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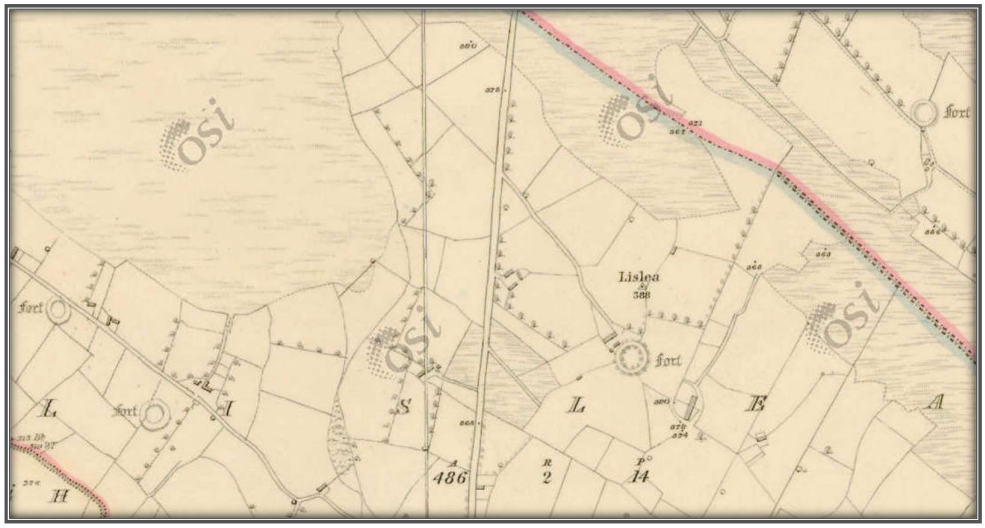
NATURA IMPACT STATEMENT OF AN APPLICATION FOR A LICENCE FOR A POULTRY FARM AT LISLEA, VIRGINIA, CO CAVAN

EPA LICENSE APPLICATION P1150-01



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March 2022
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1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

This Natura Impact Assessment was prepared for an EPA License application for a poultry farm at Lislea, Virginia, Co. Cavan.

Having regard to the location of the proposed development site and its proximity and connectivity to certain sites designated under the Natura 2000 network, an Appropriate Assessment of the proposed development was prepared in accordance with Article 6 of the Habitats Directive.

The purpose of the assessment 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 impact 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 a poultry farm at Lislea, Virginia, Co. Cavan 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 impacts of this application on designated Natura 2000 sites was carried out in March 2022 (Revised October 2022) by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental.

1.3 REGULATORY CONTEXT

The Birds Directive (Council Directive2009/147/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 conversation 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 2021 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 (2000). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2002). 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 AA Screening 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 thirteen years. Noreen has over 15 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, AA screening determination.
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View – High quality aerials and street images;
- CLW Environmental Planners – Plans and Information Pertaining to the Development, including Information on emissions.
- Cavan 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 SSCOs should be considered in detail.

3 DESCRIPTION OF THE PROPOSED PROJECT

3.1 PROJECT DESCRIPTION

Longfield Poultry Unlimited Company has applied to the EPA for a new License for a poultry farm at Lislea, Virginia, Co. Cavan (License Ref Number P1150-01). In 2020, planning permission was granted to the applicants (John and Charles Smith) by Cavan County Council for the construction of an extension to two poultry houses at their existing free range poultry farm. Planning permission also pertained to all ancillary structures and associated site works. The farm is currently operating with 39,000 free range broilers (one of the two approved extensions is completed and operational) and upon the granting of the required licence (required for developments in excess of 40,000 (places) and completion of the development the capacity will increase to 48,000 to 50,000 birds over both houses.

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

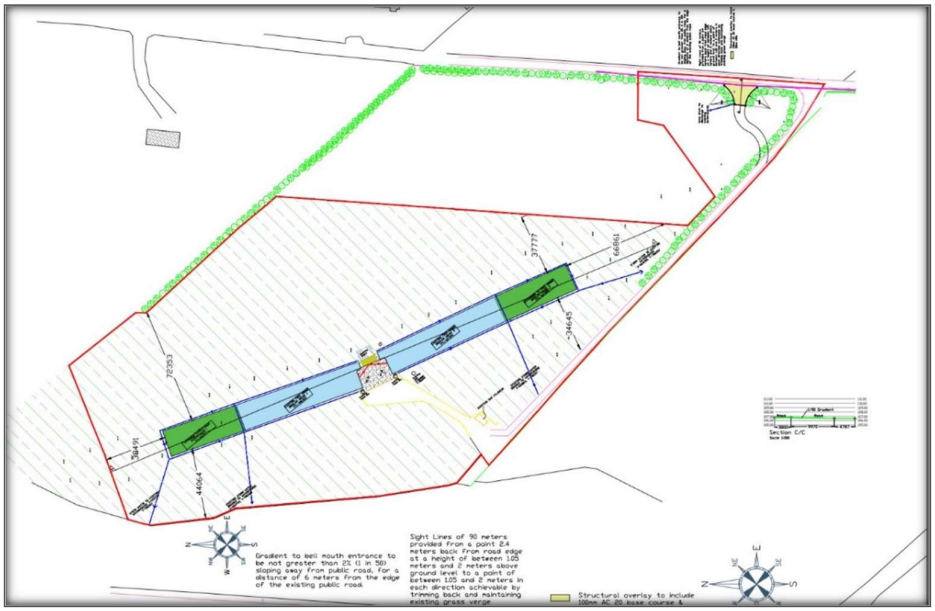


Figure 1 – Proposed Site Plan (as Prepared by Horizon Group)

The operation of the farm will involve the rearing of the chickens from day olds over a period of approximately 8 weeks. There will be approximately 5 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 in accordance with S.I. 113 of 2022 (as amended). All records for the movement of fertiliser will be kept on site and presented to the Department of Agriculture, Food and Marine as requested.

Construction methods for the new structures will be standard and will follow best practice guidelines at all stages. All structures will be complaint 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 (as amended).

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 (The prohibited spreading period, generally between Mid-October and Mid-January).
- 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.
- 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^3 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 10m3 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 application site is 4.9 hectares and it is located in a rural area within the townland of Lislea. Access to the site is via an existing farm access road, that is located just off a local, third class road. The site is 3.5km east of Virginia and 5.6km west of Mullagh.

The land-use surrounding the site is predominantly agricultural and the main habitat is improved agricultural grassland. Other habitats represented locally include areas of neutral and wet grasslands, recently felled coniferous woodlands, raised bogs, hedgerows, treelines and water courses. Lough Ramor is 1.7km west of the site. 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)

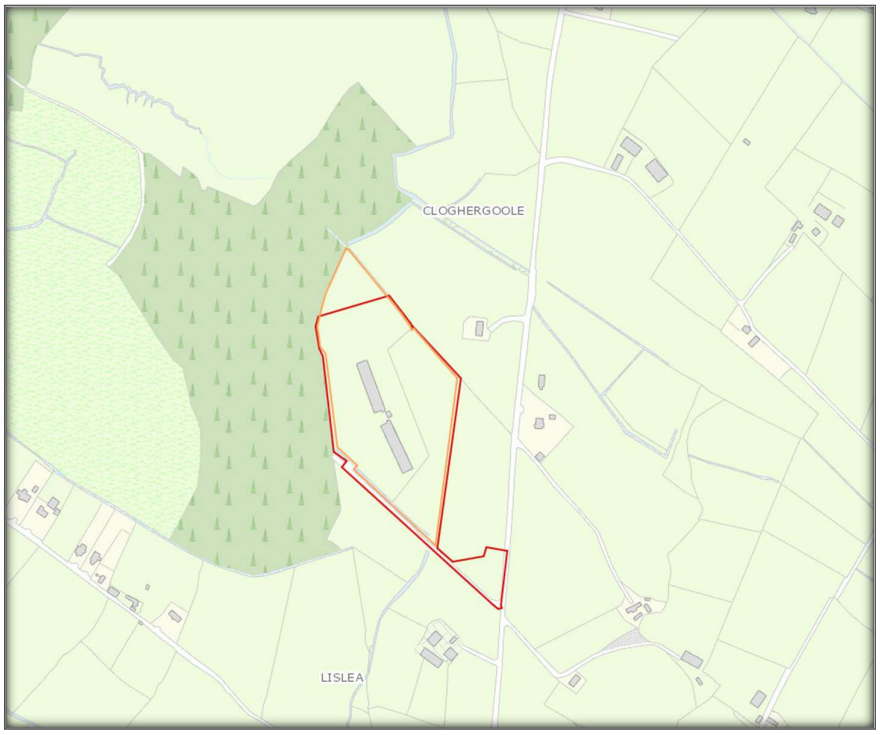


Figure 3 – Map showing the Location of the Proposed Development Site (Outlined in Red). The Range Area of the Birds is Outlined in Orange.

HABITATS AND SPECIES

Currently, the main habitats within the application site include buildings and artificial surfaces (the existing poultry house and associated hard surfaces, including the access road), and these areas are surrounded by improved grassland habitats and this habitat will form the range areas of the birds. The site is bounded to the west, south and north-east by a hedgerow/treeline. The land to the immediate west of the site was a coniferous plantation that has recently been felled and this area surrounds a raised bog habitat.

An examination of the website of the National Biodiversity Data Centre revealed that there are records for the presence of one protected mammal species from the relevant one km^2 (N6386) of this proposed development. This species is the badger *Meles meles* and it is fully protected under the Irish Wildlife Acts. A custom polygon generated for the site revealed that these records do not pertain to from within the application site itself.

WATER FEATURES AND QUALITY

The application site lies within the Boyne Hydrometric Area and Catchment, the Blackwater (Kells) Sub-Catchment and the Lislea Sub-Basin. The Lislea Stream flows through the application site (via a culvert) and it emerges in the south-easterly corner of the site. Clean surface water from the application site will continue to be discharged to this stream. This stream flows north then west, whereupon it enters Lough Ramor at a point 1.7km west of the application site.

The EPA have defined the ecological status of the Lislea Stream and its tributaries at points close to the application site as good. Lough Ramor is of poor ecological status. Under the requirements of the Water Framework Directive in Ireland, good status must be achieved in all water bodies within a certain time frame.

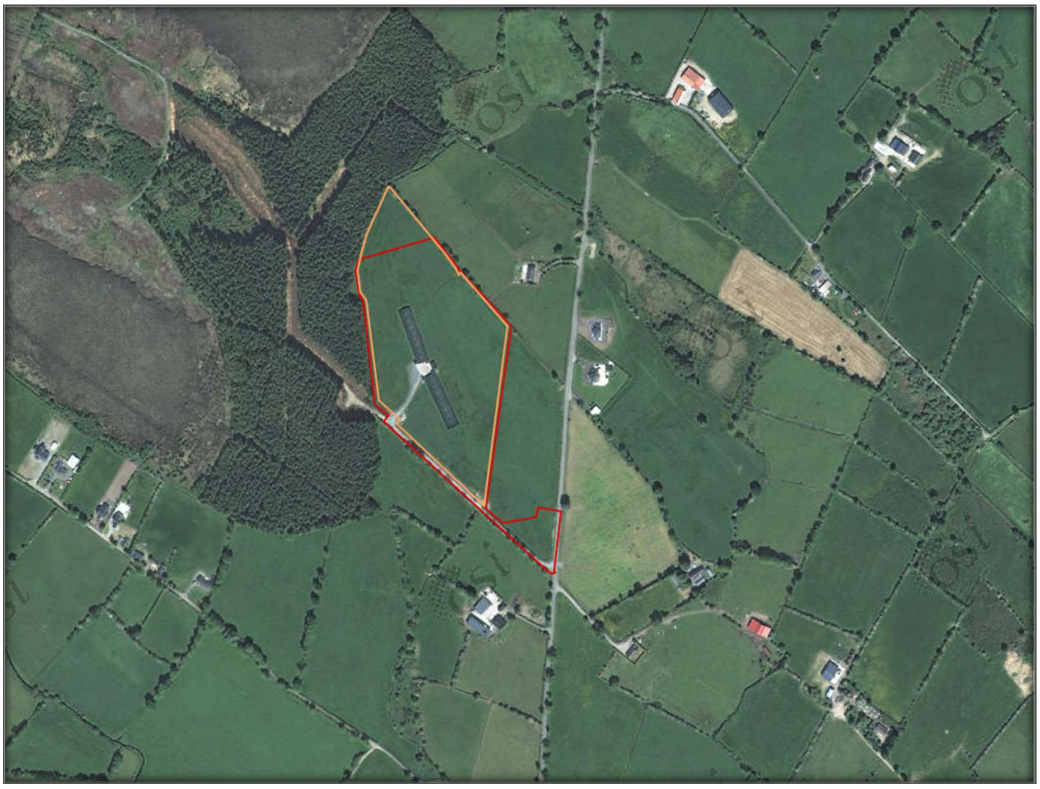


Figure 4 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats. The Range Area of the Birds is Outlined in Orange.

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.

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 (within 20km) were also included here following the AA screening determination that was issued by the EPA. A full description of the sites can be read on the website of the National Parks and Wildlife Service (www.npws.ie).

Site Name & Code	Distance	Qualifying Interests	Potential Significant Effects
The River Boyne and River Blackwater SAC 002299	3km south / 6.1km downstream via the Lislea Stream and Lough Ramor	• River lamprey (*Lampetra fluviatilis*) • Salmon (*Salmo salar*) • Otter (*Lutra lutra*) • Alkaline fens • Alluvial forests with alder *Alnus glutinosa* and ash *Fraxinus excelsior*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further.*
The River Boyne and River Blackwater SPA 004232	3km south / 6.1km downstream via the Lislea Stream and Lough Ramor	• Common Kingfisher *Alcedo atthis*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further*
Killyconny Bog SAC 000006	4.6km south-east	• Active Raised Bogs. • Degraded raised bogs still capable of natural regeneration.	*Potential impacts arising from atmospheric emissions will be considered further.*
Lough Sheelin SPA 004065	16.7km west	• Great Crested Grebe (*Podiceps cristatus)* • Pochard (*Aythya farina)* • Tufted Duck (*Aythya fuligula)* • Goldeneye (*Bucephala clangula)*	*Potential impacts arising from atmospheric emissions will be considered further.*

		• Wetlands & waterbirds	
Lough Bane and Lough Glass SAC 002120	16.9km south-west	• White-clawed crayfish *(Austropotamobius pallipes)* • Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp	*Potential impacts arising from atmospheric emissions will be considered further.*
Girley Bog SAC 002203	17.2km south-east	• Degraded raised bogs still capable of natural regeneration	*Potential impacts arising from atmospheric emissions will be considered further.*
White Lough, Ben Lough and Lough Doo SAC 001810	17.4km south-west	• White-clawed crayfish *(Austropotamobius pallipes)* • Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	*Potential impacts arising from atmospheric emissions will be considered further.*
Moneybeg and Clreisland Bogs SAC 002340	18.4km south-west	• Active raised bog • Degraded raised bog • Depressions on peat substrates of the Rhynchosporion	*Potential impacts arising from atmospheric emissions will be considered further.*

Table 2 – Natura 2000 Sites within 20km of Application Site

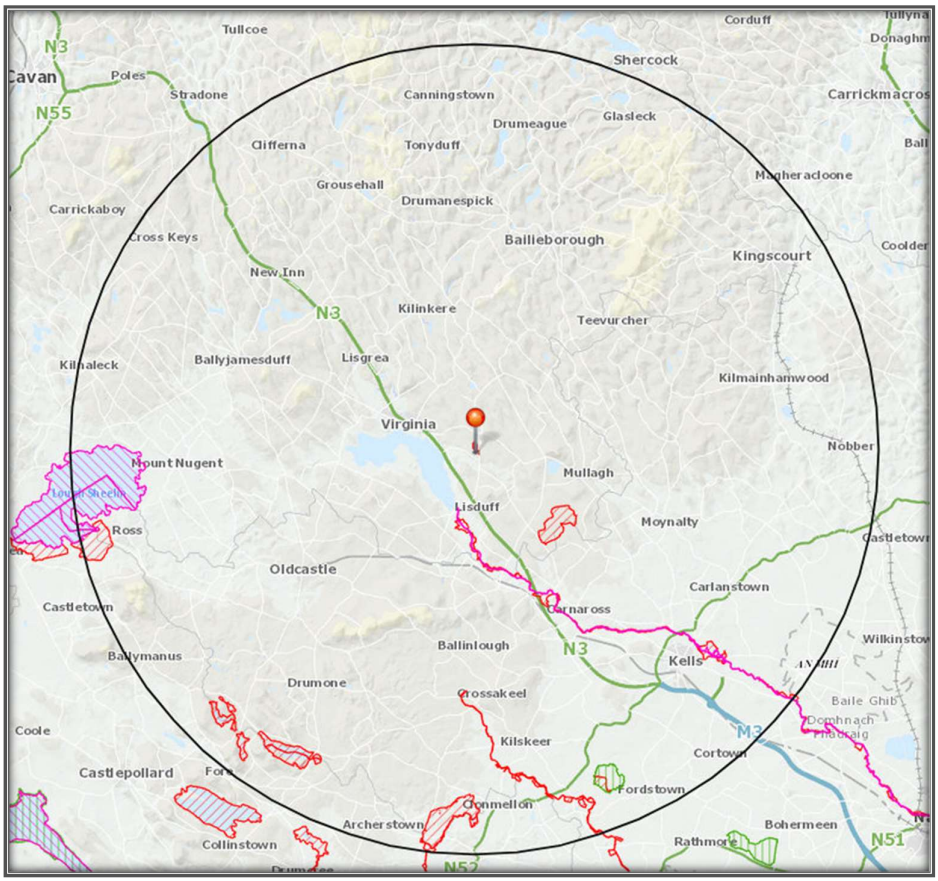


Figure 5 – The Application Site (Red Dot) in relation to the Natura 2000 Sites within 20km. SACs – Red Hatching; SPAs – Pink Hatching

4 IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS

4.1 INTRODUCTION

An Appropriate Assessment Screening undertaken by the EPA (24/03/2022) identified the following impacts:

- *Air emissions have been modelled by the Agency using a screen model (SCAIL Agriculture). The model results indicated that the potential for adverse impact of emissions to air and their consequential potential impact on sensitive receptors cannot be ruled out due to elevated ammonia levels and nitrogen deposition at European sites.*

- *There are potential surface water pathways connecting the installation to European sites, therefore, there is potential for adverse impact of emissions to water and their consequential potential impact on sensitive receptors cannot be ruled out at European sites.*

In general, the identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation.

In their screening report, the EPA identified the following sites as having the potential to be impacted upon from emissions (atmospheric, hydrological) arising from the proposed development:

- The River Boyne and River Blackwater SAC
- The River Boyne and River Blackwater SPA
- Killyconny Bog SAC
- Lough Sheelin SPA
- Lough Bane and Lough Glass SAC
- Girley Bog SAC
- White Lough, Ben Lough and Lough Doo SAC
- Moneybeg and Clareisland Bogs SAC

Having regards to the sites beyond 15km of the application site, it is considered that significant effects upon these sites and their protected habitats and species will not arise due to atmospheric emissions. Therefore, significant effects upon the sites within 15km have only been considered in this instance.

4.2 ASSESSMENT OF POTENTIAL EFFECTS

ATMOSPHERIC EMISSIONS

Significant atmospheric emissions arising from agricultural developments can have negative impacts upon designated sites and their sensitive vegetation communities. Some vegetation communities are most sensitive to the effects of ammonia and nitrogen deposition than others. In general, communities containing notable bryophyte communities are the most sensitive and have a lower critical load for ammonia of 1 µg/m^3. Less sensitive habitats have a critical load of 3 µg/m^3.

The EPA have 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*). 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. The sites within the Zone of Influence of the application site include the River Boyne and River Blackwater SAC, the River Boyne and River Blackwater SPA and the Killyconny Bog SAC.

Irwin Carr Dispersion Modelling

In order to correctly assess the potential impacts of the operation of the farm on the Natura 2000 sites, detailed atmospheric modelling of the proposed development was undertaken by Irwin Carr Consulting in September 2022. The overall purpose of this report was to quantify the ammonia and nitrogen levels at the ecologically sensitive areas in the vicinity of the proposed pig farm. The predicted impacts can then be compared to an appropriate criterion and graphically illustrated in the form of “contours of equal concentration” or isopleths which are superimposed on base maps.

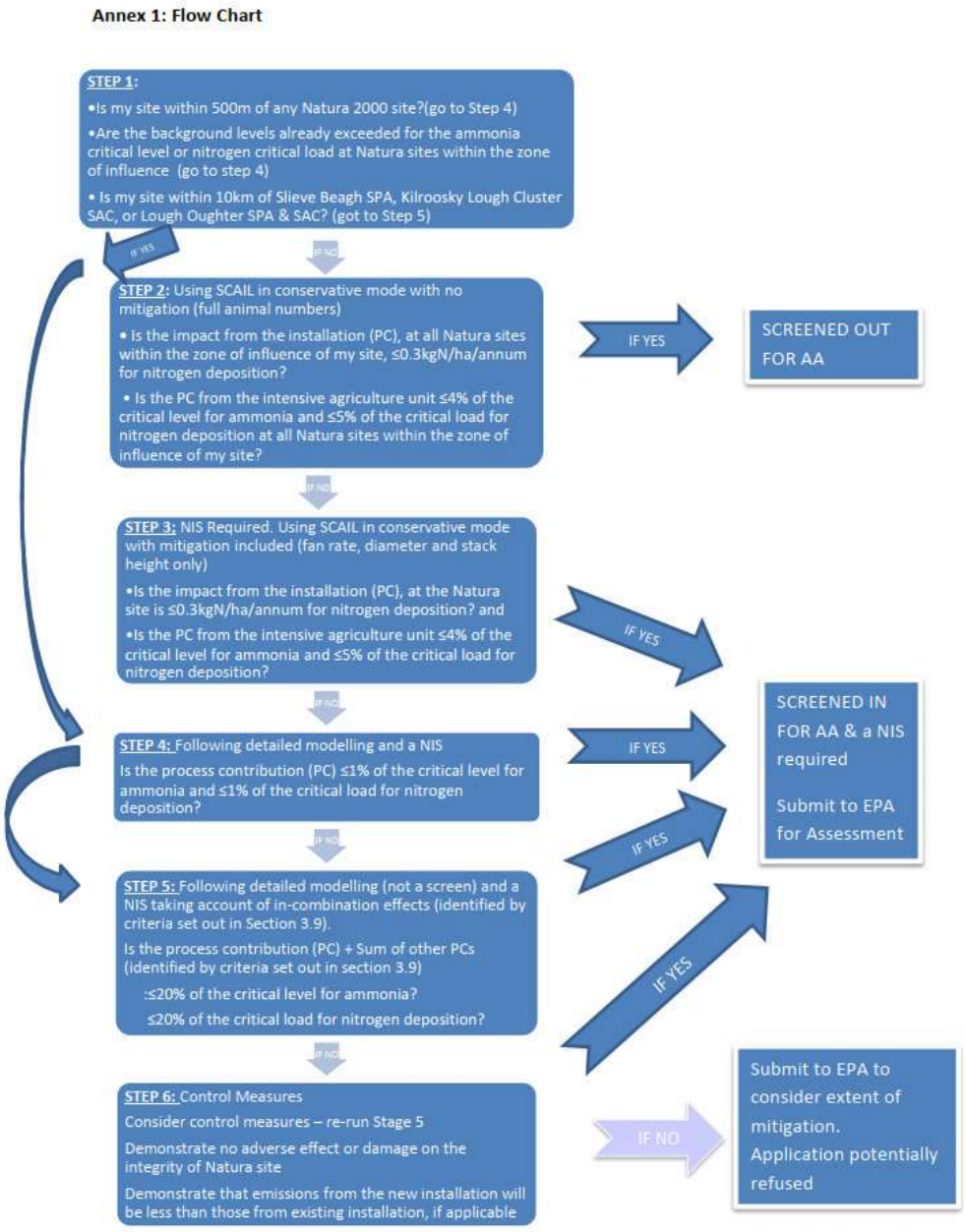


Figure 6 – EPA Flow Chart, Taken from Annex I of the Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from Intensive Agriculture Installations, EPA 2021

Using an AERMOD Dispersion Modelling Package, the projected ammonia and nitrogen emissions from the proposed development at Lislea were modelled using details such as animals per house and the ventilation currently used in the house. Other factors taken into consideration as part of the model included meteorological data, building downwash, diet, storage of manure (assuming full storage) and digital terrain data.

The report provided the annual average ammonia concentrations at ecologically sensitive sites within 15km of the application site, as beyond this distance ammonia and nitrogen emissions from any installation would be imperceptible. The results obtained by Irwin Carr are presented below.

Ammonia

The emission report provides the annual average ammonia concentrations (worst case scenario) arising from the farm at ecologically sensitive sites, including the Natura 2000 sites within 15km of the application site (emission source). Ammonia modelling was carried out for the years 2015 – 2019 and an average figure was presented. The results are presented in Table 3, whilst Table 4 takes the highest predicted process concentration from the sheds and it uses this figure to determine the percentage contribution of the farm to the critical load of the designated site. These results are based on the worst case scenario, i.e., the worst case process contribution over the 5-year period.

Location	Designated Site and Distance	2015	2016	2017	2018	2019	Average
1	River Boyne and Blackwater SPA – 3.1km	0.006	0.009	0.004	0.007	0.005	0.006
2	River Boyne and Blackwater SAC – 3.1km	0.006	0.008	0.003	0.007	0.005	0.006
3	Killyconny Bog SAC – 4.9km	0.004	0.004	0.004	0.004	0.003	0.004

Table 3 – Ammonia Concentrations (µg/m3) at Natura 2000 Sites (Taken from Table 9 Of Ammonia Impact Assessment Report)

All of the predicted ground level concentrations of ammonia detailed above are significantly below the limit values in relation to the protection of vegetation. The predicted emissions from the site in relation to the background levels and the critical levels of each habitat within the Natura 2000 sites are summarised below in Table 4.

Location	Critical Load Guideline (µg/m³)	Background (µg/m³)	Highest PC (µg/m³)	PEC (µg/m³)	PC / Guideline Level (%)	PEC / Guideline Level (%)
1	3	2.95	0.009	2.959	0.30	99
2	1	2.95	0.008	2.958	0.80	296
3	1	2.91	0.004	2.914	0.40	291

Table 4 – Ammonia Concentrations (µg/m3) at Natura 2000 Sites – Predicted Impacts from the Proposed Development (Taken from Table 10 Of Ammonia Impact Assessment Report)

The ammonia concentrations at the sites are dominated by the background concentrations, which are approximately 99 – 296% of the air quality guideline for ammonia. It can be seen from the Table above that while the guideline level (critical level) of ammonia is exceeded at each Location, the PC from the sheds is <1% at each designated site, and as a result considered insignificant for the purposes of this assessment.

Nitrogen

The AERMOD modelling also report provides an estimate of nitrogen arising from the proposed farm. A summary is provided in Table 5. This is based on a worst-case scenario and the figure generated for the Highest PC for N at these sites was generated using a conversion factor of 260.

Location	Guideline (kg N/ha/yr)	Background (kg N/ha/yr)	Highest PC (kg N/ha/yr)	PEC (kg N/ha/yr)	PC / Guideline Level (%)	PEC / Guideline Level (%)
1	20	7.82	0.05	7.87	0.23	39
2	15	7.82	0.04	7.86	0.28	52
3	5	7.76	0.02	7.78	0.42	156

Table 5– Nitrogen Concentrations (kg/N/ha/yr) at Natura 2000 Sites – Predicted Impacts from the Proposed Development (Taken from Table 13 Of Ammonia Impact Assessment Report)

It can be seen from Table 5 that the nitrogen concentrations at the sites are dominated by the background concentrations, which are approximately 39 – 156% of the guideline for each site. The PC at all Locations is less than 1% and 0.3kg.N/ha/yr, and as a result would be considered deminimus for the purposes of the Nitrogen assessment.

HYDROLOGICAL EMISSIONS

The Lislea Strea flows through the application site via culvert. Therefore, there is a source-pathway-receptor linkage between the application site and the River Boyne and Blackwater SAC / SPA.

Considering the downstream distance between the application site and the River Boyne SAC / SPA, the potential for significant effects to arise on the QIs of the site due to constructional and operational run-off from the site is slight. However, having regards to the precautionary principal measures will be included to ensure that pollution to the Lislea Stream and other watercourses does not arise at any phase of the development.

4.3 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.

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

Cumulative impacts arising from predicted emissions from the facility when considered in-combination with other farms in the locality have also been considered as per the recent EPA Guidelines (2021). The Ammonia Impact Assessment report has also considered potential cumulative impacts.

The following points detail whether or not a cumulative assessment is necessary as part of this assessment.

- It is noted that Step 1 of the flowchart states "Are the background levels already exceeded for the ammonia critical level or nitrogen critical load at Natura sites within the zone of influence? (Go to step 4).

It can be seen from Tables 4 and 5 above that the backgrounds are exceeded at the designated sites, and therefore the assessment continues to Step 4:

- 'Following detailed modelling and a NIS, is the process contribution (PC) ≤1% of the critical level for ammonia and ≤1% of the critical load for nitrogen deposition?

In line with Step 4, a detailed assessment has been undertaken, predicting the potential ammonia impact and Nitrogen deposition. The predicted impacts of both the ammonia and Nitrogen assessment shows that the PC of 1% is not exceeded at any of the designated sites

As the application does not have the potential to contribute a significant impact at any of the designated sites, no further assessment is required, in line with Step 4 of the EPA flowchart.

5 MITIGATION MEASURES

In order to further minimise emissions from the poultry facility at Lislea and in order to protect certain designated sites and species, a number of mitigation measures must be implemented and followed. Measures have also been suggested that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife and water quality.

- 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 Poultry* (http://eippcb.jrc.ec.europa.eu/reference/BREF/IRPP/JRC107189_IRPP_Bref_2017_published.pdf).

- The construction and operation of the proposed farm must comply with the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 (S.I. 113 of 2022).

- Guidelines within the Department of Agriculture's Explanatory Handbook for Good Agricultural Practice Regulations must also be followed.

- The proposed farm structures and storage tanks must adhere to the Department of Agriculture's Farm Building and Structures Specifications. Before use, they should undergo an integrity test that is performed by a suitably qualified person. They should be inspected regularly for deficiencies.

- Manure, slurry and soiled water storage facilities should be constructed to Department of Agriculture, Food and The Marine specifications. They should be inspected regularly.

- Site preparation and construction must be confined to the development site only and should adhere to all standard best practice measures. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works.

- It is vital that there is no run-off from site works or operation into the Yellow River or its tributary. There should be no construction works within 10m of the watercourses on site and the existing natural vegetation along these watercourses should be maintained. Additionally, in order to prevent run off from construction works from entering the watercourses, a sturdy silt fence should be installed along the entire length of the watercourses within the site. This should be done prior to any work commencing on the

site. This silt fence should be inspected by an engineer prior to the commencement of works on the site.

- During operation only clean surface water should be discharged to this drain. Appropriate silt and hydrocarbon interceptors should be used on this line.

- The control and management of hydrocarbons on site will be vital to prevent deteriorations in surface and groundwater quality locally. The following measures must be employed on site during construction:

    - The risk of fuel spillages on a construction site is at its greatest when refuelling plant. Therefore, only designated trained and competent operatives should be authorised to refuel plant on site. Plant and equipment should be brought to a designated refuelling area rather than refuelling at numerous locations about the site.

    - Spill kits stations should be provided at the fuelling location for the duration of the works.

    - Workers should be provided with training on spill control and the use of spill kits.

    - All fuel storage containers must be appropriately bunded, roofed and protected from vehicle movements. These bunds will provide added protection in the event of a flood event on site.

    - All chemicals must be stored as per manufacturer's instructions. A dedicated chemical bund should be provided on site if chemicals are to be stored on site. Any chemicals used on site should be returned to the site compound and secured in a lockable and sealed container overnight in proximity to the fuel storage area.

    - Procedures and contingency plans should be established on site to address cleaning up small spillages as well as dealing with an emergency incident. A stock of absorbent materials such as sand, spill granules, absorbent pads and booms should be kept on site, on plant working near the water and at the refuelling area.

    - Daily plant inspections will be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, the applicant should remove the plant from operations for repairs.

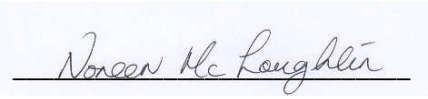
    - All personnel shall observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where

conditions warrant, emergency spill containment supplies should be available for immediate use.

- Best practice concrete / aggregate management measures must also be employed on site.
    - A designated concrete wash out area should be set up on site; typically this will involve washing the chutes, pumps into a designated IBC before removing the waste water off site for disposal.
    - Best practice in bulk-liquid concrete management should be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc.
    - Stockpile areas for sands and gravel must be kept to a minimum size, well away from the coastal site boundary.
    - Where concrete shuttering is used, measures should be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils.
    - Activities which result in the creation of cement dust should be controlled by dampening down the areas.
    - Raw and uncured waste concrete should be disposed of by removal from the site;
    - Stockpile areas for sands and gravel must be kept to a minimum size.
- All silt drains and farm yard discharge should be in accordance with the specifications within the Department of Agriculture's "Minimum specification for Farmyard Drainage, Concrete Yards and Roads".
- Any excavated material arising from the construction process must not be disposed of within any designated site. It must be used responsibly within the boundary of the application site or disposed of in a licensed facility using a registered contractor.
- The storage and handling of all wastes and fertilisers on site must be in accordance with S.I. 113 of 2022.
- It is illegal to remove hedgerows / treelines during the bird nesting season (September – March). Riparian verges along local streams and watercourses must not be damaged during the construction or operation. Planting should focus on native species.

6 NIS CONCLUSION

This Natura Impact Statement has concluded that with the mitigation measures outlined in this document, that the proposed construction and operation of the poultry farm at Lislea will not lead to any significant impacts upon the designated sites identified.



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(PI Insurance details available on request)