Title:	**Environmental Risk Assessment**
Report Reference:	**PF-R02-F1**
Client:	**Penty Farming**
Submitted To:	**Environment Agency**
Date:	**24-04-2025**
Main Contributor:	**Edward Bennett – AWSM Recycling Limited**

Report Issue History

Report Reference	*Details*
PF-R02-D1	12-04-25 Draft for internal review
PF-R02-F1	24-04-25 Finalised for EA Issue

AWSM Recycling Limited / p: 01833 600859 / e: edward@awsmfarms.co.uk

Contents

1 Introduction

1.1 Background

This environmental risk assessment (ERA) has been carried out in support of an Environmental Permit application for a free range hen, intensive farming unit to be operated by the Penty Farming – Partnership. The ERA systematically evaluates any potential environmental risks and associated impacts of the proposed site activities. The methodology and results documented below are to be read in conjunction with all the relevant application documentation.

1.2 Summary of Proposed Operations

Free range hens will be housed in a shed providing accommodation for a total of 56,000 free range hens. The shed is equipped with a ventilation system providing the required frequency of air changes via high-speed ridge fans, additional gable end fans operated during periods of hot weather. An aviary type system, with manure belt, facilitates twice weekly removal of litter. Additional facilities on site include a standby generator. A detailed description of the proposed operations has been provided within the application report referenced PF-R01-F1 – Installation Information.

1.3 Report Approach & Guidance

The ERA undertaken follows current Environment Agency (EA) guidance for undertaking ERA's in support of permit applications Risk assessments for your environmental permit - GOV.UK (www.gov.uk) . This ERA follows the EA methodology by:

- Identifying and considering potential environmental risks for the site, and the sources of the potential environmental risks.
- Identifying the potential receptors (people, animals, property and anything else that could be affected by the hazard) at risk from the site.
- Identifying the possible pathways from the sources of the potential risks to the identified receptors.
- Assessing the potential risks relevant to the specific activity and evaluating whether they are acceptable and can be screened out.
- Detailing risk control measures if the potential environmental risks are considered too high.

In summary, the following risks and associated impacts were evaluated when undertaking the ERA:

- Amenity (litter / vermin / mud / fire).
- Odour.
- Noise.
- Fugitive Air Releases (dust / bioaerosols).
- Surface Water.
- Groundwater.
- Air.
- Waste Produced.
- Global Warming Potential (GWP) / Photochemical Ozone Creation Potential (POP).

1.4 Report Format

This ERA follows the format detailed below:

- Introduction.
- Initial Assessment.
- Sensitive Receptors.
- Environmental Risk Assessments.
- Environmental Impact Evaluations.
- Conclusions and Improvements.

2 Initial Assessment

2.1 Methodology

The initial assessment, considers the potential environmental risks and impacts for both normal operations and abnormal/accident situations. Tables 2.2.1 and 2.2.2 below detail the results of the initial assessments and have been used to determine which combinations of operations and potential impacts require a further detailed assessment.

Where it is assessed that there is minimal or no potential for an environmental impact to occur, a brief explanation has been provided for each impact criterion and activity. For those potential risks and impacts that cannot immediately be effectively controlled further evaluation is required.:

'**RA**' indicates - further evaluation for assessing environmental risk has been undertaken as detailed in Section 4 of this report, for normal operations, abnormal operations or accident situations.

'**IA**' indicates- where more detailed evaluation of emissions is required and has been undertaken as detailed in Section 5 of this report.

2.2 Initial Assessment

Table 2.2.1 Initial Assessment – Normal Operations

Impact / Process – Operations	Transportation of Livestock	Livestock Housing / Laying Hens	Litter and Manure Storage / Removal	Generator
Amenity (litter / vermin / mud / fire)	Pest control in place as part of the site assurance scheme. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean. No foreseeable fire risk from transport operations.	Pest control in place as part of the site assurance scheme. Hen unit and feed systems contained and kept clean to ensure compliance with animal welfare requirements, therefore, no potential amenity issues. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean.	Pest control in place as part of assurance scheme site works to. Litter removed from the shed via belt system into trailers and from site on a twice weekly basis, therefore, no potential amenity issues. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean.	No foreseeable amenity issues from the operation of a generator at site under normal operations.

Table 2.2.1 Initial Assessment – Normal Operations				
Impact / Process – Operations	**Transportation of Livestock**	**Livestock Housing / Laying Hens**	**Litter and Manure Storage / Removal**	**Generator**
		No foreseeable fire risk under normal operation from the housing of livestock.	No foreseeable fire risk under normal operation from litter storage / removal.	
Odour	**RA**	**RA**	**RA**	No foreseeable odour issues from the operation of a generator at site under normal operations.
Noise	**RA**	**RA**	**RA**	Given low potential for noise from operation of the generator and the distance of sensitive receptors from generator >500 metres, no further assessment required.
Fugitive Air Releases (Dust / Bioaerosols)	No risk of dust / bioaerosol from reception / removal of hens as all operational areas covered in concrete / hardstanding and bird transfers are infrequent.	**RA**	**RA**	No plausible dust / bioaerosol issues from the operation of an generator at site under normal operations.
Surface Water	No risk to surface waters from the transfer of birds under normal operations as livestock handling systems are contained.	No risk to surface water from livestock housing / laying hens under normal operations as livestock buildings are contained.	No risk to surface water from litter / manure storage and removal under normal operations as livestock buildings are contained, manure and litter removed in suitable containment.	No foreseeable risk to surface water from the operation of a generator at site under normal operations.
Groundwater	No risk to ground waters from the transfer of birds under normal operations as livestock handling systems are contained.	No risk to ground water from livestock housing / laying hens under normal operations as livestock buildings are contained.	No risk to ground water from litter / manure storage and removal under normal operations as livestock buildings are contained, manure and litter removed in suitable containment.	No foreseeable risk to ground water from the operation of a generator at site under normal operations.

Table 2.2.1 Initial Assessment – Normal Operations				
Impact / Process – Operations	**Transportation of Livestock**	**Livestock Housing / Laying Hens**	**Litter and Manure Storage / Removal**	**Generator**
Air	No point source emissions to air from bird transfers that site have direct control over.	**IA**	**IA**	**IA**
Waste	No waste generated from bird transfers under normal operations.	**IA**	No waste generated under normal operations.	No waste generated under normal operations.
GWP / POP	No point source / fugitive emissions to air from bird transfers that site have direct control over.	No point source / fugitive emissions to air from bird housing that site have direct control over.	No point source / fugitive emissions to air litter / manure storage / transfers that site have direct control over.	**IA**

Table 2.2.2 Initial Assessment – Abnormal Operations				
Impact / Process – Operations	**Transportation of Livestock**	**Livestock Housing / Laying Hens**	**Litter and Manure Storage / Removal**	**Generator**
Amenity (litter / vermin / mud / fire)	Pest control in place as part of the site assurance scheme. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean. No foreseeable fire risk from transport operations.	Pest control in place as part of the site assurance scheme. Hen unit and feed systems contained and kept clean to ensure compliance with animal welfare requirements, therefore, no potential amenity issues. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean. Fire - **RA**	Pest control in place as part of the site assurance scheme. Litter removed from sheds via belt system into trailers and from site on a twice weekly basis, therefore, no potential amenity issues. No risk of mud and litter as all operational areas covered in concrete / hardstanding and kept clean. No fire risk under abnormal operation from litter storage / removal.	No foreseeable amenity issues from the operation of a generator at site under normal operations. Fire - **RA**

Table 2.2.2 Initial Assessment – Abnormal Operations				
Impact / Process – Operations	**Transportation of Livestock**	**Livestock Housing / Laying Hens**	**Litter and Manure Storage / Removal**	**Generator**
Odour	**RA**	**RA**	**RA**	Given low potential for odour from operation of the generator and the distance of sensitive receptors from generator >500 metres, no further assessment required.
Noise	**RA**	**RA**	**RA**	Given low potential for noise from operation of the generator and the distance of sensitive receptors from generator >500 metres, no further assessment required.
Fugitive Air Releases (dust / bioaerosols)	No risk of dust / bioaerosol from reception / removal of hens as all operational areas covered in concrete / hardstanding and bird transfers are infrequent.	**RA**	**RA**	No plausible dust / bioaerosol issues from the operation of the generator at site under normal operations.
Surface Water	**RA**	**RA**	**RA**	**RA**
Groundwater	**RA**	**RA**	**RA**	**RA**
Air	No point source emissions to air from bird transfers that site have direct control over.	**RA**	**IA**	**RA**
Waste	**RA**	**RA**	**RA**	**RA**
GWP / POP	No point source / fugitive emissions to air from bird transfers that site have direct control over.	No point source / fugitive emissions to air from bird housing that site have direct control over.	No point source / fugitive emissions to air litter / manure storage / transfers that site have direct control over.	**RA**

3 Sensitive Receptors

3.1 Site Location

The site is located at the following address: Oak Tree Farm, Oak Tree Farm, Swainby Lane, Swainby with Allerthorpe, Burneston, North Yorkshire YO7 4LJ.

The centre of the site is at National Grid Reference (NGR) SE 32295 84908.

Site plans outlining the site location and the receptors identified below can be found in the supporting report referenced – PF-R06-F1.

3.2 Sensitive Receptors

Table 3. 1 below details sensitive receptors identified within a 2 kilometre radius (unless otherwise specified), of the proposed installation boundaries. For clarity only the closest receptor in each direction is listed.

Table 3.1 - Sensitive Receptors			
Receptor Classification	**Compass Direction**	**Approx Distance from the Proposed Installation [1]**	**Plan Reference[2]**
Human Occupied Receptors (within 1 km)			
Residential / Industrial / Commercial / Offices	NW	c. 0.37 km	R1
	NE	c. 0.69 km	R2
	SE	c. 0.53 km	R3
	W	c. 0.12 km	R4
Habitat Receptors[3]			
Ramsar (England) (within 5km)	None identified within 5 km.		
SSSI (England) (within 5km)	None identified within 5 km.		
Special Areas of Conservation (England) (within 5km)	None identified within 5 km.		
Special Protection Areas (England) (within 5km)	None identified within 5 km.		
Local Nature Reserve (England)	None identified within 2 km.		
National Nature Reserve (England)	None identified within 2 km.		
Priority Habitat Inventory Deciduous Woodland	NW	1.25 km	H1
Priority Habitat Inventory Deciduous Woodland	NE	c. 0.98 km	H2
Priority Habitat Inventory Deciduous Woodland	E	c. 0.57 km	H3
Ancient Woodland	W	c. 0.65 km	H4

Table 3.1 - Sensitive Receptors			
Receptor Classification	**Compass Direction**	**Approx Distance from the Proposed Installation [1]**	**Plan Reference[2]**
Water Resource Receptors (within 1 km)			
Land Drain	N	c. 0.31 km	W1
Well	N	c. 0.13 km	W2
Stream	E	c.0.30 km	W3
Land Drain	SE	c.0.03 km	W4
Pond	NW	c.0.62km	W5
Ground Water[3]	The site is located on a Principal Aquifer.		
	The site is not within a Source Protection Zone or a Drinking Water Safeguard Zone. Site is located within a Nitrate Vulnerable Zone.		
Other Receptors			
Highways and Transportation[4]	S	Adjacent	T1
Air Quality Management Areas[5]	Site is not located within an Air Quality Management Area.		
Swainby Medieval Settlement - Scheduled Monument (within 1km)	E	c. 0.66 km	SM1
Healam Bridge Roman fort and Vicus - Scheduled Monuments (within 1km)	S	c. 0.69 km	SM2

Table Notes:

*: Closest receptor identified from the Hen Unit Sheds.

1: Distance shown measured using Ordnance Survey data provided by Promap.

2: Locations shown on Sensitive Receptor Plan, Report Ref PF-R06-F1.

3: Habitat / Groundwater Source Protection Zones areas identified using the MAGIC Website, April 2025.

4: Closest local road network only.

5: AQMA locations reviewed through DEFRA's website – April 2025.

4 Environmental Risk Assessment

4.1 Methodology

The risk assessment has been undertaken for each potential environmental risk identified in the tables set out in section 2.2 above, for normal operations, abnormal operations and accident situations, where **RA** has been stated. The risk classification assigned has been evaluated by assessing the likelihood of an incident occurring and the severity of impact should it occur, using the following methodology.

Table 4.1 – Environmental Risk Scoring Matrix		
Score	**Description**	**Definition**
Probability of an event occurring		
1	Very Low	Extremely unlikely to occur (<1 per 10 years)
2	Low	Unlikely to occur (<1 per year)
3	Moderate	Could occur (1 per year)
4	High	Could occur frequently (>1 per year)
5	Very High	Could occur continuously
Severity of impact should the event occur		
1	Very Low	Negligible impact
2	Low	Minor impact (contained in localised area on site & recoverable)
3	Moderate	Medium impact (contained within site boundary & recoverable)
4	High	Major impact (spread off site &/or difficult to recover)
5	Very High	Major impact (spread off-site & long term/permanent damage)

The Probability (P) and Severity (S) scores assigned to each item are then multiplied together to provide a total risk assessment score (R):

Risk = Probability x Severity

R =P x S.

Scores are considered to be high or low risk using the following risk classification:

< 10 – Low Risk – Insignificant

≥10 – High Risk - Significant Risk

Where the residual risks are found to be significant a more detailed assessment will be undertaken, or improvements i.e. additional control measures implemented, to mitigate the risks will be recommended within the conclusions section of this report.

4.2 Pre-Requisite Policies and Procedures

The procedures and policies to be implemented at the site to minimise the potential for environmental risk that form part of the sites Environmental Management System are summarised within the report referenced PF-R04-F1. These policy and procedures, along with the identified impact control measures, have been considered when calculating the residual risk.

4.3 Risk Assessment Key

The tables set out below detail the risk assessments undertaken based on the methodology outlined above, for all activities and associated impacts recorded as a 'RA' in Tables 2.2.1 and 2.2.2.

Table 4.3 below summaries the abbreviations and notes associated with the risk assessments.

Table 4.3 – Table Key	
Letter / Symbol	**Abbreviation**
P	Probability
S	Severity (Impact / Consequence)
R	Risk Level
N	Normal
A	Abnormal
E	Emergency (accident).

General Notes –

1. This is an Environmental Risk Assessment. No account of Health and Safety risk assessments (human receptors) have been considered in the tables below.
2. All contingency planning requirements are dealt with in the Environmental Accident Management Plan and associated procedures.

4.4 Risk Assessment Tables

Table 4.4.1: Transportation of Livestock						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Odour > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Odours from livestock and associated transport vehicles.	N / A / E	• The Hens delivered and removed from site are clean in line with animal welfare requirements. • Livestock transport vehicles kept clean, in line with animal welfare requirements.	1	4	**4**
Noise > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Noise from livestock and associated transport vehicles.	N / A / E	• Transport vehicles maintained under service contract. • Site speed limit. • Site access road well maintained. • Hens handled by trained stockmen to ensure they are not startled.	2	3	**6**
Surface Water > Ground / Groundwater > Watercourses Closest watercourse is c.30 metres from the installation boundary.	Livestock vehicle fuel containment failure, or collision leading to significant spillage of materials, including vehicle fuels and oils that escape off site into surface waters.	A / E	• Site speed limit enforced. • Vehicles maintained under surface contract. • Livestock vehicles on site for only a brief period of time.	1	4	**4**
	Fuel leaks from parked vehicles that escape off site into surface waters.	A / E	• Vehicles maintained under surface contract. • Livestock vehicles on site for only a brief period.	2	4	**8**
Ground Water > Groundwater	Livestock vehicle fuel containment failure, or collision leading to significant spillage of materials,	A / E	• Site speed limit enforced. • Vehicles maintained under surface contract.	1	4	**4**

Table 4.4.1: Transportation of Livestock						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Underlying ground / groundwater. Site located within and NVZ, on a Principal aquifer and not within a Source Protection of Drinking Water safeguard zone.	including vehicle fuels and oils that escape off site to ground / groundwater.		• Vehicles on site for only a brief period.			
	Fuel leaks from parked vehicles that escape off site into ground / groundwater.	A / E	• Vehicles maintained under surface contract. • Livestock vehicles on site for only a brief period.	2	4	**8**
Waste > Production of Waste	Waste generated from the clean-up of spilt fuels / oils from transport vehicles.	A / E	• Staff trained in spill containment and control procedures. • Dedicated containers used for the clean-up and handling of waste to ensure waste generation is kept to a minimum.	2	3	**6**

Table 4.4.2: Livestock Housing / Laying Hens						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Odour > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Odours from hen units / ranging hens.	N / A / E	• Livestock kept clean as per animal welfare requirements.	1	4	**4**

Table 4.4.2: Livestock Housing / Laying Hens						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Noise > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Noise from hen units / ranging hens.	N / A / E	• With exception of the pop holes the Hen units are contained. • Hens handled by trained stockmen to ensure they are not startled. • Hens welfare at the unit monitored by a dedicated stockman. • Operations on site undertaken in such a manner as to not startle livestock.	3	2	**9**
	Noise from feed / fuel delivery vehicles.	N / A / E	• Site speed limit enforced. • Vehicles maintained under surface contract.	2	3	**6**
Fugitive Releases – Dust / Bio Aerosols > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Dust / bioaerosols from the Hen units and associated feed systems.	N / A / E	• Units ventilated and systems maintained under service contract. • Feed stored internally. • Feed distribution systems contained. • Feed milled and handled by suitably trained operatives to prevent overfilling of raw material stores and silos. • Spillages of feed cleaned promptly. • With exception of the pop holes the Hen units are contained. • Housing and livestock kept clean to ensure animal welfare requirements are met. • Stocking density in line with animal welfare requirements.	3	3	**9**

Table 4.4.2: Livestock Housing / Laying Hens						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Surface Water > Ground / Groundwater > Watercourses Closest watercourse is c.30 metres from the installation boundary.	Failure of housing and dirty water systems leading to significant loss of materials, including litter, feed and wash waters. Materials enter ground / surface water.	A / E	• Floor of the hen units is impermeable and resistant to spoiled litter. • Wash water collection sumps and associated drains are impermeable, corrosion resistant and form part of the Infrastructure Monitoring Programme implemented on site. • Only dry feeds are used on site.	1	4	**4**
	Feed delivery vehicle fuel containment failure, or collision leading to significant spillage of materials, including vehicle fuels and oils, feed that escape off site to ground / groundwater.	A / E	• Site speed limit enforced. • Vehicles maintained under surface contract. • Vehicles on site for only a brief period. • Only dry feed used on site.	1	4	**4**
	Fuel leaks from parked vehicles that escape off site into ground / groundwater.	A / E	• Vehicles maintained under surface contract. • Livestock vehicles on site for only a brief period.	2	4	**8**
Ground Water > Groundwater Underlying ground / groundwater. Site located within and NVZ, on a Principal aquifer and not	Failure of housing and dirty water systems leading to significant loss of materials, including litter, feed and wash waters. Materials enter ground / surface water.	A / E	• Floor of the hen units is impermeable and resistant to spoiled litter. • Wash water collection sumps and associated drains are impermeable, corrosion resistant and form part of the Infrastructure Monitoring Programme implemented on site. • Only dry feeds are used on site.	1	4	**4**

Table 4.4.2: Livestock Housing / Laying Hens						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
within a Source Protection of Drinking Water safeguard zone.	Feed delivery vehicle fuel containment failure, or collision leading to significant spillage of materials, including vehicle fuels and oils that escape off site to ground / groundwater.	A / E	• Site speed limit enforced. • Vehicles maintained under surface contract. • Vehicles on site for only a brief period. • Only dry feed used on site.	1	4	**4**
	Fuel leaks from parked vehicles that escape off site into ground / groundwater.	A / E	• Vehicles maintained under surface contract. • Livestock vehicles on site for only a brief period.	2	4	**8**
Point Source Air Releases > Atmosphere > Habitats Priority Habitat Inventory Deciduous Woodland.	Failure / malfunction of site ventilation systems resulting in poor dispersion of hen unit air, impacting on atmosphere / identified habitats.	A / E	• Ventilation systems maintained under service contract. • Performance of ventilation systems monitored daily by operatives.	1	5	**5**
Waste > Production of Waste	Waste generated from the clean-up of spilt fuels / oils / feed from feed delivery vehicles.	A / E	• Staff trained in spill containment and control procedures. • Dedicated containers used for the clean-up and handling of waste to ensure waste generation is kept to a minimum.	2	3	**6**

Table 4.4.3: Litter and Manure Storage / Removal						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Odour > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Odours from hen litter / manure.	N / A / E	• Litter removed from sheds and directly off site on a twice weekly basis. • Collected litter removed in sheeted trailer.	2	2	**4**
Noise > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Noise from vehicles collecting litter / manures.	N / A / E	• Transport vehicles maintained under service contract. • Site speed limit. • Site access road well maintained.	2	3	**6**
Fugitive Releases – Dust / Bio Aerosols > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Dust / bioaerosols from litter / manure systems / transport vehicles.	N / A / E	• Litter removed from sheds and directly off site on a twice weekly basis. • Litter trailers not overfilled prior to removal from farm.	3	2	**6**
Surface Water > Ground / Groundwater > Watercourses	Failure of litter / manure belt and / or collection trailer leading to significant loss of materials. Materials enter ground / surface water.	A / E	• Floor of the hen units is impermeable and resistant to spoiled litter. • Litter collected in a dedicated trailer prior to transfer off site.	2	3	**6**

Table 4.4.3: Litter and Manure Storage / Removal						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Closest watercourse is c.30 metres from the installation boundary.	Litter / manure collection vehicle fuel containment failure, or collision leading to significant spillage of materials, including vehicle fuels and oils, litter that escape off site to ground / groundwater.	A / E	• Site speed limit enforced. • Litter trailers not overfilled prior to removal from farm. • Vehicles maintained under surface contract. • Vehicles on site for only a brief period.	1	4	**4**
	Fuel leaks from parked vehicles that escape off site into ground / groundwater.	A / E	• Vehicles maintained under surface contract. • Vehicles on site for only a brief period.	2	4	**8**
Ground Water > Groundwater Underlying ground / groundwater. Site located within and NVZ, on a Principal aquifer and not within a Source Protection of Drinking Water safeguard zone.	Failure of litter / manure belt and / or collection trailer leading to significant loss of materials. Materials enter ground / surface water.	A / E	• Floor of the hen units is impermeable and resistant to spoiled litter. • Litter trailers not overfilled prior to removal from farm.	2	3	**6**
	Litter / manure collection vehicle fuel containment failure, or collision leading to significant spillage of materials, including vehicle fuels and oils, litter that escape off site to ground / groundwater.	A / E	• Site speed limit enforced. • • Litter trailers not overfilled prior to removal from farm. • Vehicles maintained under surface contract. • Vehicles on site for only a brief period.	1	4	**4**
	Fuel leaks from parked vehicles that escape off site into ground / groundwater.	A / E	• Vehicles maintained under surface contract. • Vehicles on site for only a brief period.	2	4	**8**

Table 4.4.3: Litter and Manure Storage / Removal						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Waste > Production of Waste	Waste generated from the clean-up of spilt fuels / oils / litter from feed delivery vehicles.	A / E	• Staff trained in spill containment and control procedures. • Dedicated containers used for the clean-up and handling of waste to ensure waste generation is kept to a minimum.	2	3	**6**

Table 4.4.4: Generator						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
Amenity > Air > Humans Closest human occupied receptor is c.120 metres from the installation boundary.	Malfunction of the generator resulting in fire.	A / E	• Generator maintained and serviced in house. • Generator tested weekly on full load.	1	5	**5**
Surface Water > Ground / Groundwater > Watercourses Closest watercourse is c.30 metres from the installation boundary.	Fuel spill during delivery, from vehicle collision, during filling or overfilling of fuel tank, resulting in the escaped materials entering ground / surface water.	A / E	• Spills cleaned up immediately. • Site speed limit. • Generator included as part of the site's infrastructure monitoring programme.	2	3	**6**
	Generator poorly maintained leading to tank / pipe work failure,	A / E	• Generator maintained under service contract.	1	4	**4**

Table 4.4.4: Generator						
Potential Risks[1]			**Control Measures**	**Assessment**		
Environmental Risk > Pathway > Receptors	**Initiating Event**	**Condition N/A/E**	**Risk Management Controls[2]**	**Residual Risk**		
				P	**S**	**R**
	resulting in the escaped materials entering ground / surface water.					
Ground Water > Groundwater Underlying ground / groundwater. Site located within and NVZ, on a Principal aquifer and not within a Source Protection of Drinking Water safeguard zone.	Fuel spill during delivery, from vehicle collision, during filling or overfilling of fuel tank, resulting in the escaped materials entering ground / surface water.	A / E	• Spills cleaned up immediately. • Site speed limit. • Generator included as part of the site's infrastructure monitoring programme.	2	3	**6**
	Generator poorly maintained leading to tank / pipe work failure, resulting in the escaped materials entering ground / surface water.	A / E	• Generator maintained and serviced in house.	1	4	**4**
Point Source Air Releases > Atmosphere > Habitats / GWP Priority Habitat Inventory Deciduous Woodland.	Failure / malfunction of generator, resulting in release to atmosphere of gases following incomplete combustion of fuel.	A / E	• Generator maintained and serviced in house.	1	5	**5**
Waste > Production of Waste	Waste generated from the clean-up of spilt fuels / oils / litter from fuel delivery vehicles.	A / E	• Staff trained in spill containment and control procedures. • Dedicated containers used for the clean-up and handling of waste to ensure waste generation is kept to a minimum.	2	3	**6**

5 Detailed Impact Assessments

5.1 Introduction

The screening assessment detailed above sets out those activities and associated emissions that require a detailed Impact Assessment of their potential impacts under normal operations. Detailed Impacts for the following emissions:

- Air – Ammonia releases from livestock operations and combustion emissions from the site generator and incinerator.
- Waste – Waste produced from livestock operations.
- Global Warming Potential (GWP) and Photochemical Ozone Creation Potential (POCP) from site's proposed operations.

5.2 Releases to Air

5.2.1 Ammonia

Details of the proposed operation were provided to the Environment Agency as part of the pre-application process. As part of their screening assessments completed at pre-application, the Environment Agency concluded the following -

'The screening assessment is based on your proposal to operate a farm which is permitted to stock 56,000 free range layer places at Oak Tree Farm.

Summary of the assessment: The ammonia screening results carried out by the Environment Agency are only intended to apply to any EPR permit application and not for use in local council planning submissions. Based on the information you have provided you do not need to submit detailed modelling with your application. Further information about the screening results is provided in detail in Annex 1.

Please include this report in your H1 Environmental Risk Assessment and submit with your completed application form to the address given below.'

A copy of the Environment Agency's Ammonia Screening Assessment is in Appendix 1 of this report.

5.2.2 Combustion Sources

A standby Generator with a thermal input rating of less than 0.5 MWth is the only combustion source on site. Given the fact that the size of the Generator can only result in negligible emissions, the emission source is considered to be insignificant and no further detailed assessment is required.

5.3 Waste

5.3.1 Assessment of Wastes

Table 5.1 below identifies the waste streams produced on-site and assesses their potential for environmental impact. The potential for environmental impact of the recovery routes selected for the wastes identified have been assessed, including scoring them following Environment Agency guidance as set out on .gov.uk - https://www.gov.uk/guidance/select-a-waste-recovery-or-disposal-method-for-your-environmental-permit. Although classed as Animal By-Products / non-wastes, litter, fallen stock and wash waters have been included within the assessment below for completeness.

Table 5.1 – Waste Assessment

EWC / Origin / Nature	Annual Volume	Description / Hierarchy	EA Hazard Rating	EA Impact Score	Hazard Rating x Impact Score	Assessment
02 01 06 – Litter from sheds. Non-Hazardous.	Anticipated to be c.3,300 t per production cycle.	R10 - Land treatment resulting in benefit to agriculture or ecological improvement.	4	4	16	Material is an ABP and recovery to land represents the best available environmental option for the material. Therefore, considered as insignificant in terms of environmental impact.
02 01 06 – Wash waters Non-Hazardous.	Unknown	R10 - Land treatment resulting in benefit to agriculture or ecological improvement.	4	4	16	Material is an ABP and recovery to land represents the best available environmental option for the material. Therefore, considered as insignificant in terms of environmental impact.
02 01 02 - Hen Carcass / Fallen stock. Non-Hazardous.	Variable.	R3 - Rendering.	4	3	12	Material is an ABP and processed in line with ABP and biosecurity requirements and best available environmental option for the material. Therefore, considered as insignificant in terms of environmental impact.
02 01 99 / Veterinary Waste from welfare activities. Non-Hazardous.	Unknown and variable.	Returned to supplier.	2	N / A	2	Veterinary medicines will be supplied on an as required basis, therefore any wastage will be minimal and considered as insignificant in terms of environmental impact.
15.01.02 - Plastic packaging from raw materials.	< 5 t /yr	R3 – Recycling	4	3	12	Recycling represents the best available environmental option for the material. In addition, the volume of waste produced is anticipated to be

Table 5.1 – Waste Assessment						
EWC / Origin / Nature	**Annual Volume**	**Description / Hierarchy**	**EA Hazard Rating**	**EA Impact Score**	**Hazard Rating x Impact Score**	**Assessment**
Non-Hazardous.						below Permit Reporting thresholds. Therefore, considered as insignificant in terms of environmental impact.

5.3.2 Conclusion

The majority of materials detailed above are sent for recovery to land for agricultural benefit, which is considered the best available environmental option for the stream. It is anticipated that all other streams produced will be at levels below Permit reporting thresholds. On this basis, all waste streams produced, and their associated disposal / recovery routes are considered to be insignificant in terms of environmental impact.

A review of wastes will be undertaken as required in the timescales specified in the Environmental Permit to provide a complete assessment of waste recovery.

5.4 Global Warming Potential (GWP) and Photochemical Ozone Creation Potential (POCP)

5.4.1 Introduction

Both the direct emissions from the facility and the indirect emissions from the use of energy have global warming potential (GWP) and these need to be calculated along with the Photochemical Ozone Creation Potential (POCP) of the site. These have been calculated following the Environment Agency guidance note on .gov.uk - https://www.gov.uk/guidance/assess-the-impact-of-air-emissions-on-global-warming#identify-greenhouse-gas-emissions.

5.4.2 Assessment

The table below outlines the GWP and POCP of the site based on the estimated energy consumption under normal operations. Energy consumption sources and levels are as follows -

- Electricity - 224 MWh.

Table 5.1 – Global Warming Potential Assessment

Energy Source	Quantity of Fuel Used	Delivered Energy (MWh)	Primary Energy (MWh)	GWP CO_2 (tonnes)	N_2O (GWP t CO_2 equivalent)	VOC (GWP as t CO_2 equivalent)	Total GWP (t / yr CO_2 Equivalent)	Total POCP (kg / yr)
Electricity		224	538	89			91	0.05
Gas Oil	527	-	6	1.5	0.006	0.002		

Reference Factors	
Electricity	Electricity converted to primary energy factor of 2.4;
	Electricity converted to CO_2 apply EA's H1 factor 0.166 t / MWh Primary
Gas Oil	Usage estimated at 624 litres / year) 12 litres an hour at full load / used for 1 hour a week for testing.)
	Gas Oil litres converted to k.g. using DEFRA's 2023 GHG Conversion Factors for Company Reporting factor of 842.46 kg/m^3.
	Gas Oil k.g. converted to MWh using DEFRA's 2023 GHG Conversion Factors for Company Reporting factor of 42.6 MJ/kg.
	Gas Oil converted to CO_2 by applying EA's factor of 0.25 t / MWh Primary;0.005
	Gas Oil N_2O emissions based on AP 42 factor of 0.036 g N_2O/ kg , and EA GWP factor of 310 t $C0_2$ equivalent / t N_2O;
	Gas Oil VOC emissions based on AP42 factor of 0.11 g NMVOC / kg + 0.039 g CH_4 / kg. As a conservative calculation, it is assumed that all VOCs are methane and therefore the methane EA GWP factor of 21 $C0_2$ equivalent / t VOC has been applied.
POCP	VOCs released by the facility have the potential to be involved in ground level ozone creation. As a conservative calculation, it is assumed that all VOCs are methane and therefore the methane H1 POCP factor of 0.6 kg / kg VOC has been applied.
AP 42	The 'AP42 Compilation of Air Pollutant Emission Factors', has been published since 1972 as the primary compilation of the Environmental Protection Agencies' emission factor information.

6 Conclusion

The Environmental Risk Assessment identified a number of processes and activities on site that have the potential to create an environmental impact on identified environmentally sensitive receptors, under normal, abnormal and emergency (accident) scenarios.

The results of the Environmental Risk Assessment has been summarised in Table 6.1 below.

Table 6.1 Environmental Risk Assessment Summary	
Impact	**Significance / Further Assessment**
Amenity (litter / vermin / mud / fire).	Insignificant impact - no further assessment required.
Odour.	Insignificant impact - no further assessment required.
Noise.	Insignificant impact -no further assessment required.
Fugitive Air Releases (dust / bioaerosols).	Insignificant impact - no further assessment required.
Surface Water.	Insignificant impact - no further assessment required.
Groundwater.	Insignificant impact - no further assessment required.
Air.	Combustion Equipment - Insignificant impact - no further assessment required. Ammonia – Insignificant impact - no further assessment required.
Waste Produced.	Insignificant impact - no further assessment required.
Global Warming Potential (GWP) / Photochemical Ozone Creation Potential (POP).	Values calculated. No further assessment required.

Appendix 1 – Environment Agency Ammonia Modelling Screening Assessment

Pre-application Report

To: Edward Bennett (*on behalf of Penty Farming – Partnership)*

Pre-application number: EPR/NP3025LW/P001

Oak Tree Farm
Burneston, Bedale
North Yorkshire
DL8 2JW

Date Completed – 14/03/25

Thank you for seeking advice before submitting an application for an Environmental Permit.

We have completed an initial ammonia screening assessment for your proposal to identify if you will need to submit a detailed modelling assessment with your application.

The screening assessment is based on your proposal to operate a farm which is permitted to stock 56,000 free range layer places at Oak Tree Farm.

Summary of the assessment:

The ammonia screening results carried out by the Environment Agency are only intended to apply to any EPR permit application and not for use in local council planning submissions.

Based on the information you have provided you do not need to submit detailed modelling with your application. Further information about the screening results is provided in detail in Annex 1.
Please include this report in your H1 Environmental Risk Assessment and submit with your completed application form to the address given below.

For an example H1 Environmental Risk Assessment refer to the example Intensive Farming EPR application available on the national archives for the Environment Agency Website:
http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/sectors/40057.aspx

Applying for your permit

You will need to complete application form part B3.5:
https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b35

Your application should be emailed to:
PSC@environment-agency.gov.uk

or sent to:

Environment Agency Permitting and Support Centre
Environmental Permitting Team
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

If you need further information about this screening assessment or applying for your permit please email us at the following address:

preapplicationservice@environment-agency.gov.uk

Pre-application nature conservation data are correct at the time of screening. We will consider all nature conservation sites using best available information at the time of permitting. Our GIS data are updated regularly, and we are occasionally made aware of additional nature conservation sites by other organisations which we will consider when determining a permit.

The Environment Agency takes care to ensure that the conclusions of the screening assessment are correct at the time of preparation but reserves the right to change the basis of the assessment in the light of technical developments or changes in Environment Agency procedures.

Annex 1 Ammonia Screening Results

Screening Input

Grid Reference used for the assessment: SE3227684913 (with a 600m buffer).

Animal numbers and types

Animal numbers and types, housing systems, manure and slurry storage assessed are listed below. The animal numbers and emission factors are based on an interpretation of the information provided by the applicant during the pre-application process and have been used in this initial risk assessment to identify if modelling is necessary.

Category of livestock	Housing system	Number of animal places	Ammonia emission factor (kg NH3/animal place/year)
Layers	Free range system, multi tier with once weekly belt removal. Roof ventilation only (vents greater than 5.5 metres high, fan efflux velocity at or greater than 11m/s)*	56,000	0.073

* this can include gable end fans that are used for heat extraction only during the summer months

Manure Storage and Slurry Storage - none stored within the installation boundary.

If you decide to alter your proposal by increasing the number of animal places or by changing the animal housing type or by increasing the manure or slurry storage you will need to request a new screening assessment.

Screening Overview

This screening assessment has considered any Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 5km, any Sites of Special Scientific Interest (SSSIs) within 5km and also any National Nature Reserves (NNRs), Local Nature Reserves (LNRs), ancient woodlands and Local Wildlife Sites (LWSs) within 2km of the farm.

We have used the Environment Agency's Ammonia Screening Tool (AST v4.6) to assess the impact of your proposal at those sites identified within the above distance criteria.

We have applied a two-stage screening criteria to the ammonia screening tool results:

For SACs, SPAs, Ramsar sites and SSSIs, the screening assessment has taken into account other intensive farms that could act in-combination with the proposal, where applicable.

Where the ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be <Y% (see Table 1 below) of the relevant critical level (CLe) (ammonia) or critical load (CLo) (nutrient nitrogen or acid), the proposal screens out of the requirement for an ammonia assessment.

Further modelling is required where:

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% of the relevant CLe or CLo at any SSSIs and/or other nature conservation sites (e.g. NNRs, LNRs, LWSs, ancient woodlands)

- emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Y% of the relevant CLe or CLo for any SACs, SPAs or Ramsar sites

- there is the potential for an in-combination effect with existing farms at any SSSIs if emissions are > Y% of the CLe or CLo

- the proposal is within 250m of any nature conservation sites

Table 1 Screening thresholds

Designation	Y%	Z%
SAC, SPA, Ramsar	4	n/a
SSSI	20	50
NNR, LNR, LWS, ancient woodland	100	100

Screening Results

There are none of the nature conservation sites listed above within the relevant screening distances and therefore detailed modelling is not required.