

May 19

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105419-S01

# Phase 1 Environmental Site Assessment

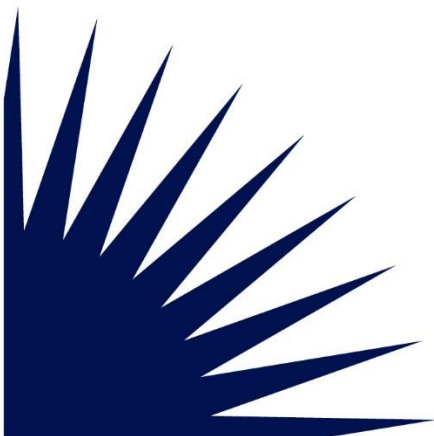
Proposed Poultry Installation on Land at Upper  
Maenllwyd Farm, Kerry, Newtown, Powys, SY16 4NB

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Gwyn Jones and Partners c/o Roger Parry and Partners LLP

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t: 0845 873 1466 [www.ashfieldsolutions.com](http://www.ashfieldsolutions.com)



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Roger Parry and Partners LLP  
Gwyn Jones and Partners

Rosina Bloor  
Mr Gwyn Jones

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# Executive Summary

## *i* Risk Summary

The overall land contamination risk estimation in the context of the proposed redevelopment of the site is *Low*. The likelihood of the site reaching the statutory tests for designation as “Contaminated Land”, under Part 2A of the Environmental Protection Act 1990, is considered to be *Low*.

### Land Contamination Sources

**Current Operations:** No significant sources that could give rise to contamination have been identified at the site during site inspection.

**Legacy:** The site has always been associated with agricultural land since 1884, giving rise to no contamination sources. The surrounding area of the site has also been predominantly associated with land used for agricultural purpose since 1884. A railway line called “Cambrian Railway” was present 60m to the north between 1884 and 1983, where it was then dismantled. Furthermore, a large clay pit was detailed to be present 10m to the east at its closest point between 1884 and 2000. After a review of data held within the Environmental Data Reports, it was identified that the large clay pit was used as a landfill that was in operation between 1940 and 1996 for the deposition of predominantly construction wastes such as hardcore and brickwork etc. amongst other inert wastes. (Please see Environmental Sensitivity below for further detail). Based upon the review of the historical use of the site and the surrounding area, former land uses are considered to pose a limited contamination source potential.

### Environmental Sensitivity

The identified landfill associated with the former clay pits 10m to the east is unlikely to have a negative impact to the site itself based on a number of key factors: (1) The gradient of the land surrounding the landfill is falling away from the site in a south easterly direction, mitigating any potential for contaminant migration on to site; (2) Due to the undeveloped history of the site (Section 2.4) impermeable glacial soils are still present underlying the site as described within Section 3.1, thus preventing any transmission of contaminants. (3) The landfill was formerly operated under the regulation of the EA, with recorded volume and waste restrictions such as biodegradable putrescible. It is likely that, as part of any license surrender upon closure, that a period of aftercare and capping of wastes would have been undertaken.

The site is underlain by a Secondary (Undifferentiated) Aquifer for superficial geology and a Secondary (B) Aquifer for the underlying bedrock geology with the intrinsic groundwater vulnerability being classified by the NRW as Medium. Furthermore, the site is not located within a groundwater Source Protection Zone (“SPZ”), groundwater is not abstracted locally for potable usage nor a Drinking Water Protected Area (“DrWPA”) within 1km of the boundary. Based on this information, the hydrogeological regime for the site is not considered to be sensitive. Furthermore, given the recorded distances of the ancient woodlands to the site boundary and the low contamination potential of the site, the ancient woodlands are unlikely to be affected by the site itself.

### Flood Risk

The site is unlikely to be affected by flooding based on the Very Low risk ratings from multiple sources.

### Ground Stability

Based on information held within the Environmental Data Searches, the overall natural ground stability risk is considered to be Very Low. As such, this risk rating should not deter investment nor development. Furthermore, the site is not reported to be within a coal mining reported area. The area used for a clay pit to the immediate east of the site is unlikely to have affected the land quality of the site based on the small scale and the proximity to the boundary. In addition, the Environmental Data Searches state that no hazards are present within the surrounding area from non-coal mining activities.

### Recommendations

*On the basis of our assessment Ashfield does not consider that any further contamination assessment works are required to facilitate the proposed development.*

# 1 Introduction

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## 1.1 Authorisation

Ashfield Solutions Limited (“Ashfield” or “we”) has been commissioned by Gwyn Jones and Partners c/o Roger Parry and Partners LLP (“the client”) to undertake a Phase 1 Environmental Site Assessment, in relation to land on Land at Upper Maenllwyd Farm, Kerry, Newtown, Powys, SY16 4NB (“the site”). The location and boundary of the site is shown in Drawing 01.

This report has been prepared in accordance with emailed instruction from Roger Parry and Partners LLP on the 10<sup>th</sup> May 2019.

## 1.2 Objectives and Context

This report has been prepared in the context of pre-site acquisition to support a planning application for a proposed poultry installation.

The overarching aim of this assessment is to identify any environmental issues at the site, including the potential or actual presence of contamination, and determine the corresponding implications in terms of potential liabilities, along with recommendations on how those liabilities can be managed.

In the context outlined above, the objectives of this report, are to:

- Provide an outline conceptual site model and Preliminary Risk Assessment (PRA), consistent with the CLR11 framework, in relation to land contamination risks.
- Provide an indication as to whether the site, or any part thereof, is likely to be classified as Contaminated Land under Part IIA of the Environmental Protection Act 1990 (i.e. whether a statutory land contamination risk is likely to exist which might lead to regulatory enforcement).
- Provide recommendations as to whether further site investigations and risk assessments are required in relation to land contamination risks.
- Provide an assessment of additional environmental liabilities and provide recommendations in relation to those liabilities where relevant.

## 1.3 Information Sources

This report has been prepared using the following information sources:

- A site inspection undertaken on the 17<sup>th</sup> May 2019.
- Roger Parry and Partners LLP, Environmental Statement for the site, No Ref.
- Roger Parry and Partners LLP, Proposed Poultry Units Location Plan (Appendix B), Drawing No. RB-MZ359-01.
- Environmental data searches (referred to hereafter as “the Environmental Data Searches”):
  - Landmark Envirocheck® Site Sensitivity report (May-2019)

- Landmark Envirocheck® Historic Map report (May-2019)
- Landmark Envirocheck® Geology report (May-2019)
- Natural Resources Wales (NRW) Long Term Flood Risk Map (accessed May-2019)
- British Geological Survey Onshore GeolIndex Service (accessed May-2019)
- Coal Authority Interactive Map (accessed May-2019)
- Zetica UXO online UXB Risk Map<sup>1</sup> (accessed May-2019)

## 1.4 Report Limitations

This *Phase 1 Environmental Site Assessment* has been prepared with due care and diligence in accordance with industry good practice and available guidance. The conclusions presented in this report represent Ashfield's professional judgement based upon the information available to us and the conditions existing as of the date of this report (as indicated in Section 1.3). Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ashfield was accurate and complete at time of receipt; and to the extent that site access was available to us.

This review is not intended as legal advice, nor is it an exhaustive review of site conditions or facility environmental compliance. Ashfield makes no representations or warranties, expressed or implied, about the conditions of the site. If additional information or data becomes available, which may affect the opinions expressed in this report, Ashfield reserves the right to review such information and, if warranted, to modify the opinions accordingly. This report has a limited lifespan and may need updating to reflect continually evolving environmental legislation or changes to site activities.

Attention is drawn to the following specific limitations:

- **Asbestos** – this report does not constitute an *Asbestos Management Survey*, *Building Survey* or *Refurbishment Survey*; and should not be relied upon in any such capacity. However, where we believe asbestos to be present during a site inspection; or where it has been recorded in any supporting information, we have provided informative references herein.
- **Non-native invasive species (e.g. Japanese Knotweed)** – unless otherwise stated this report does not constitute a formal survey for invasive non-native species. However, where identified we have provided informative references and recommendations herein. The lack of any observed invasive species should not be interpreted as positive confirmation that invasive species are completely absent from the site; seasonality can affect the extent to which positive identification of non-native invasive species can be identified.
- **Storage Tank Integrity** – This report does not constitute any formal inspection of oil or fuel storage tanks and associated infrastructure in relation to the Control of Pollution (Oil Storage) Regulations, 2001. However, where identified we have included basic observations in relation to the condition of tanks, bunds, pipes and associated infrastructure, as well as any evidence of leaks and spills.
- **Ecology** – This report does not constitute a formal survey of ecological potential or existing habitats. Ecological surveys may be required to evaluate ecological potential and development constraints; such surveys usual need to be undertaken at specific times of the year.
- **Building Structural Integrity/Ground Stability** - This report does not constitute a full appraisal of the structural integrity of the site built environment and natural geotechnical bearing properties of the soils underlying the site.

<sup>1</sup> <https://zeticauxo.com/downloads-and-resources/risk-maps/>

## 2 Site Environment

### 2.1 Site Setting

The site occupies an area of approximately 2.21ha and comprises undeveloped fields. The site is accessed via the B4368 road that is positioned running along southern boundary of site in an easterly direction. A summary of the physical site characteristics is present in Table 1. Surrounding land uses are summarised in Table 2.

Table 1 - Site Physical Characteristics

Terrain & Topography	Based on the Google Earth™ elevation tool, the topography of the site is sloping from the north west to the south east from 148m Above Ordnance Datum ("mAOD") to 139mAOD.
Ground Cover	The entire site (100%) comprises permeable cover (e.g. grass, vegetation, gravel etc.).

Table 2 - Surrounding Land Uses

North	The River Mule is present 90m to the north with areas of woodland and agricultural land located within the same vicinity.
East	A field with dirt tracks and a small car park can be seen to the immediate east with a residential home positioned 170m off the south eastern corner of the site boundary.
South	The B4368 single-carriageway road can be seen to the immediate south running in a west to east orientation. Further land uses beyond the B4368 comprise predominantly greenfield for agricultural uses.
West	An unnamed stream is present running along the western boundary. Upper Maenllwyd Farm can be seen 90m to the west amongst other fields used for agriculture.

### 2.2 Current Site Condition

Ashfield conducted a site inspection on 17 May 2019. Table 3 provides a summary of the current site condition and any contemporary environmental liabilities associated with current activities.

Table 3 – Environmental Liabilities: Contemporary Site Activities and Condition

Observation	Description
Land Contamination Hazards	
Above-ground tanks (ASTs)	None identified during site inspection.
Below-ground tanks (USTs)	None identified during site inspection.

Chemical Storage*	No storage of chemicals identified during site inspection.
Substations	None identified during site inspection.
<b>Waste Liabilities</b>	
Waste Management	No waste management present onsite, given its vacant nature.
Fly Tipping	None identified during site inspection.
<b>Other Environmental Liabilities &amp; Observations</b>	
Asbestos	No observations of suspected asbestos made during site inspection; however, please note that this report does not constitute a formal asbestos survey.
Site Operations	No activities being undertaken onsite given its vacant nature.
Invasive Non Native Species	None identified during site inspection; however, note that no formal survey of non-native invasive species has been undertaken as part of this commission.
EMF	No electrical sources identified during site inspection.
Ecology & Habitats	None identified, however, given the setting of the site it is possible for the presence of habitants.

\*This includes small containers, drums and intermediate bulk containers (IBCs).

#### Key Points

No significant sources that could give rise to contamination have been identified during site inspection.

## 2.3 Historical Land Use

Historical maps and images (where available) have been reviewed to identify and draw attention to any potentially contaminative industrial practices or land uses that may have compromised the site's environmental quality in the past. A summary of the key findings of our independent historical map review is presented in Table 4.

Table 4 - Historical Land Use

Map or Image Date		Description of Site
●	1884 -1903	<b>On-site:</b> The site comprises solely agricultural land.
		<b>Off-site:</b> A railway line labelled as " <i>Cambrian Railway</i> " is detailed to be present 70m to the north. Furthermore, " <i>Goetre brickworks</i> " is detailed 140m to the south east. A farming complex labelled as " <i>Upper Maenllwyd</i> " comprising several small to medium sized buildings, is detailed 90m to the north west. In addition, an unnamed watercourse is present at a distance of 90m, flowing in an east to west direction.
●	1903 -1953	<b>On-site:</b> No changes to land use.
		<b>Off-site:</b> No changes to land use.
●	1953 - 1964	<b>On-site:</b> No changes to land use.
		<b>Off-site:</b> No changes to land use.

●	1964	<b>On-site:</b> No changes to land use. <b>Off-site:</b> No changes to land use.
●	1975	<b>On-site:</b> No changes to land use. <b>Off-site:</b> A large clay pit is detailed 10m to the east.
●	1983	<b>On-site:</b> No changes to land use. <b>Off-site:</b> “Cambrian Railway” is now detailed as dismantled.
●	2000	<b>On-site:</b> No changes to land use. <b>Off-site:</b> The clay pit present 10m to the east is no longer detailed on mapping eastern side, 5m from site boundary no longer noted.

Notes: ● denotes full map coverage; ◐ denotes partial map coverage.

### *i* Key Points

The site has always been associated with agricultural land since 1884, giving rise to no contamination sources. The surrounding area of the site has also been predominantly associated with land used for agricultural purpose since 1884. A railway line called “Cambrian Railway” was present 60m to the north between 1884 and 1983, where it was then dismantled. Furthermore, a large clay pit was detailed to be present 10m to the east at its closest point between 1884 and 2000. Based upon the review of the historical use of the site and the surrounding area, former land uses are considered to pose a limited contamination source potential.

## 2.4 Landfilling Activities

Table 5 provides a summary of available records of landfilling at the site based on Environment Agency (“EA”) public records and the Environmental Data Searches. This includes registered landfills, as well as historical records of informal land filling activities, which may affect the site.

Table 5 – Landfilling Activities

Activity	Records within 250m of the site
Historic Landfill Sites (all available records)	1 <sup>[1]</sup>
Potentially Infilled Land (e.g. infilled ponds, streams, embankments)	0
Operational/Permitted Landfills	1 <sup>[2]</sup>

- [1]. **Historic Landfill Sites:** A review of the Environmental Data Searches indicates the presence of an historic landfill to the immediate east of the site detailed to be a disused clay pit (Ref. 6850/0001, Licenced to Goetre Limited), which is also known after a review of historical maps available for the site (Section 2.3). It is detailed to have been in operation between 1940 and 1996.
- [2]. **Operational/Permitted Landfills:** A registered landfill site is detailed to be present 78m to the east [Ref. NOW-604-L (3/90), Licenced to Goetre Limited], however, it is noted no longer to be in operation. As per Historical Landfill Sites above, this area is known to be the site of a former clay pit that was in operation as a landfill between 1940 and 1996. Wastes deposited comprise predominantly construction wastes such as hardcore, brickwork etc. amongst other inert wastes. The maximum input rate of the landfill was small (“equal to or greater than 10,000 and less than 25,000 tonnes per year”).

### Key Points

The identified landfill associated with the former clay pits 10m to the east is unlikely to have a negative impact to the site itself based on a number of key factors: (1) the gradient of the land surrounding the landfill is falling away from the site in a south easterly direction, mitigating any potential for contaminant migration on to site; (2) Due to the undeveloped history of the site (Section 2.4) impermeable glacial soils are still present underlying the site as described within Section 3.1, thus preventing any transmission of contaminants. (3) The landfill was formerly operated under the regulation of the EA, with recorded volume and waste restrictions such as biodegradable putrescible. It is likely that, as part of any license surrender upon closure, that a period of aftercare and capping of wastes would have been undertaken.

## 2.5 Regulatory Permits & Licences

Details of permitted or licensed activities, either on or within the vicinity of the site, can indicate whether there are environmental risks posed to the property, or whether previous licenced activities may have resulted in environmental impact at the site. Details of permits and licenses have been obtained from the Environmental Data Searches, as well as on-line Environment Agency public records. A summary is presented in Table 6.

Table 6 – Licenses and Permits

Activity	Entry within 250m of the site
Industrial sites holding licenses or authorisations*	0
Sites with dangerous or hazardous substances**	0
Discharge consents	2 <sup>[1]</sup>
Sites determined as Contaminated Land under Part 2A of the Environmental Protection Act 1990	0
Petrol and fuel sites	0
Underground high pressure oil and gas pipelines	0
Groundwater/surface water/potable water abstraction licenses	0
Other waste sites such as treatment, transfer or disposal (non-landfill)	0

\*Including Environmental Permits, and Local Authority Pollution Prevention & Controls.

\*\*Including Control of Major Hazard (COMAH); Historic records under the now revoked Notification of Installations Handling Hazardous Substances (NIHHS) Regulations, 1982 (and amendments); Explosives Sites; Planning Hazardous Substance Consents & Enforcements and registered radioactive substances.

- [1]. Discharge consents:** Two discharge consents are detailed to be present within 250m of the site boundary. The closest consent is located 94m to the north west (Ref. Npswqd009209, licenced to David and Gwyn Jones) associated with the discharge of sewage into a freshwater stream/river, noted to be the River Mule. The remaining discharge consent is located 97m to the north west (Ref. WQ/72/553/1) associated with the discharge of sewage into groundwater. Both consents are regulated by Natural Resources Wales (“NRW”).

### Key Points

Given the proximity of the discharge consents in accordance with the site boundary and that both entries are regulated by the NRW, it is unlikely that no contamination risks are being posed towards the site.

## 2.6 Pollution Incidents

There are no recorded pollution incidents to controlled waters within a radius of 250m of the site.

## 2.7 Sensitive Land Uses

Sensitive land uses include areas designated by the Natural Resources Wales as Sites of Special Scientific Interest (“SSSI”), Local Nature Reserves, RAMSAR sites and Special Areas of Conservation (“SAC”) etc. There are four of these features recorded within a radius of 1km of the site. All four recorded sensitive land uses are associated with ancient woodland, with the closest located 130m to the north west.

### Key Points

Given the recorded distances of the ancient woodlands to the site boundary and the low contamination potential of the site, the ancient woodlands are unlikely to be affected by the site itself.

## 2.8 Hydrology & Site Drainage

The nearest watercourse feature to the site is an unnamed stream 5m to the west.

In the absence of any third party drainage surveys, it is not possible to comment on the connectivity of the site's drainage systems with off-site drainage infrastructure and/or surface waters.

## 2.9 Flood Risk Screen

Information on the sites susceptibility to flooding has been obtained from public flood mapping provided by Natural Resources Wales as well as information contained within the environmental data searches. A summary of the findings are provided in **Error! Reference source not found.** and a screening-level assessment of flood risk, follows.

Table 7 - Flood Risk Screening (Wales)

Flood Risk Scenario	Flood Status <sup>a</sup>
Flood Risk Zone (Development Advice Map - Wales)	Zone A (little or no risk)
Risk of Flooding from Rivers and the Sea (RoFRaS) <i>incorporating defences</i>	Very Low Risk
Risk of Flooding from Surface Water.	Very Low Risk
Is the site within the extent of flooding from a nearby reservoir?	No
BGS Groundwater Flooding Susceptibility	Limited potential for groundwater flooding to occur

<sup>a</sup>Based on maximum risk rating within the site boundary. The resolution of national datasets can infer a higher degree of risk than is actually present. Surface water risk may be highly localised within certain parts of a site. Flood Maps for Wales accessed at: <https://www.naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

#### Preliminary Flood Risk Observations

The site is unlikely to be affected by flooding based on the Very Low risk ratings from multiple sources.

## 3 Subsurface Site Environment

### 3.1 Geology

An overview of the site geology has been inferred from British Geological Survey (“BGS”) map extracts included in the Environmental Data Searches as well as utilising the online BGS GeoIndex (Onshore) service, which includes 1:50,000 scale superficial and bedrock geology maps, along with more detailed geological descriptions, geological features and archive borehole records. The following descriptions provide a summary of the geology beneath the site based on the available information.

**Please Note:** Following a review of the BGS GeoIndex Service, no borehole records are available on site or within the surrounding area. Therefore, this review is based solely on published BGS geological mapping.

#### Artificial Deposits

There are no artificial deposits detailed to be underlying the site. Based on the history of the site being always associated with undeveloped land, it is unlikely that any man-made material such as made ground etc. is present beneath the site.

#### Superficial

The superficial deposits detailed to be underlying the site proposed site is till, which is a diamicton of sands and gravels.

#### Bedrock

The bedrock geology reported to be underlying the is the “Nantglyn Flags Formation” described by the BGS as “very thinly interbedded mudstones and laminated muddy siltstones with less frequent thin beds of calcareous siltstone”. The closest bedrock fault in proximity to the site boundary is located approximately 800m to the north west positioned in a north east to south west orientation.

### 3.2 Groundwater Resources & Hydrogeology

The superficial deposits underlying the site are classified by NRW as a Secondary (Undifferentiated) Aquifer, usually assigned in cases where it has not been possible to attribute either category A or B to a rock or soil type, due to the variable characteristics of the geology.

The bedrock geology underlying the site is classified by NRW as a Secondary (B) Aquifer - these aquifers may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

The intrinsic groundwater vulnerability beneath the site is classified by NRW as Medium - this means groundwater is regarded as a medium priority resource benefitting from some natural protection.<sup>2</sup> This risk category takes into consideration the likelihood of a pollutant reaching the groundwater, the type of aquifers present (e.g. superficial or bedrock) and the sensitivity of those aquifers. The classification is precautionary and provides the most vulnerable class from either the superficial or bedrock aquifer within a 1km<sup>2</sup> area. In addition, the site is not located within a groundwater Source Protection Zone ("SPZ"), there are no groundwater abstractions within 1km of the site or a Drinking Water Protection Area ("DrWPA").

#### Key Points

The site is underlain by a Secondary (Undifferentiated) Aquifer for superficial geology and a Secondary (B) Aquifer for the underlying bedrock geology with the intrinsic groundwater vulnerability being classified by the NRW as Medium. Furthermore, the site is not located within an SPZ, groundwater is not abstracted locally for potable usage nor a DrWPA within 1km of the boundary. Based on this information, the hydrogeological regime for the site is not considered to be sensitive.

## 3.3 Ground Stability

**Important Note:** The following information does not constitute a full appraisal of the geotechnical bearing properties of the soils underlying the site. In the event of any future development taking place on the site the developer would be responsible for undertaking the necessary investigation so satisfy themselves and the regulatory authorities that the ground conditions and foundation solutions being proposed are fit for purpose.

## Natural Ground Stability Hazards

BGS natural ground stability records reported within the Environmental Data Searches are summarised in Table 8.

Table 8 - Natural Ground Stability Hazards

Hazard Type	Hazard Potential
Collapsible Ground Stability	Very Low
Compressible Ground Stability	Negligible (No Hazard)
Dissolution Ground Stability	Negligible (No Hazard)
Landslide Potential	Low
Running Sand	Very Low
Shrinking or Swelling Clay	Very Low
Overall Maximum Subsidence Hazard Rating	Very Low

<sup>2</sup> Based on the *simplified* groundwater vulnerability mapping. Note that the maps provide intrinsic vulnerability and therefore the vulnerability classification does not take into account and site specific information such as current or intended activities or the specific characteristics of pollutants which may be present. The vulnerability assessment is based on how pollutants released **at the soil surface** by an activity are transported down to the water table taking into account protective layers and properties; the assessments do not consider the release or existing presence of pollutants beneath the soil surface.

#### Key Points

Based on information held within the Environmental Data Searches, the overall natural ground stability risk is considered to be Very Low. As such, this risk rating should not deter investment nor development.

## Mining & Quarrying Hazards

### Coal Mining

Reference to the Coal Authority Interactive Map View indicates that the site is not within a coal mining reported area.

### Other Mining and Quarrying

It is known after a review of historical mapping (Section 2.3) that clay pits were present 10m to the east of the site. However, the Environmental Data Searches state that hazards presented by non-coal mining features are highly unlikely.

#### Key Points

The site is not reported to be within a coal mining reported area. The area used for a clay pit to the immediate east of the site unlikely to have affected the land quality of the site based on the small scale and the proximity to the boundary. In addition, the Environmental Data Searches state that no hazards are present within the surrounding area from non-coal mining activities.

## 3.4 Ground Gas

Common sources of hazardous ground gases include:<sup>3</sup>

- Made ground
- Infilled ponds
- Underlying natural strata (e.g. alluvial peat, chalk, worked coal measures)
- Off-site landfills

There is little evidence of typical ground-gas generating sources beneath the site, although identified off-site sources (the adjacent historic landfill associated with the clay pits) has the potential to give rise to low volumes of methane and carbon dioxide. When taking into account the low permeability of underlying site strata (glacial soils), the local topographic gradient down-sloping away from site and the permitted nature of the former landfill, the ground gas generation potential on site is estimated to be Very Low.<sup>4</sup>

#### Key Points

Ground gas in the form of methane and carbon dioxide arising from the historic land fill 10m to the east of the site could potentially migrate onto site. However, based on the fact that the site is underlain by

<sup>3</sup> Wilson, et al. 2007. Assessing Risks Posed by Hazardous Ground Gases to Buildings. CIRIA C665.

<sup>4</sup> BS8576:2013 Figure 6 – Decision Matrix for Initial Monitoring.

impermeable strata and that the topography of the land is falling away from the site, ground gas is unlikely to migrate onto the site. As such, ground gas is not considered to be an issue at the site.

### 3.5 Radon Potential

The Environmental Data Searches include a search of the Definitive Radon Potential Map for Great Britain and Northern Ireland, created jointly by Public Health England (PHE) and the BGS, using long-term radon measurements made in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological map data.

The Definitive Radon Potential Map indicates that the site is not in a Radon Affected Area (less than 1% of properties are above the Action Level). No radon protection measures are required by Building Regulations (England & Wales).

### 3.6 Unexploded Ordnance

Ashfield has consulted the online ZeticaUXO Unexploded Bomb (UXB) risk maps. The maps provide a high level indication of the potential for UXB to be present as a result of World War Two (WWII) bombing and is intended to help inform whether further more detailed research by a UXO specialist is required. The database used for the mapping includes records from the central government (National Archives), local authority archives, the Ministry of Defence, and the German Luftwaffe.

The site is situated within a low risk region (bombing density <10 per 1,000 acres). In general, should the site be redeveloped, further action is not necessary.

## 4 Preliminary Risk Assessment

### 4.1 Introduction

This section provides a preliminary risk assessment for potential land contamination present at the site. The assessment of risk from land contamination in the United Kingdom is based around the development of a Conceptual Site Model (CSM). Where no ground investigation information is available for a site, the CSM is usually limited to basic desk-based information. The aim of the initial, or outline, CSM is to support the identification of plausible relationships between potential contaminants at a site, pathways by which those contaminants may migrate, and receptors which may be impacted by contaminants (such as people or sensitive groundwater). All three components must be present for there to be a viable contaminated land risk: a Contaminant, a Pathway and a Receptor.

- Contaminant – Contamination that has the potential to impact human health and/or the environment;
- Pathway – The route by which the contaminant may come into contact with human health or the environment; and
- Receptor – Receptors are typically humans or the environment (e.g. water resources) that could be affected by the contamination.

If a plausible CPR linkage is present, then the degree of risk is assessed using a tiered risk-based approach. A Preliminary Risk Assessment (PRA) defines whether there are plausible pollutant (CPR) linkages present; and uses a qualitative approach to evaluate whether there is a potential risk which may require further investigation or mitigation. At the PRA stage, subjective terms (e.g. low to high) are used to describe the estimation of risk.

*i* Note: There is no statutory definition of what constitutes, for example, a low or high risk – these are subjective terms and different stakeholders may have different perceptions of risk.

Where a PRA has determined that further works are required, this normally comprises one or more phases of intrusive site investigation followed by additional tiers of generic- and detailed-quantitative risk assessment.

It is important to note that the overall risk assessment process is often an iterative one – more detailed assessment may raise issues that require earlier tiers to be revisited. The process within each tier may also be iterative, especially when information is evaluated and gaps are identified in the knowledge needed to make a particular decision. In this case, approaches taken earlier within the tier may need to be reappraised.

In this assessment a PRA has been undertaken using qualitative approaches to establish the overall risk posed by the site in the context of a proposed commercial/industrial end-use.

### 4.2 Pollutant Linkage Assessment

The context of our assessment is that the site is to be redeveloped for an industrial end-use. In our pollutant linkage assessment we have considered specific areas of the site where contamination may be present as well as more ‘general’ conditions, typical of brownfield or industrial sites.

Potential Contamination Sources	
On-site	<ul style="list-style-type: none"> <li>■ CONTEMPORARY: No contemporary potential contamination sources identified.</li> <li>■ HISTORICAL: No historical contamination sources identified.</li> </ul>
Off-site	<ul style="list-style-type: none"> <li>■ CONTEMPORARY: No contemporary potential contamination sources identified.</li> <li>■ HISTORICAL: Infilled clay pits on eastern side of site used as landfill, where deposited waste comprised predominantly inert construction waste such as brick and concrete etc.</li> </ul>

Potential Receptors	
Human Health	<ul style="list-style-type: none"> <li>■ Site Occupiers – ongoing use</li> <li>■ Third Parties (i.e. neighbours).</li> <li>■ Maintenance and construction workers.</li> </ul>
Controlled Waters	<ul style="list-style-type: none"> <li>■ Groundwater Resources –aquifers classified to secondary B for bedrock geology.</li> <li>■ Surface Water –Water ways are near to site, however due to side being raised effect on the proposed structures is unlikely.</li> </ul>
Built Environment	<ul style="list-style-type: none"> <li>■ Buildings and buried services.</li> </ul>
Ecological Systems	<ul style="list-style-type: none"> <li>■ No significant ecological systems identified.</li> </ul>

Potential Pathways & Pathway Viability	
Human Health	<ul style="list-style-type: none"> <li>■ Negligible to low potential for ingestion, inhalation and/or dermal contact from contaminated soil and dust.</li> <li>■ Negligible to low potential for ingestion of vegetables and soils attached to home grown produce.</li> <li>■ Negligible potential for permeation of potable water supplies.</li> <li>■ Negligible potential for inhalation of vapours from contaminated soils or groundwater.</li> </ul>
Controlled Waters	<ul style="list-style-type: none"> <li>■ Groundwater as receptor – Low potential for leaching from contaminated soils and migration to underlying groundwater; migration to wider aquifer and to abstractions where present.</li> <li>■ Surface Waters &amp; Dependant Ecosystems – Low potential for migration of groundwater contamination to identified surface waters including prior leaching from contaminated soils.</li> </ul>
Built Environment	<ul style="list-style-type: none"> <li>■ Negligible potential for preferential pathways along existing or abandoned services, drains, conduits, boreholes, etc.</li> <li>■ Negligible potential for damage via contact with building materials.</li> </ul>

## 4.3 Preliminary Risk Classification

*i* The overall land contamination risk estimation in the context of the proposed redevelopment of the site is *Low*. The likelihood of the site reaching the statutory tests for designation as “Contaminated Land”, under Part 2A of the Environmental Protection Act 1990, is considered to be *Low*.

This overall classification is based upon the following key factors:

- The low risk posed by the former landfill that was present to the immediate east of the site.
- Based on a review of desk-top sources and confirmed from the site inspection, the site contamination source potential is considered to be low.
- The lack of any historic contamination sources based on the sites use as purely for agricultural purposes.
- The low risk of subsidence hazards present at the site.
- The sites hydrogeological regime is conserved to be of relatively low sensitivity based on
- The likely low ground gas generation potential of the localised underlying made ground and natural strata.
- No statutory designated or protected environmental features in the immediate vicinity of the site.
- Low sensitivity character of the proposed development.

## 4.4 Recommendations

*i* On the basis of our assessment Ashfield does not consider that any further contamination assessment works are required to facilitate the proposed development.

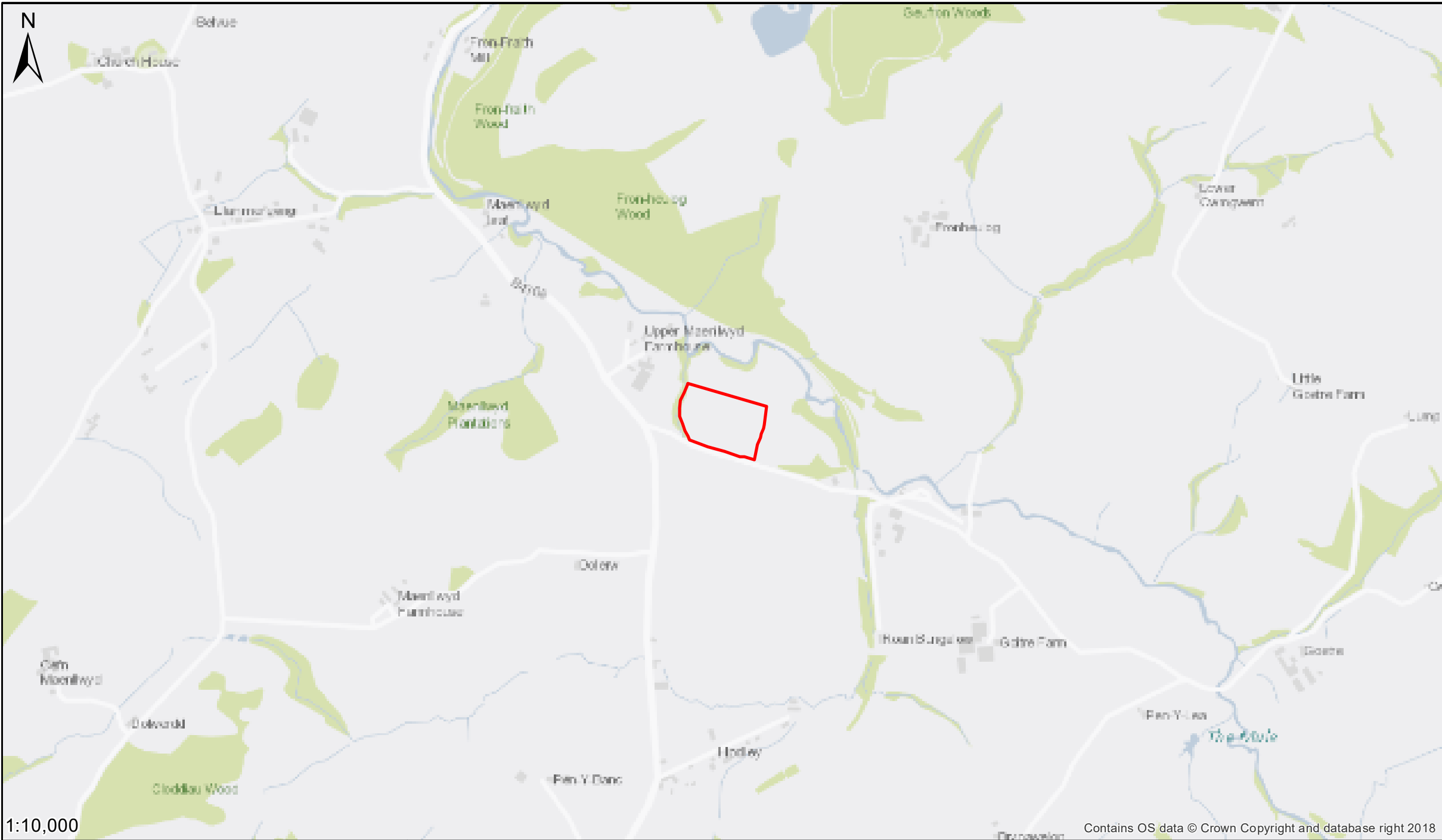


FOR MORE INFORMATION OR GUIDANCE  
PLEASE CONTACT US.

INFO@ASHFIELDSOLUTIONS.COM | +44 (0)845 873 1466

## Drawings

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Legend

- Site Boundary
- Site Location

Client  
  
Gwyn Jones and Partners  
c/o Roger Parry & Partners LLP

Project  
  
Proposed Poultry Installation,  
Land at Upper Maenllwyd Farm, Kerry,  
Newtown, Powys, SY16 4NB

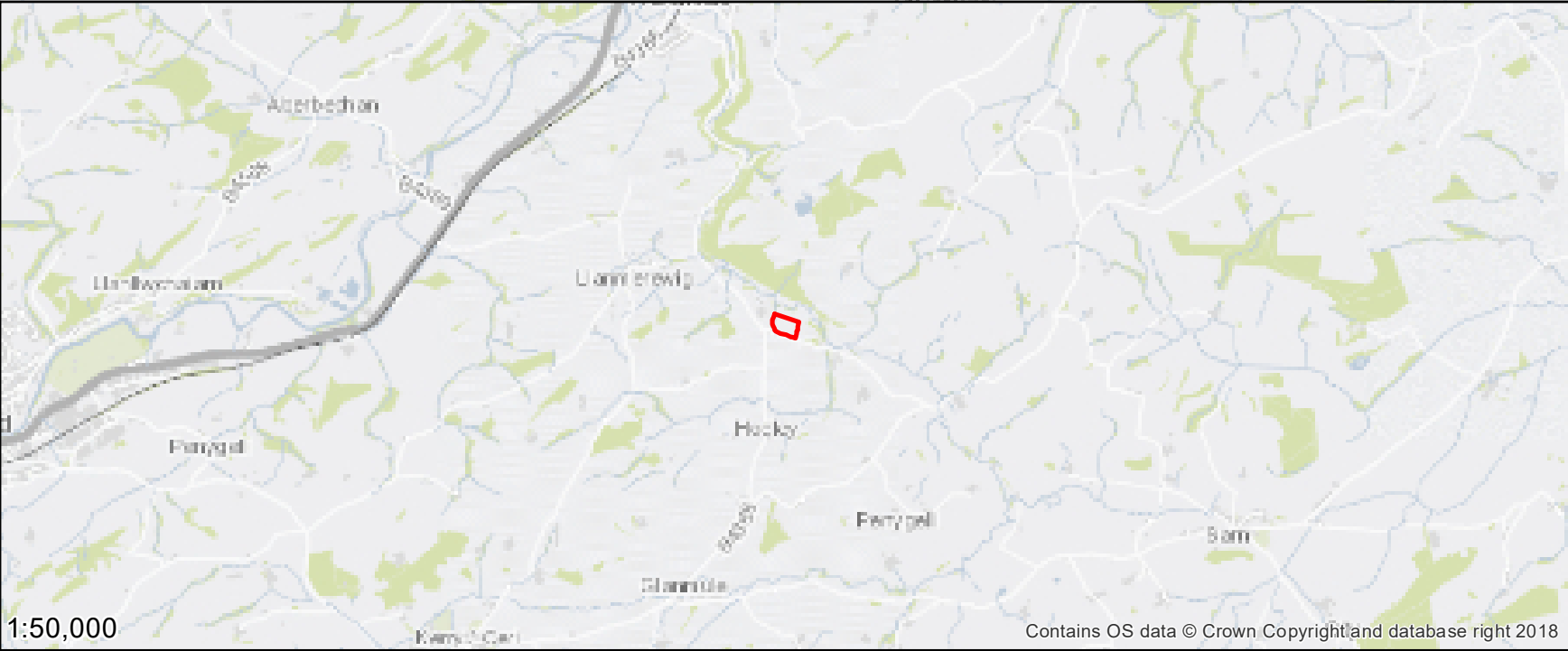
Title  
  
Site Location Plan

Report No. 105419-S01	Drawing No. 01	Revision -
Scale As Shown	Date 23/05/2019	Frame Size A3
Produced by TP	Drawn by TP	Approved by PW



1:500,000

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Legend

-  Site Boundary
-  BGS Recorded Landfill Site
-  EA Historic Landfill Site

Client

Gwyn Jones and Partners  
c/o Roger Parry & Partners LLP

Project

Proposed Poultry Installation,  
Land at Upper Maenllwyd Farm, Kerry,  
Newtown, Powys, SY16 4NB

Title

Site Features Plan

Report No. 105419-S01	Drawing No. 02	Revision -
Scale 1:1,500	Date 23/05/2019	Frame Size A3
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UNLOCKING VALUE THROUGH INDEPENDENCE



Legend

Site Boundary

↑ Photo Locations

Client

Gwyn Jones and Partners  
c/o Roger Parry & Partners LLP

Project

Proposed Poultry Installation,  
Land at Upper Maenllwyd Farm, Kerry,  
Newtown, Powys, SY16 4NB

Title

Photographic Locations Plan

Report No. 105419-S01	Drawing No. 03	Revision -
Scale 1:1,250	Date 23/05/2019	Frame Size A3
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## Appendices

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# Appendix A

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## Photographic Records



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1. Facing west offsite along the southern boundary of the site.
2. Looking north east from the south east corner of the site.
3. Entrance of the adjacent historic landfill to the east of the site.
4. Gated entrance of the adjacent historic landfill.
5. Facing west onsite along the southern boundary of the site.
6. Facing east along the southern boundary of the site.

Client: **Gwyn Jones and Partners c/o Roger Parry  
and Partners LLP**  
Site Photographs Taken on: **17/05/2019**  
Site: **Land at Upper Maenllwyd Farm**





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7. View of the north east of the site.
8. View of the northern portion of the site.
9. View towards the north west of the site.
10. Position at the centre of the site facing towards the northern boundary.
11. Facing north along the eastern boundary of the site.
12. Looking towards the north west of the site from the south east.

Client: **Gwyn Jones and Partners c/o Roger Parry  
and Partners LLP**  
Site Photographs Taken on: **17/05/2019**  
Site: **Land at Upper Maenllwyd Farm**



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- 13. Facing north towards the southern boundary.
- 14. Positioned on the western boundary looking north towards the north western corner of the site.
- 15. View of adjacent land to the north.
- 16. View of adjacent land to the north.
- 17. The River Mule 90m to the north of the site.
- 18. Additional view of The River Mule to the north.

Client: **Gwyn Jones and Partners c/o Roger Parry and Partners LLP**  
 Site Photographs Taken on: **17/05/2019**  
 Site: **Land at Upper Maenllwyd Farm**



19. Additional view of the River Mule to the north.

20. View onsite facing south west towards the south west corner of the site.

Client: **Gwyn Jones and Partners c/o Roger Parry  
and Partners LLP**

Site Photographs Taken on: **17/05/2019**

Site: **Land at Upper Maenllwyd Farm**

## Appendix B

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### Proposed Poultry Units Location Plan

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