R2: [REDACTED] workers / maintenance workers.			Low / Moderate	

Contaminant Linkage	Source (S)	Pathway (P)	Receptor (R)	Probability	Consequence	Current Risk	Investigation
	S10: Sewage Works with associated tanks. S11: Adjacent Allotment Gardens.						
3	On Site S1 to S4: as above.	[REDACTED] contaminated dust / particles.	public and residential properties adjacent to the site during			Low	Dust suppression may be required during construction. Site investigation recommended to establish current risk across the site.
4	On Site & Off-Site S1 & S8: Ground gas arising from potential areas of localised Made Ground. S1, S2, S4 on-Site & S6 to S11 off-site. Vapours arising from contaminated soils and / or groundwater below the site associated with leaks	vapours in outdoor air. P8: Migration of asphyxiant and explosive/ harmful gasses into confined spaces.	R2: Construction workers / maintenance workers in trenches.	Unlikely	Severe	Low / moderate Low / moderate	Generally low risk across the site but rising to low / moderate due to potential for ground gas / vapours arising from potential localised sources. Site investigation recommended to establish current risk across the site. Ground gas monitoring recommended to establish current risk across the site. Low level gas protection measures may be required.

Contaminant Linkage	Source (S)	Pathway (P)	Receptor (R)	Probability	Consequence	Current Risk	Investigation
	/ spills of fuels from surrounding land uses.						
Controlled Waters							
5	On Site S1 to S4 detailed above. Off Site:	P4: Leaching of contamination into groundwater.	R4: Secondary (A) & B Aquifers & Secondary	Unlikely	Medium	Low	Site investigation recommended to establish current levels of contamination and risk.
6	S6 to S11: Spills and leaks of fuels / oils occurring adjacent to site boundary impacting the site.	P5: Surface water run-off and / or migration of	R5: Inland rivers located on site and in the vicinity	Unlikely	Medium	Low	
Property and Infrastructure							
7	On Site S1 to S3 detailed above. S5: Natural subsoils.	P4: Leaching of sulphates, corrosive contaminants and / or acidic or alkaline leachate. P6: Direct contact with aggressive ground.	R6: Buried concrete & structures on and off-site. R7: Buried services / water pipes.	Low	Mild	Low	Site investigation recommended to establish current levels of contamination and risk.

Ecology							
8	On Site S1 to S3 detailed above.	P7: Uptake of available phytotoxic contaminants via direct contact with contaminants.	R8: Ecological receptors Flora & Fauna on and off- site.	Low	Mild	Low	Site investigation recommended to establish current levels of contamination and risk.



8. Conclusions & Recommendations

The Desk Study Report has produced the following key conclusions and recommendations

Conclusions	
Site Summary	
The site is undeveloped and is used as agricultural farm land. A stream is located directly adjacent to the northern boundary. Fly-tipped materials were observed in the north west of the site near the site boundary with the adjacent Brascote Lane which could potentially contain ACMs. The waste was observed to be a mix of materials and some of the ACMs within the waste was observed to be asbestos containing materials. Surrounding land uses predominantly agricultural. Brascote Lane is located adjacent west and south. A public house is located adjacent west in the centre of the site. It is understood that the site will be developed for a residential end use with associated areas of hardstanding used for access and parking and soft landscaping within gardens and public open space.	
Environmental Summary	
<i>Human Health Risk</i>	Based on the site history and the materials and a former in-filled pond located on site. Localised sources of heavy metals, hydrocarbon fractions, PAHs, potential asbestos fibres & ACMs might be present. Several potential off-site sources of contamination have been identified in close proximity to the site. The potential exists for impact to the site boundaries / groundwater under the site to have occurred from potential inorganic / organic contaminants. The majority of the site is however currently in use as agricultural farmland. As such, there is considered to be a LOW risk to Human Health end users / construction workers based on redevelopment of much of the site. Where localised on-site and off-site potential sources of contamination have been identified, the preliminary risk assessment has indicated that, in the absence of any mitigation measures, the site poses a LOW / MODERATE risk to human health in these areas until proven otherwise.
<i>Controlled Waters Risk</i>	Based on the former historical / current land uses that have occurred at or in close proximity to the site, the preliminary risk assessment has indicated that the site poses a LOW risk to Controlled Waters. There is a stream located on the northern boundary that is considered sensitive to site contamination; however given the lack of significant sources present, the risk to the stream is considered low.
<i>Ground Gas / Vapour / Radon Risk</i>	Generally low risk across the site but rising to low / moderate due to potential for ground gas arising from potential localised sources. Any Made Ground has the potential to generate elevated ground gas at the site, particularly if any putrescible material is present. Confirmatory gas and groundwater monitoring on 6 No. occasions over 3-months is recommended to be undertaken (CIRIA C665). Low / moderate localised potential for vapours arising from contaminated soils and / or groundwater below the site associated with leaks / spills of fuels from surrounding land uses migrating towards and under the site. The site is not in a radon area; radon protection measures not required.

35 | Page

Recommendations

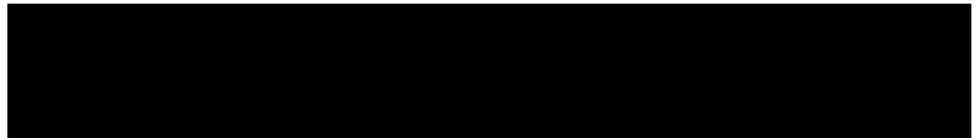
To more accurately determine the ground conditions beneath the site an intrusive investigation of the site should be undertaken. The main objective of the investigation would be to confirm the absence and / or presence of significant contamination and to determine geotechnical characteristics of the ground for foundation design, drainage. At this stage, it is expected that the intrusive investigation works would likely comprise:

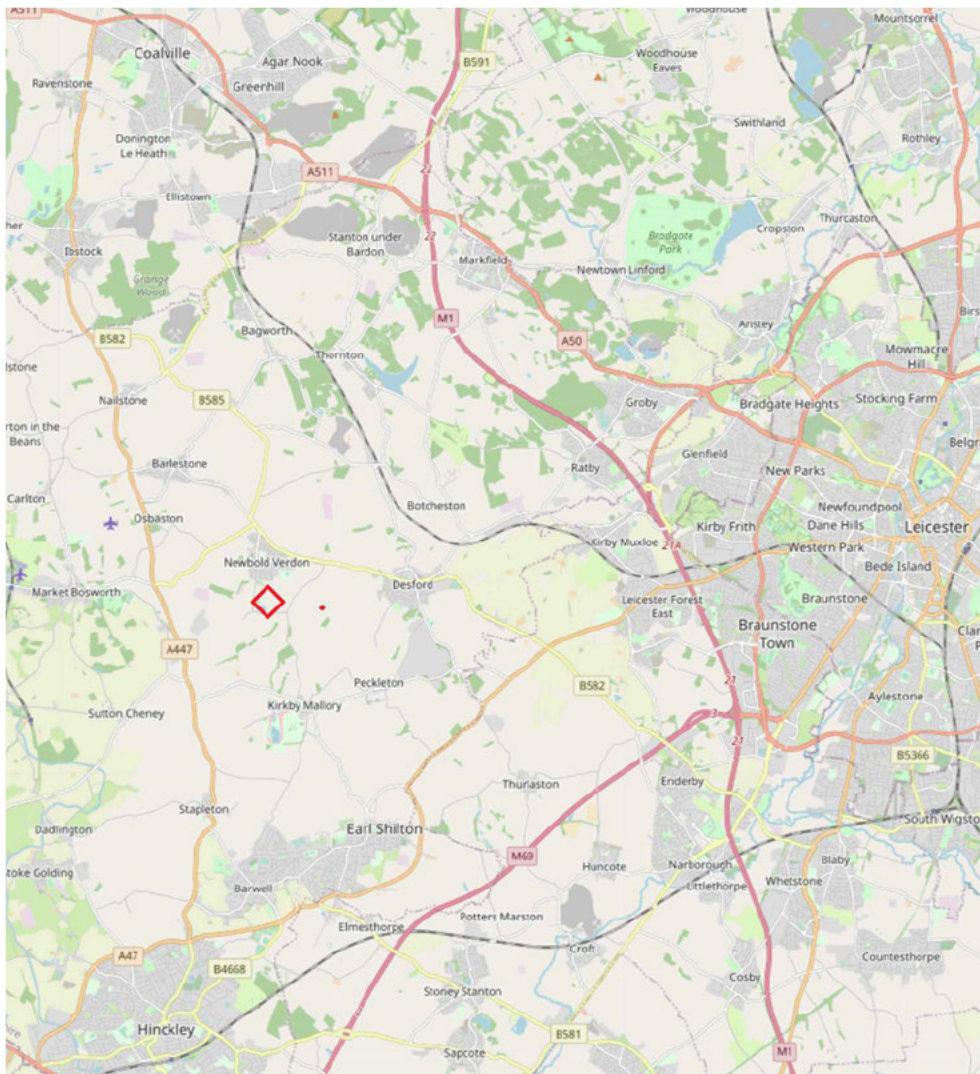
- Trial pits and window sample boreholes to provide systematic coverage of the area for redevelopment and target any identified potential sources of contamination and record depths of superficial deposits and bedrock depth.
 - Subsequent geo-chemical testing of soils and potential waters encountered.
 - Confirmatory gas and ground water testing of the [REDACTED] development areas of the [REDACTED]
 - Geotechnical assessment of ground conditions (including CBRs) to assist with any future development design.
 - Infiltration testing in accordance with BRE365 guidance to facilitate drainage options appraisal.
- [REDACTED]



Drawings

PJSG21-47-DR-001	Site Location Plan
PJSG21-47-DR-002	Site Features Plan
n1741_006A	Proposed Illustrative Masterplan





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Client
Richborough Estates

Project
Brascote Lane, Newbold Verdon

Drawing Title					
Site Location Plan					
Drawn		Checked	Status	Scale	
Initial	NB	AM	INFORMATION	NTS	
Date	01.10.21	01.10.21			
Project			Drawing Number		Revision
PJSG21-47			DR-001		A

A	24/02/2022	Amended to reflect changes to red line boundary.			NB VH
Rev	Date	Amendments			By Chk



Allotment gardens.

Access to field via open field boundary

Overhead
telecomms
present along
Brascote Lane.

Boundary formed of mature hedgerows.

The Windmill Public House

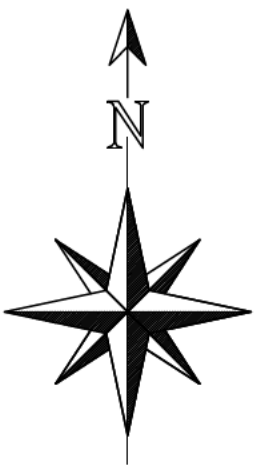
Boundary formed of mature hedgerows.

Allotment gardens.

Adjacent plot appears to be a small
residential holding with animal paddocks.

Open water lake. Signage suggested
areas of running and quick sands were
present.

Boundary formed of wooden post and rail fencing.



General Notes

1. Do not scale this drawing. If in doubt, ask.
2. This drawing is to be read in conjunction with all other relevant Engineers, Architects and specialist design drawings and details.
3. All dimensions are in metres unless noted otherwise. All levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.

Key

- ① Photograph Number - See Appendix A
- Site Boundary

A small flowing stream appears to follow the
boundary line flowing from the west to the east.

Boundary formed of mature hedgerows and trees.

Boundary formed of mature hedgerows and trees.
Sporadic gaps formed of wooden post and rail
fencing.

No crop was present at time of walkover,
ground was severely waterlogged at low points
across the site.

Boundary formed of mature hedgerows and trees.

Gated access to site via track to adjoining farm.

A	24/02/2022	Amended to reflect changes to red line boundary.	NB	VH
Rev	Date	Amendments	By	CHK



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Client

Richborough Estates

Project

Brascote Lane, Newbold Verdon

Drawing Title

Site Features Plan

	Drawn	Checked	Status	Scale
Initial	NB	AM	INFORMATION	NTS
Date	08.10.21	08.10.21		
Project Number	Drawing Number	Revision		
PJSG21-47	DR-002	A		



Key

- Application site boundary
- Other land under control of applicant
- Existing (retained) trees & hedgerow
- Proposed tree/hedge removal

- Indicative proposed planting
- Potential for fruit-tree planting
- Areas of new publicly-accessible open space
- Potential for equipped area of children's play (with min 20m development offset shown)

- Potential for children's play area and/or event along a trim-trail (with min 5m development offset shown)
- Indicative marginal wildflower and grassland planting
- Indicative surface water attenuation basin

- Existing Public Right of Way
- Proposed pedestrian/cycle routes
- Proposed vehicular access from Brascote Lane

- Visual link with the spire of The Church of St. James
- Potential for improvements at Windmill pub
- Indicative dwellings (and associated garages)

Richborough Estates

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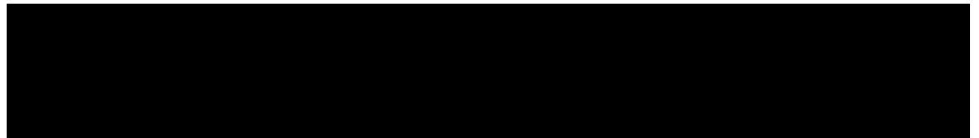
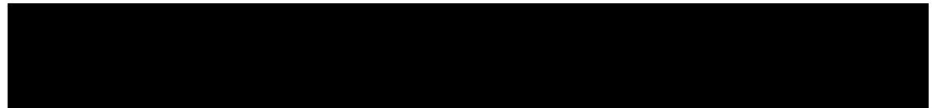
CHARTERED TOWN PLANNERS & URBAN DESIGNERS

Project: Brascote Lane, Newbold Verdon

Drawing Title: Illustrative Layout

Project Code: n1741	Drawing No: 006	Rev: A
Date: 16.02.2022	Drawing Scale: 1:1,250 @ A1	

Appendix A - Site Photographs



Site Walkover Photographs.

PJSG21-47

Brascote Lane, Newbold Verdon

Richborough Estates



Photo no.

1

Date

08.10.2021



Description:

Photograph of the northern access point from within the site.

Photo no.

2

Date

08.10.2021



Description:

Photograph of the northern boundary looking north from the northern access point.

Site Walkover Photographs.

PJSG21-47

Brascote Lane, Newbold Verdon

Richborough Estates



Photo no.

3

Date

08.10.2021



Description:

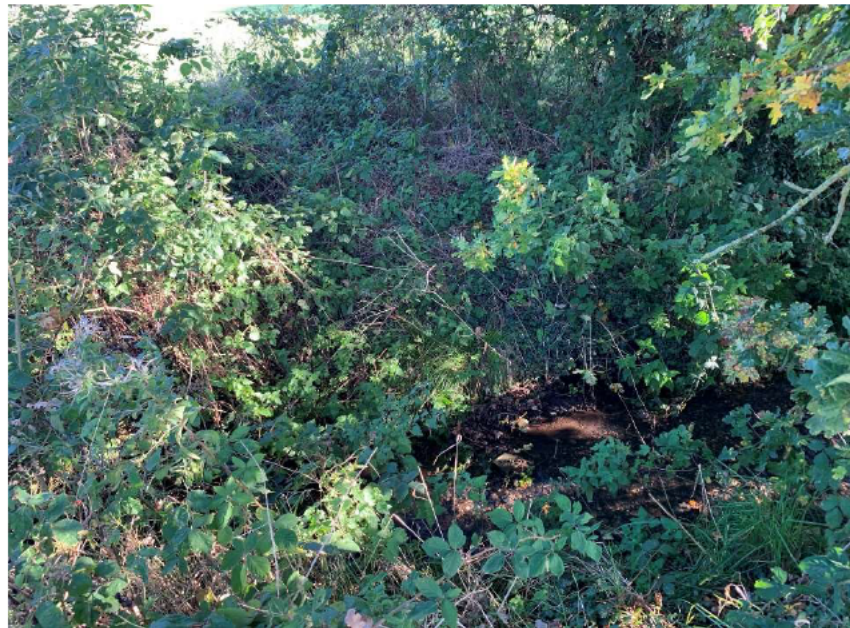
Photograph of the northern boundary looking west towards the boundary with the allotment gardens.

Photo no.

4

Date

08.10.2021



Description:

Photograph of the inland stream on the northern boundary.