Site Condition Report

Home Farm Grange

November 2025

Project No.: SOL_25_P007_ENG

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Document Details	
Document Title	Site Condition Report
Document Subtitle	Home Farm Grange
Project No.	SOL_25_P007_ENG
Date	November 2025
Version	QMS_7.5.38_TEM – Template – Report Long Form – New Style (Perm) v5
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Client Name	Engie Renewable Gases UK Ltd

Document History				
Version	Comments	Date	Author Initials	Reviewer Initials
I1	Issue to EA	November 2025	RM	EH

Signature Page

November 2025

Site Condition Report

Home Farm Grange



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Acronyms and Abbreviations

Name	Description
AD	Anaerobic Digestion
BGS	British Geological Survey
CHP	Combined Heat and Power
EA	Environment Agency
EPR	Environmental Permitting (England and Wales) Regulations 2016 (as amended)
EWC	European Waste Catalogue
SCR	Site Condition Report

1. INTRODUCTION

This Application Site Condition Report (ASCR) has been prepared by Sol Environment Ltd on the behalf of Engie Renewable Gases UK Ltd (hereafter referred to as "*Engie*") in support of a bespoke permit application for their proposed site located on land east of A162, Low Farm, South Milford, Sherburn in Elmet, LS25 6FW.

This document represents the ASCR submitted to the Environment Agency as part of the permit application package and relies on information supplied by the site and various third-party information sources (See Section 2).

Engie is planning to undertake the construction, development, and eventual operation of an Agricultural Anaerobic Digestion (AD) Facility. This project aligns with the broader goal of promoting sustainable energy solutions and reducing reliance on fossil fuels while supporting local agricultural practices.

Engie's proposed AD plant will accept up to 100,000 tonnes per annum of feedstock including manures and slurries, maize, silage, whole crop rye, vegetable waste and potato rejects from Home Farm and other local farms. Biogas produced by the digestion process will primarily be upgraded to biomethane for injection into the local distribution network, with onsite utilisation in a biogas boiler to provide energy to the site processes at start up and at times of extreme cold weather. Additionally carbon dioxide removed from the biogas during upgrading will be exported for use in the food and drinks industry. Energy required onsite will be provided by two onsite natural gas generators (250kWth).

The AD facility will meet the definition of an 'Installation' under the EPR Regulations by virtue of Schedule 1, namely;

Section 5.4 Part A(1)(b)(i) *Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving Biological Treatment*

The site will also operate a number of Directly Associated Activities (DAA's) onsite which will include all waste storage, biogas upgrading, raw material storage and handling, combustion plant operation, emergency flare, carbon dioxide liquefaction, wastewater management and surface water discharge.

This document has been prepared in accordance with the Environment Agency's (EA's) Guidance Document H5 Site Condition Reports Guidance and Templates (Version 5.0, dated October 2014). This report provides baseline information in relation to the site.

2. SITE DETAILS

Table 2.1: Site Details	
Name of the Applicant:	Engie Renewable Gases UK Ltd
Activity Address:	land east of A162, Low Farm, South Milford, Sherburn in Elmet, LS25 6FW
Grid Reference:	SE 50420 32210

Document References:	EP Application Site Condition Report, Engie Renewable Gases UK Ltd Document reference and date: SOL_25_P007_ENG November 2025
Annexes:	Annex A: Figures Annex B: Groundsure Report Annex C: Ground Investigation Report

2.1 Site Location & Description

The proposed site is located at Land East of A162, Low Farm, South Milford, Sherburn in Elmet, LS25 6FW.

The National Grid Reference for the centre of the proposed site is SE 50420 32210.

The site currently comprises an undeveloped agricultural field, bound by Mill Dike to the west, an existing Anaerobic Digestion Facility to the northeast and a railway line to the south.

2.2 Context

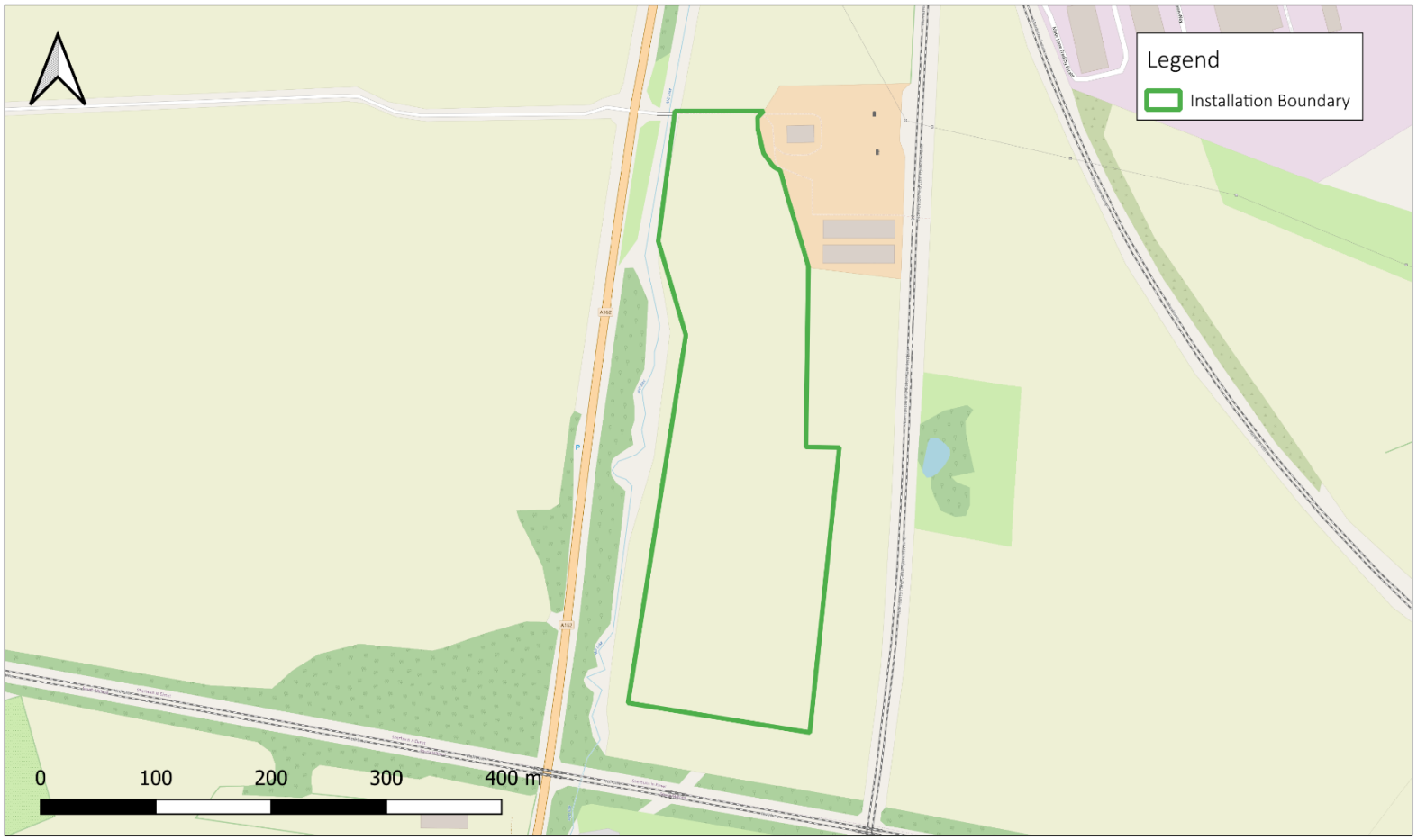
The site is located in a predominantly agricultural landscape, with industrial and commercial units to the north and the villages of Sherburn in Elmet to the north and South Milford to the south. Table 2.1 outlines the surrounding site setting in greater detail, including features in the immediate vicinity, within 500m and beyond 500m of the proposed site.

Table 2.1 Site Setting

Direction	Description
North	Immediate Vicinity: Agricultural Land, Low Farm Energy AD Plant Within 500m: Agricultural Land, Bypass Park Estate, Commercial Units including YDL Distribution, David Wattson Transport, and Bishop's Move York Beyond 500m: Agricultural Land, Residential housing and local amenities in Sherburn in Elmet, A162 Road, Surface Water Lagoon, commercial units including The Great Bear, Esterform Packaging, and Sherburn Motor Spares
East	Immediate Vicinity: Agricultural Land, small woodland block Within 500m: Agricultural Land, Railway Line Beyond 500m: Agricultural Land, Sherburn in Elmet Airfield Airport (EGCJ), Breeze Aviation Services Ltd, Gascoigne Wood Power Plant
South	Immediate Vicinity: Agricultural Land, Railway Line Within 500m: Agricultural Land, Maltings Tea Rooms, Floosie Brow Artist, Woodhaven Boarding Kennels and Cattery Beyond 500m: Amur AD Plant, The Maltings Organic Treatment, Residential Housing and local amenities in South Milford, Agricultural Land, Railway Line
West	Immediate Vicinity: Mill Dike Within 500m: A162 road, Agricultural Land, small woodland

	Beyond 500m: Residential housing on Milford Road, Tadcaster Timber Products, Agriclutral Land, South Milford railway station, YWT Sherburn Willows Nature Reserve,

The nearest residential areas to the site are on Mill Lane, located approximately 150m south of the site boundary.



Project Number: SOL_25_P007_ENG Doc Ref: Annex B - Site Plans Map Title: Installation Boundary Date: 26/03/2025 Drawn by: RM Checked by: EH	Site Address: Land East of A162, Halstow Energy AD Facility Low Farm South Milford Sherburn in Elmet LS25 6FW	1. Do not scale off this drawing 2. All dimensions to be confirmed on site 3. This drawing is copyright of Sol Environment Ltd 4. This drawing is to be read in conjunction with relevant consultant drawings and specifications 5. QMS Reference: QMS_7.5.39_TEM - Template - GIS Drawing - Horizontal v1

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Figure 2.1 - Installation Boundary

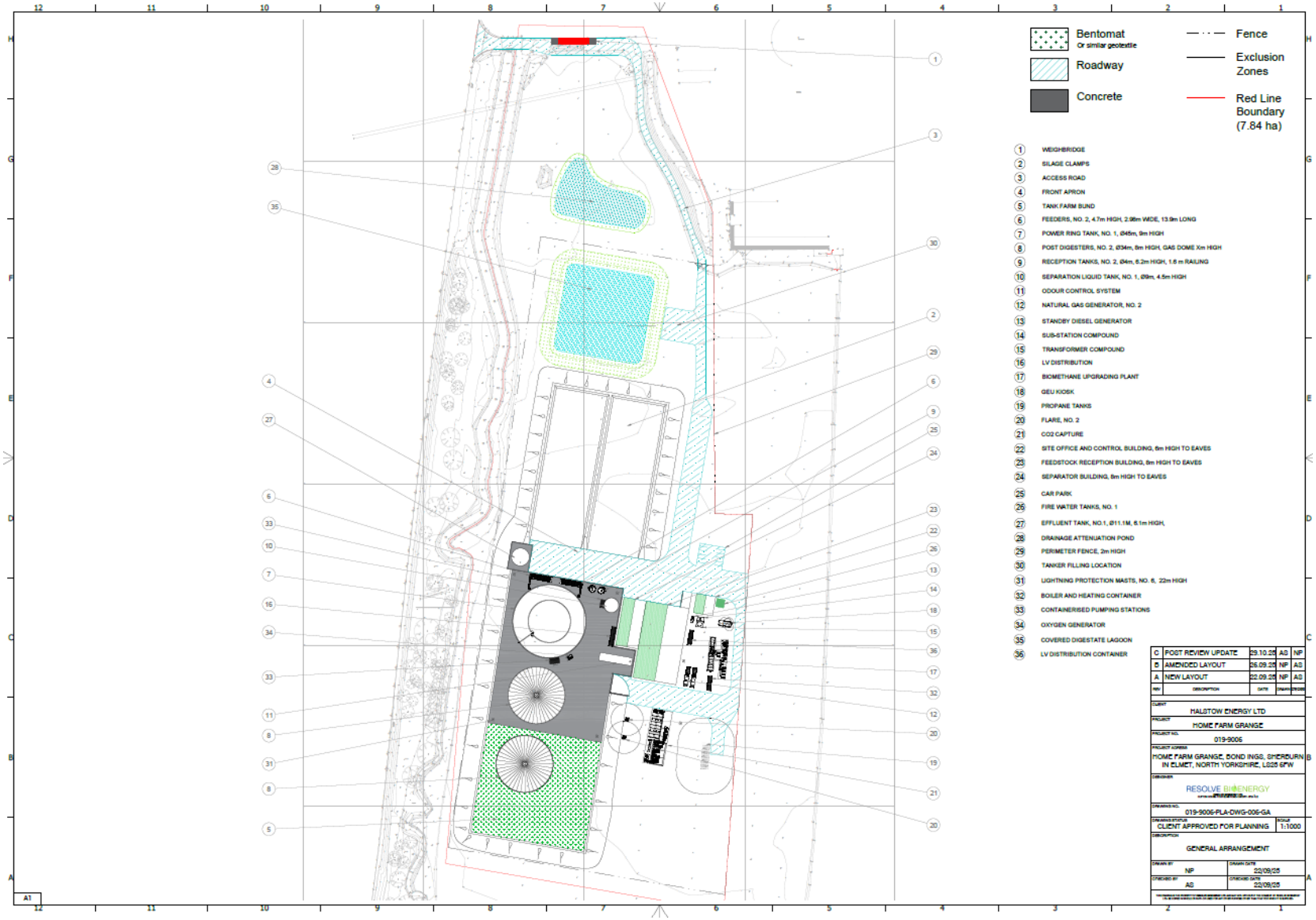


Figure 2.2 - Installation Layout Plan

3. CONDITION OF LAND AT PERMIT ISSUE

3.1 Environmental Setting

Desk-based research of the local geology, hydrogeology and surface waters has been carried out in order to establish the potential for migration of contamination onto or away from the Site, and to assess the surface water and groundwater sensitivity of the site area. Information was obtained from a number of sources, namely:

- *Environment Agency Flood Risk Map;*
- *Information provided by Groundsure Report (Annex B);*
- *Geological maps produced by the British Geological Survey (BGS) and the BGS Geology of Britain Viewer (http://maps.bgs.ac.uk/geologyviewer);*
- *MAGIC (http://magic.defra.gov.uk); and*
- *BGS Borehole Record Viewer (http://www.bgs.ac.uk/data/boreholescans/home.html).*

3.1.1 Geology

The British Geological Survey (BGS) states that the site is largely underlain by superficial geology of the Hemingbrough Glaciolacustrine Formation - Clay, Silty, Peaty, Sandy. This is described in the BGS Lexicon as *"unfossiliferous laminated clays, silts and sands with rare dropstones (typically fine-grained pale coloured sandstone, grey limestone and dark mudstone*)."

A small portion of the south-western area of the site is underlain by superficial geology of Alluvium - Clay, Silt, Sand And Gravel. This is described in the BGS Lexicon as "*a general term for clay, silt, sand and gravel. It is the unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope. Normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present."*

The bedrock at the site comprises of the Brotherton Formation – Dolomitic Limestone. This is described in the BGS Lexicon as, *"limestone, dolomitic, grey with abundant Calcinema."*

A normal fault is present running east – west approximately central to the site.

Made Ground

No Made Ground is present on site, however 20 records have been found within 500m of the site. The closest of these can be found 30m north and is likely associated with the development of Low Farm.

Radon Potential

According to UKradon the site is in an area where some parts of the 1km square are in bands of elevated radon potential, maximum potential of 1-3%. The Groundsure dataset has a smaller scale (accurate to within 50m) and identifies that the site is in an area with less than 1% properties affected by radon. Radon protection measures are therefore not considered necessary.

Shrink Swell

The maximum shrink swell hazard rating identified on the application site is low.

Landslides

The maximum landslide hazard rating identified on the application site is very low.

Soluble Rocks

The maximum soluble rock hazard rating identified on the application site is low.

Compressible Ground

The maximum compressible ground hazard rating identified on the application site is moderate.

Collapsible Rocks

The maximum collapsible rocks hazard rating identified on the application site is very low.

Running Sands

The maximum running sand hazard rating identified on the application site is Negligible.

There are no mining or ground working records onsite, though it is noted that the site is in a coal mining area as defined by the Coal Authority.

3.1.2 Hydrogeology

The Hemingbrough Glaciolacustrine Formation superficial deposits at the site are classified by the EA as an "Unproductive Aquifer". This is defined as rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. The Alluvium superficial deposits at the site are classified by the EA as a "Secondary A Aquifer". In contrast to an unproductive aquifer, a Secondary A Aquifer is defined as "permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers". This type of aquifer is formerly classified as a minor aquifer".

The bedrock is classified by the EA as a Principal Aquifer. This is defined as having "high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale." This type of aquifer is often strategically important rock units that have high permeability and water storage capacity.

The site has medium Groundwater Vulnerability.

The Wharfe Magnesian Limestone WFD Groundwater body on site is rated as 'poor' by the EA.

According to the latest Groundsure report, there are 38 recorded groundwater abstractions for over $20m^3$ per day located within 2 km of the site, though only 2 of these are actively licenced. The closest active licence is operated by Jane Elizabeth Ward and Kathryn Helen Parkin, located 363m south of the site and utilised for spray irrigation. The next closest is 1463m west of the site.

The site is not within a Groundwater Source Protection Zone.

The site lies within a Groundwater Nitrate Vulnerable Zone, namely *Yorkshire Mag Limestone.*

The majority of the site has a high groundwater flood risk.

The site is considered to have moderate to high sensitivity with regards to groundwater due to being underlain by a principal aquifers in a Nitrate Vulnerable Zone, and a high risk of groundwater flooding.

3.1.3 Surface Waters

The nearest surface water feature is Mill Dike, located 20m west of the site. The closest main water body is the River Aire located 1.6km to the west. The site is within the Wharfe and Ouse Lower Management Catchment.

There is 1 surface water abstraction on site. This abstraction is by J Bramley and Son and is for a maximum daily volume of 324m^3. This licence is due to expire 31st March 2026 and is licenced for the purpose of spray irrigation. There are 6 further recorded EA licensed surface water abstractions within 2km of the site, 3 of which are active. The closest of which is 604m north, licenced to J Bramley and Son for abstraction from a tributary of Mill Dike drain for the purposes of spray irrigation. This licence allows for up to 900m^3 per day.

The site is located with a surface water nitrate vulnerability zone, namely *Selby Dam from Conf. Fox Dike & Carr Dike to Ouse NVZ.*

The site is within a Flood Zone 1, with low probability of flooding from rivers or the sea.

The site is considered to be in an area of high sensitivity regarding surface water due to the proximity of watercourses and location within an NVZ.

3.1.4 Designated Sites

Environment Agency H1 and H5 guidance states that the potential impacts of the site should be assessed for the following habitat sites within 10km of the Installation:

- *Special Areas of Conservations (SACs) and candidate SACs (cSACs) designated under the EC Habitats Directive;*
- *Special Protection Areas (SPAs) and potential SPAs designated under the EC Birds Directive; and*
- *Ramsar Sites designated under the Convention of Wetlands of International Importance.*

It is also stated that within 2km of the Source:

- *Sites of Special Scientific Interest (SSSI) established by the 1981 Wildlife and Countryside Act;*
- *National Nature Reserves (NNR);*
- *Local Nature Reserves (LNR);*
- *Local Wildlife Sites (LWS), County Wildlife Sites (CWS) and potential wildlife sites (PWS);*
- *Sites of Importance for Nature Conservation (SINC); and*
- *Ancient Woodland.*

Information from the Multi Agency Geographic Information for the Countryside (MAGIC) website (http://magic.defra.gov.uk/) has been used to obtain the above information.

The only designated ecological receptor within the appropriate screening distance to the site is Sherburn Willows SSSI, located approximately 1.5km west of the site.

There are no European-level protected sites within 10km of the site.

The site is located within the South and West Yorkshire Green Belt.

The proposed operation will have little environmental emissions to land or controlled waters and emissions to atmosphere are well managed and controlled, therefore it is the conclusion of this assessment that there will be no direct or indirect effects on any of the statutory sites described above.

3.2 Pollution History

3.2.1 Environmental Database Records

The following information has been obtained from a search of a publicly available database of environmental information (Groundsure Report obtained is provided in Appendix B).

The database contains records of information from public registers held by environmental regulatory authorities and can be used to assess the site's sensitivity, the potential for neighbouring activities to pose a risk to the site and to determine whether specific records of pollution relate to the subject site.

3.2.2 Pollution Incidents

There are three record pollution incidents within 500m of the site, the closest of which is 348m northeast and involved the release of unidentified oil. This incident took place in 2002 and caused a category 3 (minor impact) water pollution event, and a category 4 (no impact) event to land and air. The most recent event took place in 2003, 453m south and involved the release of crude sewage. This incident caused a category 3 (minor impact) water pollution event, and a category 4 (no impact) event to land and air.

3.2.3 Potentially Contaminative Industrial Sites

There are 2 recorded potentially contaminative industrial sites within 250m of the application. These comprise the Biogas Power Station 38m northeast and a Telecommunication mast 48m south.

3.2.4 Landfills and Waste Sites

There are no active or historic landfills on site or within 500m of the site boundary.

There are 2 waste sites within 500m of the site, the closest of which is 24m north of the site. This waste site is an on-farm anaerobic digestion facility called Low Farm, permitted under EPR/EB3305FS.

There are 14 recorded waste exemptions within 500m of the site. The closest of these are for the disposal of agricultural waste at Ash Tree Farm located 252m southwest. Waste disposal exemptions held at Ash Tree Farm are for burning in the open, deposit of waste from dredging of inland waters and treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising.

3.2.5 Discharge Consents

There are no licenced discharges to controlled water within 500m of the site.

3.2.6 Authorised or Permitted Processes

Other than the Low Farm AD Facility (24m north) there are no other records of authorised or permitted processes within 500m of the site. The Low Farm AD permit limits the site to 25,000 tonnes per annum of farm wastes only.

3.2.7 Radioactive Substance Authorisations

There are no radioactive substance authorisations within 500m of the site.

3.2.8 Historical Land Uses

The historical development of the site has been determined by reference to historical plans and Google Earth imagery. Earliest available historical mapping covering the site dates back to 1850. Historical land uses are summarised in Table 3.1 below.

Table 3.1 - Summary of Historical Land Use

Date	On site	Within 500m
1850	Undeveloped agricultural land	York and North Midland Railway line situated approximately 100m to the west of the site, and Leeds and Selby Railway line situated approximately 100m to the south of the site. Surrounding land is agricultural.
1892	No change	Low Farm constructed adjacent to the site. No other significant changes.
1908	No change	Sewage Works Constructed approximately 350m south of the site. Football ground constructed approximately 400 southwest of the site. No other significant changes
1950	No change	Railway Wagon Works constructed approximately 350m northeast of the site. Airfield located beyond.
1957-1958	No change	Railway Wagon Works expanded in size to the north. Airfield noted as disused.
1967	No change	No significant changes
1981-1986	No change	Residential properties constructed near Mill Lane approximately 150m south of the site. Railway Wagon Works becomes Moor Lane Trading Estate. No other significant changes
1992-1994	No change	A162 constructed adjacent the site. This is the first significant development in close proximity since the construction of Low Farm. Moor Lane Trading Estate expands with the addition a several new buildings.
2001	No change	No significant changes
2010	No change	No significant changes
2025	No change	Access road constructed to the north of the site and stretching westward from the A162.

Potentially contaminative historical land uses have been summarised in the table below. Please refer to Annex B for the historical maps.

Table 3.2 Potentially Contaminative Land Uses

Activity	Contaminants
Onsite	
None	N/A
Offsite	

Railway Line	Various contaminants including heavy metals, organic and inorganics
Low Farm AD Facility	Various contaminants predominantly organics
Airfield	UXO

The site has remained undeveloped agricultural land since the earliest historical mapping, as such it is considered highly unlikely that there has been any potential for land contamination as a result of onsite historical uses.

3.3 Evidence of Historic Contamination

A geo-environmental ground investigation has been undertaken by Rogers Geotechnical Services in July 2025 in order to provide baseline environmental data in relation to the site. The scope of works [excluding geotechnical testing] comprised:

- 5 no. cable percussive boreholes to a maximum depth of 15mbGL;
- 23 no. window sample boreholes to a maximum depth of 7mBGL;
- 22 no. trial pits to a maximum depth of 3mbGL;
- Installation of 5 groundwater monitoring wells; and
- Environmental Sampling of 5 number of soil samples.

The locations of the boreholes and trial pits were situated so as to provide wide site coverage.

The suite of chemical analysis was based upon potential contaminants of concern (CoCs) due to site history and soil samples were tested for asbestos, pH, metals, sulphate, cyanide, PAHs, TPH and soil organic matter.

Please refer to the report provided in Annex C of this report for detailed results of the fieldwork investigation. A brief summary of the baseline conditions at the site is provided below.

Ground Conditions

Investigations at the site encountered superficial deposits comprising alluvium to a maximum depth of 1.5mBGL, underlain by the Hemingbrough Glaciolacustrine Formation comprising clay, silt and sand to a maximum depth of 6.45 mBGL. Further bedrock underlying this was identified as the Brotherton Formation comprising grey dolomitic limestone.

No Made Ground was identified onsite.

Groundwater

Groundwater was generally encountered at the interface of the superficial glaciolacustrine deposits and underling granular weather bedrock at depths of around 6mBGL. Groundwater rose to within 0.5 of the surface suggesting the potentio-metric groundwater head may be at or close to the surface and indicating that the glaciolacustrine deposits may be acting as a confining layer to the underlying groundwater.

Soil Chemical Analysis Results

Five samples were subject to chemical analysis. No widespread evidence of contamination was observed, with results compared to the relevant screening values for commercial end use. Summary baseline ground conditions are provided in the table below.

Table 3.3 Baseline Ground Conditions

Contaminant	Unit	Min Result	Max Result
Asbestos	-	Not Detected	Not Detected
Inorganics			
pH	pH Units	7.9	8.2
Free Cyanide	mg/kg	<1	<1
Total Sulphate	mg/kg	330	1000
Phenols			
Total Phenols	mg/kg	<1	<1
Polycyclic Aromatic Hydrocarbons (PAHs)			
Total PAHs	mg/kg	<0.8	<0.8
Total Petroleum Hydrocarbons (TPH)			
TPH C5 - C35	mg/kg	<10	<10
Volatile Organic Compounds (VOCs)			
MTBE	µg/kg	<5	<5
BTEX	µg/kg	<5	<5
Heavy Metals			
Arsenic	mg/kg	8.2	11
Cadmium	mg/kg	0.6	0.6
Chromium IV	mg/kg	<1.8	<1.8
Chromium	mg/kg	21	42
Copper	mg/kg	20	37
Lead	mg/kg	16	28
Mercury	mg/kg	<0.3	<0.3
Nickel	mg/kg	29	52
Selenium	mg/kg	<1	<1

Vanadium	mg/kg	29	43
Zinc	mg/kg	58	96

For further detail please see the report in Annex C.

3.4 Supporting Information

The supporting documentation consists of:

- Figures detailing the location, boundary and layouts of the Installation are shown in Annex A;
- Groundsure Report is provided in Annex B;
- Ground Investigation Report is provided in Annex C.

4. PERMITTED ACTIVITIES

4.1 Proposed Activities Undertaken at the Installation

Engie are making a bespoke permit application for their proposed operation of an agricultural Anaerobic Digestion (AD) plant on a new site located on land east of A162, Low Farm, South Milford, Sherburn in Elmet, LS25 6FW.

Engie's proposed AD plant will accept up to 100,000 tonnes per annum of feedstock including manures and slurries, maize, silage, whole crop rye, vegetable waste and potato rejects from Home Farm and other local farms. Biogas produced by the digestion process will primarily be upgraded to biomethane for injection into the local distribution network, with onsite utilisation in a biogas boiler to provide heat to the site processes when required. Additionally carbon dioxide removed from the biogas during upgrading will be exported for use in the food and drinks industry.

The AD facility will meet the definition of an 'Installation' under the EPR Regulations by virtue of Schedule 1, namely;

Section 5.4 Part A(1)(b)(i) *Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving Biological Treatment*

The site will also operate a number of Directly Associated Activities (DAA's) onsite which will include all waste storage, biogas upgrading, raw material storage and handling, combustion plant operation, emergency flare, carbon dioxide liquefaction, wastewater management and surface water discharge.

The proposed anaerobic digestion process can be summarised as follows:

- *Feedstock Reception and Storage:* All wastes will be subject to the sites waste pre-acceptance, acceptance and rejection procedures. Incoming wastes such as manures will be delivered to and stored within the feedstock reception building. Energy crops and silage will be stored externally within the silage clamps while liquid feedstocks, such as slurries, will be stored in sealed reception tanks:
- *Digestion:* Solid feedstocks are fed to a sealed unit via hoppers, where they are mixed with the liquid feedstocks and recirculated liquids to create a substrate which is pumped into the processing vessels (digesters). Within the digesters, the substrate is mixed and heated to allow the bacteria to break down the organic matter in the absence of oxygen. During digestion, biogas is continuously produced in the vessels, typically around 55% methane and 45% carbon dioxide:
- *Digestate Separation:* Following digestion, the residual digestate material containing indigestible fibre and nutrients is pumped to a separation system, where the solid fraction is separated from the liquid fraction. Solid digestate is then stored within a segregated Digestate Storage area of the enclosed Separator building and liquid digestate is stored in the engineered covered digestate lagoon prior to being spread to land as fertiliser at the appropriate time;
- *Biogas Upgrading:* The majority of the biogas produced during the process is upgraded to remove CO2 and convert to pure biomethane. Biomethane is a clean renewable gas that is

compliant with the gas grid specifications and regulations. The biomethane is continuously monitored and metered prior to injection into the gas grid;

- *Carbon Dioxide Recovery:* During biogas upgrading, a side stream of clean compressed CO2 is produced. This will be recovered and liquified before being sent offsite to an end user, likely the food and drinks industry;
- *Electricity Production:* Two natural gas generator sets will be utilised to provide electrical power for onsite use; and
- *Biogas Combustion:* A small portion of the gas produced will be combusted in an onsite biogas boiler (560kWth). This will produce heat for start-up and in periods of extreme cold weather when required.

4.1.1 Proposed Permitted Wastes

The European Waste Catalogue (EWC) codes of wastes that will be accepted by the site is provided in **Table 4.1.**

Table 4.1 - Proposed Permitted Wastes

Waste Code	Description
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	Sludges from washing and cleaning – vegetables, fruit and other crops
02 01 03	Plant-tissue waste
02 01 06	Animal faeces, urine and manure (including spoiled fully biodegradable animal bedding)
02 01 07	Wastes from forestry
02 01 99	Wastes not otherwise specified – spent mushroom compost from commercial mushroom growing only
02 03	**Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	Sludges from washing, cleaning peeling, centrifuging and separation (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 03 04	Materials unsuitable for consumption or processing (including waste from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 03 05	Sludges from on-site effluent treatment (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 04	**Wastes from sugar processing**
02 04 01	Soils from washing and cleaning beet
02 04 03	Sludges from on-site effluent treatment; sludges from the processing of sugar
02 05	**Wastes from the dairy products industry**

02 05 01	Materials unsuitable for consumption or processing – biodegradable wastes derived from the processing of dairy products only
02 05 02	Sludges from on-site effluent treatment
02 06	**Wastes from the baking and confectionery industry**
02 06 01	Materials unsuitable for consumption or processing – biodegradable wastes from the processing of materials used in bakery and confectionery
02 06 03	Sludges from on-site effluent treatment; sludges from the processing of materials used in baking and confectionery
02 07	**Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials Wastes from washing, cleaning and mechanical reduction of raw materials – biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
02 07 02	Wastes from spirits distillation – spent grains, hops and whisky filter sheets and cloths, yeast and yeast like residues, sludge from production process, or malt husks, malt sprouts, yeasts and yeast-like residues only
02 07 04	Material unsuitable for consumption or processing – biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
02 07 05	Sludges from on-site effluent treatment – sludges from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
16	**Wastes not otherwise specified in the list**
16 10	**Aqueous liquid waste destined for off-site treatment**
16 10 02	Untreated wash waters from cleaning fruit and vegetables on farm only
16 10 02	Sludges from washing and cleaning fruit and vegetables on farm only
16 10 02	Milk and dairy waste milk from agricultural premises only
16 10 02	Liquor or leachate from a composting or anaerobic process that accepts waste input types listed in these standard rules or composting and anaerobic digestion standard rules only, and in compliance with Animal By-Products Regulations
19	**Wastes from waste management facilities, off-site wastewater treatment plants and preparation of water intended for human consumption/industrial use**
19 02	**Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation**
19 02 10	Glycerol not designated as hazardous – excludes 19 02 08
19 06	**Waste from the anaerobic treatment of waste**
19 06 03	Liquor from anaerobic treatment of municipal waste (from a process that accepts wastes listed in these standard rules or anaerobic digestion standard rules only) and made up of previously pasteurised and stabilised batches only
19 06 04	Digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in these standard rules only and pasteurised)
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste from a process that accepts wastes listed in these standard rules or anaerobic digestion standard rule permits and made up of previously pasteurised and stabilised batches only
19 08	**Wastes from wastewater treatment works**

19 08 09	Grease and oil mixture from oil and water separation containing only edible oils and fats
19 08 12	Sludges from biological treatment of industrial waste water (from a process that treats wastes which are listed in these standard rules only)
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions)**
20 01 25	Edible oils and fats
20 02	**Garden and park wastes (including cemetery waste)**
20 02 01	Biodegradable waste
20 03	**Other municipal wastes**
20 03 02	Waste from markets, allowed only if source segregated biodegradable fractions, such as plant material, fruit and vegetables

4.1.2 Drainage System

The site will operate a segregated drainage system.

Domestic effluent from site welfare facilities will be treated at the onsite package treatment plant and discharged to water course under consent.

Leachate generated during feedstock storage will be collected in a dedicated tank and recirculated through the digestion process. The leachate tank will be an above ground tank, constructed to an approved standard and fitted with leak detection.

Liquid digestate from the process is collected within the digestate lagoon prior to appropriate use as fertiliser. The lagoon will be appropriately engineered, lined, fitted with leak detection and covered in accordance with BAT and appropriate measures. The lagoon will be constructed in accordance with CIRIA 376.

Surface water run-off onsite will be managed in two separate areas dependent upon contamination risk. Run-off from process areas will collect within an attenuation tank and tested prior to discharge to Mill Dike. Run-off from clean areas of site will be directed to the detention basin prior to discharge to Mill Dike. Both surface water discharge outfall are fitted with penstock valves.

4.1.3 Hardstanding

Site surfacing will comprise concrete along all site roadways and process area, with an impermeable bentomat in the area of the post digester.

4.1.4 Tanks And Bunds

All storage tanks will be installed with secondary containment and be designed to comply with the following standards and guidance requirements;

- *Environment Agency Pollution Prevention Guideline Note 2: Above Ground Oil Tanks (PPG2);*
- *Environment Agency Pollution Prevention Guideline Note 11: Preventing Pollution on Industrial Sites (PPG11);*

- *Environment Agency Pollution Prevention Guideline Note 26: Pollution Prevention in the Storage and Handling Drums and Intermediate Bulk Containers (IBC's);*
- *CIRIA 736: Design of Containment Systems for the prevention of pollution;*
- *CIRIA C958: Chemical Storage Tank Systems – Good Practice;*
- *CIRIA 738: Design of Containment Systems for the Prevention of Water Pollution from Industrial Sites;*
- *Environment Agency, Biological Waste Treatment: appropriate measures for permitted facilities.*

The sites process tanks (i.e. reception tanks, digester and post digesters) are located within a bunded area (three sided) to afford additional containment in accordance with CIRIA 736.

4.1.5 Potential for Fugitive Releases to Soil, Groundwater and Surface Water

The materials and substances used onsite may have potential to cause ground or groundwater contamination if not managed effectively.

The following measures have been incorporated into the design of the facility to protect groundwater and soil from onsite substances;

- The entire area will consist of good quality hardstanding;
- All waste storage will be located internally with a waste reception building;
- External feedstock storage is within SSAFFO compliant storage clamps upon a sealed drainage system and covered;
- The AD process is in a sealed reactor unit that offers no opportunity for release;
- Sealed drainage system, fitted with a penstock-type valve, allows for any spills to be contained prior to release;
- Emergency Spill kits will be provided throughout the site and strategically placed in locations;
- All surface water is tested for contamination prior to discharge to Mill Dike. Contaminated runoff and leachate produced is reused in the AD process, and,
- Bunding is present on the western, southern and eastern boundary to prevent uncontrolled runoff from site entering the surrounding environment. This is inline with the assessed topography.

Due to the protection measures mentioned above, the risk to soil and groundwater from the development is considered to be low. In the unlikely event that any of the above measures fail, due to all activities being carried out on impermeable hard standing with a penstock-fitted drainage system, there would be no impact to soil, groundwater and surface water.

Please see the simplified Conceptual Site Model provided below.

Table 4.2 Conceptual Site Model

Contaminant Source	Contaminants of Concern	Receptor	Exposure Pathway Present?	Likelihood of Risk

Historical soil contamination	Specific contaminants associated with nearby railway and AD plant – considered very low risk as none detected during ground investigation July 2025	Construction Workers	Yes – Potential pathway during construction of the site, full PPE will be worn by workers during the construction phase to limit contact.	Very Low – Lack of historical development onsite and distance to potentially contaminative uses (i.e. >100m) limits potential for contamination to have migrated onto site. Use of control measures during construction work should minimise potential exposure. Future works will include appropriate PPE.
		Future Site Users	Yes – Areas of soft landscaping are present in the wider site area.	Very Low – Hardstanding will cover the majority of the site and contamination anywhere onsite is considered unlikely.
		Groundwater	Yes – Leaching of contaminants (if present) by infiltrating rainfall is possible in areas of soft landscaping.	Very Low– Not considered that contamination is present to migrate to underlying principal aquifer
		Surface Water	Yes – Areas of soft landscaping are present in the wider site area allowing dissolution of contaminants into surface water run-off.	Very Low– Not considered that contamination is present to migrate to adjacent surface water body (Mill Dike).
Substances either stored on site, used or generated during processing	Polluting substances stored onsite include: leachate, digestate and diesel	Soil	No – All potentially polluting materials on site will be stored and processed on hardstanding or within sealed tanks / engineered lagoons, with secondary containment where appropriate essentially removing the potential for contamination of this receptor.	Low – All potentially polluting substances used at the facility are controlled by following strict risk assessment and guidance surrounding the storage, use and removal, thus reducing the risk. The storage areas of the site are covered in hard standing also greatly reducing the risk of pollution.
		Human Receptors	Yes – There is a pathway present for this pollution to occur, with the operation utilising potentially polluting substances.	Low – The management and guidance surrounding storage and use of contaminants helps to reduce this risk to low.
		Surface Water	Yes – There is a pathway present for this pollution to occur, with surface water runoff from the site having the potential to contain polluting substances.	Low – The site will adhere to strict control measures as outline within its EMS to reduce the risk of contamination of surface water run-off. Testing of the surface water discharge prior to release to Mill Dike will be undertaken, ensuring only clean surface water is released. The outfall is further fitted with a penstock valve. Bunding along eth site western boundary further protects Mill Dike.

		Ground Water	No – All potentially polluting materials on site will be stored and processed on hardstanding or within sealed tanks / engineered lagoons, with secondary containment where appropriate essentially removing the potential for contamination of this receptor. However, it must be noted that should integrity of primary containment such as hardstanding be compromised, a number of field drains present within the site area will create a direct pathway along which contamination can travel.	Low - All potentially polluting substances used at the facility are controlled by following strict risk assessment and guidance surrounding the storage, use and removal, thus reducing the risk. The storage areas of the site are covered in hard standing also greatly reducing the risk of pollution. It is recommended that prior to construction, land drains within the site area are removed to negate the potential for pathways to be created should primary containment systems fail.

In addition, the site operates in accordance with the environmental management system. The management system includes visual inspections of:

- All storage areas, processing areas and hard standing will be physically inspected to detect any signs of deterioration, leaks or spillage. Any corrective action required is reported to and implemented by the Site Manager; and
- All equipment is a part of the company's planned/predictive maintenance programme.

Based on this assessment, the potential for the varied site to impact on soil and groundwater underlying the installation is considered to be low.

4.2 Non-permitted Activities

There are no non-permitted activities undertaken on site.

4.3 Site Plan

The site layout plan is provided in **Section 2** of this SCR report and Appendix A at the end of the document.

4.4 Environmental and Climate Change Risk Assessment

A full Environmental and Climate Change Risk Assessment has been undertaken as part of the permit application. The risk assessment is held and maintained by Engie and will be regularly reviewed and updated when necessary. The document reference is SOL_25_P007_ENG – Environmental and Climate Change Risk Assessment.

5. CHANGES TO THE ACTIVITY

This section will be updated in accordance with any required permit variations.

6. MEASURES TAKEN TO PROTECT LAND

The site has a number of pollution prevention and mitigation measures in place, and has implemented the following measures to protect the land:

- Sealed, impermeable hardstanding covering all areas of the site to prevent any accidental or incidental releases of contaminates to land.
- The site is subject to regular inspections by the site manager to ensure the concrete hardstanding remains in good condition and, where signs of degradation are detected, the necessary repairs will be undertaken. This is to ensure the site surface remains impermeable to contaminants, therefore preventing contamination of land.
- A comprehensive spills and leakages procedure is in operation on site to clean up any minor or major spills or leaks that may occur.
- All tanks will be bunded and installed with secondary containment which are designed to comply with EA guidance and CIRIA 736 and CIRIA C598.

This section will be updated throughout the life of the permit with any pollution and mitigation measures that have been implemented on site.

7. POLLUTION INCIDENTS AND REMEDIATION

This section will be completed throughout the life of the permit following any pollution incidents.

Currently there have been no pollution incidents or remediation work onsite.

8. SOIL, GAS AND WATER QUALITY MONITORING

This section will be completed throughout the life of the permit with any soil, gas and water quality monitoring.

9. DECOMMISSIONING AND REMOVAL OF POLLUTION RISK

This section will be completed upon site surrender.

10. REFERENCE DATA AND REMEDIATION

This section will be completed upon site surrender.

11. STATEMENT OF SITE CONDITION

This section will be completed upon site surrender.

APPENDIX A FIGURES AND DRAWINGS

APPENDIX B GROUNDSURE REPORT 2025

APPENDIX C APPENIDX C GROUND INVESTIGATION