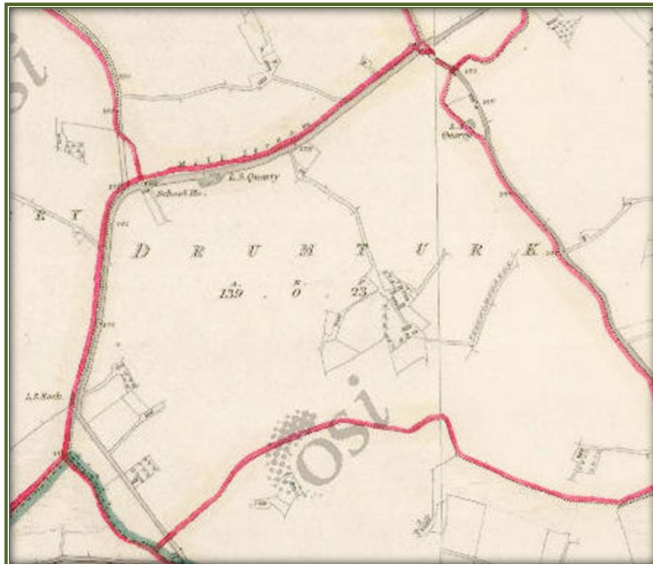


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**NATURA IMPACT STATEMENT OF AN APPLICATION FOR A  
LICENCE AT DRUMTURK, EMYVALE, CO MONAGHAN  
(EPA REG NO P1157-01).**



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*November 2023*

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# **1 INTRODUCTION**

## **1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT**

This Natura Impact Assessment was prepared for a proposed agricultural development in Drumturk, Emyvale, Co. Monaghan. Having regard to the location of the proposed development site within the Zone of Influence of designated European sites (SACs / SPAs), a Natura Impact Statement (NIS) of the proposed development was prepared in accordance with Article 6 of the Habitats Directive. This NIS will allow the competent authority (in this case the EPA) to undertake an Appropriate Assessment determination of the above project. This NIS was requested by the EPA in a Request for Further Information regarding this License application Reg. (No.: P1157-01).

The purpose of this AA is to determine the appropriateness of the proposed project, in the context of the conservation status of the site or sites. In Ireland, an Appropriate Assessment takes the form of a Natura Impact Statement (NIS), which is a statement of the likely impacts of the plan or project on a Natura 2000 site. The NIS comprises a comprehensive assessment of the plan or project and it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans or projects on one or more Natura 2000 sites in view of the sites' conservation objectives.

## **1.2 THE AIM OF THIS REPORT**

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (DoEHLG, 2009, Revised February 2010), and it provides an assessment of the potential impacts of the atmospheric emissions from a poultry farm at Drumturk, Monaghan, Co. Monaghan on designated European sites.

An NIS should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated.

Accordingly, a comprehensive assessment of the ecological impacts of this application was carried out in November 2023 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

## **1.3 REGULATORY CONTEXT**

### **RELEVANT LEGISLATION**

The Birds Directive (Council Directive 2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conservation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2027 and that status does not deteriorate in any waters.

### **Appropriate Assessment and the Habitats Directive**

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the ‘Habitats Directive’ - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as

*Natura 2000.* Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

### The Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site's conservation objectives.

The 'Appropriate Assessment' itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.'

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity of the European site. If adverse impacts on the integrity of a European site cannot be avoided, then mitigation measures should be applied during the appropriate assessment process to the point where no adverse impacts on the site remain. Under the terms of the

Habitats Directive consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

## 2 METHODOLOGY

### 2.1 APPROPRIATE ASSESSMENT

This NIS has been prepared with reference to the following:

- European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2021). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.



The four-stage process is:

**Stage 1: Screening** – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

**Stage 2: Appropriate Assessment** – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

**Stage 3: Assessment of Alternative Solutions** – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

**Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain** – An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

## **2.2 STATEMENT OF COMPETENCY**

This NIS report was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over seventeen years. Noreen has over 18 years' experience as a professional ecologist in Ireland.

## **2.3 DESK STUDIES & CONSULTATION**

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area, correspondence from the EPA regarding this License application;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- CLW Environmental Planners – Site plans, development description and information on potential emissions.
- Monaghan County Council – Information on planning history in the area for the assessment of cumulative impacts.

## **2.4 ASSESSMENT METHODOLOGY**

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (Zoi) of the proposed development was defined. Based on the potential impacts and their Zoi, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as “to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected”, and for SPAs “to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA”.

As defined in the Habitat’s Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;

The favourable conservation status of a species is achieved when:

- The population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCO should be considered in detail.

### 3 DESCRIPTION OF THE PROPOSED PROJECT

#### 3.1 PROJECT DESCRIPTION

##### OVERVIEW

In 2019 Monaghan County Council granted planning permission to Mullan Poultry Products Ltd (Pauric McKiernan) for the construction of a new poultry farm at Drumturk, Emyvale, Co. Monaghan. Planning permission was granted at this time for the construction of two new poultry houses along with all associated site ancillary works on a greenfield site (Planning Ref: 19/423). Once completed, both houses will facilitate the accommodation of 90,000 broilers. There is currently one house constructed and operational on the site and this house accommodates 39,400 birds.

An extract from the planning drawings can be seen in Figure 1.

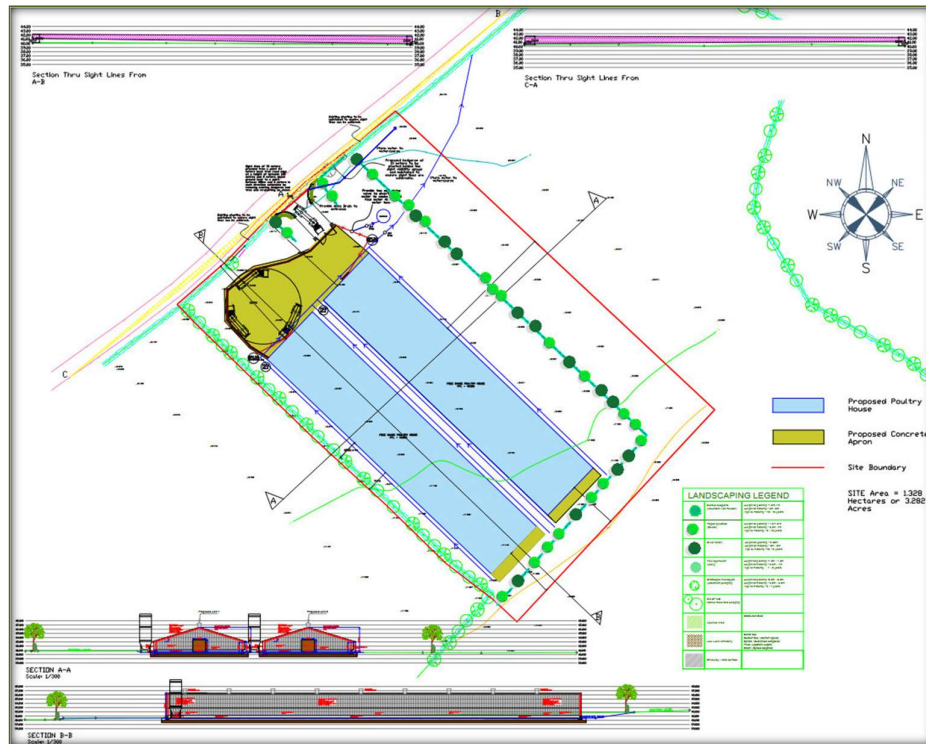


Figure 1 – Proposed Site Plan (as prepared by Horizon)

The operation of the farm will involve the rearing of the chickens from day olds over a period of approximately 6-7 weeks. There will be approximately 7 cycles of per annum, with a break between batches during which time the cleaning of the houses and yards is carried out. The spent poultry litter and manure will be removed from the farm by specialised contractors where it will be composted and used in the mushroom industry or it will be used as an organic fertiliser on land, in accordance with S.I. 113 of 2022. All records for the movement of fertiliser will be kept on site and presented to the Department of Agriculture, Food and Marine as requested.

Wash water from the poultry houses will be spread on land owned by the applicant in accordance with S.I. 113 of 2022.

Construction methods for the new structures will be standard and will follow best practice guidelines at all stages. All structures will be compliant with the recommendations of the Department of Agriculture, Food and the Marine. The operation of the farm and all its associated activities will be done in accordance with S.I. 113 of 2022.

#### **S.I. 113 OF 2022**

The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022 provides a basic set of measures to ensure the protection of waters, including drinking water sources, against pollution caused by nitrogen and phosphorus from agricultural sources, with the primary emphasis being on the management of livestock manures and other fertilisers. The purpose of these Regulations is to give effect to Ireland's Nitrates Action Programme. This directive outlines measures that must be followed during the land-spreading of manure. These measures are summarised in the points below.

- The amount of livestock manure applied in any year to land on a holding, together with that deposited to land by livestock, shall not exceed an amount containing 170 kg nitrogen per hectare.
- The spreading of any organic fertiliser during certain times of the year is prohibited (Closed period from October 1st).
- Farmers must keep within the overall maximum fertilisation rates for nitrogen and phosphorus.
- Farmers must have sufficient storage capacity to meet the minimum requirements of the regulations.
- All storage facilities must be kept leak proof and structurally sound.
- Records for the movement of fertilisers must be kept.

- Chemical fertilisers, livestock manure and other organic fertilisers, effluents and soiled water must be spread as accurately and as evenly as possible.
- Chemical fertilisers, livestock manure and other organic fertilisers, effluents and soiled water must be spread as accurately and as evenly as possible.
- An upward-facing splash plate or sludge irrigator on a tanker or umbilical system must not be used for the spreading of organic fertiliser or soiled water.
- Chemical fertilisers, livestock manure, soiled water or other organic fertilisers must not be spread when:
  - The land is waterlogged;
  - The land is flooded, or it is likely to flood;
  - The land is frozen, or covered with snow;
  - Heavy rain is forecast within 48 hours;
  - The ground slopes steeply and there is a risk of water pollution, when factors such as surface run-off pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover are taken into account.
- Chemical fertilisers must not be spread on land within 2 metres of a surface watercourse.

Table 1 shows the buffer zones for various water bodies (lakes, rivers, wells etc.). Soiled water, effluents, farmyard manures or other organic fertilisers must not be spread inside these buffer zones.

Water Feature	Buffer Zone
Any water supply source providing 100m <sup>3</sup> or more of water per day, or serving 500 or more people	200m (or as little as 30m where a local authority allow)
Any water supply source providing 10m <sup>3</sup> or more of water per day, or serving 50 people or more	100m (or as little as 30m where a local authority allows)
Any other water supply for human consumption	25m (or as little as 15m where a local authority allows)
Lake shoreline or a turlough likely to flood	20m
Exposed cavernous or karstified limestones features	15m
Any surface watercourse where the slope towards the watercourse exceeds 10%	10m
Any other surface waters	5m

Table 1 – Requirements for the Application of Fertilisers and Soiled Water as set out in S.I. 113 of 2022

Prior to its approval, a Natura Impact Statement was prepared for the Nitrates Action Programme (NAP) by RPS (2022). This Natura Impact Statement considered the potential of the measures proposed within the NAP to give rise to adverse effects on the integrity of European Sites, with regard to their qualifying interests, associated conservation status and the overall site integrity, alone and in combination with other relevant plans and programmes.

The NIS concluded that the adoption of the NAP will not adversely affect the integrity of any European Site either alone or in combination with other relevant plans or programmes and subject to securing the mitigation measures prescribed in the NIS.

The applicant is fully aware of his obligations under S.I. 113 of 2022 and he will meet all the requirements under this Directive with the proposed application.



### 3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is 1.32ha and it is located in a low-lying, rural area within the townland of Drumturk. Access to the site will be via an entrance that is just off a local, third-class road. The site is 3km north-east of Emyvale.

The dominant land-use surrounding the application site is agriculture and improved agricultural grassland is the dominant habitat. Other natural habitats represented locally include areas of wet grasslands, scrub, scattered areas of broadleaved woodland, hedgerows, treelines and watercourses. Site location maps can be seen in Figures 2 and 3 whilst an aerial photograph of the site and its surrounding habitats can be seen in Figure 4.

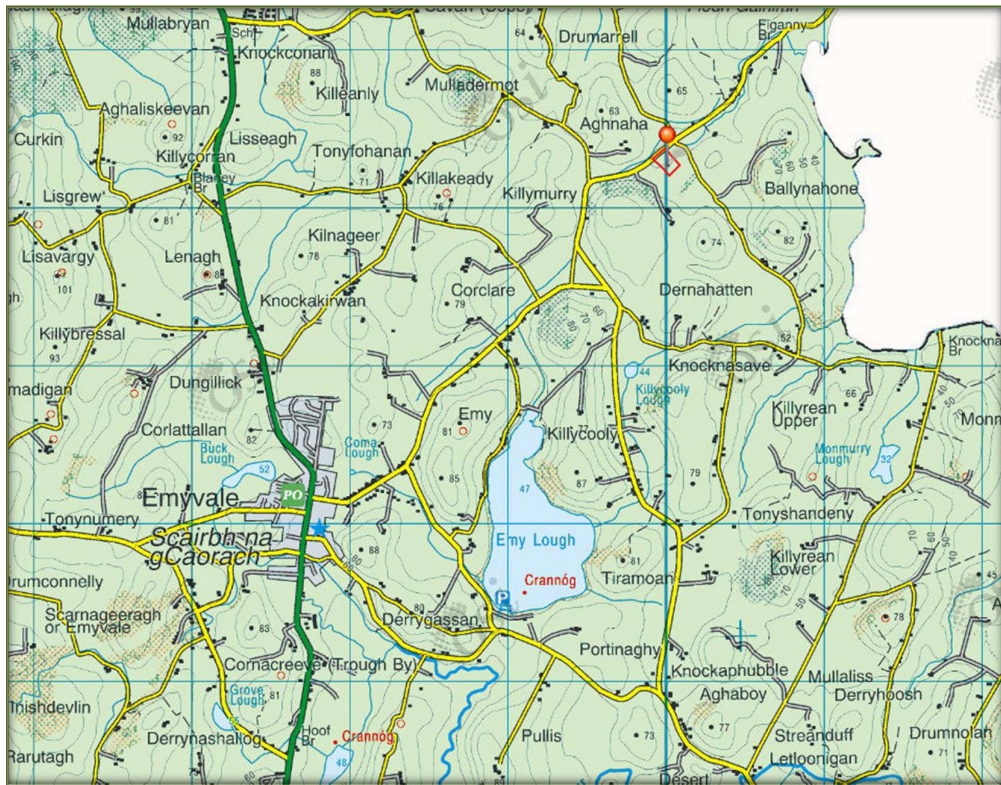


Figure 2 – Map showing the Location of the Proposed Development Site (Pinned)



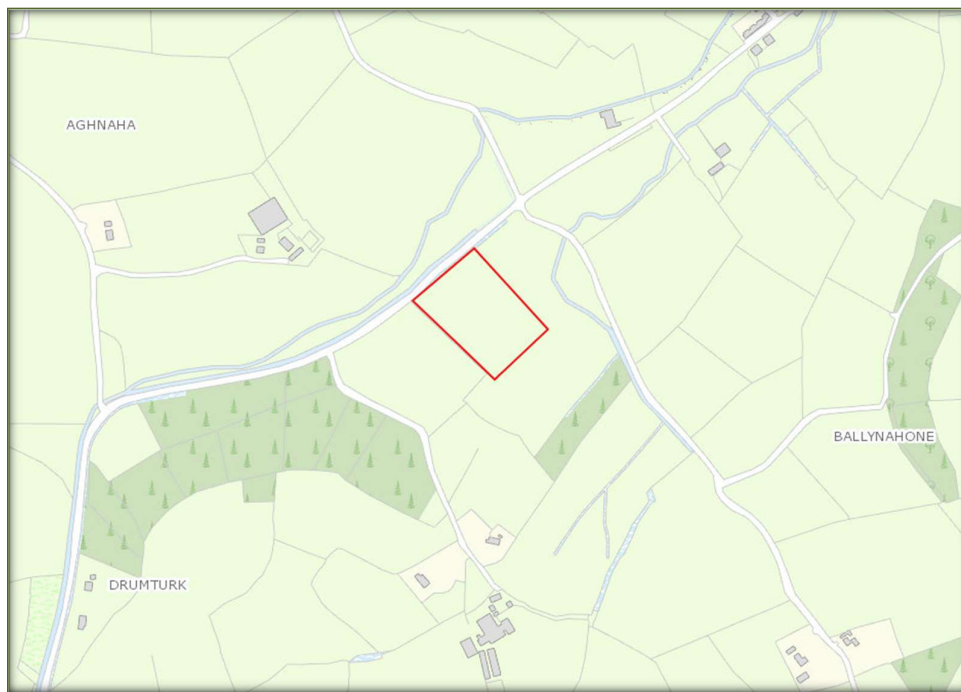


Figure 3 – Map showing the Location of the Proposed Development Site (Outlined in Red)

#### **HABITATS WITHIN THE SITE**

The application site does not lie within any area that has been designated for nature conservation purposes. There is one existing recently constructed poultry house on the site and the habitat associated with this poultry house is Buildings and Artificial Surfaces. The remainder of the site consists of improved agricultural grassland.

#### **WATER FEATURES AND QUALITY**

The application site lies within the Lough Neagh and Lower Bann Hydrometric Area and Catchment, and the Blackwater Tributary Sub-Catchment and the Blackwater (Annaghroe) Sub-Basin. There are a number of drains close to the application site, whilst the Emylough Stream flows along the north-western boundary (roadside) of the site. This stream flows past the site in a north-easterly direction until it joins the Blackwater (tributary).

The EPA have defined the ecological status of the Emylough Stream and its tributaries at points close to the application site as good. Under the requirements of the Water Framework Directive, this is satisfactory and this status must be maintained.



Figure 4 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats © Google

### 3.3 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 15km of the proposed development have been identified and described according to their site synopsis, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

For significant effects to arise, there must be a potential impact facilitated by having a *source*, i.e., the proposed development and activities arising out of its construction or operation, a *receptor*, i.e., the European site and its qualifying interests and a subsequent *pathway* or *connectivity* between the source and receptor, e.g., a water course. The likelihood for significant effects on the European site will largely depend on the characteristics of the source (e.g., nature and scale of the construction works), the characteristics of the existing pathway and the characteristics of the receptor, e.g., the sensitivities of the Qualifying Interests (habitats or species) to changes in water quality.

There are three Natura 2000 designated sites within 15km of the application site. These sites are summarised in Table 2 and a map showing their locations relative to the application site is shown in Figure 5. Sites beyond 15km but hydrologically connected to the site were also considered. A full description of the sites can be read on the website of the National Parks and Wildlife Service ([www.npws.ie](http://www.npws.ie)) and the Joint Nature Conservation Committee ([jncc.defra.gov.uk](http://jncc.defra.gov.uk)).

Site Name & Code	Distance	Qualifying Interests	Potential Effects
Slieve Beagh SPA 004167	8.9km west	<ul style="list-style-type: none"> <li>Hen Harrier <i>Circus cyaneus</i></li> </ul>	<i>Potential significant effects upon this SPA and its QI arising from atmospheric emissions will be considered further.</i>
Slieve Beagh-Mullaghafad-Lisnaskea SPA UK9020302	11.4km west	<ul style="list-style-type: none"> <li>Hen Harrier <i>Circus cyaneus</i></li> </ul>	<i>Potential significant effects upon this SPA and its QI arising from atmospheric emissions will be considered further.</i>

Slieve Beagh SAC UK0016622	13.2km west	<ul style="list-style-type: none"> <li>• Natural dystrophic lakes and ponds</li> <li>• European dry heaths</li> <li>• Blanket bogs</li> </ul>	<i>Potential significant effects upon this SCA and its QI arising from atmospheric emissions will be considered further.</i>
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Table 2 – Natura 2000 Sites within 15km of Application Site

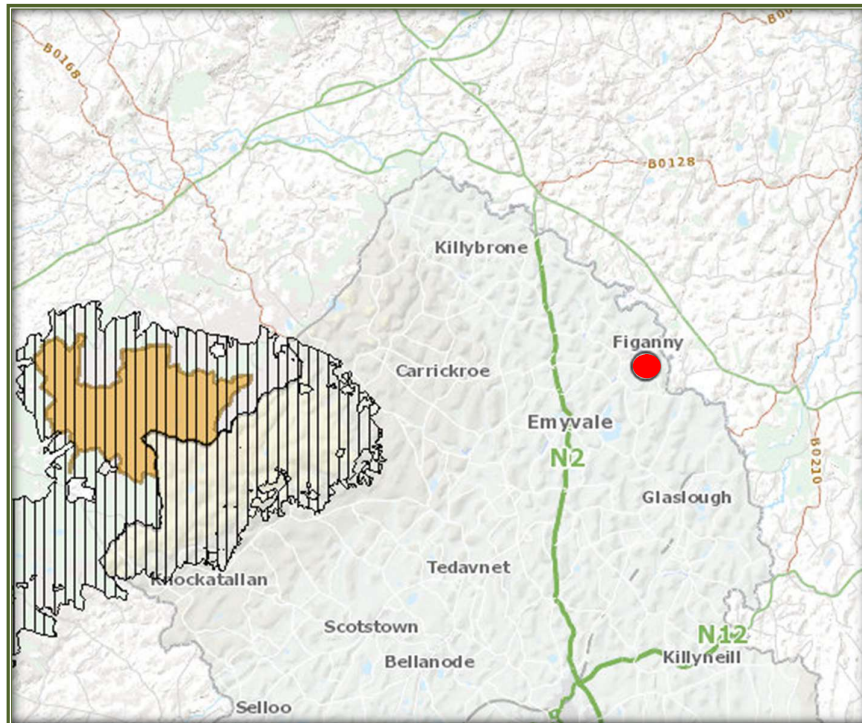


Figure 5 – The Application Site (Red Dot) in relation to the Natura 2000 sites. SACs – Brown Hatching, Hatching, SPAs – Vertical Hatching

## **4 IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS**

### **4.1 SIGNIFICANT EFFECTS ON NATURA 2000 SITES ARISING FROM ATMOSPHERIC EMISSIONS**

The EPA have recently produced guidance documents for the assessment of impacts of emissions on Natura 2000 sites (*Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from Intensive Agriculture Installations, EPA 2021, updated 2023*). This document contains a step-by-step assessment process which allows the applicant to ascertain the level of assessment and information needed when determining potential effects from emissions on Natura 2000 sites. Step 6c of the flow chart (Figure 6) makes a provision for applicants to demonstrate that the emissions from the new installations will result in an overall reduction in emissions from the baseline numbers.

The proposed development consists of the construction of one additional low emission poultry house (House 2) along with the upgrading of the existing poultry house on the site (House 1) to low emission spec. The more modern and efficient upgraded houses will lead to an overall reduction in emissions from the farm even when the additional house is operational. The existing poultry house (House 1) will have a standard emission factor of 0.08kg/yr/bird. Following upgrades to House 1 to BWL 2011-13-V6, this will have an emission factor of 0.035 kg/yr/bird. House 2 will also have this emission factor. Overall, emissions from the farm once operational will be reduced from 3,152 kg to 3,150 kg, which is an overall reduction of 2kg. This reduction will arise even with the increase numbers of birds on the farm.

As the final emissions from the farm upon completion of the construction and upgrading works will be lower than the baseline levels, detailed atmospheric modelling is not required in this instance.



Annex 1: Flow Chart

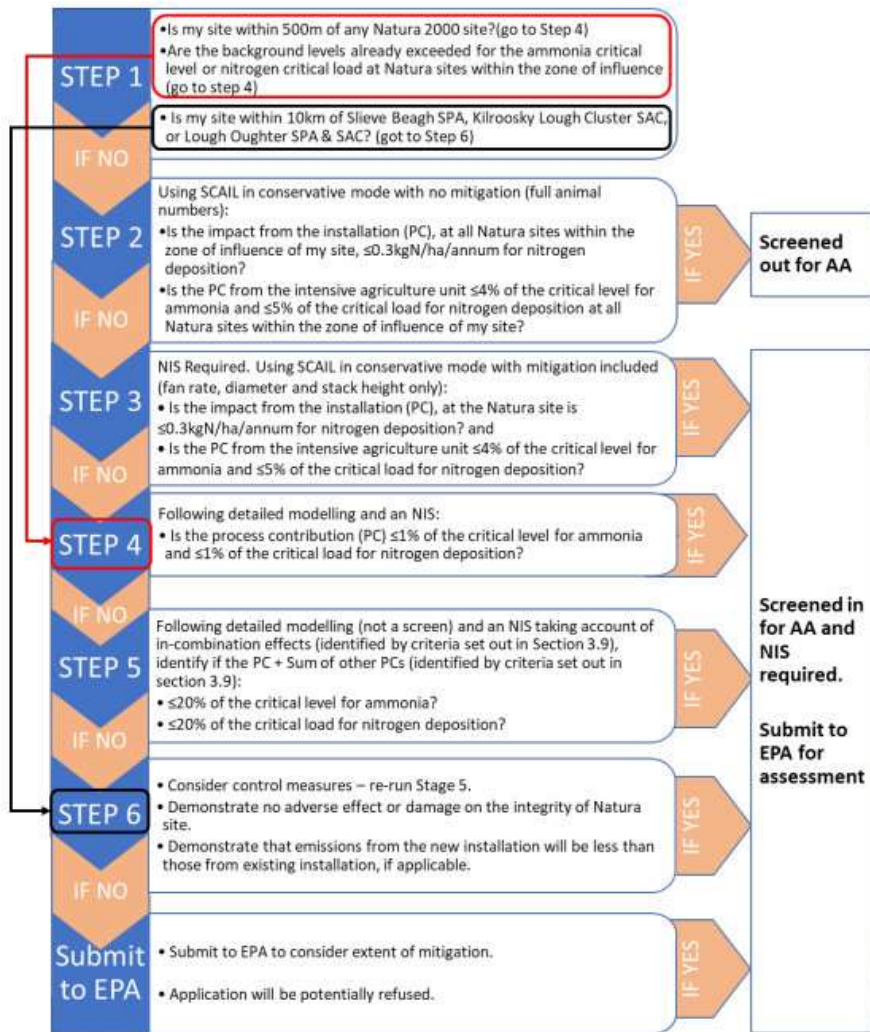


Figure 6 – EPA Flow Chart, Taken from Annex I of the Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from Intensive Agriculture Installations, EPA 2023

## **4.2 CUMULATIVE IMPACTS**

There are other agricultural activities ongoing close to the current application site, therefore cumulative impacts arising from the operation of these farms together were considered. All farms, regardless of whether licensed by the EPA or not, are required to operate within the legalisation defined in S.I. 113 of 2022 regarding manure storage, minimisation of soiled water and general good agricultural practice, etc. Therefore, cumulative impacts arising from the combined operation of these activities with the proposed operation of the poultry farm at Drumturk will be negligible.

The land-spreading of the poultry manure produced at the proposed facility has also been considered as part of this process. Records for the distribution and movement of all the manure produced will be kept on site and presented to the Department of Agriculture, Food and Marine if necessary. All organic fertiliser will replace the use of chemical fertiliser; therefore there will be no overall increase in the amount of nutrients spread.

All farmers that receive the manure from the proposed farm will do so under the European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022 (S.I. 113 of 2022). Upon the receipt of the manure, they will be informed of their obligation under this legalisation. Compliance with these regulations will minimise cumulative impacts as well as any impacts

## 5 MITIGATION MEASURES

In order to further minimise emissions from the poultry facility at Drumturk, a number of mitigation measures should be implemented and followed.

- Techniques for the reduction of emissions from the poultry houses must be employed on the farm. These are outlined in the document *Best Available Techniques Reference Document for the Intensive Rearing of Poultry or Pigs* ([http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189\\_IRPP\\_Bref\\_2017\\_publiched.pdf](http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189_IRPP_Bref_2017_publiched.pdf)).
- It is vital that there is no deterioration in water quality in the water courses that are close to the development site. This will protect non-designated but locally important habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented where necessary, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into these local watercourses.
- Post construction surface water run-off from hardcore / concreted / tarmac areas should be directed into a soak-pit. If soak-pit disposal is not viable or practical, then surface water run-off from these areas should be treated via serviced sediment and oil interceptor traps, prior to discharge into the local watercourse.
- The applicant must follow the guidelines set out in the Department of Agriculture's *Explanatory Handbook for Good Agricultural Practice Regulations*.



## 6 NIS CONCLUSIONS

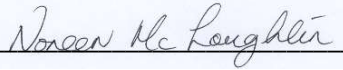
This current NIS has been undertaken to evaluate the potential impacts of the proposed development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the Natura 2000 sites identified. It is considered that the proposed project does not have the potential to significantly affect the conservation objectives of these aforementioned Natura 2000 sites and the integrity of these sites as a whole will not be adversely impacted.

In light of the above, it is considered that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the Natura 2000 sites identified. The integrity of the site will not be adversely affected. Table 3 follows the integrity of the SAC / SPA checklist, which shows that the integrity of the site would not be affected by the proposed development.

Conservation Objective: Does the project have the potential to:	Yes / No
Cause delays in progress towards achieving the conservation objectives of the site?	N
Interrupt progress towards achieving the conservation objectives of the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	N
Other Objectives: does the project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	N
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce diversity of the site?	N

Result in disturbance that could affect population size or density or the balance between key species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)	N

**Table 3 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002))**



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## LOW EMISSION HOUSING SPECIFICATIONS

<b>Rav number</b>	<b>BWL 2011.13.V6</b>
<b>System name</b>	<b>House with heat heaters with air mixing system for drying litter layer</b>
<b>Animal category</b>	<b>Breeding hens and roosters of laying breeds (E 1.16), (large) parent stock of broilers in rearing (E 3.7), broilers (E 5.14), parent stock of broiler turkeys reared up to 6 weeks (F 1.6) and from 6 to 30 weeks (F 2.6) and meat turkeys (F 4.8)</b>
<b>System description of</b>	<b>May 2021</b>
<b>Replaces</b>	<b>BWL 2011.13.V5 of November 2017</b>
<b>Working principle</b>	Ammonia emission limitation is based on drying and heating the manure/litter layer by means of heat heaters and continuously running circulation fans. Through the mixing the air in the house ensures an even temperature in the entire barn reached. The manure/litter layer is dried and the carbon dioxide (CO <sub>2</sub> ) is expelled from the animals.

### THE TECHNICAL IMPLEMENTATION OF THE SYSTEM ; ARCHITECTURAL

<b>Part</b>	<b>Execution requirement</b>
1 Floor version	The total stable floor construction including any underlying sand layer must have a thermal resistance (Rc value) of at least 0.5.

### THE TECHNICAL IMPLEMENTATION OF THE SYSTEM ; TECHNICAL EQUIPMENT

<b>Part</b>	<b>Execution requirement</b>
2 Housing form Complete litter floor	
3 Drinking water	Drinking water supply with anti-spill system
4a Heating and air circulation system	There must be a well-maintained and fire-safe heat heaters consisting of a heat source with fans for the warm air distribution

The point is that air can be heated and that this air is distributed. The combustion chamber in which a fuel is burned may be present in the heater (directly fired heater). The combustion chamber must have a supply duct for the supply of combustion air from outside the stable and exhaust duct for the discharge of flue gases to the outside of the stable (closed combustion). Also it is possible that a combustion appliance is located elsewhere outside the animal area and the heat is supplied via pipes transferred to the heaters (indirectly fired heater)

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- 4b The heat heaters for heating the house are distributed over the barn length below the ridge of the barn and/or along the side wall of the barn hung up.  
 When the heat heaters are placed under the roof, they hang a maximum of 1.5 meters below the ridge.  
 When the heat heaters are placed along the side wall, this is suspended a maximum of 1.5 meters away from the facade and a maximum of 1.5 meters distance above the floor .  
 When the heat heaters are placed outside the house, the heated air through each heater parallel to the side wall blown out at a maximum distance of 1.5 meters from the facade and at a maximum distance of 1.5 meters above the floor .  
 The heated air is mixed with warm air in the barn.
- 4c The minimum installed fan capacity of the heat exchanger amounts to 0.35 m<sup>3</sup> per animal place per hour (or 8 m<sup>3</sup> per m<sup>2</sup> stable area). If the fan capacity of the heat heater is adjustable, there is a frequency converter for this.
- 4d When the heat heaters are placed in the ridge, the blowing direction of the heaters both to one, and from the middle to both end facades be focused.  
 When installing the heat heaters along the side wall, the blowing direction of all heaters are equal to, or opposite to, the clockwise rotation. No

4th Circulation-fans	<p>opposing air currents.</p> <p>The circulation fans hang in line with the heat heaters on a mutual distance of up to 20 meters.</p> <p>When the heat heaters are placed under the roof of the house, the circulation fans at a maximum of 1.5 meters below the ridge of the house.</p> <p>When placing the heat heaters, hang them along the side wall of the stable the circulation fans at a maximum distance of 1.5 meters from the facade and at a maximum distance of 1.5 meters above the floor <sup>2</sup>.</p>
4f	<p>The circulation fans continuously stop the air movement in the house hallway. The blowing direction of the circulation fans is equal to the blowing direction of the heater.</p>
4g	<p>The minimum installed capacity of the circulation fans is 20 m<sup>3</sup> per m<sup>2</sup> stable area.</p>
5 Registration-equipment	<p>The following registration equipment must be present:</p> <ul style="list-style-type: none"> <li>- equipment for registering the activation of the heat heaters (hour counter);</li> <li>- equipment for recording the realized temperature curve, indoor and outdoor temperature;</li> <li>- equipment for recording the realized ventilation flow</li> <li>- fan capacity curve recording equipment circulation fans</li> </ul>

<sup>2</sup> The distances are measured from the outside of the heater.

<sup>3</sup> The distances are measured from the outside of the heater outlet in the animal area

<sup>4</sup> The distance is measured from the outside of the circulation fan.

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6 Capacity	<p>As a rule of thumb, the following heating capacities to be installed used (at a desired house temperature of 35°C):</p> <ul style="list-style-type: none"> <li>- new-build stables; 100W/m<sup>2</sup></li> <li>- existing stables; 125W/m<sup>2</sup></li> </ul> <p>Different situations can occur for meat turkeys:</p> <ul style="list-style-type: none"> <li>- in addition to space heating by the heaters, there is also local heating present: the capacity of the heaters can then be reduced (the desired room temperature is 25 - 28°C).</li> <li>- some of the animals (usually the roosters) are sent to another</li> </ul>
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barn transferred after a rearing period of approx. 6 weeks; in this barn there is a lower room temperature is required, from 20 - 23 °C. The capacity of the heaters can be adjusted accordingly

The following applies to all situations: calculation of the capacity of the heaters by the supplier.

**THE USING THE SYSTEM**

Part	Usage requirement
a Living area	<p>In (grand)parents of broilers in rearing up to 19 weeks:                      minimum 900 cm<sup>2</sup> and maximum 1100 cm<sup>2</sup> per animal with setup (8.3 to 11.1 animals per m<sup>2</sup>)</p> <p>In parent stock of broiler turkeys reared up to 6 weeks:                      Minimum 625 cm<sup>2</sup> per animal when set up (16 animals per m<sup>2</sup>)</p> <p>In parent stock of broiler turkeys in rearing up to 6-30 weeks:                      At least 1330 cm<sup>2</sup> per animal when set up (7.5 animals per m<sup>2</sup>)</p> <p>With meat turkeys:                      Male animals: Minimum 3330 cm<sup>2</sup>/animal on set-up (3.0 animals per m<sup>2</sup>)                      Females: At least 2040 cm<sup>2</sup>/animal when set up (4.9 animals per m<sup>2</sup>)</p>
b Airflow	<p>By continuously running the circulation fans, the air in the house is well distributed over the litter surface.</p>
c Institution temperature curve	<p>The heating is switched on according to the need for extra heat in the house, the temperature curve is followed for this.</p>
d Fan setting in heat heater when there is heated	<p>The heating is switched on when the room temperature falls below the set temperature is reached, the fan rotates during heating fan in the heater.</p>
e Fan setting in heat heater when there isn't is heated	<p>When there is no additional heat requirement and therefore not heated the fan in the heater is turned off.</p>
f1 Circulation setting fans	<p>The circulation fans run at a minimum when the animals are placed 20% capacity. This will be increased to a minimum of 30%, as soon as the maximum capacity of the heat heaters has been reached. The capacity may be controlled based on the fan capacity for total air exchange. When heating is no longer taking place, the circulation fans at a minimum of 30% of capacity. Bee maximum ventilation requirement should increase the capacity of the circulating fans should also be 100%.</p>
f2	<p>The circulating fan located within a few meters of the the heat heater may be turned on during heating disabled.</p>
5 The operation of the circulation fan is taken over by the fan in the heater.	

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<b>g Registration</b>	<p>For the purpose of checking the operation of the system, the following data is automatically registered:</p> <ul style="list-style-type: none"> <li>- switching on the heat heaters;</li> <li>- the operation of the circulation fans and the progress of the capacity for one round. This is to establish that there is continuous sufficient drying air is blown over the litter bed;</li> <li>- the temperature curve.</li> </ul>
<b>Emission factor</b>	<p>Breeding hens and roosters of laying breeds; under 18 weeks;          0.088 kg NH<sub>3</sub> per pig place per year          (Grand)parents of broilers in rearing:          0.129 kg NH<sub>3</sub> per pig place per year          Broilers:          0.035 kg NH<sub>3</sub> per animal place per year          free-range broilers:          0.035 kg NH<sub>3</sub> per animal place per year          Organic broilers:          0.035 kg NH<sub>3</sub> per animal place per year          Parent stock of broiler turkeys reared up to 6 weeks:          0.08 kg NH<sub>3</sub> per animal place per year          Parent stock of broiler turkeys reared from 6 to 30 weeks:          0.24 kg NH<sub>3</sub> per pig place per year          Meat turkeys:          0.35 kg NH<sub>3</sub> per pig place per year</p>
<b>Reference measurement report</b>	<p>Research ammonia emissions Wesselmannheaters          (BL2009.13756.01, version 3, March 2009)          Updating ammonia emission factors for poultry; Advice for adjustment of ammonia emission factors from poultry in the Regulation on ammonia and livestock farming (Rav). Wageningen Livestock Research, Report 1015</p>

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**Floor plan and cross-section when using heat heaters and circulation fans**

Versions with longitudinal ventilation:

Note: the blowing direction of the heat heaters can also be directed from the center to both sides.

Versions with ridge ventilation (or combination of ridge and facade ventilation):

Note: The heat heaters can also be placed in the ridge with this variant. However because of negative effect on air movement, this is not preferred.

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Name:  
Stable with heat heaters with  
air mixing system for  
drying litter layer

Number:  
BWL 2011.13.V6  
System description  
May 2021