Whitehill
Environmental

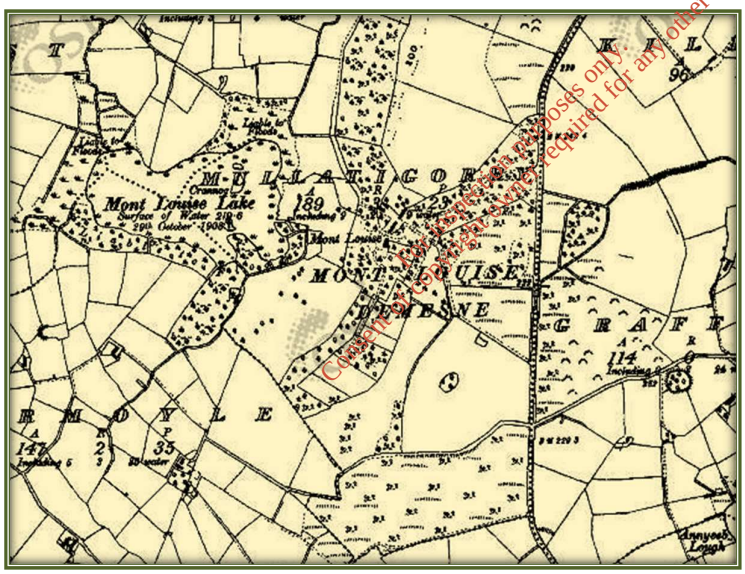
Noreen McLoughlin, MSc

Environmental Consultant

Whitehill
Edgeworthstown
Co. Longford
& (087) 4127248 / (043) 6672775
✉ noreen.mcloughlin@gmail.com

NATURA IMPACT STATEMENT OF AN APPLICATION FOR A LICENCE AT MULLATIGORRY, SMITHBORO, CO MONAGHAN

IN LINE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE



J.P.H. Enterprises Ltd
c/o Paraic Fay
C.L.W. Environmental Planners Ltd
The Mews
23 Farnham Street

March 2020

TABLE OF CONTENTS

1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

This Natura Impact Assessment was prepared for the proposed development of a poultry farm at Mullatigorry, Smithboro, Co. Monaghan.

Having regard to the location of the proposed development site and its proximity 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 Mullatigorry, Smithboro, 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 March 2020 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 79/409/EEC) implies that particular protection is given to sites (Special Protection Areas) which support certain bird species listed in Annex I of the Directive and that surveys of development sites should consider the status of such species.

The EU Habitats Directive (92/43/EEC) gives protection to sites (Special Areas of Conservation) which support particular habitats and species listed in annexes to this directive. Articles 6(3) and 6(4) of this Directive call for the undertaking of an Appropriate Assessment for plans and projects likely to have an effect on designated sites. This is explained in greater detail in the following section.

The Wildlife Act 1976 (and its amendment of 2000) provides protection to most wild birds and animals. Interference with such species can only occur under licence. Under the act it is an offence to "wilfully interfere with or destroy the breeding place or resting place of any protected wild animal". The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Under the Wildlife Amendment Act (2000) NHAs are legally protected from damage. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

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 doesn't 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 site's conservation objectives.

Appropriate Assessment is an assessment of the potential effects of a proposed plan - 'in combination' with other plans and projects - on one or more European sites. The 'Appropriate Assessment' itself is a statement which must be made by the competent authority which says whether the plan affects the integrity of a European site. The actual process of determining whether or not the plan will affect the site is also commonly referred to as 'Appropriate Assessment'.

If adverse impacts on the 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 (European Commission, 2000, 2001).

The conclusions of the appropriate assessment report should enable the competent authority to ascertain whether the proposal would adversely affect the integrity of the site (European Commission, 2000, 2001).

Under the terms of the directive (European Commission, 2000, 2001), 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 the site will not be adversely affected, or (b) where an adverse effect is anticipated, 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.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This Natura Impact Statement (Stage 2) 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.
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPW 1/10 & PSSP 2/10.

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 Natura Impact 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;
- Screening statement with conclusions.

2.2 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 all 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 the AA screening determination and license application documents;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- C.L.W. Environmental Planners Ltd – Plans and information pertaining to the development;
- Monaghan County Council – Information on planning history in the area in order to ascertain potential cumulative impacts.

3 STAGE 1 - SCREENING

3.1 PROJECT DESCRIPTION

OVERVIEW

In May 2019, J.P.H. Enterprises Ltd were granted planning permission by Monaghan County Council for a development at an existing poultry farm at Mullatigorry, Smithboro, Co. Monaghan. Planning permission was granted on this site for the demolition of two existing broiler houses along with the subsequent construction of three new houses. The works will facilitate an increase on the farm from 160,000 to 300,000 broilers. The farm is covered by an existing EPA License (No. P0838-01) and applicant is now re-applying to the EPA for a License for this site (No. P0838-02). An extract from the planning drawings as submitted for this application can be seen in Figure 1.

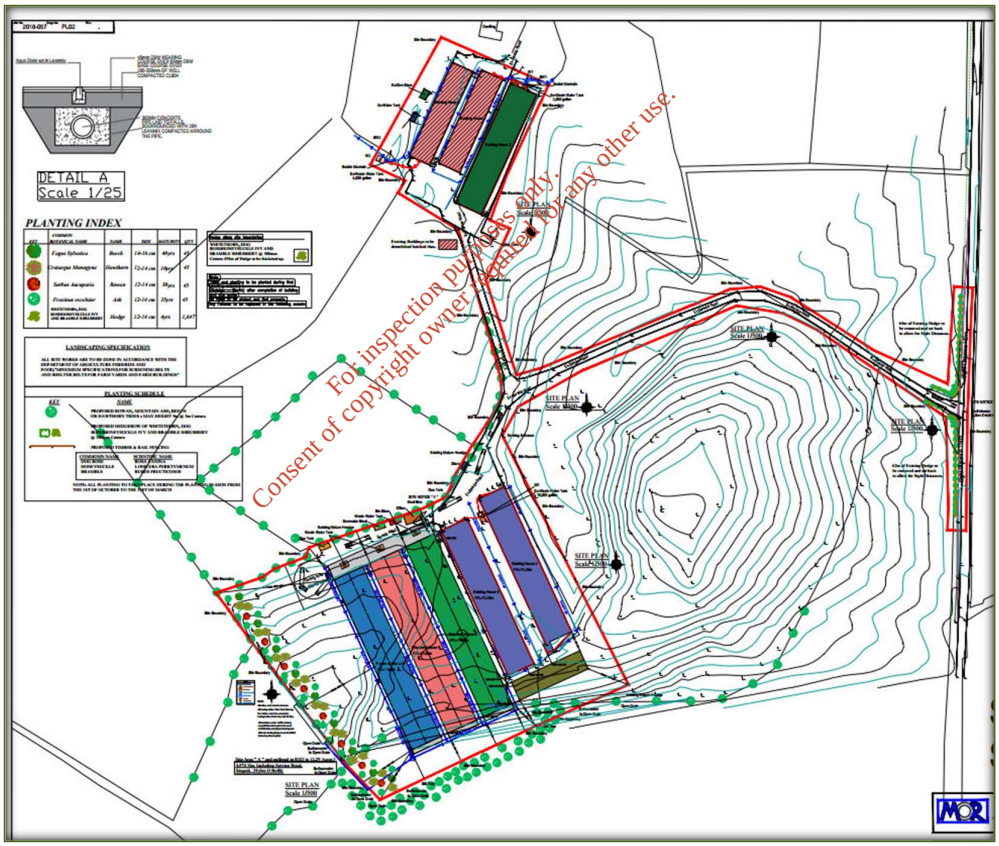


Figure 1 – Extract from Planning Drawing (By M O'Reilly Civil Engineering)

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 may also be used as an organic fertiliser for grasslands. 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. 605 of 2017 (as amended).

S.I. 605 OF 2017 (AS AMENDED)

The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017 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 100m³ 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. 605 of 2017.

Prior to its implementation, S.I. 605 of 2017 was subjected to Appropriate Assessment (AA) and a Strategic Environmental Assessment (SEA) Screening at draft stage (March 2017). At this stage, it was referred to as Ireland's Fourth Nitrates Action Programme (NAP). This draft NAP was assessed in terms of the likely significant effects of the programme and where it would adversely affect the integrity of European sites. The NIS identified that the existing

and proposed measures would be predominantly positive for European sites. The measures of the NAP were influenced to avoid, as appropriate, measures that would have an adverse effect upon the integrity of the European sites. Any project falling under the requirements of the NAP will be required to conform to the mitigation measures contained within the NIS prepared and to any further regulatory provisions aimed at preventing pollution or other environmental effects. The applicant is fully aware of his obligations under S.I. 605 of 2017 and they will meet all the requirements under this Directive with the proposed application.

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is located in a rural area within the townland of Mullatigorry. Access to the site is via a private access road that is just off a local, third class road. The area of the site is 4.97 hectares. It is 2.3km north of Smithboro and 8.2km west of Scotstown.

Land use surrounding the site is predominantly agricultural and the dominant habitat surrounding the site is improved agricultural grassland. Other habitats represented include mixed broadleaved woodland, bog woodland, lakes, wet grassland, treelines, hedgerows and drains / streams. 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.

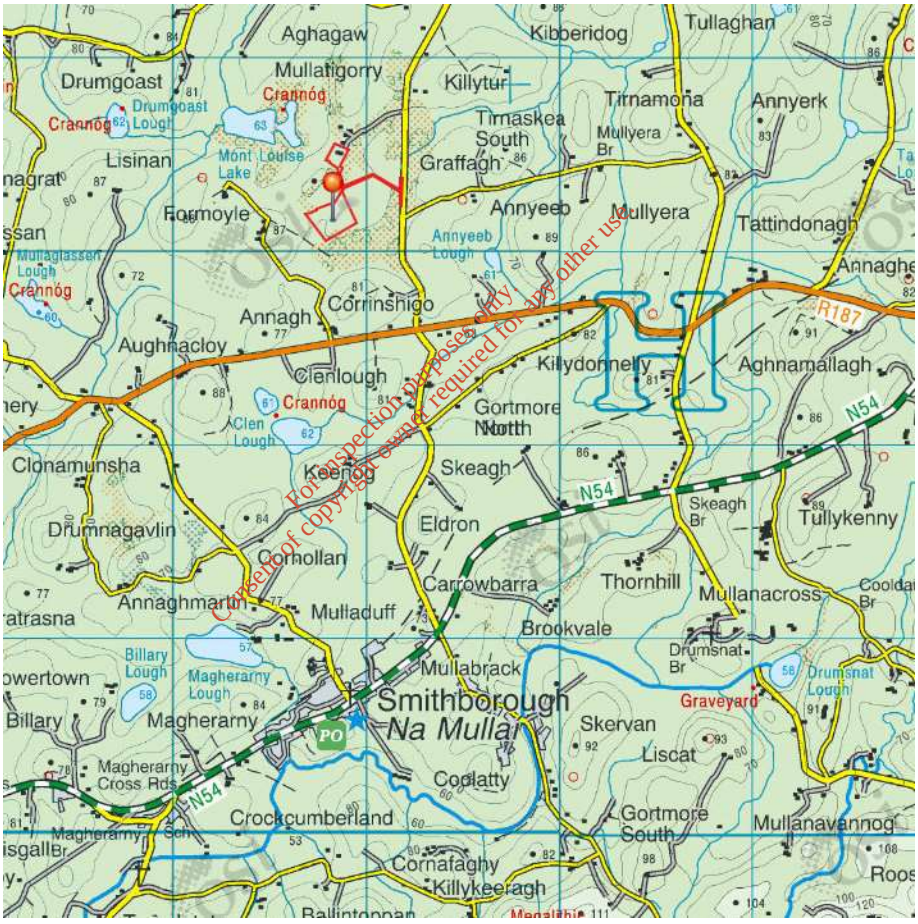


Figure 2 – Map showing the Location of the Proposed Development Site (Pinned)

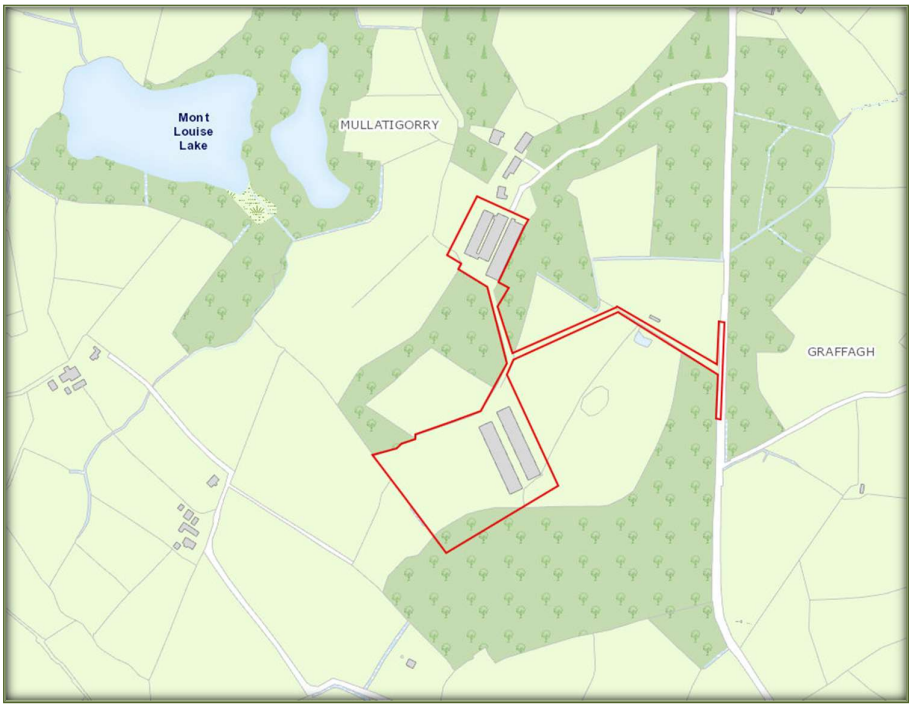


Figure 3 – Map showing the Location of the Proposed Development Site (Outlined in Red).

HABITATS AND SPECIES

Currently, the main habitat within the application site itself is buildings and artificial surfaces (The existing poultry houses) and improved agricultural grassland habitats. These are habitats of low biodiversity value. In the southern section of the site there is a treeline which divides the site between the grassland in the north and an area of scrub growing on cutover bog in the south. Historical maps reveal that this area was historically a wetland / bog within the Mont Louise Demesne. This area will be felled and cleared to facilitate the proposed development. As part of the development, there will be additional planting of suitable species along the boundaries of the application site.

An examination of the website of the National Biodiversity Data Centre, revealed that there are no records for the presence of any protected plant or mammal species from the relevant 1km square (H5833) of this proposed development.

WATER FEATURES AND QUALITY

The application site lies within the Erne Hydrometric Area and Catchment, the Finn (Monaghan) Sub-Catchment and the Magherarney Sub-Basin. There are open drains close to the application site and clean surface water from the farm will be directed to these drains. Water in these drains is likely to flow towards the Mullatigorry Stream, which is 310m east of the application site. Water in this stream flows north / north-west towards the Magheramey Stream. The Magheramey Stream is a tributary of the River Finn and the confluence of these two rivers is 6km south-west of the application site.

The EPA have classified the ecological status of the Mullatigorry Stream and the Magheramey Stream as poor. All watercourses in this particular sub-basin have been defined as poor. Under the requirements of the Water Framework Directive, this is unsatisfactory and good status must be achieved in these waters by 2021.

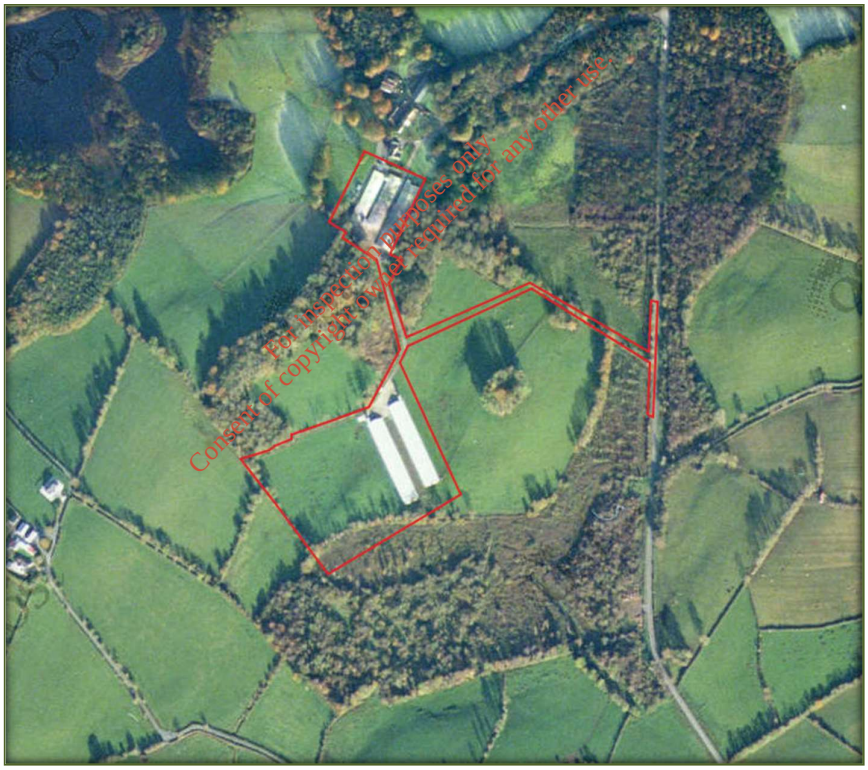


Figure 4 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats.

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 four Natura 2000 designated sites within 15km of the application site. These designated areas and their closest points to the proposed development site are summarised in Table 2 and a map showing their locations relative to the application site is shown in Figure 4. A full description of these sites can be read on the websites of the National Parks and Wildlife Service (npws.ie) and the Joint Nature Conservation Committee (jncc.defra.gov.uk)

Site Name & Code	Distance from Proposed Development	Qualifying Interests
Magheraveely Marl Loughs SAC UK0016621	3.7km west	• Hard oligo-mesotrophic waters with benthis vegetation of Chara spp. • Alkaline fens
Slieve Beagh SPA 004167	6.4km north-west	• Hen Harrier *Circus cyaneus*
Slieve Beagh-Mullaghafad-Lisnaskea SPA UK9020302	9.5km north-west	• Hen Harrier *Circus cyaneus*
Kilroosky Lough Cluster SAC 001786	10km south-west	• Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. • Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae • Alkaline fens • *Austropotamobius pallipes* (White-clawed Crayfish)

Table 2 – Natura 2000 Sites Within 15km of the Proposed Site

The generic conservation objectives of all these sites are:

1. To maintain the favourable conservation status of the qualifying interests (outlined above) of this SAC and SPA.

2. To maintain the extent, species richness and biodiversity of the entire site.

3. To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

The favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing and 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 conservation status of its typical species is favourable.

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.

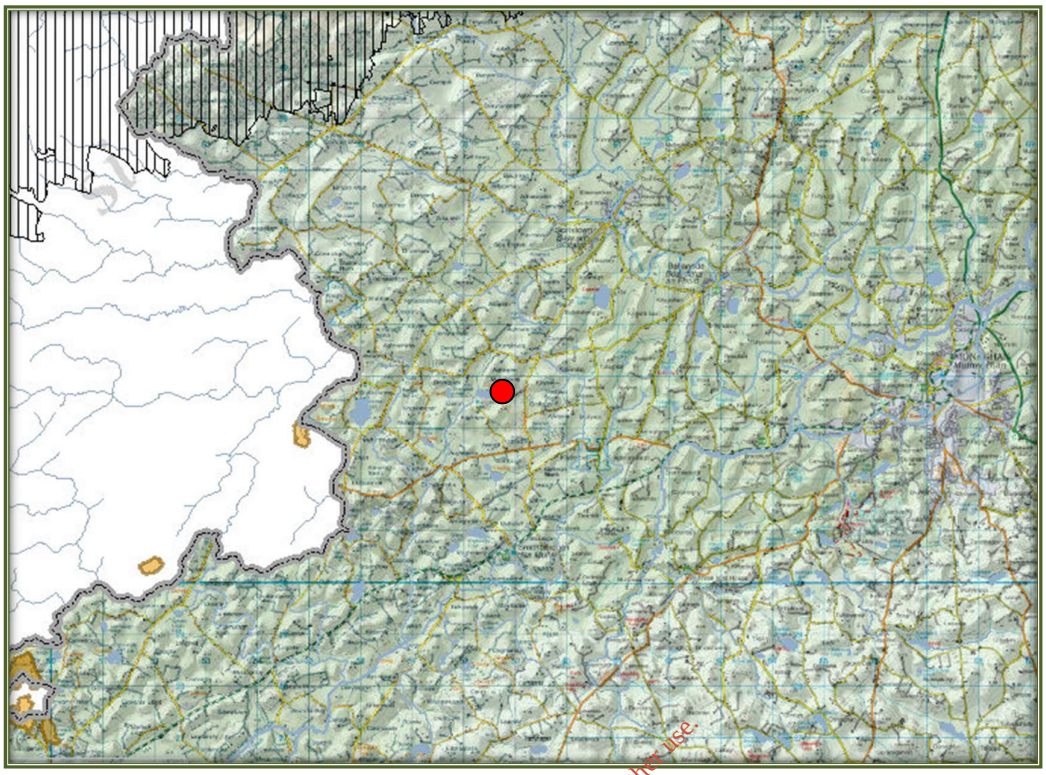


Figure 4 – The Application Site (Red Dot) in relation to the Natura 2000 sites within 15km. SPAs – Vertical Hatching. SACs – Brown Shading.

3.4 IDENTIFICATION OF POTENTIAL IMPACTS

Only those features of the development that have the potential to affect the integrity and conservation objectives of the identified Natura 2000 sites and protected species have been considered. A number of factors were examined at this stage and dismissed or carried forward for Appropriate Assessment as relevant. Assessment of the potential impacts on the integrity of the identified Natura 2000 sites is also conducted utilising a standard source-pathway-receptor model. In order for an impact to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance. The following areas were examined in relation to potential impacts from the proposed development on the Natura 2000 sites identified:

- *Impacts upon the designated sites within 15km from atmospheric emissions arising from the operation of the proposed development.*

3.5 SCREENING CONCLUSIONS

The proposed development is not directly connected with or necessary to the nature conservation management of the designated site. Therefore, following consideration of the location of designated sites in relation to the proposed development and the potential impacts that may occur from atmospheric emissions, this project must proceed to the next stage of Appropriate Assessment, namely the Natura Impact Assessment (Stage II, Natura Impact Statement).

4 STAGE II – APPROPRIATE ASSESSMENT

4.1 INTRODUCTION

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment is to determine whether the proposed development at Mullatigorry (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the Natura 2000 site identified in the previous section with respect to the site's structure, function and/or conservation objectives. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this proposed development.

4.2 IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS

INTRODUCTION

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. This section will establish whether the impacts of the proposed development at Mullatigorry that were identified in the previous section, are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the conservation objectives of the Natura 2000 site identified.

In the screening section of this report, the following possible impacts on the designated sites within 15km were listed. This potential impact is assessed in greater detail below.

Impacts upon the designated sites within 15km from atmospheric emissions arising from the operation of the proposed development.

AMMONIA

When in gaseous form, ammonia has a short atmospheric lifetime of about 24 hours and usually deposits near its source (the majority of gaseous ammonia is deposited within 700 - 1000 m of its source). In particulate form ammonia can travel much further impacting a larger area. Both gaseous and particulate ammonia contribute to eutrophication of surface waters, soil acidification, fertilization of vegetation and changes in ecosystems. A high load of atmospheric ammonia can lead to losses in biodiversity.

Ireland has not yet produced any guidance documents for assessing the impacts of ammonia or nitrogen deposition on sensitive habitats. Therefore, guidance from practices in other European countries was sought from sources in Hicks *et al* (2011) and other sources referred

to in this study. Many European countries have adopted approaches to assessing the threats to sensitive habitats from nitrogen and ammonia deposition. These approaches include linking the designated features (habitats and species) and the empirical critical loads of these habitats for nitrogen and ammonia, as well as assessments of whether a particular habitat / species is sensitive to their deposition.

In order to predict atmospheric emissions of ammonia from facility at Mullatigorry , a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners Ltd to determine the potential impacts of this farm on designated sites. In this instance a number of factors were taken into account, such as the use of natural ventilation. The results of the SCAIL outputs for ammonia are presented in Table 3. These figures are based on 140,000 birds, i.e., the expansion.

Magheraveely Marl Loughs SAC UK				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.68 µg/m³	0.198 µg/m³	1.87 µg/m³	1 -3 µg/m³	19.8% - 6.6%
Slieve Beagh SPA				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.61 µg/m³	0.084µg/m³	1.69 µg/m³	1 -3 µg/m³	8.4% - 2.8%
Slieve-Beagh-Mullaghafad-Lisnaskea SPA UK				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.51 µg/m³	0.06 µg/m³	1.51 µg/m³	1 -3 µg/m³	6% - 2%
Kilroosky Lough Cluster SAC				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.50 µg/m³	0.04 µg/m³	1.5 µg/m³	1 -3 µg/m³	4% - 1.3%

Table 3 – Ammonia Loadings Arising from Proposed Development on Natura 2000 Sites

It should be also be noted that the SCAIL model that is normally run for the prediction of emissions is very conservative, and the actual ammonia emissions from the facility are likely to be much lower. In addition, the prevailing winds will largely carry most of the emissions from the site away from these designated areas and their sensitive ecological receptors. Therefore, it can be concluded that the actual impact from ammonia is predicted to be at the lower end of the range as detailed above in Table 3.

NITROGEN LEVELS

The SCAIL results for the predicted deposition of nitrogen are presented in Table 4. For the SACs, either the SCAIL critical loads or those defined by APIS (Air Pollution Information System) were used. For the SPAs, the SCAIL model cannot generate critical loads as SPAs are designated for species rather than habitats. Therefore, in this instance the main habitat of the site which is used by the birds was assumed to be that of its corresponding SAC habitats and the critical loads of nitrogen for these habitat as defined by APIS were used (if available). In the case of the hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. habitat, which is a qualifying interest of the Magheraveely Loughs SAC and the Kilroosky Lough Cluster, no critical load data has been finalised by APIS. Other habitats are listed as not being sensitive to nitrogen deposition.

Magheraveely Marl Loughs SAC UK				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
19.24 kg N/ha/yr	1 kg N/ha/yr	20.24 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	6.6%
			15-30 kg N/ha/yr (Calcareous fens with *Cladium mariscus*)	6.6% - 3.3%
			No CL available for Hard oligo-mesotrophic waters with Chara spp	-
Slieve Beagh SPA 004167				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
19.09 kg N/ha/yr	0.44 kg N/ha/yr	19.53 kg N/ha/yr	10 – 20 kg N/ha/yr	4.4% - 2.2%

Slieve Beagh-Mullaghfad-Lisnaskea SPA UK9020091				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
18.99 kg N/ha/yr	0.31 kg N/ha/yr	19.3 kg N/ha/yr	10 – 20 kg N/ha/yr	3.1% - 1.55%
Kilroosky Lough Cluster SAC 001786 – 8.1km from Proposed Site				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
18.90 kg N/ha/yr	0.21 kg N/ha/yr	19.11 kg N/ha/yr	15 kg N/ha/yr (Alkaline Fen)	1.4%
			15-30 kg N/ha/yr (Calcareous fens with *Cladium mariscus*)	0.73% - 0.37%
			No CL available for Hard oligo-mesotrophic waters with benthic vegetation of Chara spp	-

Table 4 – Nitrogen Loadings Arising from Proposed Development on Natura 2000 Sites

4.3 CUMULATIVE IMPACTS

There are other agricultural activities ongoing close to the current application site, therefore cumulative impacts arsing 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. 605 of 2017 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 Mullatigorry 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 2017 (S.I. 605 of 2017). 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 minimise emissions from the poultry facility at Mullatigorry 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.

- 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_published.pdf).
- The use of fan ventilation (fans at 7m, 630mm fans with a minimum capacity of 3.7m³/s) will reduce the potential impacts from the farm as per the outputs below. Reductions will be between 36% and 62%.

Ammonia

Magheraveely Marl Loughs SAC UK				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.68 µg/m³	0.07 µg/m³	1.75 µg/m³	1 -3 µg/m³	7.3% - 2.4%
Slieve Beagh SPA				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.61 µg/m³	0.04 µg/m³	1.65 µg/m³	1 -3 µg/m³	4% - 1.3%
Slieve-Beagh-Mullaghafad-Lisnaskea SPA UK				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
1.51 µg/m³	0.03 µg/m³	1.54 µg/m³	1 -3 µg/m³	3.2% - 1%
Kilroosky Lough Cluster SAC				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**

1.50 µg/m³	0.02 µg/m³	1.52 µg/m³	1 -3 µg/m³	2.4% - 0.83%

Nitrogen

Magheraveely Marl Loughs SAC UK				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
19.24 kg N/ha/yr	0.38 kg N/ha/yr	19.62 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	2.5%
			15-30 kg N/ha/yr (Calcareous fens with *Cladium mariscus*)	2.5% - 1.2%
			No CL available for Hard oligo-mesotrophic waters with Chara spp	-
Slieve Beagh SPA 004167				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
19.09 kg N/ha/yr	0.21 kg N/ha/yr	19.3 kg N/ha/yr	10 – 20 kg N/ha/yr	2.1% - 1.05%
Slieve Beagh-Mullaghfad-Lisnaskea SPA UK9020091				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
18.99 kg N/ha/yr	0.17 kg N/ha/yr	19.16 kg N/ha/yr	10 – 20 kg N/ha/yr	1.7% - 0.85%
Kilroosky Lough Cluster SAC 001786 – 8.1km from Proposed Site				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
18.90 kg N/ha/yr	0.13 kg N/ha/yr	19.03 kg N/ha/yr	15 kg N/ha/yr (Alkaline Fen)	0.86%
			15-30 kg N/ha/yr (Calcareous fens with *Cladium mariscus*)	0.86% - 0.43%
			No CL available for Hard oligo-	-

			mesotrophic waters with benthic vegetation of Chara	

- Further emission reduction techniques should include the addition of a piped heating system which will reduce emissions further from fan baseline by 64.7%. With this option, the percentage contribution of the process to the critical loads of ammonia for the European Sites will be reduced to below 2.59%. This option is available to the applicant and the details may be set in the License. These options and the reductions in emissions provided by them are summarised in Table 5. Technical specifications for both options are outlined in Appendix 1.

Pipe Heating – Reductions of 64.7%
Magheraveely Marl Loughs SAC UK – Ammonia emissions reduced from 0.073 µg/m³ to 0.025 µg/m³, which is now 2.59% of critical load.
Slieve Beagh SPA – Ammonia emissions reduced from 0.04 µg/m³ to 0.014 µg/m³, which is now 1.4% of lower critical load.
Slieve Beagh-Mullaghfad-Lisnaskea SPA UK- Ammonia emissions reduced from 0.032 µg/m³ to 0.011 µg/m³, which is now 1.1% of lower critical load.
Kilroosky Lough Cluster SAC - Ammonia emissions reduced from 0.024 µg/m³ to 0.008 µg/m³, which is now 0.87% of lower critical load.

Table 5 – Ammonia Reductions that Can be Achieved using A Piped Heating System

- 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 both 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 any local watercourses. *The protection of water quality in this area is vital.*

- Post construction surface water run-off from hardcore / concreted / tarmacadum 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.*

- The proposed 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.

- The applicant must ensure that any excavated soil is used / disposed of responsibly. Its disposal should not lead to the loss or damage of any natural or semi-natural habitats elsewhere. It should not be spread close to any local watercourse as it may result in an increase in the sediment load of that watercourse.

- Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from watercourses. Refuelling of machinery, etc., should be carried out in bunded areas. Stockpile areas for sands and gravel should be kept to a minimum size, well away from any drain or watercourse. .

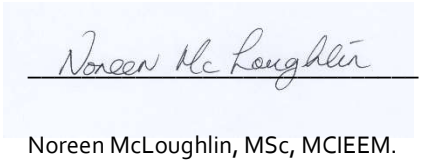
- Any hedgerows that remain should be protected and maintained where possible. They should be carefully cordoned off from the development activities on site. If possible, a natural verge should be allowed to remain along these hedgerows. This will maintain the biodiversity on the site once the development is operational. It is illegal to remove hedgerows and trees during the bird nesting season.

- Any landscaping should involve the planting of native Irish species that are indigenous to the site. The characteristics of newly planted hedgerows should mimic those in the surrounding area.

- Bare soil should be seeded as soon as possible with grass seed. This will minimise erosion into local drains and watercourses.

6 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 within 15km of the application site. It is considered that following mitigation, 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.



Noreen McLoughlin, MSc, MCIEEM.
Ecologist.

(PI Insurance details available on request)

7 FINDING OF NO SIGNIFICANT EFFECTS

Finding of No Significant Effects Report Matrix	
Name of project	Proposed Farm Development at Mullatigorry, Smithboro, Co. Monaghan
Name and location of Natura 2000 site	The closest Natura 2000 site to the application site is Magheraveely Marl Loughs SAC and this is 3.7km west of the application site.
Description of project	EPA License Review
Is the project directly connected with or necessary to the management of the site?	No
Are there other projects or plans that together with project being assessed could affect the site?	No
The Assessment of Significance of Effects	
Describe how the project is likely to affect the Natura 2000 site	Possible air emissions and impacts upon designated sites from NH_3 and N emissions.
Explain why these effects are not considered significant	These impacts can be mitigated against using options 1 or 2 as detailed in the mitigation section.
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive.	There will be no impacts upon any listed species arising from the operation of this development.
Data Collected to Carry out the Assessment	
Who carried out the assessment	Noreen McLoughlin, MSC, MIEEM. Consultant Ecologist
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Monaghan County Council.
Level of assessment completed	Stage II Appropriate Assessment (NIS)
Where can the full results of the assessment be accessed and viewed	Full results included

Appendix I: HEAT RECOVERY SPECIFICATIONS

Pipe Heating Standard Specifications

Rav number	**BWL2017.01.V2**
System name	**Stable with pipe heating**
Animal category	**Broilers (E 5.15), (large) parent animals of broilers reared (E 3.9) and parents of meat turkeys in rearing; up to 6 weeks (F 1.8)**
System description of	**July 2018**
Replaces	**BWL2017.v1 of November 2017**
Working principle	The ammonia emission is reduced by drying the litter with warm air and the removal of evaporated moisture with heated air. This system uses the thermal rise of hot air from the heating pipes which are on the inside of the side walls of the stable are placed. The heat from the heat pipes rises on by thermic and moves along with the incoming air of the air inlet valves along the ceiling to the middle of the house. Over there the air flows from both sides of the stable come together and move down and then back to the side walls. The heated air can absorb moisture that evaporates from the litter. A part of the stall air is extracted so that the evaporated moisture from the stable immediately becomes drained. Due to the uniform heat dissipation of the heat pipes over it entire stable surface ensures that there is uniform drying of the litter.

T HE TECHNICAL IMPLEMENTATION OF THE SYSTEM ; ARCHITECTURAL

Part	Implementation requirement
1 Floor version	The total barn floor construction including any underlying sand layer must have a heat resistance (Rc value) of at least 0.5.

T HE TECHNICAL IMPLEMENTATION OF THE SYSTEM ; TECHNICAL EQUIPMENT

Part	Implementation requirement
2 Housing form	Complete litter floor
3 Drinking water	Drinking water supply equipped with antimor system
4a Heating and ventilation system	There must be combustion device , which is not in the animal housing space is placed. The hot water from the combustion device is via a pipe system (heat pipes) in the house.
4b	The heat pipes are located on the inside of the side walls at the inlet valves.
4c	Shape and thickness of the heat pipes according to the supplier.
5 Registration-equipment	The following registration equipment must be present: - equipment for recording the realized temperature curve; - equipment for recording the realized ventilation flow rate; - equipment for recording the humidity in the house.
6a Capacity new construction	The dimensioning of the combustion device and the heat pipes must be to join the requested capacity of at least 100 W / m ₂ or at the te install total capacity required according to the heat balance calculation. The to install total heat capacity with a heat balance calculation are determined.

1 The point is that air can be heated and that this air is distributed. The combustion device

is in a separate room. The exhaust duct for the discharge of flue gases must be outside the barn.

Page 2

6b Capacity existing stables	The dimensioning of the combustion device and the heat pipes must be to join the requested capacity of at least 125 W / m ₂ or at the te install total capacity required according to the heat balance calculation. The to install total heat capacity with a heat balance calculation are determined.

THE USE OF THE SYSTEM

Part	Use requirement
a Living surface	In (large) parent animals of broiler chickens in rearing up to 19 weeks: a minimum of 900 cm² and a maximum of 1,100 cm² per animal at set-up (8.3 to 11.1 animals per m ²).
b Air flow	The heat rises through the thermals and moves together with the incoming air from the air intake valves along the ceiling to it middle of the stable. There are the air flows from both sides of the barn together and move down and then back to the side walls.
c1 Humidity	The humidity in the house must be permanently measured with a humidity sensor which is connected to the climate computer. When the humidity of the litter increases and therefore the stable air humidity, the computer should respond to this by the temperature of the water in the to increase pipe heating so that more moisture is vaporized in the house and drained via the ventilation system.
c2	The air humidity may not exceed 75%.
d Setting temperature curve	The heating is switched on as and when there is a need for extra heat the stable, for this the temperature curve is followed.
e Registration	For the purpose of monitoring the operation of the system, the following data are automatically recorded: - the temperature curve; - the realized ventilation flow rate; - the realized humidity.

Emission factor

Broilers:
0.072 kg NH ₃ per animal site per year
(Large) parent animals of broilers in rearing:
0.044 kg of NH ₃ per animal site per year
Parents of meat turkeys in rearing:
0.03 kg NH3 per animal site per year

Reference measurement report

- Investigate ammonia emission to broiler houses with pipe heating (BL2016.6349.02-V11, September 2016)
- Updating ammonia emission factors poultry; Advice for adjustment of ammonia emission factors of poultry in the Scheme ammonia and livestock farming (Rav). Wageningen Livestock Research, Report 1015

Page 3

NAME:
Stable with pipe heating

NUMBER:
BWL 2017.01.V2
SYSTEM DESCRIPTION:
July 2018