Apr
2026

Environmental Authorisation Permit Application: Supporting Information

Pitfour Rearing Farm

Aberdeen & Northern Eggs Limited

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1 Introduction

This document provides information to support Aberdeen & Northern Eggs Limited's application for an Environmental Authorisation (Scotland) Regulations permit. The following information details operations on site and should be read with reference to SEPA's P-IND-E1 Industrial Permit Activity form.

Pitfour Rearing Farm is located near Mintlaw, AB42 4JP.

2 Non-Technical Summary

Pitfour Rearing Farm was previously part of the PPC permit PPC/A/1016797 for Briarbank. The site consists of two sheds which have been empty for many years. Aberdeen & Northern Eggs Limited are applying for an EASR permit for this site to hold rearing pullets.

It is proposed that one existing shed will be retrofitted to house 48,000 pullets and the second shed will be rebuilt to hold 32,000 pullets. Both sheds will house a table-rearing, litter-based system based on concerns as to whether the Government will ban cage systems for young chicks. The sheds will house pullets for 15 weeks before they are moved to laying sites or contract producers. A three week turnaround period will follow meaning that the sheds are occupied approximately 83% of the time. Compared with what is currently permitted at Briarbank, we expect reduced ammonia and PM10 emissions from the unit.

All sheds will have automatically controlled ventilation systems. Sheds 1 and 2 will be ventilated by high velocity roof fans with emergency gable end fans if temperatures require. Ventilation systems are designed to minimise impact on nearby sensitive receptors and has been designed in accordance with BAT in order to reduce ammonia emissions. Diets are formulated to match bird requirements to reduce excess nitrogen waste.

Sheds will have optimised ventilation systems and will be well insulated. They will have low energy LED lights installed. Litter will be removed following each flock. Mains water is used within the sheds and water meters will be regularly monitored. Nipple drinkers with drip cups will be used within the sheds. Each shed has two, 18T feed bins and these are fitted with dust separators.

Estimates of the amount of raw materials, water and energy consumed have been made and will be monitored as part of permit requirements. Similarly, the operator has estimated waste production information.

The location of the unit has been chosen as it previously housed birds as part of the Briarbank PPC unit. Upgrades will be made to site drainage to ensure collection of wastewater and lightly contaminated runoff. Once emptied, the sheds are deep-cleaned and wastewater is contained in the underground tank at the western edge of the unit. Wastewater is removed off-site as required. Balanced diets with low crude protein levels are used.

The principal emissions from the unit will include ammonia and dust. The ammonia and dust impact of the installation has been evaluated using the SCAIL screening tool and as a result of pre-application discussions with SEPA, ammonia and dust modelling has not been required. Management practices meet BAT and minimise emissions. A set of management plans (including odour, noise, incidents, decommissioning) have been developed to complement this application.

3 Stationary Technical Unit

House name	NGR	Production Type	Housing Type	Capacity	Building Height	Floor Area
House 1	NJ 9857 4905	Rearing pullets	Litter	48,000 birds	4m	2,500m^2
House 2	NJ 9858 4902	Rearing pullets	Litter	32,000 birds	4m	1,725m^2

Information regarding the infrastructure of the housing sheds is provided in the table below.

Infrastructure	Sheds
Ventilation system for livestock housing	Shed 1 will have 18 high velocity fans with gable ends for emergency use if temperatures get too high within the shed. It is expected that Shed 2 will have a similar set up.

Infrastructure	Sheds
Feed storage, processing, and distribution in the housing	Feed will be stored outside sheds in silos and augered into the sheds from the silos. Dust separators will be installed in feed silos which will minimise dust during delivery.
Water storage and distribution in housing	Mains water will be distributed to birds through nipple drinkers with drip cups . There will be two, 20,000 water tanks stored on site.

4 Compliance with Best Available Techniques (BAT) Conclusions & Other Technical Guidance

The operator has reviewed each condition in the Final Working Draft (F01) of the UK Interpretational Guidance and Permitting Advice on the Best Available Techniques (BAT) Conclusions for Intensive rearing of poultry or pigs (IRPP). The sections below detail how the unit will meet these conclusions.

4.1 BAT 1 – Environmental Management Systems

BAT Requirement	Pitfour Rearing Farm
BAT 1 Implement and adhere to an Environmental Management System (all)	
Implement an EMS that includes: 1. commitment of the management, including senior management; 2. an environmental policy that includes the continuous improvement of the environmental performance of the installation; 3. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment; 4. implementation of procedures paying particular attention to: (a) structure and responsibility; (b) training, awareness and competence; (c) communication; (d) employee involvement; (e) documentation; (f) effective process control; (g) maintenance programmes; (h) emergency preparedness and response; (i) safeguarding compliance with environmental legislation. 5. checking performance and taking corrective action, paying particular attention to: (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions from IED installations - ROM); (b) corrective and preventive action; (c) maintenance of records; (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained; 6. review of the EMS and its continuing suitability, adequacy and effectiveness by senior management; 7. following the development of cleaner technologies; 8. consideration for the environmental impacts from the eventual decommissioning of the installation at the stage of designing a new plant, and throughout its operating life; 9. application of sectoral benchmarking on a regular basis. 10. noise management plan 11. odour management plan	Aberdeen & Northern Eggs Ltd have other permitted sites and will operate Pitfour with a management system similar to other permitted sites

4.2 BAT 2 – Good Housekeeping

BAT Requirement	Pitfour Rearing Farm
BAT 2 Good housekeeping - prevent or reduce the environmental impact and improve overall performance (all)	
(a) Proper location of the plant/farm and spatial arrangements of the activities in order to: • reduce transport of animals and materials (including manure); • ensure adequate distances from sensitive receptors requiring protection; • take into account prevailing climatic conditions (e.g. wind and precipitation); • consider the potential future development capacity of the farm; • prevent the contamination of water	Location of the unit is outwith the control of Aberdeen & Northern Eggs Ltd. The site was previously covered by a PPC unit and this is why the location has been chosen. Applied - • the SCAIL screening tool has identified no process contribution ammonia exceedances at nearby sensitive receptors • PM10 emissions have been discussed with SEPA at pre-application stage and no additional modelling has been required as supplementary gable end fans will be located on the eastern ends of the sheds • Emergency gable end ventilation has been positioned as far away from residential receptors as possible • activities are managed to prevent contamination of nearby watercourses
(b) Educate and train staff, in particular for: • relevant regulations, livestock farming, animal health and welfare, manure management, worker safety; • manure transport and landspreading; • planning of activities; • emergency planning and management; repair and maintenance of equipment.	Applied – staff training will be completed as required.
(c) Prepare an emergency plan for dealing with unexpected emissions and incidents such as pollution of water bodies. This can include: • a plan of the farm showing the drainage systems and water/effluent sources; • plans of action for responding to certain potential events (e.g. fires, leaking or collapsing of slurry stores, uncontrolled run-off from manure heaps, oil spillages); • available equipment for dealing with a pollution incident (e.g. equipment for plugging land drains, damming ditches, scum boards for oil spillages).	Applied – the site has developed an Incident Prevention and Mitigation Plan as part of the Site Management Plans provided in Appendix D.
(d) Regularly check, repair and maintain structures and equipment, such as: • slurry stores for any sign of damage, degradation, leakage; • slurry pumps, mixers, separators, irrigators; • water and feed supply systems; • ventilation system and temperature sensors; • silos and transport equipment (e.g. valves, tubes); • air cleaning systems (e.g. by regular inspections). This can include cleanliness of the farm and pest management.	Applied - regular checking and required maintenance of equipment will be carried out.
(e) Store dead animals in such a way as to prevent or reduce emissions.	Applied - deadstock will be stored in line with industry best practice. Deadstock will be stored in the service areas of the sheds and placed in locked wheeled bins once a week for collection.

4.3 BAT 3 & 4 - NUTRITIONAL MANAGEMENT

BAT Requirement	Pitfour Rearing Farm
BAT 3 Nutritional Management (one or a combination)	
(a) Reduce the crude protein content by using a N-balanced diet based on the energy needs and digestible amino acids. consider the potential future development capacity of the farm;	Applied – a balanced protein diet ensures nitrogen is efficiently used rather than excreted.
(b) Multiphase feeding with a diet formulation adapted to the specific requirements of the production period.	Applied – 3 different diets will be fed to the pullets.
(c) Addition of controlled amounts of essential amino acids to a low crude protein diet.	Applied – the use of highly digestible quality protein sources (namely soya and synthetic amino acids) are used to keep crude protein low and improve N retention in the bird.
(d) Use of authorised feed additives which reduce the total nitrogen excreted.	Applied – essential oil additives are used to improve N retention in the bird.
BAT 4 Nutritional management (one or a combination)	
(a) Multiphase feeding with a diet formulation adapted to the specific requirements of the production period.	Applied – 3 different diets will be fed to the pullets.
(b) Use of authorised feed additives which reduce the total phosphorus excreted (e.g. phytase).	Applied – layer diets contain phytase which reduce the amount of phosphorous added to the diet.
(c) Use of highly digestible inorganic phosphates for the partial replacement of conventional sources of phosphorus in the feed.	Not proposed - BAT will be met through other techniques.

4.4 BAT 5 – WATER

BAT Requirement	Pitfour Rearing Farm
BAT 5 Efficient use of water (combination)	
(a) Keep a record of water use.	Applied – water consumption will be recorded and reported to SEPA in line with permit requirements.
(b) Detect and repair water leakages.	Applied - water leakages will be repaired as required.
(c) Use high-pressure cleaners for cleaning animal housing and equipment.	Applied – high-pressure hoses will be used.
(d) Select and use suitable equipment (e.g. nipple drinkers, round drinkers, water troughs) for the specific animal category while ensuring water availability (*ad libitum*).	Applied - water is distributed to birds through nipple drinkers with drip cups.
(e) Verify and (if necessary) adjust on a regular basis the calibration of the drinking water equipment.	Applied - drinking water equipment will be monitored as required for hygiene and animal welfare purposes.
(f) Reuse uncontaminated rainwater as cleaning.	Not proposed - BAT will be met through other techniques (not currently being considered due to biosecurity concerns).

4.4.1 Water Consumption

Water for the site will be provided from the mains water supply and stored in a water tank. Estimated annual consumption (including cleaning) is 1,000,000 litres per year.

4.5 BAT 6 & 7 WASTEWATER

BAT Requirement	Pitfour Rearing Farm
BAT 6 Reduce generation of wastewater (combination)	
(a) Keep the fouled yard areas as small as possible.	Applied - Fouled areas of the yard will be minimised. Yard surfaces are clean as there is no ranging of birds, gable end fans are used only for emergency summer ventilation and any discharge here would be picked up by the dirty water tanks shown on the site plan.
(b) Minimise use of water	Applied - water consumption will be monitored and minimised where possible.

BAT Requirement	Pitfour Rearing Farm
(c) Segregate uncontaminated rainwater from wastewater streams that require treatment.	Applied – the operator will ensure that clean roof and yard water is segregated from any wastewater. During washing out, wastewater will be collected in an underground steel tank.
BAT 7 Reduce emissions to water from wastewater (one or a combination)	
(a) Drain wastewater to a dedicated container or to a slurry store.	Applied - wastewater will be collected in an underground steel tank.
(b) Treat wastewater.	Not applied, wastewater is not treated.
(c) Landspreading of wastewater e.g. by using an irrigation system such as sprinkler, travelling irrigator, tanker, umbilical injector.	Applied – this is completed outwith the permit boundary.

4.5.1 Wastewater

It is estimate that approximately 250m^3 of wastewater will be produced annually. Wastewater will be collected in an underground steel tank (~40,000l) at the back of the sheds.

4.5.2 Water Emissions

The only emissions to the water environment from the site will be roof runoff and runoff from concreted areas. These will be treated via a swale. It is unclear what, if any, current drainage arrangements on site. The operator is committed to installing a RSuDS system to treat roof runoff and runoff from the concrete apron. Designs of the system will be confirmed with SEPA prior to construction, however Appendix E indicates key design considerations.

The RSuDS will comply with Best Available Technique outlined within the CREW Rural SuDS Design and Build Guide (https://www.crew.ac.uk/sites/www.crew.ac.uk/files/sites/default/files/publication/Rural%20SuDS%20Design%20and%20Build%20Guide%20December%202016.pdf).

4.6 BAT 8 – Energy

BAT Requirement	Pitfour Rearing Farm
BAT 8 Efficient use of energy (combination)	
(a) High efficiency heating/cooling and ventilation systems.	Applied – modern high efficiency systems will be utilised.
(b) Optimisation of heating/cooling and ventilation systems and management, especially where air cleaning systems are used.	Applied – systems will be optimised.
(c) Insulation of the walls, floors and/or ceilings of animal housing.	Applied – roofs and walls will be well insulated in both sheds.
(d) Use of energy-efficient lighting.	Applied – all lighting in the houses will contain LED lighting.
(e) Use of heat exchangers. One of the following systems may be used: 1. air-air; 2. air-water; 3. air-ground	Not applied.
(f) Use of heat pumps for heat recovery.	Not applied.
(g) Heat recovery with heated and cooled littered floor (combi-deck system)	Not applied.
(h) Apply natural ventilation.	Not applied.

4.6.1 Energy consumption

Electricity consumption

The expected annual electricity consumption is 55,000kWh/year. The site is not subject to a Climate Change Agreement.

On-site energy generation

The operator would like to install 100kW of solar PV on Shed 2, subject to planning and grid connection.

Emergency back-up power will be provided by a generator, housed on the eastern edge of the installation with an integrally bunded diesel tank stored outside and will meet the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended. The generator emission point is estimated to be located at NGR NJ 9851 4900.

4.7 BAT 9 & 10 – Noise Emissions

BAT Requirement	Pitfour Rearing Farm
BAT 9 Noise emissions (all)	
BAT 9 is to set up and implement a noise management plan that includes the following elements: i. A protocol for containing appropriate actions and timelines ii. A protocol for conducting noise monitoring iii. A protocol for response to identified noise events iv. A noise reduction programme designed to e.g. identify the source(s), to monitor noise emissions, to characterise the contributions of the sources and to implement eliminated and/or reduction measures v. A review of historical noise incidents and remedies and the dissemination of noise incident knowledge	A noise management plan has been developed for the site (Appendix D). In the event of any substantiated noise complaint, the plan will be reviewed and appropriate action taken.
BAT 10 Prevent or reduce noise emissions (one or combination)	
(a) Ensure adequate distances between the plant/farm and the sensitive receptors.	Location of the unit is outwith the control of Aberdeen & Northern Eggs Ltd but has been chosen as the site previously housed poultry sheds.
(b) Equipment location.	Applied – equipment on site is typically used within housing. There will be no excess movement of vehicles.
(c) Operational measures	Applied - operational measures (including working hours, closure of doors during cleaning, timing of deliveries, etc) have been considered as part of the Noise Management Plan.
(d) Low-noise equipment	Not proposed - BAT will be met through other techniques.
(e) Noise-control equipment	Not proposed - BAT will be met through other techniques.
(f) Noise abatement.	Not proposed - BAT will be met through other techniques.

4.8 BAT 11 – Dust Emissions

BAT Requirement	Pitfour Rearing Farm
BAT 11 Dust emissions (one or a combination)	
(a) Reduce dust generation inside livestock building using a combination of the following techniques: 1. Use coarser litter material; 2. Apply fresh litter using a low-dust littering technique; 3. Apply *ad libitum* feeding; 4. Use moist feed, pelleted feed or add oily raw materials or binders in dry feed systems; 5. Equip dry feed stores which are filled pneumatically with dust separators; 6. Design and operate the ventilation with low air speed within the house.	1. Applied - Wood shavings are used. 2. Applied - Fresh litter is applied using a telehandler bucket at the start of the flock. 3. Applied - Feeding is ad lib. 4. Applied - Pelleted feed is used for the first 3 weeks and feed with a high oil addition is used for weeks 3-15. 5. Applied - Feed bins will have dust separators. 6. Applied - Ventilation systems within housing are optimised. Low air speeds are used when possible.
(b) Reduce dust concentration inside housing by applying one of the following: 1. Water fogging; 2. Oil spraying; 3. Ionisation.	Not proposed - BAT will be met through other techniques.
(c) Treatment of exhaust air by an air cleaning system such as: 1. Water trap;	Not proposed - BAT will be met through other techniques.

BAT Requirement	Pitfour Rearing Farm
2. Dry filter; 3. Water scrubber; 4. Wet acid scrubber; 5. Bioscrubber; 6. Two-stage or three-stage air cleaning system; 7. Biofilter.	

4.8.1 Dust modelling

PM10 results from SCAIL were discussed with SEPA. A dust modelling report was submitted to SEPA for a recent variation to the Briarbank PPC permit (in which the Pitfour Rearing Farm site was previously included). SEPA have indicated that if supplementary gable fans are located at the eastern end of the sheds, this would be acceptable and there would be no need to remodel this proposal. It is confirmed that supplementary gable end fans will be located on the eastern ends of the sheds.

4.9 BAT 12 & 13 – Odour Emissions

BAT Requirement	Pitfour Rearing Farm
BAT 12 Prevent or reduce odour emissions – odour management plan (all)	
In order to prevent, or where that is not practicable, to reduce odour emissions from a farm, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1). i. A protocol for containing appropriate actions and timelines ii. A protocol for conducting odour monitoring iii. A protocol for response to identified odour nuisance iv. An odour reduction programme designed to e.g. identify the source(s), to monitor odour emissions, to characterise the contributions of the sources and to implement eliminated and/or reduction measures v. A review of historical odour incidents and remedies and the dissemination of odour incident knowledge	An odour management plan has been developed for the site (Appendix D). In the event of any substantiated odour complaint, the plan will be reviewed and appropriate action taken.
BAT 13 Prevent or reduce odour emissions and / or odour impact from unit (combination)	
(a) Ensure adequate distances between the plant/farm and the sensitive receptors.	Location of the unit is outwith the control of Aberdeen & Northern Eggs Ltd but has been chosen as the site previously housed poultry sheds.
(b) Use a housing system which implements one or a combination of the following principles: 1. Keeping the animals and surfaces dry and clean; 2. Reducing the emitting surface of manure; 3. Removing manure frequently to an external store; 4. Reducing the temperature of the manure and of the indoor environment; 5. Decreasing the air flow and velocity over the manure surface; 6. Keeping litter dry and under aerobic conditions.	Applied – 1. Birds and surfaces will be kept dry and clean. 2. Manure is removed at the end of each flock. 3. Manure is removed at the end of each flock and sold to a local farmer. 4. Points 4-6 are controlled using computer-controlled temperature and ventilation system which optimises bird welfare and emissions from manure.
(c) Optimise the discharge conditions of exhaust air from the animal house by using one or a combination of the following techniques: 1. Increasing the outlet height; 2. Increasing the vertical outlet ventilation velocity; 3. Effective placement of external barriers to create turbulence in the outgoing air flow;	Applied - ventilation rates are optimised by a computer controlled systems. The installation consists of a mixture of high velocity roof fans and gable end fans used in emergencies. 1. Building design has been optimised. 2. Ventilation systems are optimised by controlled systems. 3. Not proposed.

BAT Requirement	Pitfour Rearing Farm
4. Adding deflector covers in exhaust apertures located in low parts of walls in order to divert exhaust air towards the ground; 5. Dispersing exhaust air at the housing side which faces away from the sensitive receptor; 6. Aligning the ridge axis of a naturally ventilated building transversally to the prevailing wind direction.	4. Not applicable. 5. Gable end fans will be positioned at the back of the sheds, away from nearby residential receptors. 6. N/A – buildings are not naturally ventilated.
(d) Use an air cleaning system, such as: 1. Bioscrubber 2. Biofilter 3. Two-stage or three-stage air cleaning system	Not proposed - BAT will be met through other techniques.
(e) Use one or a combination of the following: 1. Cover slurry or solid manure during storage; 2. Located the store taking into account the general wind direction to reduce wind speed around and above the store; 3. Minimise stirring of slurry.	Applied – manure will only be emptied at the end of the flock and removed offsite by a local farmer.
(f) Process manure with one of the following techniques in order to minimise odour emissions during landspreading: 1. Aerobic digestion; 2. Compost solid manure; 3. Anaerobic digestion.	Not proposed – the operator will not undertake any manure processing.
(g) Use one of a combination of the following techniques for manure landspreading: 1. Band spreader, shallow injector or deep injector for slurry landspreading; 2. Incorporate manure as soon as possible	Not proposed – the operator will not undertake any landspreading.

4.9.1 Odour Modelling

There are dwellings within 400m of the proposed installation. SEPA has confirmed they have little confidence in odour modelling from poultry sheds as the uncertainties are so large so odour has been addressed by other means (i.e. Odour Management Plan), which assesses odour potential and implements control measures. The site's Odour Management Plan has been included in Appendix D.

4.10 BAT 14, 15 & 19 – Emissions from Solid Manure Storage

BAT Requirement	Pitfour Rearing Farm
BAT 14 Reduce ammonia emissions from the storage of solid manure (combination)	
(a) Reduce the ratio between the emitting surface area and the volume of the solid manure heap.	Applied – manure will only be emptied at the end of the flock and removed offsite by a local farmer.
(b) Cover solid manure heaps.	
(c) Store dried solid manure in a barn.	
BAT 15 Prevent or reduce emissions to soil and water from storage of solid manure (combination)	
(a) Store dried solid manure in a barn.	Not proposed – no manure storage proposed on site.
(b) Use a concrete silo for storage of solid manure.	
(c) Store solid manure on solid impermeable floor equipped with a drainage system and a collection tank for the run-off.	
(d) Select a storage facility with a sufficient capacity to hold the solid manure during periods in which landspreading is not possible.	Not proposed – no manure storage proposed on site.
(e) Store solid manure in field heaps placed away from surface and/or underground watercourses which liquid run-off might enter.	Not proposed – no manure storage proposed on site.
BAT 19 Reduce emissions to air from on-farm processing of manure (one or a combination)	

BAT Requirement	Pitfour Rearing Farm
(a) Mechanical separation of slurry. This includes e.g.: • Screw press separator; • Decanter-centrifuge separator; • Coagulation- Flocculation; • Separation by sieves; • Filter pressing.	Not proposed – no manure storage proposed on site.
(b) Anaerobic digestion of manure in a biogas installation.	
(c) Use of an external tunnel for manure drying.	
(d) Aerobic digestion (aeration) of slurry.	
(e) Nitrification-denitrification of slurry.	
(f) Composting of solid manure.	

4.10.1 Livestock Manure Plan

The volume of manure produced in the poultry unit is detailed below:

Name of Material	Annual production	Further Information
Manure	550 tonnes	In each shed, manure will be removed at the end of each flock (approximately 3 times per year) and sold to a local famer who will be responsible for ensuring it is applied in accordance with crop requirements and with relevant legal requirements.

4.11 BAT 16, 17 & 18 – Emissions from Slurry Storage

Not applicable, there is no slurry storage on site.

4.12 BAT 20, 21 & 22 – Manure Landspreading

Manure will be removed by a local farmer. The operator will not be completing any landspreading.

4.13 BAT 23, 24, 25, 26, 27, 28 & 29 – Process Emissions

BAT Requirement	Pitfour Rearing Farm
BAT 23 Reduce ammonia emissions from the whole process	
Operators will be required to report they are meeting BAT-AELs annually.	Applied - emission information will be provided as required.
BAT 24 Monitor total nitrogen and total phosphorus excreted in manure (one)	
(a) Calculate by using a mass balance of nitrogen and phosphorus based on the feed intake, crude protein content of the diet, total phosphorus and animal performance.	Applied – this will be determined through calculator tools developed for the industry.
(b) Estimation by using manure analysis for total nitrogen and phosphorus content.	Not proposed - BAT will be met through other techniques.
BAT 25 Monitor ammonia emissions to air (one)	
(a) Estimation by using a mass balance based on the excretion and the total (or total ammoniacal) nitrogen present at each manure management stage.	Not proposed - BAT will be met through other techniques.
(b) Calculation by measuring the ammonia concentration and the ventilation rate using ISO, national or international standard methods or other methods ensuring data of an equivalent scientific quality.	Not proposed - BAT will be met through other techniques.
(c) Estimation by using emission factors.	Applied - emission information will be provided as required using UK emission factors. The SCAIL model was run for this application and the unit passes SCAIL screening for process contribution as confirmed by SEPA, please refer to Appendix C for capacity and emissions information.
BAT 26 Monitor odour emissions to air (all)	

BAT Requirement	Pitfour Rearing Farm
Odour emissions can be monitored by using: - EN standards (e.g. by using dynamic olfactometry according to EN 13725 in order to determine odour concentration). - When applying alternative methods for which no EN standards are available (e.g. measurement/estimation of odour exposure, estimation of odour impact), ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality can be used.	Not proposed - the site will consider monitoring odour emissions in the event of a substantiated odour complaint/nuisance.
BAT 27 Monitor dust emissions from housing (one)	
(a) Calculate dust emissions by measuring dust concentration and the ventilation rate.	Not proposed - BAT will be met through other techniques.
(b) Estimate dust emissions by using emission factors.	Applied - emission information will be provided as required using UK emission factors and guidance from SEPA.
BAT 28 BAT is to monitor, ammonia, dust and/or odour emissions from each animal house equipped with an air cleaning system (all)	
(a) Verification of the air cleaning system performance by measuring ammonia, odour and/or dust under practical farm conditions and according to a prescribed measurement protocol and using EN standard methods or other methods (ISO, national or international) ensuring data of an equivalent scientific quality.	Not applied – houses will not be equipped with air cleaning systems.
(b) Control of the effective function of the air cleaning system (e.g. by continuously recording operational parameters or using alarm systems).	Not applied – houses will not be equipped with air cleaning systems.
BAT 29 Monitor the following process parameters (all)	
(a) Water consumption	Applied - water consumption will be monitored and reported
(b) Electric energy consumption	Applied - energy consumption will be monitored as required.
(c) Fuel consumption	Applied - fuel consumption will be monitored as required.
(d) Number of incoming and outgoing animals, including births and deaths when relevant.	Applied - livestock movements monitored as required.
(e) Feed consumption	Applied - feed consumption monitored as required.
(f) Manure generation	Applied – manure monitored as required.

4.13.1 Raw materials

Proposed raw materials usage is listed below.

Name of Material	Annual consumption	Further Information
Biocides (including disinfectants)		
Virkon S	20kg	Used for foot dips. Substances will be stored indoors within the service area in Shed 2 to reduce environmental risk.
Bioshield	250l	Used for vehicle and shed disinfection. Substances will be stored indoors within the service area in Shed 2 to reduce environmental risk.
Veterinary medicines		
Medicines and vaccines	Varies as required	There is no long-term storage of medicines on site. Only vaccines for use during each flock will be stored at the site and the rest will be stored at another unit.
Fuels and oils		
Generator diesel	Variable, depending on need (estimated maximum 150 litres)	Diesel is only used in the generator in the event of a power failure.
Feedstuffs		
Feed	1000 tonnes (approx.)	Four, 18T feed bins are located at the back of the site. Shed 1 will have 6 rows of pan feeders and one loop track feeder.
Litter		

Name of Material	Annual consumption	Further Information
Wood shaving based litter	550 tonnes	Bedding is ordered as required .

4.13.2 Waste production

Anticipated waste production information is listed below:

Name of Material	Expected annual production	Further Information
General waste	50kg	Waste production is expected to be minimal. Waste will be removed to the operator's West Cockmuir unit where Morrow Skip Hire will dispose of waste.
Deadstock	1 wheeled bin per week	Deadstock will be stored in the service areas of the sheds and placed out in locked wheeled bins once a week for collection by Douglasbrae.
Clinical waste (medicine bottles and glass vials)	Minimal	Clinical waste is segregated and disposed of via specialist contractor or returned to the vet.

4.14 BAT 30

BAT 30 does not apply – this covers pig housing.

4.15 BAT 31, 32, 33 & 34 – Air Emissions From Poultry Houses

BAT 32, 33 & 34 do not apply – these cover broilers, ducks, turkeys, respectively.

BAT Requirement	Pitfour Rearing Farm
BAT 31 Reduce ammonia emissions to air from each house for laying hens, broiler breeders or pullets (one or a combination)	
(a) Manure removal by belts (in case of enriched or unenriched cage systems) with at least: • One removal per week with air drying; or • Two removals per week without air drying	Not applicable – no cage systems.
(b) In case of non-cage systems:	
0. Forced ventilation system and infrequent manure removal (in case of deep litter with mature pit) only if used in combination with an additional mitigation measure e.g. • Achieving a high dry matter content of the manure • An air cleaning system	Applied – system to be used in sheds.
1. Manure belt or scraper (in case of deep litter with a manure pit)	Not proposed.
2. Forced air drying of manure via tubes (in case of deep litter with a manure pit)	Not proposed.
3. Forced air drying of manure using perforated floor (in case of deep litter with a manure pit)	Not proposed.
4. Manure belts (in case of aviary)	Not proposed.
5. Forced drying of litter using indoor air (in case of solid floor with deep litter)	Not proposed.
(c) Use of an air cleaning system, such as: 1. Wet acid scrubber; 2. Two-stage or three-stage air cleaning system; 3. Bioscrubber (or biotrickling filter)	Not proposed.

4.15.1 Ammonia Emissions

The CEH's Simple Calculation of Atmospheric Impact Limits (SCAIL) tool has been used to determine ammonia emissions and the input data for this has been included in Appendix C. These have been discussed with SEPA during pre-application discussions, no further modelling proposed.

It should also be noted that the emission factors for pullets are based on 88% occupancy. The occupancy rates at Pitfour Rearing Farm will be closer to 83%, meaning that ammonia emissions are likely to be less than those provided in Appendix C.

4.15.2 Mitigation Measures

Following pre-application discussions with SEPA, the operator committed to installing an aviary system in Shed 2 which reduced the process contribution (PC) of ammonia at Rora Moss from 2.43% to 1.60%. This reduced the predicted environmental concentration (PEC) from 105.4% to 104.6%. However, the Department for Environment, Food & Rural Affairs have recently closed a consultation on 'Cage reform: proposed ban of keeping laying hens, pullets and breeder layers in cages' where one of the consultation questions was whether there should be an exemption for the multi-tier rearing aviaries where hicks are brooded in cage system for the first 2 weeks only. The operator believes it is too risky to install the aviary system given the uncertainty of whether these systems will be allowed or not, therefore, the application has been updated to reflect Shed 2 as a litter-based system.

Appendix C details the SCAIL results for the litter-based system. There are three SSSIs of concern – Kirkhill, Rora Moss and Moss of Cruden. The PC of ammonia, nitrogen deposition and acid deposition is less than 4% for all of the SSSIs and therefore passes SCAIL. The PEC when considering the background levels is exceeded at Rora Moss. It should be noted that SCAIL is a conservative tool and it is expected that the impact at Rora Moss will be less than that predicted by the SCAIL model.

The operator has reviewed the following mitigation measures:

1. **Occupancy** – The emission factors for pullets are based on 88% occupancy. The occupancy rates at Pitfour will be closer to 83%, meaning that ammonia emissions will be less than those provided in Appendix C.

2. **Crude protein reduction** – The emission factor is based on a crude protein content of 15.9%. It is unlikely that improvements could be made on this crude protein level without impacting animal welfare.

3. **Installation of heat exchangers** – Installing heat exchangers could reduce emissions by 30%. This reduction was run in SCAIL to review the impact on the PEC, results in the table below. It is unlikely that the marginal improvement of the PEC warrants the cost of the heat exchanger system.

	NH_3	Nitrogen Deposition	Acid Deposition
Receptor	% of PEC to CLevel	% of PEC to CLevel	% of PEC to CLevel
Litter-based system			
Rora Moss	105.4%	194.8%	154.7%
Litter-based system with heat exchangers (30%) reduction)			
Rora Moss	104.7%	194.0%	154.7%

4. **Tree planting** – Tree planting has been considered on site. There are some trees along the installation boundary. Currently, there is little land available to the operator as they own the extent of the PPC boundary but are in negotiations with the neighbouring landowner to purchase an additional 10m strip around the unit. If successful, trees will be planted around the unit. If unsuccessful, the operator will approach other nearby landowners with the aim to plant some additional trees between the unit and Rora Moss. Between the unit and Rora Moss, there are a few areas of established tree planting (areas calculated using Google Earth Pro). We have considered these using the UK Centre for Ecology & Hydrology's (CEH) Tree calculator for Ammonia Mitigation (https://farmtreestoair.ceh.ac.uk/ammonia-reduction-calculator), and have detailed the percentage of ammonia recapture that may be possible:
    - Adjacent field to the west of the site (NJ 98791 49059) – approximately 7,800m^2, recapture of ~6.79% currently (based on height), increasing to 17.2% after 50 years (assumed Scots pine)
    - Woodland to the east of Little Fortrie (NK 03247 50918) – approximately 109,000m^2, recapture of ~9.45% currently (based on age height), increasing to 21.75% after 50 years (assumed Sitka Spruce)
    - Bruxfin Wood (NK 04647 51048) – approximately 823,000m^2, recapture of ~9.45% currently (based on age height), increasing to 21.75% after 50 years (assumed Sitka Spruce)
    - Cairntawie Wood (NK 04018 52042) – approximately 276,000m^2, recapture of ~9.45% currently (based on age height), increasing to 21.75% after 50 years (assumed Sitka Spruce)

Emission (source)	Description of significant effect
Ammonia (from exhaust fans)	Ammonia can impact the environment through acidification, nitrification and eutrophication. Housing has been located to minimise impact on nearby sensitive receptors and has been designed in accordance with BAT in order to reduce ammonia emissions. Diets are formulated to match bird requirements to reduce excess nitrogen waste. Shed ventilation limits high-humidity conditions and maintaining controlled airflow and regular air exchange helps reduce the risk of concentrated ammonia build-up.
Dust (from exhaust fans)	Sheds will have high velocity roof fans, which should help reduce dust emissions from the installation. Emergency gable end fans are directed away from nearby residential receptors. The sheds have controlled airflow to also keep dust emissions to a minimum.
Odour (from exhaust fans)	An Odour Management Plan will be in place. No significant effect is expected.
Noise (from exhaust fans and vehicle activity)	A Noise Management Plan will be in place. No significant effect is expected.
Nutrient enrichment (Rural SuDS systems)	Rural SuDS are designed to meet BAT and will treat the expected volume of lightly contaminated water. The outlets will be tested and analysed regularly in line with the proposed water/soil monitoring programme. No significant effect is expected.

Appendix A: Site Location Plan

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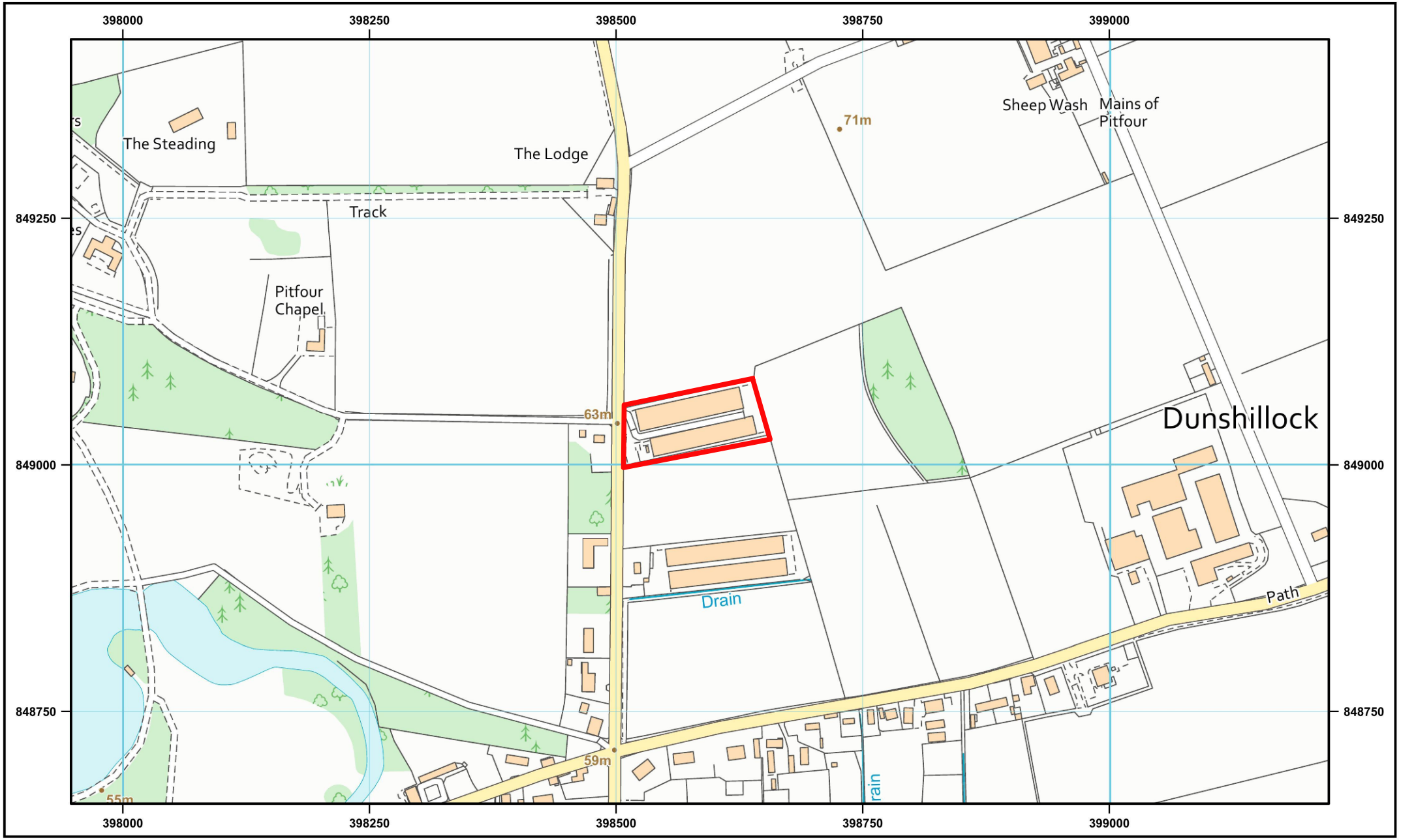
PITFOUR REARING FARM NOV25
Supplied by: www.ukmapcentre.com
Product Info: www.ukmapcentre.com/rural-site-location-plans-5000-scale
Serial No: 321658
Centre Coordinates: 398585,849044
Production Date: 18/11/2025

North

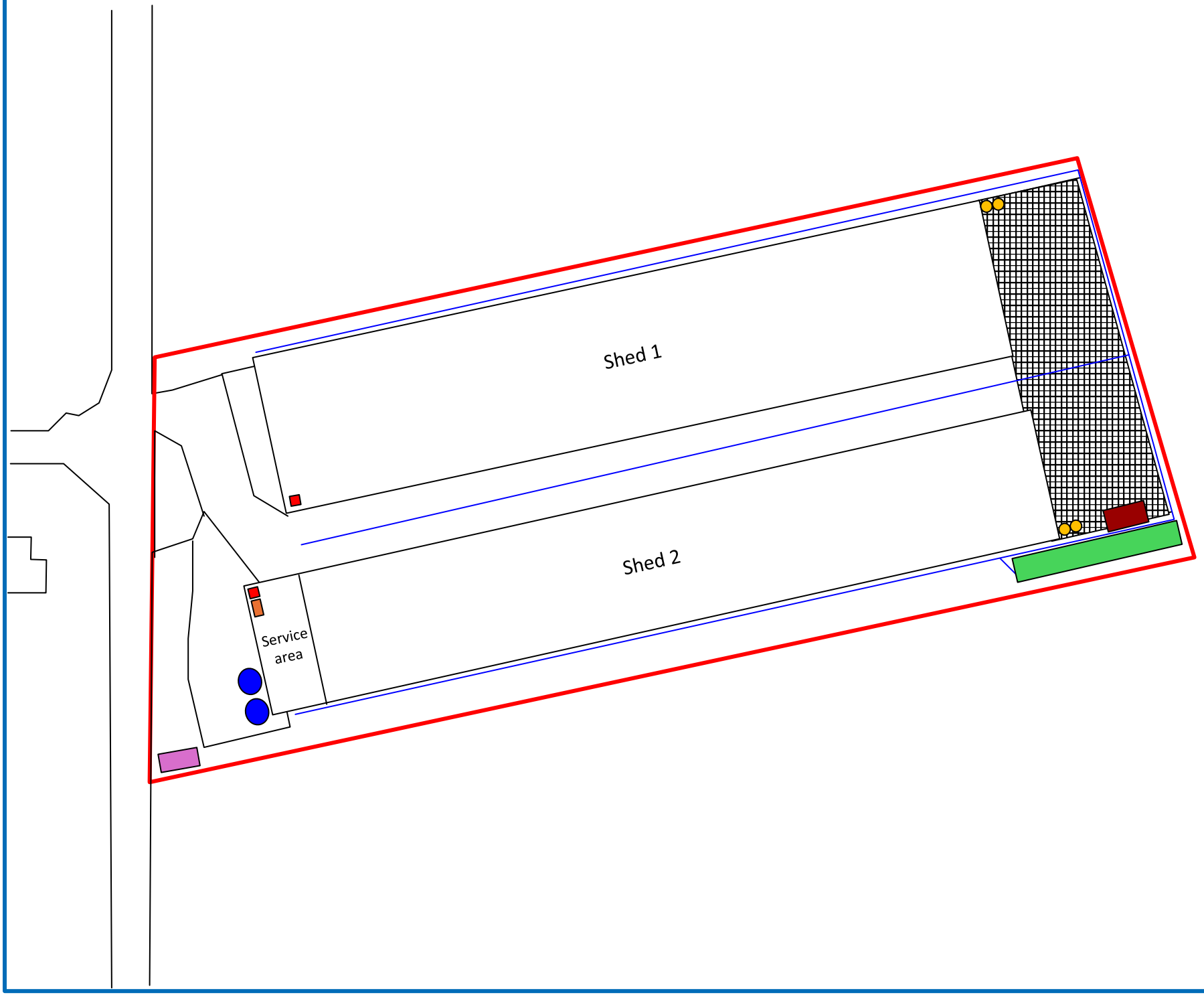
0 50 100 150 200 250 m
Scale 1:5000 - 1cm = 50m - A4 Size



Appendix B: Site Layout Plan

Pitfour Rearing Farm

Site Plan



Key

- Installation boundary
- Drainage
- Feed bin
- Water tank
- Wastewater tank
- Generator
- Chemical store
- Deadstock
- Concrete
- Proposed swale

Notes

- Site location – NJ 98578 49046
- Drawing not to scale
- Site plan based on information provided with permit application and discussions with operator

Client:	Aberdeen & Northern Eggs Ltd	
Title:	Pitfour Rearing Farm Site Plan	
Revision:	Detail	Date
1	First issue	Nov-25
2	Update for EASR	Apr-26

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APPENDIX C: UNIT CAPACITY & CALCULATED EMISSIONS

Pitfour Rearing Proposed										
Building	**Grid Reference**	**Description**	**Year**	**Bird Number**	NH_3 Emissions		Odour Emissions		PM10 Emissions	
					Emission Factor (kg NH_3 / bird)	Total emissions (kg)	Emission Factor (kg NH_3 / bird)	Total emissions (kg)	Emission Factor (kg NH_3 / bird)	Total emissions (kg)
Shed 1	398577,849056	Litter-based pullets	2025	48,000	0.043	2064	44150.4	2119219200	0.033	1584
Shed 2	398586,849029	Litter-based pullets	2026	32,000	0.043	1376	44150.4	1412812800	0.033	1056
			Total	**80,000**		**3440**		**3532032000**		**2640**

SCAIL Screening Output

Ammonia

The SCAIL screening tool has identified no ammonia exceedances of the process contribution (PC) at nearby sensitive receptors and this has been confirmed with SEPA in pre-application discussions.

Receptor	NH3						Nitrogen Deposition						Acid Deposition						Habitat
	PC (ug/m^3)	Background (ug/m^3)	PEC (ug/m^3)	EAL (ug/m^3)	% of PC to CLevel	% of PEC to CLevel	PC (kg/ha/yr)	Background (kg/ha/yr)	TOTAL (kg/ha/yr)	CLOAD (kg/ha/yr)	% of PC to CLevel	% of PEC to CLevel	PC (kEqH+/ha/yr)	Background (kEqH+/ha/yr)	TOTAL (kEqH+/ha/yr)	CLOAD (kEqH+/ha/yr)	% of PC to CLevel	% of PEC to CLevel	
Kirkhill	0.03092	1.07	1.10092	3	1.03%	37%	0.16	10.05	10.21	0			0.011	0.794	0.802	0			N/A
Rora Moss	0.02432	1.03	1.05432	1	2.43%	105%	0.13	9.61	9.74	5	2.60%	195%	0.009	0.76	0.766	0.497	2%	155%	Raised bog
Moss of Cruden	0.01218	0.83	0.84218	3	0.41%	28%	0.06	9.17	9.23	0			0.004	0.733	0.736	0			N/A

PM10

PM10 results from SCAIL were discussed with SEPA. A dust modelling report was submitted to SEPA for a recent variation to the Briarbank PPC permit (in which the Pitfour Rearing Farm site was previously included). SEPA have indicated that if supplementary gable fans are located at the eastern end of the sheds, this would be acceptable and there would be no need to remodel this proposal. It is confirmed that supplementary gable end fans will be located on the eastern ends of the sheds.

APPENDIX D: SITE MANAGEMENT PLANS

SITE MANAGEMENT PLANS

Pitfour Rearing Farm
Aberdeen & Northern Eggs Limited

Introduction

These documents are required as part of the company's Pollution Prevention & Control (PPC) permit. Their purpose is to identify potential issues on the PPC unit (e.g. complaints, noise emissions, odour emissions, other incidents) and how these will be controlled.

Document History

Version	Date	Details	Responsibility
1	Dec-25	First issue	Iain Chapman

Identification of Sensitive Receptors

The following table details the locations of sensitive receptors which are defined as within 400m of the PPC unit. These include public buildings, commercial buildings, recreational areas and residential properties (excluding farm property).

Sensitive Receptor	Contact Details
Middle Lodge	TBC
New Dwelling	TBC
Briarbank	TBC
East Lodge	TBC
The Lodge	TBC

Contact Details

This person is responsible for communicating with SEPA with regards to all aspects of the PPC permit including reporting incidents, complaints and providing assessments and reports required by the permit. Complaints are passed on to the responsible person for the site on receipt. The responsible person for this site is:

Responsible Person	Contact Details
Iain Chapman	01346 532 276
Denise Ross	01346 532 276

Upon receipt of complaint or incident on site:

- Report incident or complaint to site PPC contact or deputy.
- PPC contact to report incidents to SEPA immediately via telephone
- Document issue using an Incident Form. For complaints, visit complainant if required for more information
- Investigate the causes of the event and take action to prevent recurrence. Where appropriate, contact complainant with an explanation
- Review relevant Management Plan
- Complete the Incident Form and forward on completed document to SEPA within 14 days of the incident.

Management Plans

The farm's procedures for dealing with complaints, odour emissions, noise emissions and environmental incidents are detailed in the following pages.

Incident Report Form v1

Pitfour Rearing Farm

Reference: _____

Details of incident / complaint					
Date and time:					
Type of incident / complaint: (noise, odour, other - please detail)					
Description of the incident: • description of emission (e.g. hiss, hum, rumble, continuous, intermittent, vehicle noise, machinery) • type, composition and quantity of emission • receiving environment (e.g. air, watercourse, groundwater, land)					
Details of complainant, if appropriate: • Name					
• Contact details					
• Location in relation to installation.					
Investigation					
Weather conditions: (e.g. dry, rain, fog, snow)					
Wind strength and direction: (e.g. light, steady, strong, gusting)					
Cause of incident:					
Environmental damage caused:					
Operating conditions at the time of incident occurred:					
Follow-up					
Action taken to address issue and prevent reoccurrence:					
Amendment required to relevant procedure or management plan:					
Complainant contacted, if appropriate		☐			
Close out					
Form completed by:		Signed:		Date:	

Odour Management Plan

Pitfour Rearing Farm

	Activity	How often?	Odour release points	Measures to control odour
Main Activities	Poultry rearing	Constant	Gable end fans High-velocity roof fans	Stocking density is kept within welfare requirements. Ensure optimum ventilation rate – when outdoor temperatures are low, ventilation runs on minimum setting to provide a low air flow. Animals, surfaces and litter are kept dry - sufficient litter is provided at optimum depth absorb moisture and to maintain clean & dry surfaces. Drinking systems are inspected regularly and adjusted as required to avoid spillage and wet litter. Housing is kept clean, especially dust deposits around ventilation discharge points. Units are deep cleaned at the end of each cycle. Ventilation and housing systems are regularly inspected and maintained where required.
	Poultry rearing	Periodic (these are only used when on sheds with high-velocity roof fans when outdoor temperatures >25°C)	Gable end fans	
Other Activities	Carcass disposal	Regular	Carcass storage area	These are stored in lidded bins and removed off site regularly.
	Feeding regime	Constant	Housing	Use of different diets at different stages of rearing cycle to reduce nitrogen excretion.
	Feed delivery	Regular	Feed silos	Closed feed delivery systems are used to reduce dust and therefore odour. Feed bins and delivery systems are regularly inspected and maintained where required. A farm representative is on hand during all feed deliveries in case of emergency.
	Cleaning housing	Infrequent (these are cleaned after each flock)	Ventilation points	Cleaning of housing is completed indoors with ventilation system running.
	Yard water management	Periodic		Yard water is clean and drainage measures are in place.
	Wash water management	Periodic	Underground tank opening	Wash water from cleaning is collected in enclosed underground tanks. It is removed once cleaning is completed and taken to be spread on fields. Drains and pumping systems are regularly maintained. A farm representative is on hand during all wastewater pumping activities in case of emergency.
	Back-up energy generation	Emergency only	Generator	The generator is tested periodically, regularly serviced and maintained to reduce inefficiency and odours.

Noise Management Plan

Pitfour Rearing Farm

	Activity	How often?	Noise release points	Measures to control noise
Main Activities	Poultry rearing	Constant	Gable end fans High-velocity roof fans	Stocking and destocking are completed during normal working hours, wherever possible. Pipe and conveyor runs are kept as short as possible. Ventilation and housing systems are regularly inspected and maintained where required. Buildings are insulated and this reduces noise. Stocking density meets welfare regulations.
	Poultry rearing	Periodic (these are only used when on sheds with high-velocity roof fans when outdoor temperatures >25°C)	Gable end fans	
Other Activities	Manure handling	Periodic	None	Operations to remove manure occur during normal working hours.
	Carcass disposal	Regular	Carcass storage area	Collections of deadstock are completed during normal working hours.
	Feeding regime	Constant	Housing	Passive feeding techniques are used to avoid noise. Feeding equipment is regularly inspected and maintained.
	Feed delivery	Regular	Feed silos	Feed deliveries are completed during normal operating hours. Delivery vehicle engines are not left unnecessarily running. Feed bins and delivery systems are regularly inspected and maintained where required. A farm representative is on hand during all feed deliveries in case of emergency.
	Back-up energy generation	Emergency only	Generator	The generator are tested periodically, regularly serviced and maintained to reduce noise.
	Cleaning housing	Infrequent (these are cleaned after each flock)	Ventilation points	Cleaning of housing (and use of pressure washers) is completed indoors, during normal operating hours.
	Wash water management	Periodic	Underground tank opening	Wash water from cleaning is collected in enclosed underground tanks during normal operating hours. Drains and pumping systems are regularly inspected and maintained. A farm representative is on hand during all wastewater pumping activities in case of emergency.

Incident Prevention & Mitigation Plan

Pitfour Rearing Farm

Incident type	Likelihood	Potential environmental impact	Action to minimise potential impact	Actions to be taken should incident occur
Fire	Low	Air emissions.	Fire extinguishers on site are regularly replaced.	Contact fire service.
		Firewater may contain substances dangerous to local ecosystems.	Firewater will be contained in wastewater tanks.	Contain firewater where safe to do so.
Feed spillage or leakage	Medium	Feedstuffs are highly polluting if allowed to enter watercourses	Feedstuffs are contained and protected from collision damage.	Contain away from the surface water system.
			Routine inspection and maintenance.	If possible, stop further additions to bins.
			Establish main routes pollutants will travel to allow blocking off such routes minimising environmental damage.	Handle and dispose of properly, if necessary.
Spillage of cleanout water when cleaning housing	Low	Cleanout water may contain cleaning chemicals harmful to the environment.	Cleaning will only occur inside sheds and undercover.	Spread to land.
			Wash water is collected in enclosed underground tanks.	
Spillage of chemicals	Low	Chemical substances may be polluting to the local environment in the event of a spill.	Chemicals are stored indoors and this area is regularly checked. Few chemicals are used on site.	Contain and clean up spills using available materials on site and keep away from drainage systems. Dispose of any waste properly.
			A number of chemical substances are purchased in powder form and in minimal quantities. Spillages are cleaned up promptly.	Empty bunds and repair any damaged equipment as required.
Structures vulnerable to damage from motorised activity (e.g. feed stores)	Low	May lead to spillages (mentioned above).	Regular inspection of structures.	Repair damaged structures to prevent contamination issues.
			Advise employees and contractors on site of vulnerable areas.	
			Structures are sited away from vulnerable locations with collision barriers where appropriate.	
			Delivery contractors made aware of emergency procedures.	
Power failure	Medium	Poorly maintained equipment may result in air emissions.	Regularly maintain and test back-up generators.	None.
Interruption to water supply	Low	Frozen or leaking pipes may result in flooding and water wastage.	Regularly check water systems and insulate pipework as appropriate.	Isolate water supply.
Disease	Low	Various potential impacts.	Regular veterinary visits.	Destock and dispose of carcasses as per disposal plan.
			Best hygiene practices.	

Decommissioning Plan

Pitfour Rearing Farm

Aim	This plan outlines the actions to be taken by the operator should it be necessary to surrender the site's PPC permit and decommission the site. The decommissioning plan aims to prevent and where possible minimise the environmental impact of closure works. The site report indicated that the site was considered free of contamination at the beginning of the PPC permit. Therefore, the following programme will be implemented on final cessation of the permitted activities.

Area	Action
Poultry housing	Remove any remaining manure.
	Deep clean and disinfect of housing and equipment, collecting any wash water by tanker and exporting off-site (ensuring it is received by person/company with appropriate waste management licence/exemption).
	Removal of drinking and feeding equipment if not required for further farm use.
Raw materials & wastes (other than livestock wastes)	Use any disinfectants/cleaning substances elsewhere on the farm or, if not required, dispose of to an appropriately registered waste contractor.
	Return any unused medicines to vet.
	Remove of wastes from site by appropriate waste contractor(s).
Feed storage	Collection and removal of all remaining feed stuffs in silos / tanks
	Flushing of lines and silos / tanks to remove residues.
	Removal of all associated pipework (if not required for further farm business).
	Dismantle and remove silos and associated pipework if not required for further farm business.
Site investigation	If there is evidence of contamination on site, test the soil to ascertain the degree of pollution caused by the installation and to determine the need for any remediation to return the site to a satisfactory state as defined by the initial site report.
Site buildings (if required)	Refer to Guidance for Pollution Prevention GPP6: Working at construction and demolition sites.

Appendix E: Rural Sustainable Drainage System (RSuDS) Design

Diffuse Pollution Steading Assessment

As recommended in the CREW 'Rural Sustainable Drainage Systems (RSuDS): A Practical Design and Build Guide for Scotland's Farmers and Landowners' (CREW Guidance), a holistic assessment of the steading should be conducted to identify areas where water may become contaminated and create a pollution risk. It has been decided to treat all water from the roof and concreted yard areas for each house. These areas are considered to be 'lightly contaminated'.

Treatment Volume

Using dimensions from housing plans and including the concreted areas at the end of each shed, the area of rainwater runoff has been determined. Table 1 details how the treatment volume for each RSuDS has been calculated.

Table 1: Treatment Volume Calculation for RSuDS

Area to be treated (A)	
Shed 1 roof area	2,500m^2
Shed 2 roof area	1,725m^2
Concreted yard areas	650m^2
Total Area Drained	**4,875m^2**
Rainfall (R)	
Rainfall value (from CREW RSuDS guide, page 17)	0.015m
Treatment volume (Vt)	
Treatment volume (Vt) = Area to be treated (A) x Rainfall (R)	**73m^3**

RSuDS Design

As water comprises of rainwater runoff from clean roofs and from concreted areas, a swale has been considered to be an appropriate treatment measure. A swale must hold 1x treatment volume so therefore must be able to hold 73m^3 of water.

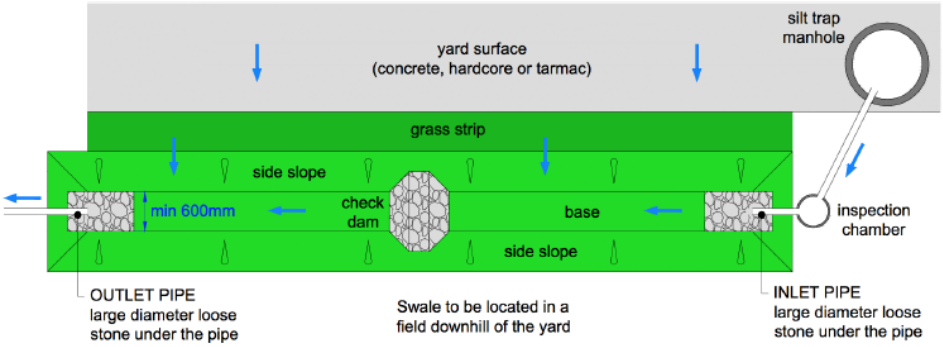
The swale will be designed in accordance with the CREW guidance and designs will be confirmed with SEPA prior to installation. Excerpts of the guidance (pages 27-28) showing a typical swale are provided below.

Table 2: Minimum and maximum specifications for a swale (from CREW Guidance)

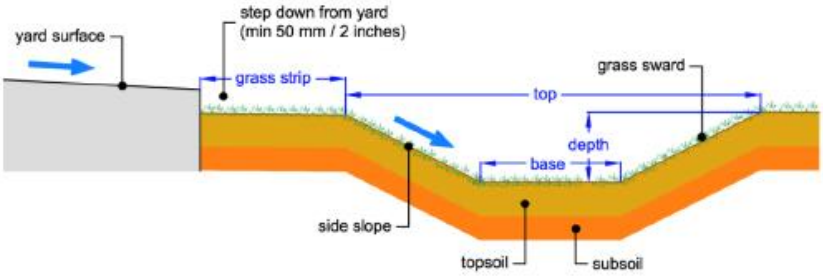
Description of Feature	Minimum		Maximum	
	(millimetres)	(feet)	(millimetres)	(feet)
Grass Strip Width	600	2	1,200	4
Base Width	600	2	2,000	6½
Depth	300	1	1,000	3½
Top Width	2,400	8	varies according to base width and depth	
Side Slope	1 in 3 *		1 in 4	
Topsoil Depth	150 mm (6 inches)			
Base Fall (optimum)	1 in 200 to 1 in 300 (3 to 5 mm fall every 1 m)			
Base Fall (maximum)	1 in 100 (10 mm fall every 1 m)			

* **Note**: Steeper side slopes may be used in swales that receive only pipe flow or where space is limited. Side slopes should never be steeper than 1 in 2. It is feasible where space is limited to design a sheet flow swale with the far slope (away from a path or steading) with a 1 in 2 gradient.

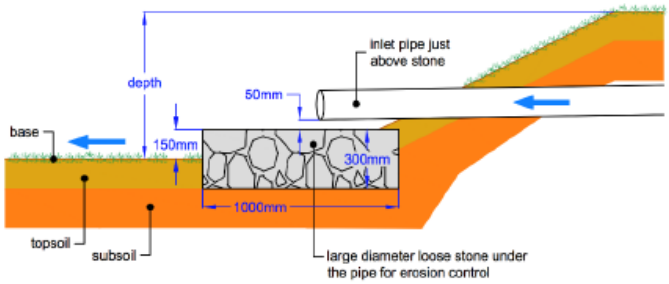
Swale: Typical Plan



Swale: Typical Cross-Section

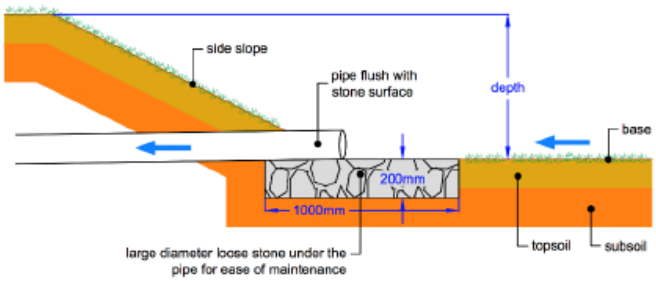


Swale: Typical Inlet Cross-Section (Pipe Flow)



Note: The internal diameter of the inlet pipe should be designed for the area drained (see page 22)

Swale: Typical Outlet Cross-Section



Note: The outlet pipe must be a minimum of 100 mm (4 inches) internal diameter

Figure 1: Pages 27-28 of the CREW Guidance

APPENDIX F: SITE & BASELINE REPORT

Apr
2026

SITE & BASELINE REPORT

PITFOUR REARING FARM

ABERDEEN & NORTHERN EGGS LIMITED

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CONTENTS

1 Introduction

This report forms part of an Environmental Authorisation permit application for Pitfour Rearing Farm. The operator is proposing to retrofit an existing shed for 48,000 pullets and rebuild a second shed to house 32,000 pullets. The unit will operate in accordance with SEPA's Standard Farming Installation Rules (How to Comply) for Intensive Livestock Installations – April 2013. This report describes the current condition of the site to act as a point of reference (baseline) to determine in the future whether there has been any deterioration of the site during permitting.

2 Site Location

A Site Plan is provided within the Environmental Authorisation Permit Application: Supporting Information – Pitfour Rearing Farm (Appendix B).

3 Relevant Hazardous Substances

Potential hazardous substances to be used and held within the installation boundary have been identified below. The table below also provides information about the Relevant Hazardous Substances (RHS) contained within each.

Substance	Quantity on site (max)	Details of controls
DEFRA -approved soaps and disinfectants (various chemicals)	Minimal	Biocides and disinfectants are only ordered when needed and stored in a dedicated storage area in Shed 2.
Feed (nutrients)	4 feed bins	Feed is kept in silos which are regularly checked and maintained. Spills are easily identified and swept up.
Manure (nutrients)	None outwith housing	Manure is stored within housing only. Sheds are built on impermeable surfaces and management practices are in place (including visual checks of the surface's integrity during every clean out).
Housing wash water (nutrients)	None	Contaminated water (e.g. from washing/cleaning) is collected in underground tanks and removed from the site for spreading on arable land.
Diesel	Tank	Diesel is only used for the generator and will be stored in a bunded, plastic tank.
Rain run-off from roofs (nutrients)	Dependant on rainfall	Roofs are considered to be clean.
Dust from exhaust vents (nutrients)	Dependant on rainfall	At both sheds, dust will land on concrete below gable end fans. Runoff from the concrete aprons will be collected and directed to the RSuDS system.

4 Assessment of Site-Specific Pollution Potential

With the exception of nutrients - primarily ammonia and phosphorous - the risk of release of any relevant hazardous substances in significant quantities to soil or groundwater is considered to be negligible.

4.1 Chemicals

Biocides, disinfectants and vet medicines are stored on site are in relatively low volumes in appropriate secured locations on an impermeable surface and utilised within the poultry housing which has impermeable concrete flooring. The condition of the flooring is checked during every clean out. All housing wash water is collected in underground tanks and removed off-site for spreading. All chemicals are considered very low risk to soil or groundwater.

4.2 Hydrocarbons

Diesel is used for the emergency generator only and is stored within an integrally bunded tank. It will be positioned safe from risk of collision. The risk of release of hydrocarbons to the soil or groundwater is therefore negligible.

4.3 Nutrients

Poultry housing has potential to emit nutrients (particularly nitrogen and phosphorus) in manure, litter and dusts. These can be transferred to water and/or land either directly or when mixed with water (wash water and/or rainwater). Manure and litter will be managed in accordance with BAT. Both will be contained on site – the houses will be built on impermeable

concrete surfaces, the integrity of which will be visually checked during every cleanout. Manure will be removed at the end of each flock. Housing wash water will be collected and taken directly off site for spreading on land.

There may be some dust build up under feed bins and at the ends of the existing sheds where the gable end exhaust fans are. Concreted areas underneath the gable end fans will collect dust and direct it to wastewater tanks / RSuDS system.

5 SITE HISTORY

Site history	Details
Historic operations	Pitfour Rearing Farm formed part of the Briarbank Poultry Farm, permitted since July 2007, (PPC permit number: PPC/A/1016797). It is understood that the entire site has been used for poultry farming since its construction in 1957 by Kinnard Poultry and was sold to Ross Poultry/Buxted Chickens. Grampian Country Chickens acquired it in 1995 and rebuilt some houses in 1988 and 1998. The PPC permit was originally held by Grampian Country Chickens (Rearing) Limited. In February 2015, the permit was transferred to Hook2Sisters Limited. Duncan Farms purchased the site in 2017 and most recently, the permit was varied by them in May 2018 and again (VAR01) in July 2022. For the new site, the existing Briarbank Shed 6 will be repaired, retrofitted, and renamed Shed 1. Shed 2 will be rebuilt on the land previously occupied by Briarbank's Shed 5.
Nearby housing	There are nearby residential properties which have been considered as part of the application. The impacts of dust have been considered within the supporting information. Emergency gable end ventilation is positioned away from nearby sensitive receptors.
Hazardous substances used on site	There have been no known hazardous substances with potentially polluting potential that have been either stored or used on this piece of land to date. The detailed layout plan of the unit from the initial PPC permit indicates storage locations for: • Gas tanks at the entrance to the unit • Disused incinerator location • Chemical store (inside shed) • Generator (inside shed) • Fuel tank (inside shed) • DERV tank • LPG tanks (outside shed 2) It is expected that an updated site report which details the site condition will be provided to SEPA with the partial surrender of the PPC/A/1016797 permit.
Environmental permits, consents, etc	The Pitfour Rearing Farm was previously permitted under the Briarbank Poultry Farm – PPC Permit Number: PPC/A/1016797. It is understood that elements of this permit which cover Pitfour are being surrendered by Duncan Farms Limited. According to Scotland's environment web (https://www.environment.gov.scot/) there is also a CAR registration (CAR/R/1030783) for the site. It appears that this is for sewage discharge (e.g. septic tank).
Known spills, accidents or pollution incidents	A Phase I Site Investigation of the unit was carried out in July 2023 by EnviroSurveying Ltd. It indicates that : • PPC site reports indicate no known areas of historic contamination which overlap potential future emissions points. • A crack in the fool in Shed 2 and evidence that oil has trickled from a container into the crack.

Site history	Details
Areas of historic contamination overlapping with future emission points	A Phase I Site Investigation of the unit was carried out in July 2023 by EnviroSurveying Ltd. In it, it highlight that PPC site reports indicate no known areas of historic contamination which overlap potential future emissions points.

6 Site Environmental Setting

Environmental setting	Information source	Details
Designated sites	https://sitelink.nature.scot	There are a number of designated sites within 10km of the site and these are listed below (in order of proximity): • Kirkhill (SSSI) • Rora Moss (SSSI) • Moss of Cruden (SSSI)
Topography		The proposed unit sits at approximately 63m above sea level and is predominately flat. The proposed unit is surrounded by undulating land.
Current land use		The existing sheds are on agricultural land
Surrounding land use & industry		The unit is located within an agricultural area to the northwest of Mintlaw.
Bedrock geology	https://www.bgs.ac.uk/map-viewers/geoindex-onshore/	Crinan Subgroup And Tayvallich Subgroup (Undifferentiated) - Pelite, psammite, quartzite and semipelite with subsidiary basalt, calcsilicate-rock and limestone.
Superficial deposits	https://www.bgs.ac.uk/map-viewers/geoindex-onshore/	Banchory Till Formation - Gravelly and sandy diamicton composed principally of decomposed Neoproterozoic metamorphic rocks and Caledonian igneous rocks.
Soil type/land use class	https://map.environment.gov.scot/Soil_maps/?layer=1	• Major soil group – Gleys • Major soil subgroup – Noncalcareous gleys • Parent material – Drifts derived from arenaceous schists and strongly metamorphosed argillaceous schists of the Dalradian Series • Soil Association – Strichen • Soil drainage – Poorly drained • Land capability for agriculture - 3.2 – Land capable of average production though high yields of barley, oats and grass can be obtained.
Aquifer classification	https://map.environment.gov.scot/sewebmap/	The aquifer is Argyll Group. It is classed as 2C – low productivity aquifer with flow virtually all through fractures and other discontinuities.
Groundwater classification	https://www.sepa.org.uk/data-visualisation/water-classification-hub/	The site is within the Mintlaw (ID 150655) groundwater body, which is classified in good condition.
Groundwater vulnerability	http://nora.nerc.ac.uk/id/eprint/17084/1/OR11064.pdf	Groundwater vulnerability in the vicinity is mixed but mainly classified as 4a. The site is located within the Aberdeenshire, Banff, Buchan and Moray Nitrate Vulnerable Zone (NVZ).
Surface water	https://sepa.org.uk/data-visualisation/water-classification-hub/	There is no surface water within the proposed boundary.
Site investigations	https://www.bgs.ac.uk/map-viewers/geoindex-onshore/	A Phase I Site Investigation of the unit was carried out in July 2023 by EnviroSurveying Ltd. There have been no formal boreholes sunk on site and there are nor records of BGS boreholes within 250m of the site.

7 Site Photos

Figure 1: Old water tank

Figure 2: Shed 1 from site entrance

Figure 3: Shed 1 from site entrance

Figure 4: Back of Shed 1

Figure 5: Site of Shed 2

8 SITE CONCEPTUAL MODEL

Based on the description of the water environment, a simple conceptual site model (CSM) of the site can be established. The CSM identifies the possible sources of pollution, any receptors potentially at risk and plausible pathways for contamination between the two.

8.1 SOURCES OF POLLUTION

In Sections 3 and 4 we have identified the Relevant Hazardous Substances on site and have assessed the site-specific pollution potential.

8.2 RECEPTORS

There is a risk of the release of nutrients to soil or groundwater although this risk is considered to be low. The sheds will be built on impermeable surfaces and with management practices implemented (including periodic checks of the surface's integrity) there is considered to be no pathway for nutrients to enter soil or land directly from the housing. Manure will be managed in accordance with BAT and will not be stored outwith the housing. Wash water will be collected in underground tanks during cleaning and taken off-site immediately. Dust from gable fans will fall on concrete aprons and runoff from these will be directed to the RSuDS system.

The risk of release of any other hazardous substances in significant quantities to soil or groundwater is considered to be negligible.

8.3 PATHWAYS FOR POLLUTION

There is no potentially polluted rainwater run-off from concreted areas from the unit. There are no suitable boreholes nearby. If required by SEPA, soil monitoring will be completed at the swales but this will be confirmed once SuDS are agreed.

All other potentially relevant hazardous substances (i.e. chemicals) are considered to be low risk as they are held in small quantities on site, they are stored securely, managed in accordance with BAT and there have been no incidents involving spillages or evidence of spills/leaks. The risk of contamination of soils and groundwater from other relevant hazardous substances is therefore considered to be negligible.

9 SITE INVESTIGATION

A Phase I Site Investigation of the unit was carried out in July 2023 by EnviroSurveying Ltd. It includes a conceptual site model and considers sources of potential contamination, various pathways for migration of contaminants and provides an assessment of risk severity. Risks identified include:

- Ammonia, NH_3, nitrous oxide, N_2O, methane, pharmaceuticals, disinfectants, water purification chemicals, etc. – Low to Medium Risk – All sheds stand on substantial concrete slabs with aprons in reasonable condition. Impact on soil is limited and systems in place from 1995 ensures proper handling of wash water and bedding.
- Asbestos – Medium Risk – An asbestos survey is recommended prior to demolition of any buildings.
- Concentrated incinerated waste – Medium Risk – Unknown how incinerator ash was disposed prior to deadstock being collected for proper disposal. No hazardous risks assuming that complete combustion occurred.
- Formalin and organic content of wash water – Low to Medium Risk – Wash water tanks were installed in 1995 and prior to this, it is likely that wash water would have been allowed to run onto surrounding land. Chemicals used for cleaning (e.g. formalin/formaldehyde) have a short persistence in soil, is highly water soluble, highly volatile and has low potential for bioconcentration.
- Fuel, TPHs and metals, lubricant/engine oils – Medium Risk - There is an outdoor fuel tank on the western end of Shed 2 and an indoor fuel tank reported within the PPC permit documentation. No indication of spillage, leakage or staining anywhere around the DERV tank. Recommend assessment of the belowground soils under the fuel tanks and chemical storage area in Shed 2.
- Waste bedding – Unlikely to Medium Risk – Waste bedding may have been used as fertiliser on feeds and accumulation on site may lead to ground gases (e.g. methane, carbon dioxide) which can accumulate in enclosed spaces causing a potential risk to human health.
- Wood preservative, rodenticides, herbicides, pesticides – Low to Medium Risk – The unit stored wood preservative in the concreted enclosure. Likely to be minimal impact because of concreted site and small quantities.

If required by the permit, the operator will consider sampling for nitrates, ammoniacal nitrogen and reactive phosphorus, however there is no borehole on site. If required by SEPA, soil monitoring will be completed at the swales but this will be confirmed once SuDS are agreed.

10 Statement of Site Condition

The site has previously been part of a PPC permitted unit and it is expected that when this permit was partially surrendered that the site has been left in the same condition than it was at the time of permitting. The land is assumed to have levels of nitrates, ammoniacal nitrogen and reactive phosphorus consistent with historical agricultural practices. Management practices will ensure all substances with pollution potential are stored and used in accordance with BAT and any accidents/incidents which causes release of any substance into the environment will be reported to SEPA. Regular soil and/or water sampling and analysis will be completed in line with permit conditions.