

DESK TOP STUDY REPORT

Site Address:	Land East Off Albury Road, Little Hadham SG11 2DR
Report Date:	November 2023
Project No.:	18585
Prepared for:	Ruane Construction Ltd
Planning Application	East Herts District Council



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LIST OF ABBREVIATIONS

BGS	British Geological Society
CIRIA	Construction Industry Research and Information Association
EA	Environment Agency
EHO	Environmental Health Officer
GL	Ground Level
GW	Groundwater
HESI	Herts & Essex Site Investigations
LAPPC	Local Authority Pollution Prevention and Control
NOS	Not Otherwise Specified (waste material)
NHBC	National House-Building Council
OS	Ordnance Survey
PAH	Poly Aromatic Hydrocarbons
SPZ	Source Protection Zone
TPH	Total Petroleum Hydrocarbons
UFST	Underground Fuel Storage Tanks

DESK STUDY GENERAL NOTES

This report has been prepared based on the findings of investigations into the site conditions using current available data which has been recovered from Envirocheck to provide environmental data in relation to the site and surrounding area. Where possible, local sources have been researched to gain a better understanding of the site conditions. As part of this review, research has been undertaken with the Local Authority and the Environment Agency as to the site condition.

We can confirm that this report has been prepared based on the information gained and that this information is not exhaustive, and that subsequent research may reveal additional facts that may influence the reporting. Where possible, this information has been researched.

All geological information has been researched using the British Geological Society website, (the geology viewer). The disclaimer associated with this portal confirms 'The British Geological Society accept no responsibility for omissions or misinterpretations of the data from their Data Bank as this may be old or obtained from Non-BGS sources and may not represent current interpretation.

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The accuracy of map extracts cannot be guaranteed, and it should be recognized that different conditions on site may have existed between subsequent to the various map surveys.

We can confirm that within the assessment of the site, various websites have been visited and as such, we cannot confirm the validity of these sites and as such, this information is accepted de facto and without prejudice. Anyone relying on these sources does so at their own risk, however, Herts & Essex Site Investigations does undertake all reasonable care to ensure this data is relevant and correct.

It should be confirmed that the extent of review of this report has undertaken a broad review of on site features which would promote a contamination ground risk, however, this does not include ecological features and in particular Japanese Knotweed which should be reviewed under separate cover.

A review of the site will be made to confirm the extent of obvious Asbestos product or sheet materials either on the surface of the site soils or evident above ground, however, does not constitute a full Asbestos Survey by any means. This should be sought under separate cover.

DOCUMENT INFORMATION AND CONTROL SHEET

Client

Ruane Construction Ltd
Unit 1, College Farm,
Hertford Heath,
Herts,
SG13 7NX

Environmental Consultants:

Herts & Essex Site Investigations.
Unit J8 Peek Business Centre
Woodside
Dunmow Road
Bishop's Stortford
Hertfordshire.
CM23 5RG

Project Manager:

Chris Gray, M.Sc

Principal Author:

Rebecca Chamberlain



Qualifications

C.S.Gray

- ONC - Civil Engineering.
- HNC – Civil Engineering.
- P.G. Certificate – Geotechnical Engineering, (Inc. Environmental Engineering)
- P.G. Diploma – Geotechnical Engineering, (Inc. Environmental Engineering)
- Master of Science, (Geotechnical Engineering), (Inc. Environmental Engineering)
- SNIFFER modelling course.
- CONSIM Groundwater Assessment Course.
- (30 Years in Geotechnical and Environmental Engineering)
- Asbestos Awareness Course.
- Non-Licensed Work with Asbestos Including>NNLW.
- Site Supervisors Safety Training Scheme, (SSSTS).
- First Aid Course in Construction – 3 Day Course – 3 years.
- CSCS Labourer Card.

Document Status and Approval Schedule

<i>Issue No</i>	<i>Status</i>	<i>Date</i>	<i>Prepared by: Rebecca Chamberlain Signature / Date</i>	<i>Technical review by: Chris Gray Signature / Date</i>
1	Final	November 2023		

SUMMARY

Client	Ruane Construction Ltd		
Site Location	Land East Off Albury Road, Little Hadham SG11 2DR		
Existing Development	Existing Arable Land		
Proposed Development	Development of Residential dwellings		
Site Settings and Previous Uses	The site is recorded as a section of a larger parcel of land from pre 1879 and remains the same to date.		
	Surrounding the site area open land was in place in all directions, to the north and east this remains in place, with the River Ash about 50 meters to the east of the site area. To the east and south of the site residential dwelling were developed from 1976 and remains in place to date.		
	Further from the site to the north and east of the site Pits and a limekiln works are recorded in place, from pre 1879, in these locations the chalk looks to be exposed and therefore there is a reduce risk infilling of these area having taken place.		
Geological and Hydrological Profile	Geology	Aquifer Classification	
	Made Ground	Shallow Made Ground Anticipated	Not Classified
	Head	Gravel, Sand, Silt And Clay	Secondary Aquifer
	Chalk	Chalk	Principal Aquifer
Nearest Surface Water Feature	The nearest surface water feature is recorded 50 meters to the east of the site, formed by the River Ash.		
Groundwater Abstractions	The nearest abstraction well is recorded 200 meters to the east of the site area taken from the ground water for Food And Drink: Water Bottling. A number of abstractions for General Agriculture: Spray Irrigation - Direct are also recorded in place at this locations.		
Source Protection Zone	By examination of the Environment Agency Website, the site lies within a Source III Protection Zone.		
Potential Sources of Contamination	Features On Site	Features Off Site	
	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	
Previous Investigations	No reports relating to contaminated land are known to us at the time of writing this report relating to the site.		

Human Health Risk	No sources of contamination are recorded within and surrounding the site.
	A watching brief should be kept as follows and it may be prudent to complete an exploratory investigation to confirm no risks are in place.
Ground Water Risk	Should any areas of the site be encountered within the development that appear potentially contaminated through visual or olfactory assessment outside that discussed within this report, consultation with ourselves should be undertaken in order to identify the risk associated with the material.
	No sources of risk are in place within the site a watching brief should be maintained throughout the development, should any significant pollution or suspect materials be encountered reassessment to the risk should be undertaken.
Surface Water Risk	Considering the ditch located to the south of the site area direct links may be in place between the site conditions and the feature. The lack for risks within the site removed this as a receptor at risk.
Vapour Risk	No sources of vaporous contamination are recorded in place.
Land Gas Risk	Based on the lack of infilled ground, the distance from the site and the assessments completed within the former pits and potential areas of risk showing that there are low risk in place, these will not form a source of risk within the site area.
Recommendations	Submit reports to Local Authority and Environment Agency for review and confirm the risks identified in this report along with the further works proposed are suitable and acceptable.
	Maintain a watching brief as follows:- <ul style="list-style-type: none"> It should be noted that this investigation is undertaken in order to identify any sources of risk as a result of historic and ongoing use. Should any areas of the site be encountered within the development that appear potentially contaminated through visual or olfactory assessment outside that discussed within this report, consultation with ourselves should be undertaken in order to identify the risk associated with the material.

PRELIMINARY RISK ASSESSMENT – DESKTOP STUDY - PHASE 1 REPORT

1 Context and Objectives of this report

1.1 Introduction

We have been asked by Ruane Construction Ltd to undertake an investigation of the above site in order to assess the potential environmental impact of the existing and historical use of the site on the proposed development sufficient to document the level of risk and impact on future users and the environment.

The client is proposing to develop residential dwellings with gardens, as such the derivation of risk has been assigned as a 'Residential Land Use with Home-grown Produce'.

1.2 Reference to the Current Planning Application Details

No current application is in place with East Herts District Council this report will be submitted as part of the new application.

1.3 Decision Notice Relating to Contaminated Land

No decision notice is in place.

1.4 Report Objectives

The objectives of the project were as follows: -

- A review of the geological, hydrological and hydrogeological setting of the site, and public domain environmental information to build up an understanding of the site and its environmental setting/sensitivity.
- Review of historical land uses for the site and surroundings with a particular emphasis on identifying potential ground hazards and on-site and off-site contamination sources.
- A visual walkover inspection of the site to review current and recent site activities, the condition of the site, potential ground related hazards and activities or areas that might have the potential to cause ground contamination as well as possible indicators of contamination; and
- Preparation of a Conceptual Site Model (CSM) with a view to identifying potentially significant source-pathway-receptor linkages followed by a qualitative risk assessment.

1.5 Timescales of the Assessment

The timescales for the site investigation process are based on immediate site investigation data and the assessment of the site conditions based on this report at present. The scope of this report which define the following: -

- Any immediate risks identified within the site that may promote a high risk to the immediate site conditions.
- Any current site use features that would promote a risk that required 'quick' action.
- Any construction or medium-term risks within the site which may be present during the construction process within the site.
- Any long-term risks within the site that may require long term assessments or interim monitoring.

- Any risks within the site that may change upon the change in use of the site to form the proposed development.

1.6 Level of Technical Confidence Expected

The scope of this report has been prepared in order to assess the historical impact of the site and any previous site uses on the existing and proposed development scheme. The level of risk will be prepared and assessed based on historical mapping and environmental information which has been gained to support the development of this report.

Whilst this is the case, gaps in map records and information will be in place that would reduce the readers confidence of the information sought. As such, this report has been prepared as a preliminary or Indicative Report with a Medium Confidence Level.

1.7 Management Constraints

The site investigation has been prepared based on a budget and time scales which has been agreed with the client. The desk top study fees have been agreed at this time which will dictate a way forward.

2 Characteristics of the site

2.1 The Site

The site is located on the outskirts of a residential area of Little Hadham in Hertfordshire, the details of which are summarised in Table 1 with the location plan of the site shown in Appendix 2, Sheet 1.

Table 1 Site Detail

Site Address:	Land East Off Albury Road, Little Hadham SG11 2DR
Site assessed under	Site Owners Request - Aid as part of planning and warranties
Current use of land:	Open Field
Previous use of site, (if known)	As above
Grid Reference	NGR 544190, 223030
Site Area	0.64 Hectares
Local Authority	East Herts District Council
Gradient of the site	The site slopes down to the east.
Proximity of Controlled Waters, (if known)	The nearest surface water feature is recorded 50 meters to the east of the site form by the River Ash.

2.2 Existing Site Use

The existing use of the site is recorded as the south western corner of an open parcel of arable land.

2.3 Surrounding Land Uses

The surrounding land uses are detailed below: -

- To the north of the site, arable land is in place.
- To the east of the site, arable land is in place with the River Ash in place further from the site.
- To the south of the site, a residential dwellings and gardens area in place.
- To the west of the site, Albury Road is in place with residential housing beyond.

2.4 Site Reconnaissance

The site walk over visit was undertaken in October 2022 on which the weather conditions were recorded overcast and foggy.

Access

There is a public footpath recorded along the south of the parcel of land, which the site forms a section of, from this there is free access onto and across the site.

Site Area

The site forms an agricultural field which at the time of the walkover had crops growing in.

Along the southern boundary there are shrubs and grasses within the bank along Albury Road, as well some trees towards the east.

The footpath along the southern boundary is a compacted soil with a mature hedge row on the eastern side.

No features are in place within the site what would promote contamination.

Vegetation

The crop within the field looks to be growing well. Tree and shrubs are in place on the western and southern boundary.

Above or below ground fuel or oil storage tanks

By examination of the site no above ground tanks are in place, no features are present to suggest that any below ground fuel tanks would be in place within the site area.

Asbestos Containing Materials

No asbestos containing materials were reviewed within the site area. A full assessment for asbestos within any made ground will be required in order to fully consider risk from Asbestos.

Surrounding Area

To the north and east of the site agricultural land is in place, forming the section of land that the site is part of.

To the east of the site about 50 meters from the boundary there is the boundary of the field formed by the River Ash. There is a footbridge in place to the south east of the field.

At the time of the walk over there was no water in place, from local knowledge this river is known to drain a large area of land when there is heavy rainfall, therefore the water levels can fluctuate.

Residential land is in place to the west of the site, on the opposite side of Albury Road.

Site Levels and Ground Cover

The site area slopes down slightly to the east towards the River Ash.

The site is laid to soft landscaping.

Current site activities

The current site use forms arable land.

Effluent, Site Drainage and Services

No drainage or services are in place within the site, although no service search is known to us, therefore the location condition nor status of these services is known.

2.5 Site Reconnaissance – Photos

Print 1



Print 2



Print 3



Print 4



Print 5



Print 6



Table 2 Walk Over Inspection Risk

<i>Feature</i>	<i>Location</i>	<i>Elevation</i>	<i>Is A Risk Assessment Required?</i>
Agricultural Land	Site wide	At GL.	X

3 *Details of Searches Undertaken*

Within this report, various searches have been undertaken in order to assess the risk associated with the development of the site from the historical and current use of the site and surrounding area. These include: -

- Environmental Data Search 1:10,000.
- Environmental Data Search 1:2,500.
- Site Sensitivity Maps and Data Sheets.
- Historical Maps.
- Internet Search.

- Local Authority Search –Planning Files.
- Consultation with Site Owner / Architect.

4 Information on Historical and Current Activities on the Site and Surrounding Area

The history of the site’s land-use and development from Victorian times onwards has been researched from Ordnance Survey, (O.S.) maps. Extracts of the O.S. Maps and plans are presented in Appendix 4. Reference to historical maps provides invaluable information regarding the land use/history of the site, but historical evidence may be incomplete for the period pre-dating the first edition and between successive map references.

4.1 Discussion of the Development History

A summary of the historical development of the site and surrounding area based on the information obtained from the above sources is provided in Table 3. It should be noted that these maps are only a small section of time and represent the timescales given in each of the map records. It is highly possible that development or features may have been developed within or surrounding the site which may influence the site, and this should be born in mind when assessing the history of the site.

Table 3 *Historic Maps Assessment*

<i>Date</i>	<i>Scale</i>	<i>On Site Feature</i>	<i>Off Site Features</i>
<i>1879</i>	1:2,500	Open Land	Open Land Limekiln & Pit recorded 150 meters to the west of the site. An old pit is recorded to the north about 200 meters from the site
<i>1883</i>	1:10,560		
<i>1898</i>	1:2,500		
<i>1899</i>	1:10,560		
<i>1923</i>	1:2,500		
<i>1924</i>	1:10,560		
<i>1950</i>	1:10,560		
<i>1960</i>	1:10,000		
<i>1976</i>	1:2,500		To the east and south of the site residential dwellings are in place. To the west the pit has been extended to about 100 meters from the site and are recorded as disused.
<i>1982</i>	1:10,000		
<i>1993</i>	1:2,500		Within the area of the Limekiln this map reference shows a Kiln in place
<i>1999</i>	Historic Aerial Photo 1:10,000		
<i>2006</i>	1:10,000		
<i>2023</i>	1:10,000		

Table 4 *Overview of Historic Map Assessment Risk*

Identified Risk	Distance & Direction	Year	Is A Risk Assessment Required?	Justification
Open Land	On and Off Site –N, E, S, W	Pre 1879 –Present	X	No Source
Limekiln & Pits & Kiln Disused	Off Site –N 200m - E 150m	Pre 1879 – 1976 1976 - Present]	
Residential land	Off Site - E & S	1976 –Present	X	Limited Source

5 *Details of the Intended Future Use of the Site*

No specific proposed plans have been drawn up at the time of writing, new residential dwellings are proposed within the site with soft landscaping and private gardens.

6 *References of Planning Applications*

No current planning application is in place for the site area.

From a review of the Council web site the following historical applications are recorded for the site area.

Application No: 3/21/0588/FUL

Proposal: New agricultural field entrance off Albury Road

Decision: Grant Plan Permission w Conditions 17 Jan 2022

Application No: 3/17/0975/OUT

Proposal: Outline planning for the erection of up to 18 dwellings, all matters reserved apart from access

Decision: Application Withdrawn by Applicant/Agent 13 Mar 2018.

Former desktop submitted as part of the application finding similar to that in place within this report.

Applications are also in place for the area to the north of the site which is recorded as a former Limekiln with investigations, remediation and validation having been completed.

Application No: X/19/0066/CND

Proposal: Discharge condition 7 (contamination) attached to 3/17/1399/FUL

Decision: Discharge in Full 08 Mar 2019

Application No: 3/17/1399/FUL

Proposal: Erection of 5no. dwellings

Decision: Decided - Grant Plan Permission w Conditions 11 Aug 2017

These reports suggest that this area does not form a significant source for land gases or vapours as such are unlikely to for a source that will migrate to the site area.

7 *Discussion with Local Authority*

No discussion with the Local Authority has been completed.

8 *Consultation with Environment Agency*

Consultation has not been made with the Environment Agency at this time. The information gained from Envirocheck and the EA web site has provided sufficient information at this stage. The assessment of the site should take into account the groundwater regime within the site area and the possible risk from both on-site and off-site contamination.

Should heavy or persistent contamination be identified within any Phase 2 or intrusive investigation, consultation will be required and will be undertaken.

9 Consultation with Appropriate Bodies/Local Sources

Limited consultation with the Local Authority has taken place a review of the online planning files has been made. No other local sources of information were available at the time of the walk over. This forms the level of assessments made.

10 Previous Reporting

No previous reports are known to us at the time of writing this report.

11 Environmental Settings

11.1 Superficial Deposits and Solid Geology

The ground conditions based on geological maps and BGS information records that through the site there is an area of Head deposits in place with Chalk recorded below this and is shown to outcrop to the north and south of the site area. To the south of the site along the river system Alluvium is recorded in place.

11.2 BGS Boreholes

No BGS Boreholes are reported surrounding the site.

Table 5 Geological Information

<i>Geological Unit</i>	<i>Brief Description</i>	<i>Anticipated thickness, (m)</i>	<i>Aquifer Type</i>
Superficial Deposits/Drift On Site			
Filled/Re-worked ground	Made Ground, (Potentially Contaminated Stratum).	0.5-1.00 meters+	Not Classified
Head	Gravel, Sand, Silt and Clay	2-4 meters	Secondary A Aquifer
Solid Geology Deposits			
Chalk	Chalk	15m +	Principal Aquifer

11.3 Hydrology

The nearest surface water feature is recorded as 66 meters to the southeast of the site which is recorded as the River Ash. At the time of the walk over this river was dry, although from local knowledge this river becomes full as times of heavy and prolonged rainfall, although is dry the majority of the time. The River flows to the south.

No discharge consents are recorded surrounding the site.

The nearest discharge consent is recorded 154 meters to the north east of the site for Trade Discharges - Cooling Water, this was revoked in 2009.

The substantiated pollution incident register shows that an incident is recorded from 2002 for Contaminated Water: Vehicle and Plant Washings had a significant impact on the water.

11.4 Hydrogeology

The published Environment Agency Groundwater Vulnerability Map of the area indicates the site to be located within an area classified as a Secondary A Aquifer. The underlying geology is recorded as a principal aquifer formed within the chalk.

Principal aquifers provide significant quantities of drinking water, and water for business needs. They may also support rivers, lakes and wetlands.

Secondary A aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers.

The nearest abstraction well is located 206 meters to the east of the site which is recorded as a Food and Drink: Water Bottling Potable Water Supply as well as General Agriculture: Spray Irrigation –Direct and Storage also recorded in this location.

The site lies within a Zone 3 Source Protection Zone.

11.5 Implication of groundwater

Considering the underlying Secondary A Aquifer and the Principal Aquifer, groundwater links are possible and therefore some degree of assessments will be required to classify the extent of risk to a groundwater system, as well as abstraction wells, surface water features and source protections zones surrounding the site area.

In accordance with Environment Agency guidance document: -

- The Environment Agency’s approach to groundwater protection, Version 1.2, (February 2018).

The document confirms: -

- “Selecting compliance points for use in land contamination risk assessments the distance to a set compliance point should not exceed 50 metres for hazardous substances or a maximum of 250 metres for non-hazardous pollutants unless there are specific physical constraints on the ability to use the groundwater resource. Any increases above these specified distances may be justified but must be supported by a sustainability assessment that takes into account environmental, social and economic factors.”

Considering the above, groundwater risk may be in place if significant contamination or a persistent source of contamination are encountered or recorded within the site area, within the information to date risk is considered unlikely.

11.6 Flooding

The site is not recorded as within an area which is susceptible to flooding from Surface water, although to the east of the area the land on the other side of the river is recorded as having a medium risk from flooding.

11.7 Landfill Sites

Within the historical mapping shows former pits are recorded in place to the north and west of the site, the aerial photos show these areas as exposed chalk and therefore suggest the no infilling has taken place.

From local knowledge the area, the details within the planning files and the reports submitted as part of the planning application for dwelling built to the west of the site where the formed limekiln works and pit was in place, limited infilling is recorded in place, land gas assessments have been completed and the BRD Geo-Environmental Site Investigation & Remediation Strategy report concludes that the maximum reading for Carbon dioxide was 2.5% and "CIRIA 152 provides a risk ranking of gas sources with natural soils with a low organic content deemed to pose the lowest risk in terms of gas generation. CIRIA 152 placed the presence of carbonate deposits (e.g Chalk) relatively high in terms of gas generation risk order. However, Wilson and Card argued that such soils should be reclassified as low gas generation potential on the basis that thousands of homes have been built on such soils without any protection measures and without any recorded build-up of Carbon Dioxide within these homes. This reclassification has been accepted by other authors". This along with the distance from this feature will reduce the risks of this impacting on the site area.

Potentially infilled land is recorded as 236 meters to the north of the site which is known as Unknown Filled Ground (Pit, quarry etc), although, this is too far from the site for an impact on the site.

11.8 Environmentally Sensitive Sites

Surrounding the site area, no environmentally sensitive receptors are recorded in place.

Table 6 *Sensitivity of Environmental Receptors in the Vicinity of the Site*

<i>Receptor Type</i>	<i>Receptor(s)</i>	<i>Sensitivity</i>	<i>Comments</i>
Groundwater	Secondary A Aquifer	Moderate	Possible risk to underlying Gravel Deposits with the site
	Principal Aquifer	High	Chalk, which will contain the principal aquifer, is recorded within the site and potentially outcrops at the surface as such direct links may be in place, although there are no sources of contamination within the site.
Water Abstraction	Potable Water Supply & General Agriculture: Spray Irrigation - Direct	Medium / High	The nearest abstraction well is located 206 meters to the east of the site.
Source Protection Zone	Zone 3	High	
Surface Water	Pond	Low	The nearest surface water feature is recorded as 254 meters to the southwest of the site which is recorded as a likely pond
Flooding	NONE		
Ecological	NONE		

12 *Site Drainage and Other Potential Man-Made Pathways*

Drainage is recorded in place, although, the site has not been reviewed for drainage routes. A full drainage assessment may aid in the assessment of the site in relation to pathway creation for pollution to migrate.

13 *Regulatory Data*

Information relating to the potential hazards associated with environmental regulatory controls are summarised in Table 7 and 8. This information is recorded in full within the Envirocheck data provided within Appendix 5. The salient points recorded within this data are re-created below.

Table 7 *Summary of Regulatory Data - Sources*

<i>Data Sources</i>	<i>On Site</i>	<i>Off Site</i>	<i>Distance from site.</i>	<i>Is A Risk Assessment Required?</i>
Discharge Consents	None	MAKING OF BEVERAGES/BREWERIES/SOFT DRINKS - Trade Discharges - Cooling Water	NE 154m	X
Pollution Incident to Controlled Waters	None	Minor Incident - Oil –Unknown in 1995	E 576m	X
Substantiated Pollution Incident Register	None	Category 2 - Significant Incident in 2002 from Contaminated Water: Vehicle And Plant Washings	SE 74m	X
Potentially Infilled Land	None	Unknown Filled Ground (Pit, quarry etc)	N 236m	X
Radon Potential - Radon Protection Measures	No radon protective measures are necessary in the construction of new dwellings or extensions			X

Table 8 Summary of Regulatory Data - Receptors

<i>Data Receptors</i>	<i>On Site</i>	<i>Off Site</i>	<i>Distance from site.</i>	<i>Is this a potential receptor for risk ?</i>
Nearest Surface Water Feature	None	River Ash	SE 66m]
Water Abstractions	None	Food And Drink: Water Bottling, Potable Water abstraction	E 206m]
		General Agriculture: Spray Irrigation –Direct and Storage	E 206m]
OS Water Network Lines	None	Inland River –River Ash	SE 69m]
Source Protection Zone	Zone 3		On Site]

Table 9 BGS Estimated Chemistry Data

<i>BGS Estimated Soil Chemistry Pollutant</i>	<i>BGS Estimated Soil Chemistry</i>
Arsenic	<15
Cadmium	<1.8
Chromium	60-90
Lead	<100
Nickel	30-45

Considering the background concentrations present, Potential for human health risk is not anticipated within this area.

Table 10 Geological Hazards

<i>Geological Hazard</i>	<i>Distance & Direction</i>	<i>Feature</i>	<i>Risk Assessment Required</i>
Non-Coal Mining Areas of Great Britain	On Site		Highly Unlikely
Collapsible Ground	On Site		Very Low
Compressible Ground	On Site		Negligible
Ground Dissolution Features	On Site		Very Low
Landslide	On Site		Negligible
Running Sand	On Site		Negligible
Shrinking or Swelling Clay	On Site		Very Low

Table 11 Summary of Contemporary Trade Entries

<i>Trade Name</i>	<i>Trade Use</i>	<i>Distance & Direction from Site</i>	<i>Is A Risk Assessment Required?</i>	<i>Comment</i>
			X	
<i>No trades are recorded within 200 meters of the site, (See Envirocheck Data)</i>				

*NB The above information is taken from the Envirocheck trade directories.

14 *Identification of Potential Contaminants of Concern and Source Areas*

Based on the information gained no specific sources of contamination are in place, which are likely to impact on the development site. Within the site area there may be made ground in place although this is unlikely to contain contamination the following assessments are recommended

15 *Next Steps*

Considering the information gathered to date, it may be prudent to complete a general assessment of any fill material encountered, to confirm no risk are in place. Fill is unlikely to be in place within the site but the following may be required if encountered, and should be prepared in accordance with key guidance documents as follows:-

- National Planning Policy Framework.
- British Standards 10175:2011+A2:2017
- Land contamination risk management (LCRM)
- Contaminated Land Report, (CLR11) 11, 'Model Procedures for the Management of Contaminated Land', (2004).
- DEFRA: Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance, (April 2012)
- Environment Agency, (EA), GP3 'Groundwater Protection: Policy and Practice'.

Based BS10175: 2011+A2:2017 we would recommend that any areas of fill within the site be subjected to a sampling density of between of 15 -25 meter grid pattern to for an exploratory investigation.

The investigation is proposing to undertake the following at the site: -

- Determine the ground and groundwater conditions.
- Determine if there are any obstructions such as old service and foundations, buried tanks, etc.
- Obtain samples of the made ground, natural soils for contamination testing for a general suite of potential contaminants.
- Visually appraise soils to consider olfactorily or visual presence of contamination factors, risk, vapours or fragments.
- All laboratory testing should be completed to MCERT/UKAS accredited standard.
- All detection limits provided by chemical laboratories must fall below the set screening values.

15.1 *Soil Assessment*

Soil sampling will be completed recovering samples in appropriate containers for analysis by the analytical chemist. All samples will be sent directly to the chemist in cool boxes to retain the integrity of the soil sample.

Table 12 *Soils Assessment - Targeted Sampling*

<i>Feature</i>	<i>Contaminant</i>	<i>Method of Investigation</i>
<i>Spatial Sampling, (General Assessment)</i>	Moisture Content, pH, Electrical Conductivity, Cyanide, (Free), Cyanide, (Total), Organic Matter, Boron, Sulfate, (2:1 water soluble), Chromium, (Hexavalent), Sulfate, (Total), Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Zinc, Speciated PAH's, (EPA Priority 16), Phenols.	Window Sampler Boreholes Hand Auger Boreholes Trial Pits

Upon completion of on-site sampling and the associated chemical analysis, the soil data will be compared against the Generic Assessment Criteria derived by AtRisk Soils which has been purchased as a reviewing standard. This has been prepared by Atkins as Soil Screening Values, (SSV's). Additionally, values will be adopted for screening values using LQM / CIEH –Suitable 4 Use Levels in the absence of Atkins adopted values.

15.2 Groundwater Assessment

In light of the lack of sources of risk within the site, this will reduce the risk to the groundwater, although should risks be in place within the site migration to the groundwater and surface water features should be considered as receptor.

15.3 Land Gas Assessment

Based on the lack of infilled ground the distance from the site and the assessments completed within the former pits and potential areas of risk showing that there are low risk in place, these will not form a source of risk within the site area.

15.4 Vapour Risk Assessment

No sources of vapours risks are recorded within the site area.

15.5 Working Brief

During the course of the development, it will be the responsibility of the on-site manger to ensure watching briefs are kept. A watching brief consists of a record of:

- Any observations of contamination made during the course of development by any member of site staff, contractor or visitor.
- A photographic record of the key stages of development and key occurrences including any contamination found during the course of the development, the formation levels of excavations, any reduced level dig/mass excavation, formation of landscaped or garden areas, etc.
- Contact the Environmental Engineer and strategic points within the development of the site where contamination validation elements will be required.

In areas of the site where there is a greater chance of finding contaminated soil and/or water an area specific watching brief will need to be kept. Such a brief will need to be completed by an appropriately qualified site

manager and/or an environmental consultant. The following table specifies works in specific parts of the site that require an area specific watching brief, identifying who must complete the watching brief.

Table 13 *Watching Brief – Targeted areas for observation*

<i>Area of site</i>	<i>Works to be observed</i>	<i>Person to observe works</i>
Sitewide	General watching brief through any excavations or reduced digs.	Site agent / Contractors

Upon completion of associated works, a written and signed statement will be obtained by the following parties:

- Ground works contractor(s) upon completion of foundations and ground works.
- On site manager upon completion of groundworks and landscaping work.

The written statement must clearly state whether or not evidence of contamination was identified during the course of the development and the action that was taken. An example statement is provided below.

“I am [insert name] from [insert company]. We undertook [insert works undertaken] between the [start date] and [finish date]. During the course of work at [insert site name and address] we observed [delete were not applicable: no potential contamination / evidence of contamination / significant evidence of contamination].

Where contamination is identified

The contamination identified:

[include a description of the observations of the contamination]

[identify the location of the observations of contamination and mark the locations on a plan]

[Who was notified of the observations]

[What action was taken to mitigate/clear up contamination]”

The on-site manager statement must include confirmation of whether all site staff and contractors received an appropriate brief regarding the potential presence of contamination.

15.6 Site Staff Training / Briefing

All site staff, site contractors and, where significant contamination is expected site visitors, will be briefed on the potential presence of land, water or air bourn contamination before commencing work on the site. Apart from any standard Health & Safety practices this will include the following information:

- Health & Safety considerations.
- Asbestos Awareness course.
- The type of land, water or air bourn contamination expected at the development site based on previous use and available site investigation information.
- Any particular areas of the site which are likely to be affected.
- Staff responsibilities under the discovery strategy.

The on-site manager will need to provide written confirmation that site staff were briefed about contaminated land in line with these recommendations.

15.7 *Discovery Strategy*

The discovery strategy sets out the actions that must be taken if contamination is encountered during the course of a development.

A significant observation includes any observation of contamination. Examples of the types of observations that would be considered significant are set out in the following table.

Table 14 *Discovery Strategy – Examples of Observations*

<i>Evidence</i>	<i>Description</i>
Visual	<ul style="list-style-type: none"> Fuel or oil like substances mixed in with or smeared on the soil or floating on perched, groundwater or surface waters. Waste materials (refuse, barrels, industrial wastes, ash, tar, etc.) buried at specific location or across the site. Marked variation in colour. For example red, orange, yellow, green, light or dark blue, etc. may indicate contamination from a variety of contaminants. Soils including large amounts of ash and clinker where such contamination of soils wasn't expected.
Odours	<ul style="list-style-type: none"> Fuel, oil and chemical type odours Unusual odours such as sweet odours or fishy odours
Wellbeing	<ul style="list-style-type: none"> Light headedness and/or nausea when in excavations, at the working face of an excavation, when visual or olfactory evidence of contamination exists, etc. Burning of nasal passages, throat, lungs or skin. Blistering or reddening of skin due to contact with soil

Note: The examples provided in this table are not exhaustive.

The following table sets out the actions that must be taken if significant or suspected land, water or air contamination is observed by site staff, contractors or visitors.

Table 15 *Discovery Strategy – Action to be taken if risks are encountered*

<i>Person observing contamination</i>	<i>To be reported to:</i>	<i>Action to be taken</i>
Site visitor	Must report observations to the site manager	None
Contractor	Must report observations to the site manager	Stop work and where possible make area safe and secure area before reporting to site manager
On site manager	Must report observations to their direct manager, the appointed Environmental Consultant, the Planning Authority and Contaminated Land Officer at the Local Authority	Stop work and where possible make area safe and secure area before reporting to others
Environmental Consultant	Must report observations to the site manager, the Planning Authority and Contaminated Land Officer at the Local Authority	Advise that work stops and where possible that the area is made safe before reporting to others

The following table identifies other organisations that may need to be contacted in an emergency or where pollution of controlled waters or nuisance is occurring.

Table 16 *Discovery Strategy – Organisations to be contacted if risks are encountered*

<i>Occurrence</i>	<i>Description</i>	<i>Contact</i>
Risk to the public	If at any point residents, the public or others may be at risk as a result of contamination found during the course of investigation, remediation or development works	<ul style="list-style-type: none"> · Contact the emergency services if there is a risk to life · Contaminated Land Officer/Planning Authority · Health & Safety Executive
Nuisance to residents/the public	If a nuisance has been or is likely to be caused to nearby residents, the public and others –for example odours, dust, noise, vibration, etc.	<ul style="list-style-type: none"> · Pollution Control Team at the Local Authority (and other council's where necessary)
Pollution of controlled waters	If any surface, culverted or groundwater has been polluted – for example slurry, contaminated soil/water or a chemical spillage entering a river or canal.	<ul style="list-style-type: none"> · Environment Agency · Planning Authority and Contaminated Land Officer at the Local Authority
Pollution of adjoining land	If land outside the boundary of the development site is polluted from site activities –for example slurry, contaminated soil/water or a chemical spillage	<ul style="list-style-type: none"> · The owner of the land · Planning Authority and Contaminated Land Officer at the Local Authority

APPENDIX ONE

CONCEPTUAL MODEL

Church End Farm, Land off of Albury Road, Little Hadham SG11 2DY

Site Conceptual Model - Proposed Site Plan

Potential Pathways

Human Health

- ① Direct contact with contaminants in soil/dust or water
- ② Inhalation of contaminants through soil/dust/particles
- ③ Dermal Contact
- ④ Ingestion of home grown produce
- ⑤ Ingestion of contaminated water through water main pipework
- ⑥ Inhalation of Land Gases / Vapours From Soils
- ⑦ Inhalation of Vapours from Groundwater
- ⑧ Migration to off site Adjoining Land Owners

Flora

- ⑨ Plant uptake & direct contact with soil

Controlled Surface Water, Ground Water & Abstraction Well

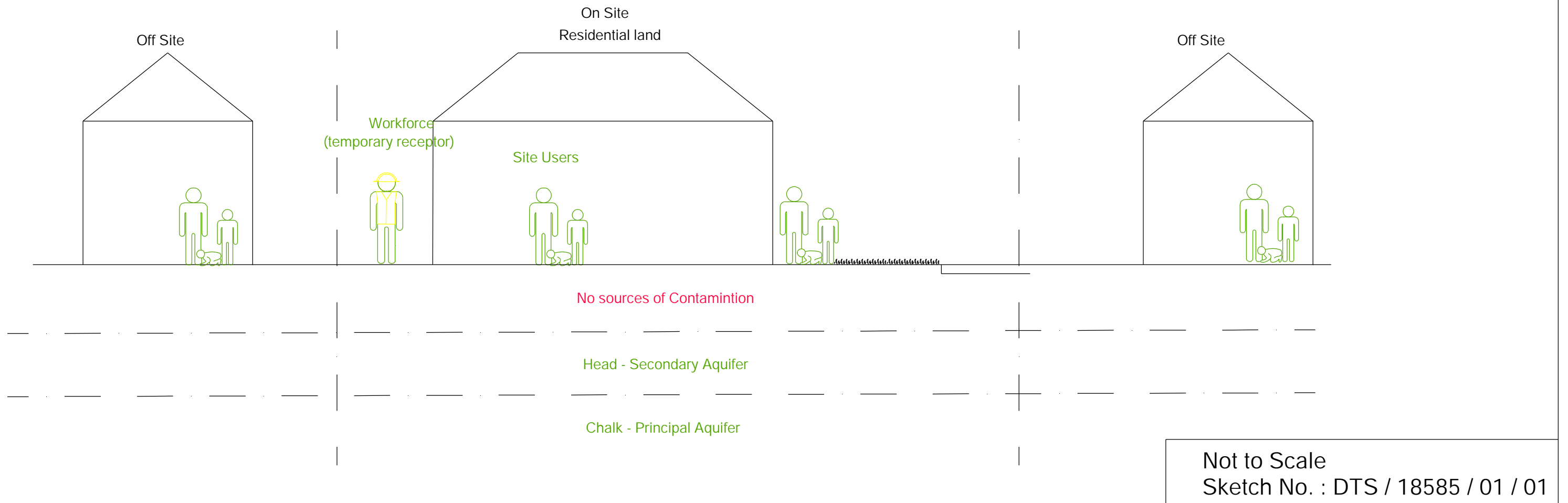
- ⑩ Leaching, lateral migration of shallow groundwater to a target receptor

Off Site Sources

- (A) Migration of contamination to the site area
- (B) Migration of land gases/ vapours to the site area
- (C) Migration of contaminated groundwater to the site area

Key

- Purple =Possible pathways
- Green =Possible receptors
- Red =Possible sources



APPENDIX TWO

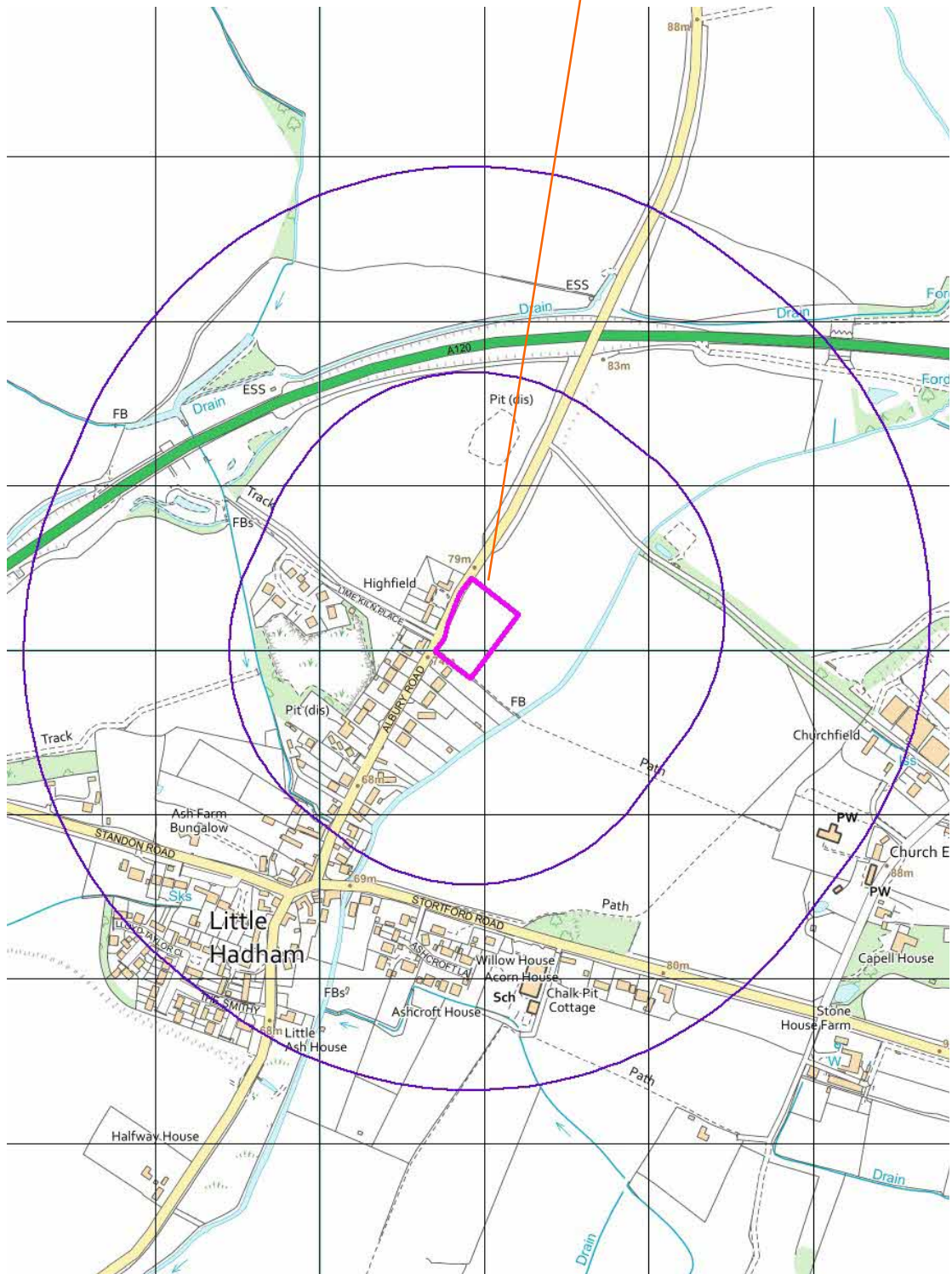
SITE PLANS

Church End Farm, Land off of Albury Road, Little Hadham SG11 2DY

Location Plan



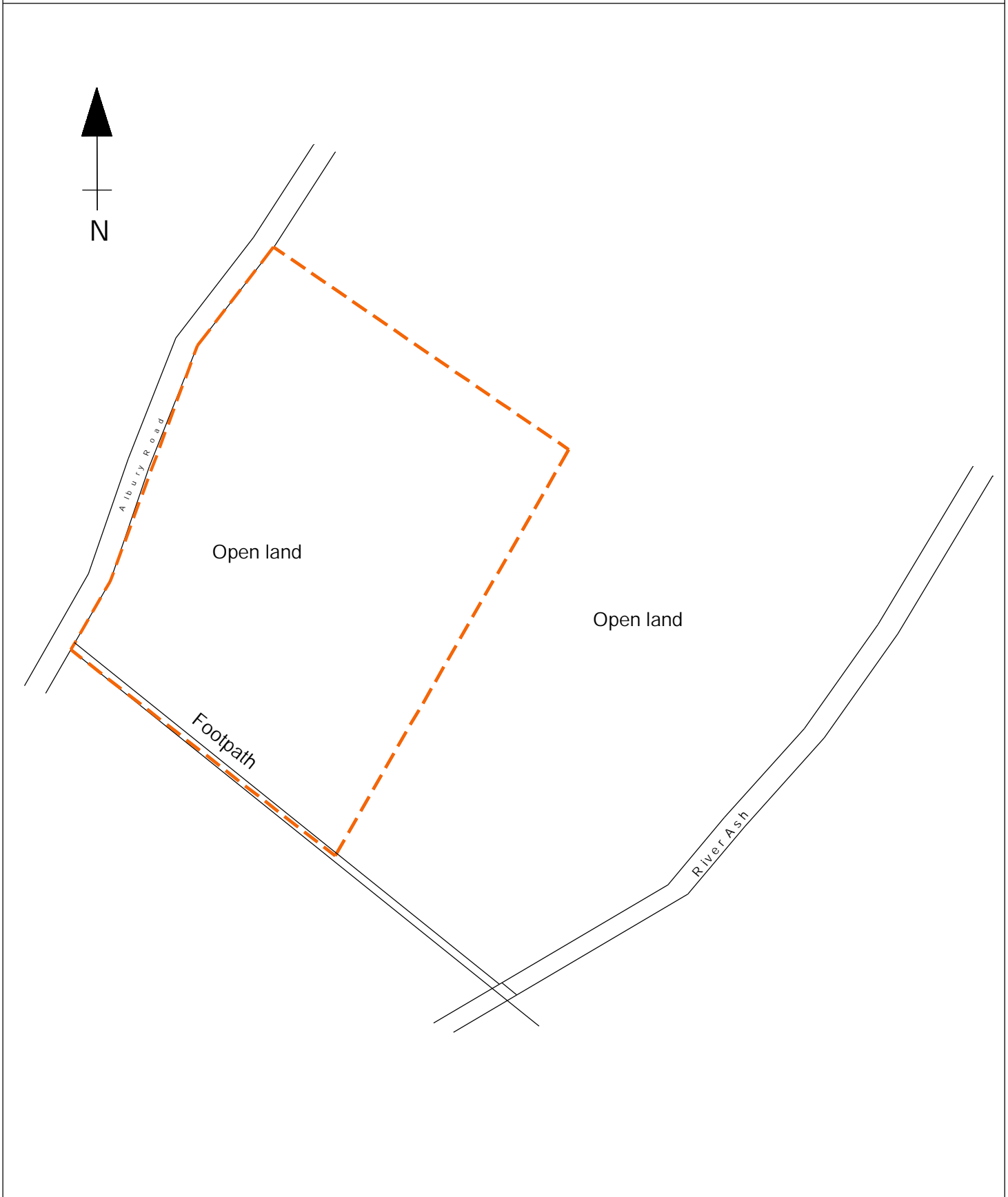
Site Plan



Not to Scale
Sketch No. : DTS /18585 /02 /01

Church End Farm, Land off of Albury Road, Little Hadham SG11 2DY

Existing Site Plan



Not to Scale
Sketch No. : DTS / 18585 / 02 / 02