# Poultry Farm

# ENVIRONMENTAL IMPACT ASSESSMENT REPORT

In respect of a proposed development involving the construction of 2 no. poultry house including all ancillary facilities at:

DRUMLESTER,
EMYVALE,
CO. MONAGHAN.

On behalf of:

MR. NIALL MCKENNA
DRUMLARA,
TYDAVNET,
CO. MONAGHAN.

August 2019

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# A. NON-TECHNICAL SUMMARY

This Environmental Impact Assessment Report (E.I.A.R.) has been prepared by C.L.W. Environmental Planners Ltd. on behalf of Mr. Niall McKenna, Drumlara, Tydavnet, Co. Monaghan in respect of the proposal to construct 2 No. Poultry houses together with all ancillary structures (to include meal bin(s) and soiled water tank(s)) and ancillary site works on, and or, adjacent to an existing poultry farm at Drumlester, Emyvale, Co. Monaghan. The E.I.A.R. has been prepared by Mr. Paraic Fay B.Agr.Sc, Mr, Shane Brady B.Agr.Sc. and Mr. Oliver Leddy B.Agr.Sc. of C.L.W. Environmental Planners Ltd. with the assistance of persons and bodies referred to hereafter. The farm will operate under Licence by the Environmental Protection Agency, and this licence will be progressed upon receipt of planning permission.

The proposed development is to be completed on an existing poultry farm site at Drumlester, Emyvale, Co. Monaghan. The E.I.A.R. has been prepared after an Environmental Impact Assessment (E.I.A.) of the proposed development carried out by C.L.W. Environmental Planners Ltd., in accordance with the Planning and Development Act 2000 (as amended), Planning & Development Regulations 2001-2015 and the Protection of Environment Act 2003.

The site adjacent to the proposed development, currently operates as a poultry farm with the existing poultry house having been granted permission in 2016. The proposed development will utilise an existing, access route currently used to access the existing poultry enterprise. In addition to the existing poultry farming structures, the applicant operate a bovine enterprise on the adjoining lands. The existing poultry house has capacity for c. 39,000 birds and operates under the E.P.A. Licence threshold of 40,000 places.

The proposed development of 2 No. Broiler rearing houses will be completed to the side of the existing house, on a greenfield site. The proposed development will be integrated with the existing house with existing hedgerows/proposed landscaping and a lower finished floor level, so as to minimise any potential visual impact from same. The capacity of the farm upon completion of all proposed developments will be limited to c. 125,000 - 130,000 birds. The proposed development exceeds the threshold required for the preparation of an Environmental Impact Assessment Report as per S.I. 600 of 2001 (Planning and Development Regulations 2001), Schedule 5 Part 2 1 (e) (i) as follows;

> ***"Installations for intensive rearing of poultry not included in Part 1 of this Schedule which would have more than 40,000 places for poultry."***

All manure is to be moved off-site by a registered contractor in line with S.I. 605 of 2017, as amended. The additional structures and site works required as part of the proposed development will include meal storage silo(s), soiled water tank, and gas storage tanks etc.

The proposed development will be located in the townland of Drumlester, Emyvale and will be located to the side of the existing development. The applicant is experienced in poultry farm management, and in particular the management of the existing poultry farming enterprise. The operation of the proposed development will be integrated, in so far as is possible, with the operation of the existing farming activities, and will provide for a sustainable development of activities on the farm.

As the applicant is an existing poultry farmer, there are a number of areas where this experience will be an advantage to the applicant, and where there will be both economies of scale and economies in the operation of the farm. The proposed development will provide significant economies of scale for the applicant.

The capacity of this farm is and will be in excess of that for which a Licence from the Environmental Protection Agency (E.P.A.) is required. The applicant will ensure that the required licence is in place prior to operation of the proposed development. This E.I.A.R. will be submitted to the EPA as part of the Licence application process.

The application site lies within the Lough Neagh and Lower Bann Hydrometric Area and Catchment, and the Blackwater Sub-Catchment and the Lisavargy Sub-Basin. There are a number of drains close to the application site, whilst the Killybrone Stream is 80m east of the site. This stream is a tributary of the River Blackwater.

The EPA have not defined the ecological status of the drains or streams that are within the sub-basin of this application site. Under the requirements of the Water Framework Directive in Ireland, all watercourses are obliged to meet achieve good ecological status within a specified time frame (2021).

The site in question is located in a rural area within the townland of Drumlester. Access to the site is just off a local, third class road. The area of the site is 1.713 hectares. It is 5.5 Km's north-west of Emyvale. The dominant land-use surrounding the application site is agriculture and improved agricultural grassland is the dominant habitat. Other habitats represented locally include areas of wet grasslands, scrub, scattered areas of woodland, hedgerows, treelines and watercourses. Currently, the main habitats within the application site include buildings and artificial surfaces (the existing poultry house and hard core areas) and improved agricultural grassland habitats. Where they exist, the site boundaries of the site consist of hedgerows.

An examination of the website of the National Biodiversity Data Centre revealed that there are no records for the presence of any notable mammal or plant species from within the relevant one km grid square (H6347) of this proposed development. The activity on the farm is, and will be, a poultry farming activity appropriate to the area and consistent with the development plan for Co. Monaghan.

The site is well serviced by the current road infrastructure and is accessed by a local road network which subsequently connects with the N2 national route c. 5 Km's from the site. The development for which permission is sought would be located to the side of the existing poultry house.

The proposed finished floor level, set lower than the existing house, will be in keeping with existing ground levels adjacent to the site but will involve limited excavation/infilling on site, and set so as to ensure that same is integrated into the site, while at the same time minimising excavation and potential visual impact. The location of the proposed development, screened by the structures and integrated into the existing land topography together with the proposed external finishes and landscaping will mean that the development will be well integrated into the existing landscape.

The site is located c. c. 3 km from the closest Natura 2000 site – Slieve Beagh SAC.

Hazardous waste generated at this site may be in the form of spent fluorescent lighting tubes. The annual quantity of each of this class of waste generated on the site is and will be mimimal. It is proposed to accumulate the used fluorescent tubes in a specialised storage area in the site pending periodic disposal at the Monaghan Co. Co. civic amenity centre. Alternatively these tubes may be returned to the supplier.

The proposed poultry houses will be similar in design principles to, the existing house on site and other broiler houses constructed throughout this part of Co. Monaghan. The type of house proposed is a simple closed building of concrete/steel/pre-fabricated panel construction, thermally insulated with a forced computer controlled ventilation system and artificial lighting. Birds are housed on a solid floor, with litter (wood shavings/chopped straw) spread over the entire floor area. Automated feeding and drinking systems are proposed and are in line with Best Available Techniques (BAT) requirements. A button nipple drinking system will be used in the proposed houses as this is the most efficient type of drinking system and will ensure that the manure/litter remains as dry as possible.

Only the most efficient systems of poultry husbandry are proposed on this farm and houses will be well maintained and serviced so as to ensure that they are operating to maximum efficiency. The proposed poultry houses will be similar in design principles to the existing house operated by the applicant and those located elsewhere in the county.

The proposed poultry houses will be of a steel portal frame construction on a concrete base. Walls will be concrete, with a pre-fabricated panel construction and the roof cladding will be box profile juniper green (or similar). The proposed poultry houses will be c. 91.45m by 21.35m internally with an overall height of c. 6 m.

The production process on this farm will be similar to the existing house operated by the applicant and/or other such houses in this part of Co. Monaghan, and will be in line with the requirements of the Department of Agriculture, Food & Marine and Bord Bia. The applicant will be responsible for the feeding, management and husbandry of the birds and for ensuring that all of the required records are maintained. The stock for this farm will be brought from the hatchery as day olds, and will remain in the houses until c. 5-6 weeks of age when they are transported to Manor Farm for processing. The proposed houses will operate in an all in - all out basis to maintain a single age profile, and to maintain the health status of the birds.

The poultry manure from this farm will be removed off site by an authorised contractor, CLR - Co-op, on behalf of the applicant. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. CLR - Co-op carries out this function for a number of poultry farmers so as to provide a consistent, reliable service to all farmers and to provide a consistent supply of manure to the compost yards/recipient farmers. The estimated manure production upon completion of the proposed development will be a total of c. 1,200 - 1,250 tonne / annum.

Soiled water from the proposed development where applicable, will be collected in dedicated soiled water collection tank(s), located on site. This soiled water will then be applied to farmland, in accordance with S.I. 605 of 2017, as amended.

Emissions to air from the site are and will be small, and are attributable to the animals that are on the site. The odour associated with a site of the proposed capacity does not and will not cause significant annoyance and will not interfere with amenity outside the boundary of the site. Odour emissions from the site may be increased at times when birds and/or manure is being removed from the site, however this occurs for only a short period in every cycle. The production cycle allows for c. 7-8 flocks/annum.

Well maintained, properly ventilated poultry farms with modern manure removal will minimise any potential adverse odour impact and will minimise odour outside the confines of the site/immediate area. Transient increases in odour emissions may be associated with manure removal from the site.

A small proportion of the birds maintained on the farm die prematurely. These carcasses will be stored in a covered sealed container on site, awaiting collection by an authorised contractor. College Proteins is an authorised contractor who regularly remove these carcasses, and any other such material to an authorised Animal By-Products plant at Nobber, Co. Meath, in compliance with existing requirements.

The potential of the proposed development, either independently and/or when assessed cumulatively with the existing development, and/or other developments in the area, for either direct or in-direct, short, medium, or long term adverse impact on environmental parameters is negligible, if any, because;

- of the nature and scale of the proposed development,
- wastes would be removed from the site by authorised waste contractors for either disposal or use elsewhere,
- all manure is to be removed off site by an experienced contractor, and,
- all soiled water will be collected in dedicated soiled water collection tanks pending its application to farmland in accordance with S.I. 605 of 2017, as amended.

While waste generated in the site would be accumulated and stored temporarily in the site, there would be no disposal or recovery of any waste undertaken on the site.

# 1. Introduction and Development Context

This Environmental Impact Assessment Report (E.I.A.R.) was compiled following an Environmental Impact Assessment (E.I.A.) of a proposed development on an existing farming enterprise, at Drumlester, Emyvale, Co. Monaghan, to be operated by the applicant, Mr. Niall McKenna. The E.I.A.R. is to be submitted to Monaghan County Council in support of an application for Planning Permission to construct 2 No. proposed poultry houses together with all ancillary structures and associated site works, on, or adjacent to, an existing poultry farm site at Drumlester, Emyvale, Co. Monaghan. Please refer to the site plan contained in Appendix No. 2 and the drawings contained in Appendix No. 3.

EIA requirements derive from Council Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC) and as codified and replaced by Directive 2011/92/EU of the European Parliament and the Council on the assessment of the effects of certain public and private projects on the environment and as amended in turn by Directive 2014/52/EU.

The E.I.A.R. is drafted with particular regard to the aforementioned directives and Planning and Development Acts 2000 (as amended), the Planning and Development Regulations 2001, as amended, and in particular Article 94 and Schedule 6 of the 2001 Planning and Development Regulations, and the Protection of Environment Act 2003. It is submitted to provide information that may be helpful to the planning authority in making its decision on the application for the proposed development and to comply with Schedule 5, Part 2, 1 (e) (i) of S.I. 610 of 2001, which specifies a requirement for an EIS/E.I.A.R. for poultry units exceeding 40,000 places for poultry.

In addition to the E.I.A. requirements the proposed capacity of this farm will be in excess of that for which a Licence from the Environmental Protection Agency (E.P.A.) is required (i.e. in excess of 40,000 places). This application will be completed with the E.P.A. upon receipt of planning permission.

## 1(1) Description of the Site and the proposed development

- ***1(1)(1) Scale of the proposed developments.***

The proposed development is to be completed on, or adjacent to, an existing poultry farm site. The currently proposed development is for 2 No. broiler houses together with all ancillary structures and associated site works. The capacity of the farm following completion of the currently proposed developments will be a maximum of c. 125,000 - 130,000 broilers. The applicant will require a Licence from the E.P.A. to accommodate the proposed developments and increase in scale, and this application will be completed with the E.P.A. upon receipt of planning permission.

The proposed poultry farming activities are the only agricultural activities that will be carried out on this site by the applicant, however the applicants families existing bovine farming activities will continue to be carried out on adjoining lands

The proposed development will operate along similar management principles and production processes to the existing poultry farm operated by the applicant and the number of other broiler houses in this part of Co. Monaghan.

The proposed development will be carried out, to ensure compliance with the Nitrates directive (Appendix 19), animal welfare legislation, and to ensure that this farm operates at maximum, efficiency, flock performance and environmental standards. This proposed development will be located in the townland of Drumlester, Emyvale, on, or adjacent to, an existing poultry farm site.

The purpose of the existing/proposed development is for the rearing of birds from day olds to market weight (c. 5-6 weeks). These birds will then be transported to the processor, (Manor Farm, or other approved processor) for the production of poultry products for human consumption. The scale of the proposed farm and the licensable activity is average by current industry standards.

The proposed poultry houses will have a total internal floor area of c. 1,952.46 $m^2$. The new poultry houses will be c. 91.45 m long and c.21.35 m wide and c. 6 m high at the apex. Soiled water collection tanks with a combined 165.6$m^3$ capacity will be located on site. Manure will be removed c. 7/8 times per annum at the end of each batch. This is to be moved off-site by the appointed contractor.

The proposed buildings will be sympathetic to the surrounding landscape in terms of their design and appearance, and where possible will be similar to the existing buildings in the locality and will not be intrusive in the landscape. The F.F.L.[1] of proposed poultry houses will be lower than the existing structures and integrated with existing ground levels in the main due to the land topography ensuring that the proposed development will have no adverse visual impact. The drawing details with regard to the proposed developments are included in Appendix No. 3.

## 1(1)(2) Planning/Licensing History

The subject site is an existing farmyard area, with planning permission having previously been granted at this location for the existing poultry house (16/357). Site Location Maps are contained in Appendix No. 1.

An E.P.A. licence application will be submitted to the Agency in respect of this farm and this application will be concluded prior to the operation of the proposed development.

[1] Finished floor level

- ***1(1)(3) Site Location.***

The site in question is located in a rural area within the townland of Drumlester, and it is accessed via a local road, linking to the National Route the N2. The area of the site is 1.713 hectares. It is 5km north of Emyvale , at National Grid Reference E263025 N347238. The site comprises an overall area of c. 1.713 hectares owned by the applicant with a total of c. 31.38 hectares farmed, including the site of the proposed development.

The activity on this site is, and will be, a poultry farming activity similar to the current activities in the area and consistent with the development plan for Co. Monaghan. Poultry farming is seen as a traditional farming activity in this part of Co. Monaghan. The existing site, while remotely located is serviced by a good road network, accessed by a local road which subsequently connects with the N2, c. 5 km from the farm entrance. This proposed development is to utilise the existing access/egress route. The poultry houses for which permission is sought would be located adjacent to the existing poultry house, and will be similar to other such developments such as that operated by the applicant on this existing site and those operating elsewhere within the county.

The location of proposed poultry houses is identified on the location maps (1:2,500) included in Appendix 1, which also indicates the extent of the land owned by the applicant at this location. The layout of the proposed development is shown on the Site Layout plan included in Appendix 2. The proposed site is compact, and is designed to be safe, secure and efficient in operation. There are no third party, or non-family, dwelling's located within c. 400 metres of the proposed development.

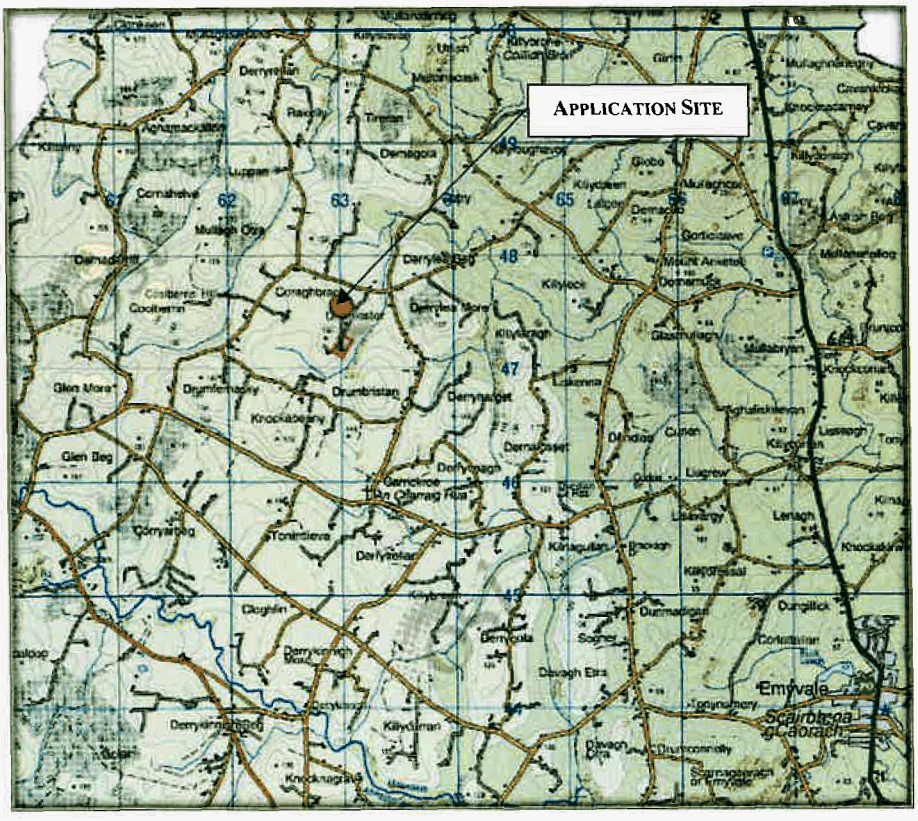



**Figure 1 – Map showing the Location of the Proposed Development Site**

**Figure 2 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats.**

- ***1(1)(4) Topography***

The proposed development site is typical of the local Drumlin topography of the area and falls gradually in a north west to south east direction. The proposed development will be integrated with the existing poultry house, screened from view by the proposed landscaping and integrated into the existing land topography.

As can be seen from the plans submitted with this application the floor level of the proposed development has been set so as to ensure that the development is integrated, in so far as is possible with the existing developments, both on and adjacent to the site, the land topography and to ensure that there is no adverse visual impact on the surrounding area. This will be complimented by the existing/proposed landscaping and the proposed finish to the buildings.

- ***1(1)(5) Physical description of the proposed development***

The proposed development has been well designed and the most efficient systems are proposed on this farm. All systems will be maintained and serviced so as to ensure that they are operating to maximum efficiency. Appendix 3 includes detailed drawings of the proposed development.

Broiler rearing design principles follow a simple template and have not changed significantly over recent years. The type of poultry housing proposed on this farm is designed for Broiler rearing and comprises a simple closed building of concrete/steel/pre-fabricated panel construction on an impervious concrete base, thermally insulated with a forced computer controlled ventilation system and artificial lighting. Birds are to be housed on a solid floor, with litter (wood shavings/chopped straw) spread over the entire floor area. Automated feeding and drinking systems are proposed in line with Best Available Techniques (BAT) requirements. A button nipple drinking system is proposed as this is the most efficient type of drinking system and it ensures that the manure remains as dry as possible.

The proposed development of 2 No. Broiler rearing houses will be of similar design to the existing house and other existing houses in the area and will also comply with BAT requirements. Birds will be housed on the floor and the house will be open plan with no internal divisions. The roof cladding will be box profile juniper green (or similar) cladding.

The proposed;

- poultry houses will be c. 91.45m long by 21.35 m wide internally with an overall height of c. 6 m.

All manure is to be moved off-site by a registered contractor in line with the requirements of S.I.605 of 2017, as amended, and as per the applicants existing poultry farm development at Drumlester.

The measures outlined as BAT for the Poultry Sector, (in the Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques for Intensive rearing of Poultry and Pigs), and in particular this type of production include:

- "the naturally ventilated house with a fully littered floor and equipped with non-leaking drinking systems, or
- The well-insulated fan ventilated house with a fully littered floor and equipped with non-leaking drinking systems.

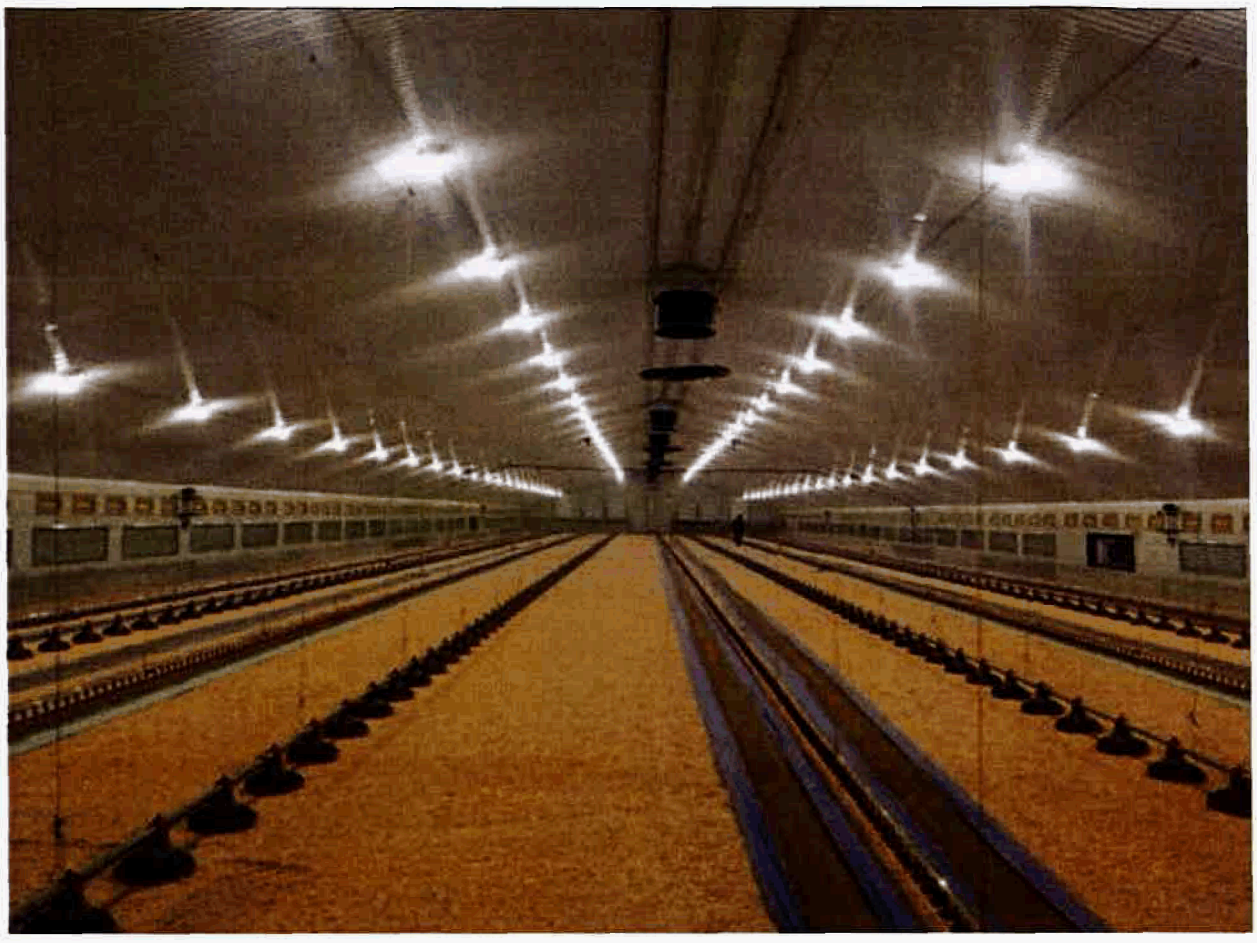


**Figure 3 – Typical internal layout of well-insulated fan ventilated house and equipped with non-leaking drinking systems. (Also shown new LED energy saving lighting.)**

- ***1(1)(6) Operation of the Proposed Development***

➢ ***Operating Hours:*** The main activities at this farm occur during normal working hours between 06.00 a.m. and 20.00 p.m. Stock inspections in line with normal farming practices are and will be carried out every day including weekends and holidays. Automatic feeding and ventilation systems operate on a 24 hour basis and in addition, essential activities may be carried out outside of core working hours.

➢ ***Production Process:*** The production process on this farm will be in line with the requirements of the poultry processors, Manor Farm, and customers of the processors. Manor Farm arrange for a number of farm inspections to be carried out during the year, so as to ensure that all of their production standards and requirements are being complied with. In addition to the above the applicant is/will be subject to inspections from Bord Bia, the Department of Agriculture, Food and Marine, Monaghan Co. Co., and the Environmental Protection Agency.

➢ ***Feeding:*** All birds will be fed by means of an energy efficient, low maintenance, automated feeding system. Feed will be moved from the external feed storage bins, into the houses. There are four stages of rations fed throughout the lifecycle, Starter, Grower 1, Grower 2 and Finisher. Each diet is tailored to meet the birds nutritional

requirements for protein/amino acids, energy, minerals and vitamins at that stage of production and to minimise nutrient excretion. This will ensure that birds are healthy and contented and are reared properly so as to produce healthy efficient birds which achieve set target food conversion efficiencies. Total Feed Consumption is expected to be c. 2,500 – 3,000 tonnes/annum. All feed to be used on this farm will be supplied from specialised feed suppliers and mainly from Kolbe Feeds etc..

- ***Production Cycle:*** The applicant is responsible for the maintenance and preparation of the houses, management of the birds, feeding, water and ventilation systems and for ensuring that all of the required records are maintained for each flock. The stock for this farm will be brought from the hatchery as day olds, and will remain in the houses until c.5-6 weeks when they will be caught by specialist bird catchers and transported by HGV to the processors at Shercock, Co. Cavan. The proposed houses will operate in an all in - all out basis to maintain a single age profile, and to maintain the health status of the birds.

  The production cycle on the farm is c. 5-6 weeks with 1 – 2 weeks empty after every batch. This results in c. 7-8 batches per annum.

  ***Day 1 – Birds Moved to the farm.***
  ***Day 32 – 37 – Birds removed from the houses.***
  ***Day 37 – 39 – Manure Removed from the houses.***
  ***Day 39 – 45 – Houses Washed down and left to dry.***
  ***Day 45 -50 – Houses bedded with shavings and left ready for the next batch of birds.***

  The applicant has been approved under the Bord Bia approval system, as per the Poultry Products Quality Assurance Scheme (PPQAS), and same will be extended to the proposed development upon completion of the proposed development and commencement of poultry farming activities in the new development. As part of this approval the daily procedure will follow the Bord Bia Poultry Products Quality Assurance Standard Producer Requirements.

  The following house checklist and flock inspection checklist are included as part of this standard;

# House Preparation Checklist

***Preparation of the House:***

- Spread fresh bedding evenly to cover the floor.
- Pre-heat the house gradually, at a minimum, 24 hours before the birds arrive.
- The temperature must be stable.
- Set up space heaters or brooders so as to ensure that there are no extremes of temperature in the house.
- Place independent thermometers around the house with at least two of them at bird level, to monitor uniformity of temperature.
- Provide fresh, clean water to the birds immediately on their arrival at the house. Starter ration must also be available.
- Use trays and paper to supplement pan or track feeders, if required.
- Feeders and drinkers must not be placed directly under a heat source.
- Before the birds arrive, carry out a final house-check to ensure that temperatures are at the correct levels and that there are no water leaks.

A house preparation sheet must be completed before the arrival of each batch of chickens that records the following at a minimum:

# Flock Inspection Checklist

**MINIMUM REQUIREMENTS FOR FLOCK INSPECTION CHECKLIST**

House Identification

Date Housed

Number of Birds Housed

DAILY

- Maximum & minimum temperatures
- Water meter reading
- Lighting – functioning as per programme
- Litter quality
- Mortalities & cause e.g. culls, leg weakness, injuries
- Corrective actions where required

TWICE-DAILY RECORDS OF:

- Ventilation – functioning as per settings
- Feed lines – charged with feed
- Drinkers – operational
- General flock appearance

WEEKLY CHECK RECORDS OF:

- Generator
- Alarms
- Fire extinguishers in place
- Foot dips

YEARLY:

- Electrical equipment
- Water test

**Figures 4 & 5 – Bord Bia House Preparation and Flock Inspection Checklist**

- ***Management of Organic Fertiliser:*** The poultry manure from this farm will be removed off site by an authorised contractor, CLR - Co-op, on behalf of the applicant. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. CLR - Co-op carries out this function for a number of poultry farmers so as to provide a consistent, reliable service to all farmers and to provide a consistent supply of manure to the compost yards/recipient farmers. They are registered with the Department of Agriculture for the transport of Animal By-Products. The estimated manure production as a result of the proposed development will be c. 1,200 - 1,250 tonnes/annum increasing from c. 375 tonnes/annum.

  As previously detailed all manure will be moved off-site by an approved registered contractor in compliance with S.I. 605 of 2017, as amended, i.e. the regulations that have given effect to the Nitrates Directive in Ireland. Additional details provided by the contractor have been included as Appendix No. 5.

- ***Management of Soiled Water:*** Soiled water from the proposed development where applicable, will be collected in a dedicated soiled water collection tank, located at the end of the proposed houses. Estimated soiled water production will be c. 225 $m^3$/annum, upon completion of the proposed development. This soiled water will then be applied to farmland in line with S.I. 605 of 2017, as amended. A map is included in Appendix 8 indicating the location and extent of farmland available for soiled water.

  The proposed site forms part of a c. 31.38 hectare parcel of land farmed by the applicant. These lands are operated a part of a bovine farming enterprise.

  Soiled Water from the proposed development will be allocated to these lands as indicated in Appendix No. 8. The stocking rate for 2018 was, c. 73kg Organic N/ha, based on an overall farmer area of 31.38 Ha. The application of c. 225 m3 of soiled water with an estimated N content of 1 Kg Organic N/Ha will increase this stocking rate to c.79.5 Kg Organic N/Ha well inside the 170 Kg Organic N/Ha limit.

- ***Bio-Security:*** To minimise the risk of personnel bringing infection into the poultry farm all visitors are banned with the exception of essential personnel such as veterinarians and servicemen. All visitors must sign a register and use appropriate disinfectant procedures. Designated lorries are to be used to deliver feed to the farm. A vital part of maintaining health within the unit is the necessity to fully clean out after each flock is removed. This avoids the build-up of bacteria and viruses which challenge the incoming stock and which may affect their production efficiency. Once litter has been removed by the designated contractor all internal surfaces are washed down using a power washing system and then disinfected.

***The management and operation of the proposed development as outlined is as per that currently practiced by the applicant on the existing poultry enterprise.***

## 2. Scoping of Environmental Impact Assessment

The scoping of this E.I.A.R. was carried out by the design team in conjunction with the applicant, and was completed in line with previous submissions to the Environmental Protection Agency, Monaghan County Council and other Local Authorities. Other organisations and bodies consulted directly/indirectly include: -

- Geological Survey of Ireland.
- Met Eireann.
- Central Fisheries Board.
- Office of Public Works.
- Department of Agriculture, Food and the Marine
- Department of the Environment, Community and Local Government
- National Parks and Wildlife Service.
- Teagasc, Johnstown Castle.
- Environmental Protection Agency
- Myles O'Reilly Civil Engineering Services
- Horizon Group, Market Square, Castleblayney, Co. Monaghan
- Noreen McLoughlin, MSc MCIEEM (Ecologist), Whitehill Environmental

The scope of the Environmental Impact Assessment conducted in respect of the proposed expansion includes the following:

- The requirements of the EU Directive, the *European Communities (Environmental Impact Assessment) Regulations, as amended*, and the *Local Government (Planning and Development) Regulations, 2001 to 2015*
- Guidelines on information to be contained in Environmental Impact Assessment Report - EPA Draft August 2017

- The requirements of Monaghan County Council, as elaborated in the current *County Development Plan 2019 - 2025*.
- The likely concerns of local residents and other third parties.
- The nature, location and scale of the proposal.
- The existing environment, as well as any vulnerable or sensitive features and current uses.
- The likely and significant impacts of the proposed development on the environment.
- Available methods of reducing or eliminating undesirable impacts.

The *European Union (Environmental Impact Assessment) Regulations,* (as amended) and directive 2014/52/EU prescribe a list of areas of the environment that must initially be addressed in any E.I.A.R. These areas comprise/may comprise of:

- Population and Human Health.
- Bio-Diversity (Flora & Fauna, Special Policy Areas etc.).
- Land and Soil.
- Water.
- Air.
- Climate / Climate Change
- Landscape.
- Material Assets.
- Traffic.
- Architectural and Archaeological Heritage.
- Cultural Heritage.
- The inter-relationship between the factors listed above.

It is necessary to encompass each of these sections of the environment with respect to the impacts that the proposed development will have on them. The purpose of this exercise is to shape and mould the E.I.A.R. so as not to overlook any impacts that may be significant, and to focus on the issues that have potential for environmental impact.

In this case the above criteria were studied and prioritised, ensuring that particular attention was paid to the issues that are directly relevant to the impact of the proposed development. A Matrix has been developed so as to assess the magnitude and nature of any potential impacts at the Scoping stage. Resulting from this preliminary assessment, only those issues identified as potentially significantly impacted by this development have been assessed in detail in this E.I.A.R., in line with E.I.A.R. draft guidelines.

Any development may result in indirect effects, along with the direct effects of demolition (if applicable) and construction. The potential impacts that the proposed development could impose on each aspect of the environment were sub-divided into the following categories, and analysed separately:

- Potential impacts if the proposed development does not proceed.
- Potential impacts during construction phase of proposed development.
- Potential impacts during operational phase of proposed development.

| | NO DEVELOPMENT | CONSTRUCTION PHASE | OPERATIONAL PHASE |
|---|---|---|---|
| Population / Human Health | ≈ | ✓✓ | ✓✓ |
| Biodiversity (Flora) | ≈ | × | ≈ |
| Biodiversity (Fauna) | ≈ | × | ≈ |
| Land and Soil | ≈ | ≈ | ✓✓ |
| Water | ≈ | × | ×× |
| Air | ≈ | ≈ | × |
| Climate | ≈ | ≈ | ≈ |
| Ambient Noise | ≈ | × | ≈ |
| Cultural Heritage | ≈ | ≈ | ≈ |
| Landscape | ≈ | ×× | × |
| Material Assets | | | |
| ▪ Traffic | ≈ | × | × |
| ▪ Land Use | ≈ | ≈ | ✓ |
| ▪ Employment | × | ✓✓ | ✓ |

**Key:**

| | | | |
|---|---|---|---|
| ≈ | No Impact | | |
| × | Slight Negative Potential Impact | ✓ | Slight Positive Potential Impact |
| ×× | Moderate Negative Potential Impact | ✓✓ | Moderate Positive Potential Impact |
| ××× | Significant Negative Potential Impact | ✓✓✓ | Significant Positive Potential Impact |

## 2(1) Data required to identify and assess the main effects that the proposed development is likely to have on the environment

- Knowledge of the environment in which the proposed development, (and the existing farm) is to be sited.
- Knowledge of the processes in the proposed development, and the existing farm.
- The emissions to air.
- The emissions to groundwater.
- Characteristics of the effluent to be treated on site.
- The emissions to surface waters.
- The ambient quality of receiving waters.
- Availability of contractors to transport and treat wastes/by-products sent off-site

This is considered in some detail later in this statement.

## 2(2) Project Type as per EPA Guidelines (Note revised Advice Notes specific to E.I.A.R. not yet published)

The EPA have published Draft Guidelines on the Information to be contained in an EIAR and Draft Advice Notes for Preparing an EIS. In these advice notes they have classed development listed under the *Planning and Development Regulations 2001 fifth schedule* into various Project Types. For each project type they have outlined the information to be contained within an EIS for a project of this type. In this case, a poultry farm is classed under *Project Type 13 Pig Rearing Installations* and *Poultry Rearing Installations*.

Under *Project Type 13* the EPA Guidelines outlines the information to be contained within the Development Description and the description of the Environmental Effects. Appendix No. 4 includes the summary provided in these guidelines for this *Project Type 13*. It outlines possible mitigation options for this type of development. The Guidelines describe the principle concerns likely to arise as stemming from the issues of manure handling (mainly slurry/manure) and odours. The significance of impacts is very much a factor of the site's proximity to sensitive receptors although it highlights that such projects frequently dispose of wastes at locations which are not adjacent to the animal rearing operations.

While these Guidelines remain in a Draft format, and they relate to the preparation of an EIS (forerunner of E.I.A.R.), consideration has been given to these in the preparation of this E.I.A.R. Details of Project Type 13 from the EPA Guidelines have been included as Appendix No. 4.

# 3. Description of Reasonable Alternatives

- ***3(1) Alternative site***

The farm development project represents a logical approach to the planned development of the applicant's farming activities. While the applicant had previously looked at alternative locations for the development within his family landholding this had to be discounted due to a number of factors including, but not limited to poorer access, limited area, etc. The applicant has screened the remaining lands available to him for the proposes of this farm development and the current site was deemed to be the most suitable, due to topography, the status of the site, distance from neighbours, site access and the integration of the proposed development with the existing structures on the farm. In addition development on the proposed site complies with Monaghan Co.Co. requirements as detailed in the current Development Plan.

It is intended that if and when the proposed development for which permission is being sought is authorised and constructed it will be integrated into the existing farming activities operated by the applicant. This will ensure that access, services, labour and ancillary equipment can be easily shared, and is a natural progression for the development of this farm.

Monaghan County Council have specific policies in the County Development plan concerning same, namely, Policy AGP 1 & 2 of the County Development Plan 2019 - 2025.

***AGP 1 To permit development on new and established agricultural or forestry holdings where it is demonstrated that;***

***It is necessary for the efficient use of the agricultural holding or enterprise***

***a) The appearance, character and scale are appropriate to its location,***
The proposed development of 2 No. poultry houses, on an existing poultry farm site is in keeping with the scale nature and finish of the existing poultry house and other such poultry houses in this part of the county and will not be visually detrimental.

***b) The proposal visually integrates into the local landscape and additional landscaping is provided where necessary,***
The proposed development will be well integrated into the existing poultry farmyard surrounded by the existing mature hedgerows and will not be visually detrimental. The elevation of the proposed development is in keeping with (and/or below) the height of existing poultry house, and wider farmyard complex to the rear. Proposed landscaping is detailed to minimize any potential impact.

***c) The proposal will not have an adverse impact on the natural or built heritage,***
The proposed development on an existing developed site is not likely to adversely impact on any such features.

d) ***The proposal will not result in a detrimental impact on the amenity of residential dwellings outside of the holding including potential for issues arising from noise, smell and pollution. Where a development is proposed within 100m of any residential property not located on the holding within the rural area (i.e. outside of a designated settlement) written consent, witnessed by a solicitor or a peace commissioner, from the adjoining property owner stating there is no objection to the proposal must be provided,***
There are no third party dwellings within 100m of the proposed development, and this is an existing poultry farm site.

e) ***The proposal will not result in a pollution threat to sources of potable water, water courses, aquifers or ground water,***
The proposed development will be constructed and operated in line with DAFM specifications and all organic fertiliser will be managed in accordance with S.I. 605 of 2017. A designated contractor will be used to transport the organic fertiliser (which is not a waste) to the customer farmers.

f) ***Proper provision for disposal of liquid and solid waste is provided.***
Any waste disposal from the site will be by registered contractors and/or approved and registered sites, appropriate to the waste material.

g) ***The proposal will not result in a traffic hazard.***
Appropriate access, and on-site traffic management arrangements have been provided to ensure that the proposed development does not pose a traffic hazard. This is an existing poultry farm/agricultural farmyard site.

***Where a new building is proposed applicants must also provide the following information:***

h) ***Outline why there is no suitable existing building on the holding that cannot be used.***
Poultry farming activities in the current development are limited by designated stocking densities therefore the proposed development is required to allow the applicant expand his farming activities. There are no suitable houses elsewhere on the applicants landholding and/or available to the applicant.

i) ***Design, scale and materials which are sympathetic to the locality and adjacent buildings.***
The proposed development is agricultural in form, design, finish and operation and will be finished in materials and colours that integrate with, rather than impose on the landscape.

j) ***The proposal is located within or adjacent to existing farm buildings, unless it has been clearly demonstrated that the building must be located elsewhere for essential operational or other reasons.***
The proposed development is to occur on an existing poultry farm site.

***k) Ensure that the proposal will not seriously impact on the visual amenity of the area of the natural surrounding environment and that the finishes and colours used blend into the surroundings.***

The proposed development is agricultural in form, design, finish and operation and will be finished in materials and colours that integrate with, rather than impose on the landscape.

***l) Where possible, the development is grouped with existing buildings in order to reduce their overall impact in the interests of amenity.***

The proposed development is to occur on an existing poultry farm site.

***AGP 2***

***In addition to the information required under AGP 1 the following additional information will be required for assessing applications for intensive poultry units or similar specialised agri-developments the Council:***

***a) An Environmental Impact Statement (EIS) and/or Appropriate Assessment depending on the size and use of the unit, and its likely impact on the environment.***

This E.I.A.R. has been completed in respect of this proposed development.

***b) Details of the scale and intensity of existing operations in the vicinity of the site, including the cumulative impact of similar type developments within proximity of the site.***

While there is an existing poultry house on site and others in this area of Co. Monaghan, same has been assessed as part of this E.I.A.R. There is no reason to believe that the proposed development assessed individually and/or cumulatively with other existing poultry houses in the area will cause a significant adverse cumulative impact.

While there may be additional poultry houses in the area, these will also have to operate in accordance with S.I. 605 of 2017. The proposed development is a sustainable farm diversification and will be operated to the highest standards.

***c) Methods for waste management including frequency and location of disposal relative to the proposed unit.***

The only waste to be generated in the proposed development will be;

- Dead birds which will be collected by College proteins on a regular basis.
- A small amount of general waste which will be disposed of to landfill/recycling as appropriate.

***d) Details of air pollution arising from the units and effluent storage, transportation and spreading.***

There are no odour and/or other sensitive locations in such close proximity to the proposed development so as to be adversely impacted by gaseous emissions form the proposed development.

All manure is to be removed off site by a registered contractor for use elsewhere in accordance with S.I. 605 of 2017. All soiled water is to be used on the applicant's lands and >6 months storage is to be provided.

***e) Proximity of development to aquifers and water courses and its impact on them.***

The proposed development will be constructed and operated in line with DAFM specifications and all organic fertiliser will be managed in accordance with S.I. 605 of 2017. The applicant will appoint a designated and registered contractor to transport the organic fertiliser (which is not a waste) to the customer farmers.

***f) The potential impact of the proposal on the residential amenity of adjoining occupiers must be considered. A unit shall not be developed at a distance of less than 100 metres from a dwelling within the rural area (i.e. outside of a designated settlement) unless the third party has given written consent, witnessed by a solicitor or a peace commissioner.***

The proposed development is not located within 100 m of any third party dwelling and will not adversely impact on any other residential location.

***g) Details of associated activities such as cleaning, ventilation and heating.***

This has been addressed in this E.I.A.R.

***h) A comprehensive landscaping plan.***

The proposed development is well integrated into the site and surrounding landscape. Landscaping where required is depicted on the plans and drawings as submitted.

***i) A statement outlining why a location on the landholding was deemed more appropriate to alternative options. If the Planning Authority, consider a more appropriate location is available on the landholding the application may not receive favourable consideration.***

The proposed site was selected as it was an existing poultry farm site with all of the required services/access etc. already laid on.

***j) Traffic management plans and traffic assessment associated with the proposed development may be required for large proposals.***

It is not considered that the currently proposed development satisfies the criteria for a large proposal and therefore the traffic management plan / traffic assessment is not deemed to be required.

***Proposed Site:***

As previously detailed, the applicant has selected the site for the proposed development taking the above considerations into account. In addition the proposed site;

- Is the most suitable site in terms of minimizing the level of excavation/groundwork's required, and is adjacent to the existing poultry house site.

- Is not an elevated site in terms of the wider landscape, and will not be visually detrimental. The proposed landscaping, and backdrop of the existing poultry house and farmyard structures at higher levels will minimise any potential impact.

- Bio-security is important to any enterprise such as this and the applicant would like to maintain this to the highest standards. The proposed development will be integrated into the site management protocols governing the existing house, and is deemed acceptable at this location as there is a poultry house already operating here.

- Is > c.400 m from any third party, or non-family, dwellings.

- ***The proposed site has no significant and/or specific environmental constraints which mitigate against the proposed site and/or would support the selection of any alternative site available to the applicant, in preference to the currently proposed site.***

- ***3(2) Alternative Layout and Design***

As previously stated the layout of the proposed housing was designed to ensure that the proposed developments were integrated into the existing site with minimal, if any, adverse visual impact on the surrounding landscape. The proposed layout was also designed so as to ensure adequate access on site for all traffic associated with the proposed developments, and to ensure that the site is contained, safe and efficient in operation. The location and layout of the proposed poultry houses, integrated into the landscape and existing farmyard structures, and utilising the existing access route, will minimise any potential adverse visual impact.

The scale of the proposed development is average compared to current poultry house/farm sizes however same will be successfully integrated into this existing site and the existing activities operated by the applicant, and is suitable to the proposed site in terms of both intensity and physical dimensions, and thus is deemed appropriate for the site.

The design of the proposed development to be undertaken by the applicant was researched and reviewed with the aid and guidance of Manor Farm, commercial poultry house designers, the architect and commercial poultry equipment suppliers.

The layout of the proposed housing was designed to ensure that the proposed developments were integrated into the existing site with minimal, if any, adverse visual impact on the surrounding landscape. The proposed layout was also designed so as to ensure optimum access on site for all traffic associated with the proposed developments, and to ensure that the site is contained, safe and efficient in operation.

Existing landscaping will be maintained where possible, and strengthened where necessary, along the boundary to further screen the proposed developments from view. Additional landscaping will be provided, along the boundaries of the development where required to screen same from view and, to minimise any potential visual impact.

As previously stated the design of the proposed housing is in line with BAT requirements. The exterior finish, where practicable will be green or similar in colour and will be sympathetic to the local environment. All roofing materials will be green or dark in colour. As the proposed design is in line with BAT requirements and as natural/dark coloured/grey finishes are proposed, no other alternatives were deemed appropriate.

No other alternative sites, layouts and/or designs were deemed satisfactory and/or appropriate, as the proposed location, design and layout;

- Complies with the requirements of the Nitrates Directive.
- Satisfies the applicants need for efficiencies of scale while not requiring significant additional lands.
- Is in line with BAT requirements. The measures outlined as BAT for the Poultry Sector, ***(COMMISSION IMPLEMENTING DECISION (EU) 2017/302 of 15 February 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the intensive rearing of poultry or pigs)***, and in particular this type of production include:
  - ***Natural ventilation, equipped with a non-leaking drinking system (in case of solid floor with deep litter).***
  - ***Forced ventilation and a non-leaking drinking system (in case of solid floor with deep litter).***
- Will be well integrated into the landscape with the use of similar construction techniques, natural/dark coloured finishes as proposed, and additional landscaping where required.
- Complies with the requirements of the County Development Plan.
- Is not located in an area with any significant environmental and/or other constraints.

- **3(3) Alternative Size**

The proposed development of 2 No. poultry houses has been designed and scaled to take into account the;

- Physical restraints/parameters of the site.
- Economies of scale for the applicant so that the scale of the proposed development is sufficient to cover the development as well as operational costs.
- The requirements of Manor Farm in terms of their supply requirements and recommendations from same with regard to economic and sustainable food production.

The scale of the proposed development is in keeping with the scale of other existing farms supplying Manor Farm, and licensed by the E.P.A. which are operating without adverse environmental impact, and are of a scale that can be appropriately managed by the applicant.

- **3(4) Alternative Process's Considered**

As this is an existing poultry farm site the applicant looked at a number of alternative processes, including but not limited to;

1. Layer Housing – (i.e. utilising the site for the construction of houses for the production of eggs. However as a result of recent changes announced by supermarkets and the goal that all eggs will be sourced from free range systems by 2025, the completion of enriched cage housing was not an option, notwithstanding same would also have bio-security concerns on an existing broiler site.

2. Free Range layer/Broiler– This is the main alternative to the conventional production systems, however this system does not suit the applicant as it conflicts with the existing enterprise due to differing criteria and production cycles. In addition the market for same is small and already well supplied, and from an environmental perspective the production of free range broilers would actually consume more resources (Feed, water, energy etc. per bird produced).

3. Notwithstanding points 1 and 2 above, the decision on any alternative process was predicated on the fact that any alternate production system would pose too great a bio-security risk to the applicant's existing broiler farm and thus could not be given any further consideration.

The proposed development offers the best fit between the proposed and existing enterprise on the farm, both from a labour and efficiency viewpoint and to ensure that all activities are carried out in an environmentally and economically sustainable manner.

All chickens from the expanded farm are to be sent to Manor Farm.

- **3 (5) Alternative Management of By-products**

Application to land and/or use in compost production are the two main practical economic means of utilising the nutrients in poultry manure. The poultry industry locally has a dedicated system established for the management of poultry manure involving a number of specialist contractors registered with The Department of Agriculture, Food and The Marine. The applicant has received confirmation from his existing contractor that they will manage and remove the poultry manure from the proposed development as well as his existing farm.

At present there is no other suitable option for the utilisation of organic fertiliser produced within the proposed development, however the applicant will continue to examine the possibility of alternative uses for this fertiliser.

## 4. Environmental Assessment

### 4(1)(1) Description of the physical characteristics of the proposed development and the land use requirements during construction and operation.

The physical characteristics of the proposed development will comprise;-

- An existing entrance onto the local public road.
- Maintain existing hedgerow plantations along the site boundary, with the exception of those to be removed, if any, to facilitate the proposed development. Additional landscaping/hedgerows to be completed where necessary.
- All manure to be moved off site by a registered contractor in line with the requirements of S.I. 605 of 2017, as amended.
- The proposed buildings are of a form, design, colour and materials that are sympathetic to their surroundings, and similar in nature to the existing poultry housing structures operated by the applicant and/or located throughout Co. Monaghan. The proposed poultry houses are c. 91.45 m long, 21.35 m wide and c. 6 m high. The proposed buildings will be a steel portal frame construction on a concrete base, with pre-fabricated panel walls or pvc coated metal cladding on an insulated concrete stub wall.
- Underground, concrete soiled water storage tanks in which soiled water would be collected and stored pending application to farmland in accordance with S.I. 605 of 2017 as amended.
- Existing hedgerows/landscaping will be maintained where possible, and strengthened where necessary, along the boundary to further screen the existing farm/proposed development from view.

As previously stated the design of the proposed housing is in line with BAT requirements. All of the proposed structures on the site will be screened or blended in to the surrounding landscape by the external finish proposed for the structures, and existing hedgerows where applicable. The external finish to the proposed buildings will be dark coloured or substantially similar, unless otherwise advised by Monaghan Co. Co. and/or the E.P.A. Any additional landscaping to be introduced on the site will in accordance with the Dept. of Agriculture, Food and the Marine Specification, S135, as per Appendix No. 15.

During the construction phase, which will extend over a period of about 4 - 6 months, the proposed development area would be a typical farmyard construction site. All of the construction materials and equipment required would be transported to the site by road. It is planned that all of the waste that would be generated in the completion of the proposed development would be segregated and moved from the site for disposal or recovery in authorised sites elsewhere.

The construction process is typical of this type of development involving site development/levelling works, laying foundations, erection of the shed(s) (which will be substantially prepared off-site and delivered to the site), pouring of the concrete floor(s), fit out and laying on of services. This is similar to a large number of poultry house / agricultural developments within the county, which have been completed without adverse impact. There are no sensitive areas/locations/dwellings close to the proposed site and no significant impacts are predicted.

4(1)(2) **A description of the main characteristics of the production processes, nature and quantity of materials used.**

The production processes which currently/will take place on the existing/proposed site would be:-

- The management, feeding and care of the birds.
- The despatch of all carcasses and other solid waste materials from the site for disposal or recovery at agreed/approved sites and
- The collection of all wash waters generated within or around the site in soiled water collection tanks pending application to farmland in accordance with S.I. 605 of 2017 as amended.

As per the existing farm the applicant will seek approval under the Bord Bia approval system, as per the Poultry Products Quality Assurance Scheme (PPQAS). As part of this approval the daily procedure will follow the Bord Bia Poultry Products Quality Assurance Scheme Producer Requirements. A vermin control programme will be implemented on site and recorded on a daily/weekly basis.

The main input materials to be used in the licensable activity are water and animal feed. As per the existing farm water for stock and for washing is to be sourced from the existing well / group water scheme. Estimated water use will be c. 5-6,000 $m^3$ per annum for the activity, upon completion of the proposed development, increasing from c. 2,000 m3 currently.

Poultry feed will be specifically formulated rations, formulated and prepared by a specialised poultry feed supplier such as Kolbe Feeds etc.. All feeds used will be appropriate to the nutritional requirements of the birds, while at the same time minimising nutrient excretion. As previously stated there are 4 rations used in each production cycle. Please refer to additional information contained in Appendix No. 9. Total feed consumption is expected to be c. 50-60 t/week upon completion of the proposed development, increasing from c. 15-20 tonnes currently.

Electricity would be used to power all the processes and services on the site. A back-up generator will be available in the event of a power failure. Estimated ESB usage = c. 0.75-1.5 kWh / bird place/annum.

Gas is used for heating the houses and houses will be, insulated to ensure that this is used as efficiently as possible. Heating will be by indirect heaters to minimise gas usage and improve the internal environment within the houses. Estimated Gas usage = c. 1 lt/bird place/annum

Wood shavings to be supplied by a local supplier.

4(1)(3) **An estimate, by type and quantity, of expected residues and emissions (including water, air and soil pollution, noise vibration, light, heat and radiation) and quantities and types of waste produced during the construction and operation phases.**

The expected residues and emissions that will result from the construction / operation of the proposed development are referred to below. The proposed residues/emissions will be proportionate to the scale of the proposed development.

***Lighting*** in the premises will in so far as is possible, be by fluorescent tubes / L.E.D. and/or other energy efficient lighting devices. Spent fluorescent and other specialised light tubes may be classed as hazardous waste. The number of tubes to be replaced annually will be small. They will be accumulated in the store area pending delivery periodically to a local Civic Bring Centre and/or returned to the supplier by/or on behalf of the applicant. Lighting of the site will be the normal for farmyard sites and will not exert influence or interference outside the site boundary.

***Supplementary heating*** is to be provided by gas burners. The amount of gas used will vary depending on outside climatic conditions. Energy efficiency will be a key deciding factor in the selection of a heating system and modern poultry heating systems are considerably more efficient than those used in older poultry houses. The amount of gas required has been/will be significantly reduced due to the high insulation standards.

***General wastes*** such as packaging, paper, disposable clothing etc. will be collected regularly by a local contractor and delivered to the Landfill facility. It is intended that the frequency of collection of all wastes produced on site will be in line with E.P.A. and/or legislative requirements in this regard. See additional information which is included in Appendix No 10.

***Dead animals and animal tissues*** will be accumulated in a sealed leak proof container on site for collection by College Proteins at 1 - 2 week intervals for transport to an authorised Animal By-Products facility at Nobber, Co. Meath. It is intended that the frequency of collection will be in line with Monaghan Co. Co. / E.P.A. requirements in this regard. See correspondence which is included in Appendix No 6.

***The organic fertiliser / poultry manure*** from this farm is/will be removed off site by an experienced contractor registered with the Department of Agriculture, Food and The Marine, such as CLR - Co-op. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. The estimated total manure production upon completion of the proposed development will be c. 1,200 - 1,250 tonnes/annum.

This organic fertiliser is not considered a waste product and is to be utilised as an organic fertiliser in line with S.I. 605 of 2017, as amended and/or in the production of mushroom compost. Soiled water from the existing and proposed development will be collected in dedicated soiled water collection tanks, located on-site. This soiled water will then be applied to farmland in accordance with the Nitrates Regulations. Normal operations on the site of the proposed development, as for the existing activities, will not cause any pollution of soil.

***Noise*** generated in the proposed/existing development in the site will not exceed legal limits at the site boundary. As detailed in Noise survey data contained in Appendix No. 17 (relating to a number of other intensive agricultural sites and submitted for comparative purposes only)of the E.I.A.R. noise is not expected to cause a nuisance at this site. Extensive experience with the applicant's existing poultry farm and a large number of other existing sites, together with the significant distance to third party, or non-family, dwellings would suggest that the proposed development is not likely to have any adverse noise impact.

There would not be any source of significant *vibration* on the site. There will not be any significant *dissipation of heat* from the proposed/existing development. There will be no source of *radiation* on the site that could exert significant influence outside the site.

***Mitigation measures*** are to be implemented to prevent any significant effect of the proposed/existing installation, and the activities carried out therein, on environmental parameters. These measures are directed towards ensuring that the systems for collecting wastes and removing them from the site for appropriate treatment in authorised waste treatment installations will be adequate for that purpose.

***Waste materials*** generated on the site, either from the proposed construction or under normal operating conditions, and/or during site development works, will be collected and transported off the site by appropriately authorised waste contractors to be consigned for disposal, recovery and/or recycling in appropriately authorised installations.

Implementation of the control measures proposed will ensure in so far as it is possible that significant adverse effects on environmental parameters will not occur and that accidental emissions are unlikely from the proposed development.

### *4 (2) A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.*

The proposed development is to be completed on an existing poultry farm site at Drumlester, Emyvale, Co. Monaghan. The existing poultry house on this farm was granted permission in 2016. The currently proposed development consists of 2 No. broiler rearing houses, in addition to the existing house, together with all ancillary structures and facilities necessary for the operation of this enterprise, thus increasing the overall bird numbers farmed by the applicant on this farm to 125,000 - 130,000 from c. 39,000 currently.

The proposed development of 2 No. Broiler rearing houses will be completed on a site integrated in the landholding so as to minimise any potential visual impact from same. This area is currently an intensively managed agricultural grassland area, and thus has limited bio-diversity. Were the proposed development not to proceed, the development site would remain in its current state.

## 4(3) Description of the aspects of the environment likely to be significantly affected by the proposed development.

It is envisaged that no aspects of the environment will be significantly affected by this proposed development. The potential effects on the environment may be subdivided into effects on population and human health, bio-diversity (flora and fauna), land and soil, water, air, the landscape and material assets including archaeological heritage. There is no known potential for any adverse issues in relation to architectural or cultural heritage.

- ***4(3)(1) Effect on Population and human health***

The proposed development is of average scale by current industry standards but it would add to the economic activity on the farm, with consequent "trickle down" positive effect in the region and the local community, particularly with regard to construction workers, supply of construction materials, and the installation of the required housing, water, feed and ventilation systems, thus helping to stabilise the population of the local area.

Significant effects on population / human health and/or human beings are not anticipated. There are no third party, or non-family, dwellings close (i.e. within c. 400 metres) to the proposed development as to be adversely affected by, or experience significant impairment of amenity due to the proposed development.

The proposed development is unlikely to generate or release sounds or odours that will significantly impair amenity beyond the site boundary. The experience of other similar sites, including that operated by the applicant, indicates that the legal limits for such emissions, 55db daytime and 45db night-time are highly unlikely to be exceeded beyond the site boundary. There are no processes proposed which will constantly or regularly release odorous emissions from the site at nuisance levels. Fugitive odour emissions at the site will not be significant and will be limited to times at which birds/manure are being removed from the site. In so far as is possible odour emission is to be managed so as to occur at times when the effect within the site or outside it will be minimal.

The existing farm and site of the proposed development are not located close to and/or likely to adversely impact on any areas of Primary or Secondary Amenity value as detailed in the Monaghan County Development Plan 2019 - 2025. Please refer to Appendix No. 11 in this regard. Based on experience at similar sites elsewhere, including that operated by the applicant and existing farms elsewhere in the country significant effects are not anticipated. The applicant has not experienced any complaints to date relating to the operation of his existing farm.

Where nuisance effects occur, people object and under statutory requirements their objections will have to be investigated and have to be corrected if found to be real and justified.

- ***4(3)(2)Effect on Bio-diversity (flora and fauna)***

The site of the proposed development is a greenfield area, however as the proposed development will be limited in extent, and notwithstanding the fact that it will operate in addition to the applicant's existing poultry house, it will have no adverse impact outside the boundary of the site.

The site forms part of the applicant's / applicant's families existing bovine farming activities. The flora and fauna around the site has developed in this context. Much of the surrounding area is improved agricultural grassland. The area to be developed is relatively small and represents a sustainable addition to the applicant's existing farming activities. Ground works and land profiling will be kept to a minimum outside the footprint of the proposed site.

**Figure 3 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats.**

The proposed development is not near to or likely to adversely impact on any areas of primary or secondary amenity value or views from scenic routes. Structures and new paved surfaces will cover a significant fraction of the site. The changes will affect such a small area that any impact will be close to zero or neutral with the local area.

The site is not located close to and/or likely to adversely impact on any Natura 2000 sites, the closest being Slieve Beagh SAC, some 3 Kms away. These designated areas and their closest points to the proposed development site are summarised in Table 1 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 | Qualifying Interests | Potential Impacts |
|---|---|---|---|
| Slieve Beagh SPA 004167 | 3.2 km south-west | • Hen Harrier *Circus cyaneus* | *Potential impacts due to atmospheric emissions will be assessed further.* |
| Slieve Beagh-Mullaghafad-Lisnaskea SPA UK9020302 | 4.6km west | • Hen Harrier *Circus cyaneus* | *Potential impacts due to atmospheric emissions will be assessed further* |
| Slieve Beagh SAC UK0016622 | 6.5km south-west | • Natural dystrophic lakes and ponds<br>• European dry heaths<br>• Blanket bogs | *Potential impacts due to atmospheric emissions will be assessed further* |

**Table 1 – Natura 2000 Sites Within 15km of the Proposed Site**

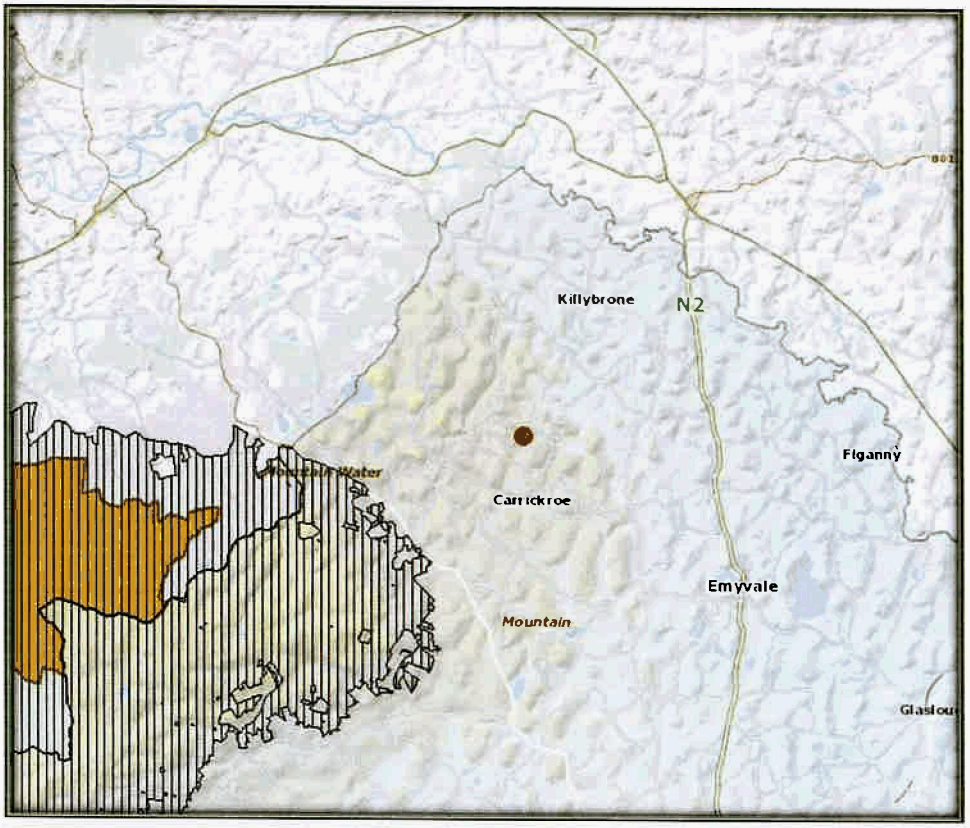



**Figure 4 – The Application Site (Red Dot) in relation to the Natura 2000 sites within 15km. SPAs – Vertical Hatching. SACs – Brown Shading.**

Please refer to the Natura Impact Statement (N.I.S.) contained in Appendix No. 18.

The application site lies within the Lough Neagh and Lower Bann Hydrometric Area and Catchment, and the Blackwater Sub-Catchment and the Lisavargy Sub-Basin. There are a number of drains close to the application site, whilst the Killybrone Stream is 80m east of the site. This stream is a tributary of the River Blackwater.

The EPA have not defined the ecological status of the drains or streams that are within the sub-basin of this application site. Under the requirements of the Water Framework Directive in Ireland, all watercourses are obliged to meet achieve good ecological status within a specified time frame (2021).

The site in question is located in a rural area within the townland of Drumlester. Access to the site is just off a local, third class road. The area of the site is 1.713 hectares. It is 5.5 Km's north-west of Emyvale. The dominant land-use surrounding the application site is agriculture and improved agricultural grassland is the dominant habitat. Other habitats represented locally include areas of wet grasslands, scrub, scattered areas of woodland, hedgerows, treelines and watercourses. Currently, the main habitats within the application site include buildings and artificial surfaces (the existing poultry house and hard core areas) and improved agricultural grassland habitats. Where they exist, the site boundaries of the site consist of hedgerows.

An examination of the website of the National Biodiversity Data Centre revealed that there are no records for the presence of any notable mammal or plant species from within the relevant one km grid square (H6347) of this proposed development. The activity on the farm is, and will be, a poultry farming activity appropriate to the area and consistent with the development plan for Co. Monaghan.

The site is well serviced by the current road infrastructure and is accessed by a local road network which subsequently connects with the N2 national route c. 5 Km's from the site. The development for which permission is sought would be located to the side of the existing poultry house.

The activity on the farm is, and will be, a poultry farming activity appropriate to the area and consistent with the development plan for Co. Monaghan.

There will be no discharge of soiled water or effluent from the proposed development to surface water and so the proposed development will not have any significant impact on surface waters. See Appendix No. 13 for surface water quality data for this area.

A rodent control programme will be developed to cover the proposed development. The programme as implemented on site will be in line with Bord Bia and Department of Agriculture, Food and The Marine requirements. Detailed records regarding bait point location, frequency of baiting and products used are to be maintained on site. No other pests will be attracted to the site due to the proper storage and disposal of all wastes, proper storage of all feedstuffs and maintaining the houses and external areas in a clean and tidy manner.

Weed control will be carried out around the site as required to reduce any cover for pests. It is considered that the development, managed as is proposed, which will have to operate under

License regulations, will have no measurable impact on either flora or fauna outside the site boundary.

Given that the area of the proposed site is an intensively managed agricultural area with poor biological diversity, retaining as much as possible of the existing landscaping/hedgerow around the site boundary, together with any proposed additional landscaping, should maintain biological diversity on the site.

- ***4(3)(3)Effect on Land and Soil***

The structures proposed for the site would be constructed on a greenfield area, albeit that part of same has previously been disturbed. As such there will be disturbance of same within the site boundary. There is no significant potential for any effect on soil, outside of the development area, and any land take required to facilitate the proposed development will be minor in terms of the applicant's landholding and the wider agricultural area.

If anything there is the potential for some positive benefits on soil on potential customer farmer lands as a result of the production of organic fertiliser by the proposed development. Such organic fertiliser provides a valuable addition to the soil adding nutrients not generally found in chemical fertiliser. Organic matter in soils is generally in decline, particularly on tillage farms and the use of an organic fertiliser is preferable to chemical fertiliser in maintaining adequate organic matter levels in soils. All organic fertiliser is destined for compost production, or supplied to customer farmers for use as organic fertiliser in accordance with S.I. 605 of 2017, as amended in response to demand.

See Appendix No. 12 for general soil classification for this area. The subsoils in this area are described as Drumlin soils with the site located in Soil association 27 (Gleys (85%) and InterDrumlin Peat and Peaty Gleys (15%)). Parent material is mostly Mostly Uppercarboniferous Limestone and shale - sandstone glacial till.

**Teagasc Soils:**

| | |
|---|---|
| Parent Material | TDCSsS |
| Parent Material Name | Till derived from mixed Devonian and Carboniferous rocks |
| Parent Material Desciption | Sandstone and shales till (Devonian/Carboniferous) |
| Soil Group | Surface water Gleys, Ground water Gleys |
| IFS Soil Code | AminPD |
| IFS Soil Description | Derived from mainly non-calcareous parent materials |
| County | MONAGHAN |
| Category | Mineral poorly drained (Mainly acidic) |
| Legend | AminPD - Mineral poorly drained (Mainly acidic) |

**(Source www.gsi.ie)**

- ***4(3)(4)Effect on Geological & Geomorphological heritage of the area.***

The structures proposed for the site would be constructed on, or adjacent to, an existing poultry farm site. There is no significant potential for any effect outside of the development area. The site of the proposed development is an intensively managed greenfield site. Given the nature and extent of the proposed development it will not have any adverse impact on the geology of the area, outside of the site. In addition as the proposed development will be integrated into the existing landscape due to the land topography and existing /proposed landscaping the proposed development will not have any adverse impact on the landscape and/ or the geomorphological heritage of the area.

- ***4(3)(5)Effect on Water***

Adverse effect on *ground water* from the proposed development should be nil, as there will be no process discharge to ground and minimal risk of accidental leakage or spillage of polluting liquid on the site. The proposed development, as per the existing poultry farming activities carried out by the applicant, will be carried out on an impermeable concrete base, with proper storm and soiled water separation and collection facilities. It should be noted that the proposed development, will operate on a dry manure basis, whereby the manure will be removed from the houses at the end of each batch. It will be managed as a dry manure thus eliminating the risk of any leak to groundwater. The only soiled water from the proposed development will arise due to washing down of the poultry houses.

The volume of water needed for the farm once the proposed development has been completed will be proportionate to the proposed stock levels. The existing water supply on the farm is from the on-site well and the Truagh Group Water Scheme, which will also serve the proposed development.

According to the Geological Survey of Ireland (please refer to Appendix No. 20) the aquifer classification appropriate to the site is;

| | |
|---|---|
| Aquifer Category | Lm |
| Category Description | Locally Important Aquifer - Bedrock which is Generally Moderately Productive |
| Area (sq km) | 128 |

with a vulnerability rating of L, Low vulnerability. As the proposed development, will operate on a dry manure basis, whereby the manure will be removed from the houses after each batch and transported off site, there is minimal risk to ground water supplies in the area of the site.

The existing / proposed site is not within any area identified as a ground/surface water supply and/or any associated catchment area /source protection zone as detailed in the Monaghan County Development Plan. Adverse effect on ground and/or surface *water* from the proposed development should be nil, as there will be no process discharge to surface water and minimal risk of accidental leakage or spillage of polluting liquid on the site. The only discharge from the site to surface waters will be the discharge of rainwater from roofs and clean yards to field drainage, which flows towards the adjacent watercourse a tributary of the Killybrone Stream.

The Monaghan County Development Plan sets out a number of polices for the protection of Water. These have been considered in the design of the proposed development and are as follows.

***Policies for Protection of Water (as per the Monaghan County Development Plan 2019 – 2025)***

- ***WPP 1*** In assessing applications for developments, the Council will consider the impact on the quality of surface waters and will have regard to targets and measures set out in the River Basin Management Plan for Ireland 2018-2021 and any subsequent local or regional plans.

- ***WPP 2*** In assessing applications for development, the planning authority shall ensure compliance with the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No 272 of 2009) and the European Communities Environmental Objectives (Groundwater Regulations, 2010 (S.I. No. 9 of 2010).

- ***WPP 3*** To protect known and potential groundwater reserves in the county. In assessing applications for developments, the planning authority will consider the impact on the quality of water reserves and will have regard to the recommended approach in the Groundwater Protection Response Schemes published by GSI. The employment of the methodology identified in the 'Groundwater Protection Scheme Reports for County Monaghan public supply sources' (available at www.gsi.ie) and 'Guidance on the Authorisation of Discharges to Groundwater' (available at www.epa.ie) will be required where appropriate.

- ***WPP 4*** To require submission of a water protection plan and detailed site drainage plans with all planning applications. Maps of sensitive areas waters, a Water Protection Plan Checklist (Appendix 7) and latest water body status information at www.catchments.ie will assist in the preparation of plans at application stage.

- ***WPP 5*** To preserve a 20m riparian corridor where development shall not be permitted to prevent further degradation of habitat within riparian corridors and the prevention of any in stream works, or culverting of waterways unless in accordance with Inland Fisheries Ireland (IFI) guidance document 'Requirements for the Protection of Fishery Habitat During Construction and Development Works at River Sites'. The IFI should be consulted prior to the submission of anyplans involving works close to waterbodies.

- ***WPP 6*** Development shall be not permitted within 200 metres of any lake where relevant, that is the source of a water supply, where that development has the potential to pollute the lake.

- ***WPP 7*** Details of land spreading arrangements including a Fertiliser Plan for manures or sludge arising from industrial or intensive agricultural development shall be submitted to the planning authority with all planning applications.

- ***WPP 8*** To ensure that industrial or intensive agricultural developments generating manure, organic fertilisers or sludge, that are dependent on off-site recovery or disposal take account of sensitive area mapping including lands with impaired drainage/percolation properties, steeply sloping topography and lands where rock outcrop and extreme vulnerability of groundwater is present. The EPA guidance document 'Land spreading of Organic Waste' shall be consulted when assessing land suitability.

- ***WPP 9*** To restrict the use of imported manure/slurry in relation to water supply source catchments, high status waterbodies and "At Risk" water bodies. Consult www.catchment.ie for maps of waterbodies and their classifications.

- ***WPP 10*** Development within the vicinity of groundwater or surface water dependant Natura 2000 sites (Kilroosky Lough Cluster SAC) will not be permitted where there is potential for a likely significant impact upon the groundwater or surface water supply to the Natura 2000 site. Where appropriate, the applicant shall demonstrate with hydro- geological evidence, that the proposed development will not adversely affect the quality or quantity of groundwater or surface water supply to the Natura 2000 sites.

- ***WPP11*** Development which would have an unacceptable impact on the water environment, including surface water and groundwater quality and quantity, river corridors and associated wetlands will not be permitted.

- ***WPP 12*** To require developments to connect to the public sewer where available.

- ***WPP 13*** To require all agricultural developments to submit the agricultural development application form and have regard to the text set out in Section 8.6 Development Management and Water Quality of the Monaghan County Development Plan 2019-2025.

- ***WPP 14*** Development within a high-status waterbody catchment shall be restricted if necessary where there is a potential for a reduction in status of a waterbody. Waterbody catchment maps are available at www.catchments.ie

- ***WPP 15*** To protect waterbodies and watercourses from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include protection buffers in riverine and wetland areas as appropriate.

- ***WPP 16*** To support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan. Proposals for development should not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also, to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which

provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

- ***WPP 17*** To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques (SUDS) for new development.

- ***WPP 18*** To encourage the use of catchment-sensitive farming practices, in order to meet Water Framework Directive targets and comply with the relevant River Basin Management Plan.

- ***WPP 19*** To prevent river fragmentation and to encourage where possible the connectivity or the re-connectivity of fisheries waters in consultation with Inland Fisheries Ireland.]

In order to avoid any reductions in water quality in the area surrounding the proposed development and in order to protect any designated sites, designated species and sensitive surface/ground waters, in the general area of the development and/or further afield, a number of mitigation/best practice measures have been planned for that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife.

***During Construction***

- It is vital that there is no deterioration in water quality in the watercourses in the vicinity of the development. 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 to be implemented. No development works to take place near to any watercourse.

- Surface water run-off from the site (during construction) should be routed to the watercourses via suitably designed and sited settlement areas/filter channels.

- Fuels, oils, greases and hydraulic fluids will be stored in bunded areas well away from drains. Refuelling of machinery, etc., to be carried out in bunded areas.

- Stockpile areas for sands and gravel will be kept to a minimum size, well away from the drains.
- There will be no disturbance to the banks or habitats along local watercourses.
- There will be an amount of excavated soil from site development works which will be used within the site/landholding. Its use will not lead to the loss or damage of any natural or semi-natural habitats elsewhere and will not be spread close to any local watercourse.
- All hedgerows, not directly impacted by the proposed development, should be protected and maintained.
- 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.
- Site preparation and construction should adhere to best practice.
- Any bulk fuel storage tank or fuel storage area should be properly bunded with a bund capacity of at least 110% or that of the fuel tank.
- All proposed development works to be in accordance with the Department of Agriculture, Food and Marine Minimum Specifications and/or industry standards.

***During Operation***

- All activities on site to be carried out in accordance with the Department of Agriculture, Food and Marine, Bord Bia, EPA and Monaghan Co. Co. requirements and specifications and/or industry standards
- All organic fertiliser generated on site to be removed by a registered contractor for use elsewhere.
- All soiled water to be appropriately collected, stored and utilised in accordance with the requirements of S.I. 605 of 2017, as amended.
- All potentially polluting products (fuels, detergents etc.) to be stored in appropriately bunded areas.
- Stormwater discharge points to be checked and inspected on a weekly basis for any sign of contamination.
- Appropriate measures to be put in place to deal with any accidents etc. that have the potential to cause adverse environmental impact.

- ***4(3)(6)Effect on Air***

The potential effects of the proposed development on air relate to the odour emissions that may be associated with poultry and poultry manure on site. Odorous emissions from the developed site are not likely to cause nuisance or impair amenity beyond the site boundary, with the possible exception of times when birds and/or manure is being removed from the site, *which will occur at the end of each batch, approximately 7 times/annum.*

A number of management practices will be implemented on site so as to minimise potential odour emissions from the existing and proposed developments,

- Proper storage of all wastes on site, and regular removal of same. Twice daily flock inspections to remove any fatalities from the houses, and stored in proper sealed and covered storage bins.
- Thorough cleaning out of poultry houses, to minimise odour and maintain high health status.
- Regular cleaning of outside areas.
- Immediate removal of manure off site, wherever possible. Transport of manure off site to take place in properly designed and covered trailers.
- Proper stocking rate within the houses.
- Proper management of temperature and humidity controls.

Management of operations on the site to prevent significant pulse releases of odour at times when the effect might be perceptible beyond the site boundary should ensure minimal impact on air in the vicinity of the site. See Appendix No. 14 for met data for this area.

As detailed previously the proposed development is located a significant distance away from any Natura 2000 sites and emissions (incl. gaseous emissions) from the existing/proposed development(s) are unlikely to adversely impact on same and/or on any other sensitive areas.

- ***4(3)(7) Effect on Climate / Climate Change***

Climate information is useful for predicting the likely impacts that the farm operation and the application of manure in the area will have upon the residents. Met Data details can be found in Appendix No. 14. Wind direction at the site is critical to odour movements and rainfall is critical factor in the application of manure. The prevailing wind in the Clones area is from the south-west. Rainfall in the customer farmlands ranges annually from 800mm -1000mm.

Large livestock populations and nitrogen inputs to soil generate approximately one-third of all greenhouse gases in Ireland. The amount of *methane* emitted by livestock is a lot higher for ruminants such as cattle and sheep versus non-ruminants such as poultry/pigs. This is as a result of the different digestive systems. $N_2O$ emissions can be divided into three areas,

- Direct from agricultural soils and from agricultural production systems.
- Indirect emissions which take place after nitrogen is lost from the field
- Emissions resulting from agricultural burning.

Organic fertiliser from this farm will be used in compost production or by customer farmers. The fact that the customer farmers utilising organic fertiliser from this farm will allocate it in accordance with the provisions of S.I. 605 of 2017, as amended, particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise than side discharging machines.

All customer farmers will be advised that in order to minimise any potential adverse environmental impact including odour/emissions, and to ensure that they get maximum fertiliser benefit from the organic fertiliser, that all manure from this farm should be stored, managed and applied in accordance with S.I. 605 of 2017, as amended and where possible incorporated/ploughed into the soil as soon as practicable after application.

All practicable steps, such as landscaping, management routines etc., will be planned for and will be taken so as to minimise odour from the site. Its rural setting and location distant from local residences will ensure no effect on human beings. The existing poultry farm operated by the applicant has operated with no adverse impact and no complaints from neighbours.

This development will have no significant adverse effect on climate.

- ***4(3)(8)Effect on Visual Aspects and Landscape***

Monaghan Co. Co. have prepared a Landscape Character Assessment, and the following categories have been included in the Monaghan Development Plan 2019 - 2025. There are nine main Landscape Character Areas (14 Landscape Character Types) within the County.

Landscape Character Areas are the unique individual geographical areas in which landscape types occur. They share generic characteristics with other areas of the same type but also have their own particular identity.

1 Sliabh Beagh Uplands
2 Blackwater Valley & Drumlin Farmland
3 Smithborough Hills
4 Clones River Valley & Farmed Uplands
5 Monaghan Drumlin Uplands
6 Mullyash Uplands
7 Ballybay/Emyvale Lakeland's
8 Drumlin and Upland Farmland of South Monaghan
9 Carrickmacross Drumlin & Lowland Farmland

Landscape Character Types are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different localities throughout any defined area. Nonetheless, where they do occur, they commonly share similar combinations of geology, topography, land cover and historical landuse. For example, blanket bog uplands are distinct landscape character types and are recognisable as such whether they occur in Monaghan or other counties.

1. Blanket Bog;
2. Drumlin Farmland
3. Drumlin Foothills
4. Farmed Foothills
5. Farmed Lakelands
6. Flat Riverine Farmland.
7. River Valley armland
8. Undulating Farmland
9. Upland Bog with Afforestation
10. Upland Drumlin Farmland
11. Upland Farmland with Afforestation
12. Upland Farmland with Rock Outcrops
13. Upland Plateau
14. Urban

The site of the proposed development (And site of the existing poultry farm) is located in an area referred to as the Slieve Beagh Uplands (LCA 1), and Farmed Foothills (LCT 4) in the Monaghan Landscape Character Assessment.

➢ ***LCA 1 – Slieve Beagh Uplands***

Located to the north west, this LCA is located on the County boundary adjacent to the Counties of Tyrone and Fermanagh. It comprises essentially the upland bogland and upland farmland landscapes associated with Sliabh Beagh and Bragan Mountain.

At the highest elevations, this is an upland plateau like landscape dominated by gently undulating peatlands associated with the Eshbrack Bog site. The area contains scattered small to medium sized loughs and is dissected by rivers which flow in a south easterly direction down from the higher elevations to the farmed foothills below. Of these Mountain water and the River Blackwater are the principal watercourses although a variety of smaller streams are also present. It is a remote landscape with little vegetation and minimal road network. Below the 300 metre contour, the area is dominated by vast tracts of commercial coniferous forestry fringed by farmland at lower elevations. The main land use is pastoral and this can frequently be in poor condition where located in low lying marshy hollows. Hedgerows define field boundaries and occasional copses of deciduous woodland are located in this area.

This is a landscape of outstanding scenic quality. This together with the open flat nature of the topography and the availability of long ranging panoramic views renders this landscape highly sensitive to development. New larger scale developments would be difficult to site in a discrete and acceptable manner. • This landscape has undergone substantial change owing to the abandonment of farming and the planting of substantial coniferous forests. In the highest elevations, the moorland character is largely intact and access provided by way of small roads, picnic stops and viewing points have not substantially intruded upon the wild character of its setting.

This upland area is visually very exposed and represents an ecologically sensitive habitat. For these reasons, this landscape is judged to be highly sensitive to change.

Specific sites that carry landscape and ecological designations are outlined below, however as previously detailed the proposed development will not adversely impact on any of these areas.

***Areas of Primary Amenity Value •***

PA 1: Slieve Beagh and Bragan Mountain Areas.

***Areas of Secondary Amenity Value •***

SA 4: Blackwater River Valley environs, the upstream part of which is located in this LCA.

***Scenic Routes •***

SV 2 – SV 8: Scenic views of open countryside from Bragan Mountain (Routes LT 11354, LT 11355, LT 11356, LT50411, LT 10011, LS 05040, LP 01003).

***Ecological Designations***

- Eshbrack Bog - Natural Heritage Area (NPWS site code 001603)
- Slieve Beagh - Special Protection Area (NPWS site code 004167)

### ➢ LCT no 4 – Farmed Foothills

This landscape type occurs in four locations throughout the County. These include the foothills to Slieve Beagh in the north west, the hilly farmland located to the west of Newbliss, and that located to the south west of the Farmed Lakelands area (LCT 5) and a large area located to the North West of Carrickmacross .

***Physical Data***

- Elevation ranges from 130 – 180 m
- Geology is varied and includes sandstones, shales and limestones from the Dinantian period in the vicinity of Sliabh Beagh. The area west of Newbliss features metasidements from the Ordovician Period. Further south metasidements and volcanics from the Silurian period are present.
- Landcover features a mix of pasture, woodland, scrub and peatbogs.
- The town of Newbliss is located in the north eastern corner of this character type.

***Key Characteristics***

- Rising ground comprising rolling hills, and occasional drumlins.
- localised valleys featuring streams.
- Mid to long ranging views and views towards higher upland pasture and/or moorland.
- A patchwork of predominantly small sized well drained fields defined typically by hedgerows containing native species and used for pasture and small scale forestry.
- Patches of heath (Calluna spp) and gorse (Ulex spp).
- Tracts of peat and/or bog.
- Isolated farm and residential properties.

This landscape type has a rolling topography generally with occasional steep sided hills and scattered or isolated drumlins. Long ranging views are available as are views towards higher upland pasture and moorland. Where landuses are given over to pasture, the scale of the field sizes is small. Marshy areas are located in low lying ground and are often associated with the margins of peatbogs. Small to medium sized tracts of commercial coniferous forestry are also present particularly in the north of the County. Field boundaries are generally defined by uncut hedgerows, comprising Hawthorn (Crataegus monogyna) and Blackthorn (Prunus spinosa) and containing occasional mature trees. Some of these larger hedgerow trees are in poor condition and covered in Ivy (Hedera helix). Gorse (Ulex spp) is common in the hedgerows across this area.

To the north of the County the Mountain Water River is the principal watercourse running west to east and features riparian wooded vegetation along its course. Traditional stone arched bridge crossings feature along this watercourse.

Settlements are very small and farm buildings tend to be old and in places these are derelict. The corrugated tin green roofs of these structures render them less visually obtrusive in this landscape. By contrast more modern forms of farm buildings and structures are more conspicuous and in places detract from the landscape. Tall steel silos are particularly prominent where these occur. Single residential properties located in remote areas also detract from landscape quality.

Around Newbliss this LCT presents as a series of closely spaced low hills in which pasture is the main landuse. Fields are bounded by hedgerows, many of which are cut of managed to facilitate farming activities. Generally the field pattern is of a small scale. Hedgerow species include Hawthorn (Crataegu spp), Gorse (Ulex spp) and ash (Fraxinus spp). Scattered mature trees or hedgerow trees are present across the area, ash (Fraxinus spp) being the dominant species. Occasional small crops of commercial forestry are located in this landscape and contrast strongly with clumps of deciduous woodland (beech and oak) and scrub vegetation also present here. This landscape type contains few permanent loughs although streams and smaller watercourses are present and lower lying areas contain marshy wetland grasses.

The nature of the proposed development, and its location on the site of/close to the existing poultry house and farmyard structures will ensure that there will be no significant adverse impact on the local environment/landscape from the proposed development. The site is not located near to or likely to adversely impact any Special Areas of Conservation (S.A.C.), Special Protection Area (S.P.A.), Areas of Primary/Secondary Amenity Value and/or Views from Scenic Routes as listed in the Monaghan County Development Plan 2019 - 2025.

Poultry farming is a traditional farm enterprise in this area of the county. The proposed development is typical of the type of Agricultural farm buildings already established on-site and within this area of Co. Monaghan and will have limited impact on the character of the surrounding landscape. The proposed development represents an extension to an existing farm yard previously approved by Monaghan Co. Co. for a poultry development and so will have limited impact on the character of the surrounding landscape.

The site of the proposed development integrated with the existing site will be general visually unobtrusive and is located adjacent to the existing poultry farm developments. It is not considered that the proposed development will have significant impacts on the landscape character of this area. The existing buildings will help integrate the proposed development into the site and the existing / proposed vegetation will help to soften any visual impacts and additional landscaping maybe added where considered appropriate. The proposed structures will be integrated into the site as much as practicable.

- ***4(3)(9)Effect on Archaeological & Cultural Heritage***

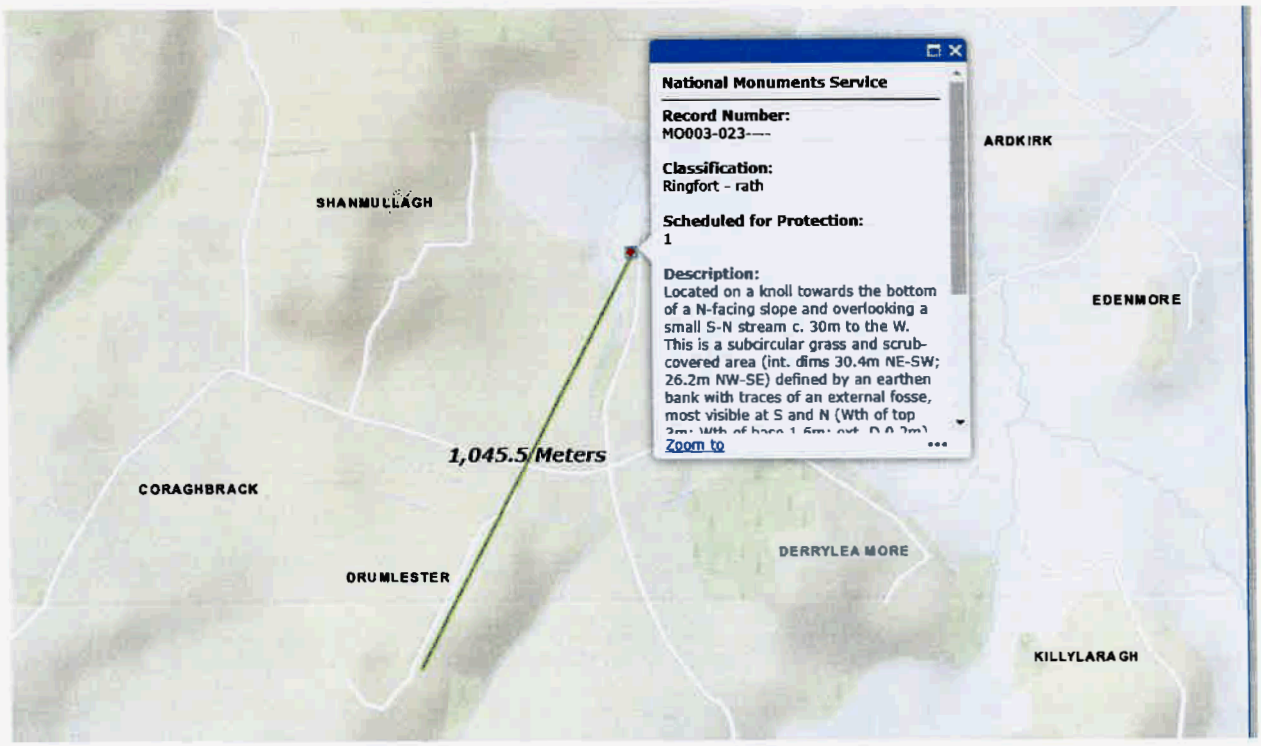
There are no known archaeological sites within the site boundary and no reason to suspect the presence of such sites within the site of the proposed development. No indication of archaeological sites/features was observed as part of previous developments on this site. In addition, there is no visual evidence of any archaeological feature on the lands adjoining the site. There are no recorded sites within c. 1 km of the proposed development site as per the Archaeological Survey database. The closest recorded protected structure is an enclosure located c. 1 km north east of the proposed development site. See Description below;

**National Monuments Service**
**Record Number:**
MO003-023----

**Classification:**
Ringfort - rath

**Scheduled for Protection:**
1

**Description:**
Located on a knoll towards the bottom of a N-facing slope and overlooking a small S-N stream c. 30m to the W. This is a subcircular grass and scrub-covered area (int. dims 30.4m NE-SW; 26.2m NW-SE) defined by an earthen bank with traces of an external fosse, most visible at S and N (Wth of top 3m; Wth of base 1.6m; ext. D 0.2m). An entrance (Wth of base 2.2m) with traces of a causeway at NNE might be the original entrance. The above description is derived from the published 'Archaeological Inventory of County Monaghan' (Dublin: Stationery Office, 1986). In certain instances the entries have been revised and updated in the light of recent research. Date of revision: 25 July 2017



- ***4(3)(10)Effect on Material Assets***

Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons. The assessment objectives vary considerably according to the type of assets, those for economic assets being concerned primarily with ensuring equitable and sustainable use of resources. Assessments of cultural assets are more typically concerned with securing the integrity and continuity of both the asset and its necessary context. The potential impact of the proposed development on archaeology / cultural assets has been discussed previously.

Material Assets that may potentially be affected by the proposed development include:

- ***(A) Material Assets: Agricultural Properties including all agricultural enterprises***

The proposed development is to be completed on/adjacent to an existing poultry farm site that is farmed by the applicant and surrounded by agricultural farmland. The proposed development will not interact with any lands outside the confines of the site, except for the production of a valuable organic fertiliser which may be utilized by farmers as a replacement for chemical fertiliser. The operation of the proposed development will be co-ordinated with the applicant's existing poultry enterprise, where possible to streamline the existing and proposed activities and minimize any potential impacts.

- ***(B) Material Assets: Non-agricultural Properties including residential, commercial, recreational and non-agricultural land.***

The proposed development is a traditional farming practice in this area and, is surrounded by agricultural lands and is located well away from any built up areas and/or development clusters. There are no residential dwelling's within c. 400 m of the proposed development site. The development will have no impact on adjoining property values if for no other reason than there is a significant distance between the proposed development and the residential locations, poultry farming is an existing activity on the site and this is a traditional farming activity in Co. Monaghan.

- ***(C) Material Assets: Natural or other resources including mineral resources, land and energy***

The proposed development will require a portion of land upon which the proposed poultry houses and associated works will be developed; however there will be no adverse impact outside of the development area, and this area is already an existing poultry farmyard and/or immediately adjacent to same. The proposed development will also involve the use of a limited amount of construction materials (including quarry products and other construction materials), however the extent of the development is limited in nature and the amount of resources required in the construction of the house, and potential adverse impact of same, is negligible when sourced from authorized sources.

The operation of the farm will require additional feed (classified as a renewable resource), gas and water. The applicant will operate modern feeding, ventilation and heating systems to minimize same. The farm does not require any major modifications to the existing electricity network, water or road infrastructure in the area.

## 4 (4) Description of likely significant effects of the proposed development arising from:-

### *(i) The construction and existence of the proposed development*

The proposed development is of average scale by current industry standards but it would add to the economic activity on the farm, with consequent "trickle down" positive effect in the region and the local community, particularly with regard to construction workers, supply of construction materials, and the installation of the required housing, water, feed and ventilation systems.

Its impact on the landscape will be minimal following the implementation of proposals in relation to location, landscaping, proposed external finish and its integration into the existing site, and location adjacent to the existing poultry house and ancillary structures. The long term impact on traffic on the local road as a result of the proposed development will not have a significant adverse impact. Any short term increase in traffic would be associated with the construction of the proposed development and would cease upon completion of the proposed development.

Once the proposed development would be completed, the operational traffic associated with same would be:

- feed deliveries c. 2-3 (50-60 Tonnes/ week on average), (Feed Lorry capacity 28 tonnes/load), increasing from c. 0.75 loads/week currently.
- manure transport c. 5-6 loads / batch on average. (Manure Lorry capacity 30 tonnes/load) increasing from c. 2 loads/batch currently.
- bird deliveries/collections, gas and shavings deliveries (c. 30 loads/batch) increasing from c. 10-12 loads/batch currently.
- Fortnightly waste collection and collection of mortalities.

This will result in an average of 50 movements / batch or c. 8 per week, increasing from c. 2.75 – 3 loads/week currently.
In addition to the above will be traffic associated with inspections, vet, catchers, and traffic associated with washing and cleaning the houses etc., however same will remain relatively unchanged, as the majority of these traffic movements will occur regardless of scale.

Traffic to and from the site will be minimised by optimising load sizes. This traffic movement will not adversely impact on the local road network which will be more than adequate to accommodate same. Traffic flows will use the existing routes and site entrance. The site is well serviced by the existing road infrastructure and therefore any proposed alteration in traffic will not have an adverse impact on the local area.

### *The use of natural resources*

There are no significant negative effects expected as a result of the proposed development in relation to the use of natural resources. As previously detailed the development will require a limited land area to facilitate the proposed development , however same will have no adverse impact on land, soil and/or bio-diversity outside of

the site area, as same is an existing poultry farm site, and/or on intensively managed grassland. While there are no processes involved that have a high requirement for fuel energy some ancillary heating will be required. Gas heating will be provided during the early stages of each batch and the demand for heat will depend on local weather conditions at the time of stocking. Gas requirements will be minimised by high insulation standards and a modern efficient heating system.

The proposed development will have a definite requirement for a supply of water readily available from the on-site well and Truagh Group Water Scheme, during the construction phase and once completed there will be additional water used on the farm as a result of this proposed development. The main resource to be consumed would be poultry feed, which is classifiable as a natural resource that is a renewable resource. The consumption of feed and water will be proportionate to the stock numbers on the farm.

***(ii) The emission of pollutants (noise, vibration, light, heat, radiation etc.,)***

Clean storm water will be discharged to the local watercourse via the discharge points as indicated in the proposed site plan. Such clean water is not an emission. Site management is to be focused on ensuring that all storm water collection surfaces and facilities are maintained in clean and fully functional condition at all times so that the possibility of storm water carrying significant pollution to the stream is effectively eliminated.

The emission of pollutants is to be effectively controlled and prevented by the regular removal of all solid waste materials from the site to authorised disposal/recovery sites elsewhere, and by the removal of poultry manure off site by an experienced contractor. Accordingly, it is expected that there should not be any significant emissions of pollutants from the site and that there should be no perceptible environmental effect arising from emission of pollutants from the site.
With regard to the above and due to the nature of the proposed development, there will be no increase in the amount of wastes/potential pollutants produced or used on the farm, and/or no significant increase in noise, vibration, light, heat and/or radiation, that would lead to a significant adverse environmental impact.

The additional organic fertiliser/poultry manure to be produced will be utilised as a resource ingredient in the mushroom compost industry and/or as an organic fertiliser, and will be removed from the site by an experienced contractor. All soiled water to be allocated to the farmland in accordance with S.I. 605 of 2017 as amended.

***(iii) The creation of nuisance***

The proposed development, as per the existing poultry house operated by the applicant, will be carried out in accordance with the management and operational routine proposed, and in line with E.P.A., D.A.F.M., Bord Bia and Monaghan Co. Co. requirements, is not expected to create any significant nuisance.

### (iv) The elimination and/or disposal/recovery of waste/by-products

The net increase in the volumes of waste/by-product materials to be generated as a result of this proposed development will not cause a significant adverse environmental impact, as all waste streams are to be minimised by implementing good practice measures on-site and any wastes that cannot be eliminated will be disposed/recovered in line with existing requirements and practices including and to approved disposal/recovery sites, and/or approved carriers.

The volume of organic fertiliser/manure (by-product) produced will be minimised by efficient cleaning out and the use of high pressure low volume power washers. In any event adequate measures for the collection, storage, management and use of these materials have been identified previously, thus ensuring that there is no adverse environmental impact from same. The opportunity to eliminate any of the waste products does not exist.

The opportunity to reduce the volume of waste materials below, that which are generated under Good Farming Practice and which will be generated on this farm once the proposed development is completed is very small and is near zero. For example, some birds die prematurely in the site. The proposed cleaning, hygiene, disease control and restricted access measures that are to be implemented on site will minimise this risk. Accordingly, the waste that is dead birds cannot be eliminated and cannot realistically be planned to reduce below the level achievable under current best practice. Similarly, with regard to the hazardous waste in the form of spent fluorescent tubes. The volumes are small and already minimised. While the applicant can be forever conscious of the Reduce, Reuse and Recycle principle in relation to all waste, there is relatively little that can be done to effect significant further gains in this proposed development.

### (v) *the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)*

The potential risk to human health / cultural heritage and/or the environment due to accidents and/or disasters is limited due to the innate nature of the production system and activities on-site. There are no significant high risk/hazardous products used, produced and/or released by the proposed development which would pose a risk to human health, cultural heritage and/or the environment outside of the site boundary as a result of any accident/disaster.

### *(vi) Class A Disease*

In the event of a Class A disease many animals will be slaughtered, possibly both on infected farms and in preventative slaughter of dangerous contact and contiguous premises.

There are two major considerations to be taken into account in deciding on the method of disposal to be used for slaughtered animals,

1) Preventing the spread of the disease/virus, and,
2) Mininising damage to the environment.

In respect of environmental damage, the methods of disposal in order of preference are, render, bury and burn. The location and extent of any initial outbreak of a particular disease will determine which method of disposal is used, however this will be dictated by individual circumstances. The disposal strategy to be employed will be decided by the Department of Agriculture, Food and the Marine in consultation with the National Expert Epidemiological Group. The preferred option for the disposal of carcasses from this farm site is rendering.

### *(vii) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;*

Large livestock populations and nitrogen inputs to soil generate c. one-third of all greenhouse gases in Ireland. The amount of *methane* emitted by livestock is a lot higher for ruminants such as cattle and sheep versus non-ruminants such as poultry/pigs.

The fact that the farmers are allocating organic fertiliser in accordance with the provisions of S.I. 605 of 2017, as amended, particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise than side discharging machines.

In addition the proposed development will be designed, managed and operated so as to minimise energy (gas and electricity) use on the farm, thus minimising any greenhouse gases associated with energy use.

As the birds will be maintained in a controlled environment within the proposed houses, the operation of the farm is not directly significantly susceptible to climate change, however climate change may impact on energy use associated with heating/ventilation systems to maintain a controlled environment within the house relative to outside climatic conditions, and, may have implications for feed supply to feed the birds.

### 4(5) *The forecasting methods used to assess the effects on the environment.*

Forecasting relies heavily on the accumulated experiences of current operations on the applicant's existing site, operations in similar developments, and on the knowledge that wastes removed from the site for disposal or recovery elsewhere will have negligible impact on the environment around the proposed development.

The applicant has had no incidents with regard to the effect of this existing enterprise on the local environment.

Taking into account that poultry farming is a traditional and widespread farming activity in Co. Monaghan and that this proposed development will comply with the Nitrates directive, the applicant is fully confident that the proposed development will have no significant adverse effect on the local environment.

### 4(6) *Cumulative And Transboundary Effects*

This Poultry farm is located in County Monaghan, a county well recognised for its intensive agriculture sector. It is anticipated that the proposed development at this site will not lead to a Transboundary effect due to the distance of the proposed development from any international boundary (c. 3.25 Km from border with Northern Ireland) and the fact that in the main all wastes/by-products will be utilised/disposed of/recovered within the country.

While total bird numbers farmed by the applicant will increase from c. 39,000 birds to 125,000 - 130,000 birds, it is not anticipated that this will have a significant adverse cumulative impact, due to its location integrated with the existing poultry farm site and wider landscape, in an agricultural area, the fact that all manure is to be moved off site by an approved and registered contractor and appropriate measures are in place to address wastes arising on the farm.

The proposed development will not have a cumulative adverse impact on the local environment. Poultry farming is a traditional and widespread farming activity in Co. Monaghan and it has been demonstrated by the applicant that the site is not located close to and/or likely to adversely impact on any sensitive feature/location either independently or cumulatively with other poultry houses in the area. The existing farming activities that are carried out on-site (and by other poultry farms in the area) are done so with no significant adverse impact on the local environment and in compliance with S.I. 605 of 2017, as amended. Due to the fact that all manure is to be moved off site and appropriate measures are in place to address wastes arising on the farm, it is anticipated that this development would not adversely impact on the local environment within the Monaghan area when assessed individually and/or cumulatively with other such developments in this area.

## 4 (7) Inter-relationships

EIA requirements derive from Council Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC) and as codified and replaced by Directive 2011/92/EU of the European Parliament and the Council on the assessment of the effects of certain public and private projects on the environment and as amended in turn by Directive 2014/52/EU.
As a requirement of the aforementioned directives and specific legislation implementing same, not only are the individual significant impacts required to be considered, but so must the inter-relationship between these factors be identified and assessed.

The Regulations require that the interactions between human health / population, Bio-diversity (Flora and Fauna), Land / Soil, water, air and climatic factors, landscape, material assets and cultural heritage (incl. architectural and archaeological) be assessed. The aspects of the environment likely to be significantly affected by the proposed poultry houses have been considered in detail in the relevant Chapters of the E.I.A.R. In order to demonstrate the areas in which significant interactions occur a matrix has been prepared, see figure 4.1 below.

Where any environmental element in the top row of the matrix (the receptor) is likely to be affected in any way by any element in the left most column (the impactor), which contains the list of aspects of the environment likely to be significantly affected by the proposed development these have been indicated. A distinction has been made between positive, negative and neutral impacts in this matrix.

**Figure 4.1 Matrix Indicating Inter-relationships between EIA Factors**

| | Land / Soil | W Water ater | Air & Climate / Climate Change | Landscape & Visual | Noise | Traffic / Roads | Bio-diversity (Flora and Fauna) | Human health / population | Cultural Heritage | Material Assets |
|---|---|---|---|---|---|---|---|---|---|---|
| Land / Soil | | N | N/a | N | N/a | N/a | N | Pos | N/a | N/a |
| Water | N/a | | N/a | N/a | N/a | N/a | N | N/a | N/a | N/a |
| Air & Climate / Climate Change | N/a | N/a | | N/a | N/a | N/a | N | N | N/a | N/a |
| Landscape & Visual | N/a | N/a | N/a | | N/a | N/a | N/a | N/a | N/a | N/a |
| Noise | N/a | N/a | N/a | N/a | | N/a | N/a | N/a | N/a | N/a |
| Traffic/Roads | N/a | N/a | N | N/a | N | | N/a | N | N/a | N/a |
| Bio-diversity (Flora & Fauna) | N/a | N/a | N/a | N | N/a | N/a | | N/a | N/a | N/a |
| Human health / population | Pos | Pos | Pos | Pos | N/a | N | Pos | | Pos | Pos |
| Cultural Heritage | N/a | N/a | N/a | N/a | N/a | N/a | N/a | N/a | | N/a |
| Material Assets | N/a | N/a | N/a | N/a | N/a | N/a | N/a | Pos | N/a | |

| | |
|---|---|
| Neutral | N |
| Positive | Pos |
| Negative | Neg |
| Not Applicable | N/a |

**4 (7) (i)Discussion – Positive Impacts**

The following details the rationale for concluding that there is a net positive impact as a result of the inter-relationship between the factors listed below.

- **Impacts of Land / Soil on Human health / population** – the proposed poultry houses will provide for an additional supply of poultry manure which is a valuable fertiliser used by customer farmers to offset the cost of purchasing chemical fertiliser, and as a resourse ingredient in the compost industry. The supply of organic manure will result in a financial gain to the recipient farmers and therefore a net positive impact of the proposed development.

- **Impacts of Human health / population on other factors** - The increase in wealth as a result of the operation of the farm would mean that there will be funds available to facilitate improvements through human endeavor in the following factors Land / Soil, water, air & Climate / Climate Change, landscape & visual, Bio-diversity (Flora and Fauna) and cultural heritage. Improvements in Land / Soil can be achieved through the addition of organic fertilizer, improvements in water through improved management and separation of storm and soiled waters, improvements in air through better manure management processes, improvement in Bio-diversity (Flora and Fauna) through the provision of additional site landscaping and maintenance and improvement in cultural heritage by the availability of time and money for the enjoyment of heritage.

Improvements in Climate/Climate change arise out of the more efficient production system/lower emissions compared to other forms of animal husbandry/production. The impact on human health / population will ultimately result in improvements to material assets.

**4 (7) (ii) Discussion – Neutral Impacts**

The following details the rationale for concluding that there is a neutral impact as a result of the inter-relationship between the factors listed below.

- **Impacts of Land / Soil on Water, Landscape & Visual and Bio-diversity (Flora and Fauna)** – The organic fertilizer will have a positive overall impact on Land / Soil adding additional nutrients. However there is potential for leaching of these nutrients to water. This threat has been mitigated as all organic manure is to be allocated to customer farmers for use in accordance with S.I. 605 of 2017, as amended and excessive application of this organic fertilizer will not occur.

  The positive impact on Land / Soils in the customer farmland areas will potentially see a change in landscape through the improvement in field pastures, this may be viewed as a slightly positive impact overall and any changes will be minimal through compliance with S.I. 605 of 2017, as amended, as this organic fertiliser will be used to replace chemical fertiliser. The changes in Land / Soil may result in a reduction in diversity of Bio-diversity (Flora and Fauna) in receiving lands. However all lands proposed for receipt of organic fertilizer will comprise productive agricultural lands for the production of crops or improved grassland and organic manure will not be applied to areas of scrub or other habitats.

- **Impacts of Water on Bio-diversity (Flora and Fauna)** – The organic manure generated together with any soiled water on site has the potential to negatively impact on water. A reduction in water quality in the area would have an effect on both local Bio-diversity (Flora and Fauna) and Bio-diversity (Flora and Fauna) in the wider river catchment area. This potential threat has been mitigated through the proposal to allocate all organic fertilizer for use in accordance with S.I. 605 of 2017, as amended. This is further mitigated through the provision of an appropriate on site storm water drainage system. These mitigating measures are sufficient to ensure that there is no negative impact on Bio-diversity (Flora and Fauna) as a result of its relationship with water.

- **Impacts of Air & Climate / Climate Change on Bio-diversity (Flora and Fauna) and Human health / population** – There is a potential threat to Bio-diversity (Flora and Fauna) and Human health / population as a result of any impact on air due to the proposed farm. The generation of mal-odour on site may have a slight negative impact on Bio-diversity (Flora and Fauna) and in particular on human health / population, however this is mitigated by the fact that the proposed development location c. 400 m from any existing third party, or non-family, dwelling. Adequate mitigating measures have been described in this E.I.A.R. to ensure that this threat does not materialise and thereby ensuring the potential impact is neutral.

## 4 (7) (iii) Potential Impacts and Mitigation Measures

This section presents the significance of potential impacts following the implementation of mitigation measures. The impacts in the recently published E.I.A.R. Guidelines as follows:

| Impact | | Description |
|---|---|---|
| Quality of Effects | Positive Effects | A change which improves the quality of the environment |
| | Neutral Effects | No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error. |
| | Negative Effects | A change which reduces the quality of the environment |
| | | |
| Describing the Significance of Effects | Imperceptible | An effect capable of measurement but without significant consequences. |
| | Not significant | An effect which causes noticeable changes in the character of the environment but without significant consequences. |
| | Slight Effects | An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. |
| | Moderate Effects | An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. |
| | Significant Effects | An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. |
| | Very Significant Effects | An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment. |
| | Profound Effects | An effect which obliterates sensitive characteristics |
| | | |
| Describing the Duration and Frequency of Effects | Momentary Effects | Effects lasting from seconds to minutes |
| | Brief Effects | Effects lasting less than a day |
| | Temporary Effects | Effects lasting less than a year |
| | Short-term Effects | Effects lasting one to seven years. |
| | Medium-term Effects | Effects lasting seven to fifteen years. |
| | Long-term Effects | Effects lasting fifteen to sixty years |
| | Permanent Effects | Effects lasting over sixty years |
| | Reversible Effects | Effects that can be undone, for example through remediation or restoration |
| | Frequency of Effects | Describe how often the effect will occur. ((once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)) |
| | | |

| | | |
|---|---|---|
| ***Describing the Extent and Context of Effects*** | ***Extent*** | Describe the size of the area, the number of sites, and the proportion of a population affected by an effect. |
| | ***Context*** | Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?) |
| | | |
| ***Describing the Probability of Effects*** | ***Likely Effects*** | The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented. |
| | ***Unlikely Effects*** | The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented. |
| | | |

Interactions between the above environmental factors show the potential effect of the poultry farm on the community and its environs. Human beings are the main impact receptor, flora and fauna being the other. The poultry farm and its production processes will minimally impact upon the landscape, archaeology, terrestrial, water quality and climate described under the heading natural environment.

Traffic, air quality, noise, tourism and material assets are the factors that affect the community directly. This poultry farm with its planned integration into the existing farming activities, and the associated fertiliser substitution programme will have no significant impact on the rural community, as per the existing activities carried out by the applicant.

| | Category | Potential Environmental Issues/Effects | Potential Impact ~ Site | Potential Impact ~ Customer Lands | Duration | Mitigation | Residual Impact |
|---|---|---|---|---|---|---|---|
| Natural Environment | Terrestrial | | | | | | |
| | Bio-diversity (Flora and Fauna) | Destruction/loss of habitats. | Neutral | Neutral | Long-term | Existing intensively managed grassland site of no significant ecological importance. Organic fertilizer to replace chemical fertilizer in accordance with S.I. 605 of 2017, as amended, no impact. Integration with existing farm enterprise. | None |
| | | Eutrophication | Negative | Neutral | Long-term | High quality development and storm water discharge systems. Nutrient balance / organic fertiliser substitution. Organic fertiliser will replace chemical fertiliser. | slight |
| | Fresh Water / Groundwater | Risk of contamination | Negative | Neutral | Long-term | Fertiliser planning / Buffer Zones / Codes of Good Practice applied (S.I. 605 of 2017, as amended, Customer Farmlands). | Slight |
| | Landscape | Visual impact | Negative | Neutral | Long-term | Site integrated into landscape. Low finished floor level. Well screened from the local road. Properly landscaped. | Slight |
| | Archaeology | Disturbance of archaeological finds | Neutral | Neutral | Long-term | No archaeological finds within this site. Site not located near to, or likely to impact on any archaeological sites. | Neutral |
| | Climate / Climate Change | Contribution of greenhouse gases | Positive | Neutral | Long-term | Poultry production is less harmful than ruminant production in terms of methane. Organic manure will replace inorganic fertilisers eliminating manufacturing / transport energy use. Integration with existing farming activities. | None |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Human Health / Population | Land / Soil | Fertiliser substitution | Neutral | Positive | Long-term | Existing poultry Farm / Intensively managed grassland site. Improves profitability by reducing costs and improving output. Integration with existing farming activities | None |
| | Community | Application of manure | Neutral | Neutral | Long-term | Significant requirement for additional organic fertiliser. | None |
| | | Vermin and pest infestation | Negative | Neutral | Long-term | Control programme to be practiced on farm in line with Bord Bia requirements. | None |
| | | Fire Hazards | Negative | Neutral | Long-term | Fire points / extinguishers / staff training | None |
| | Traffic | Long-term reduction in traffic. | Negative | Neutral | Long-term | In-ward/out-ward traffic primarily during working hours. Minimise traffic volume by optimising load sizes. Additional Short term peak during construction. Good road infrastructure. | Slight |
| | Noise | Stock Noise at feeding/moving. Feed deliveries, manure removal | Negative | Neutral | Long-term | Prioritise activities during during working hours. Remote Location. | None |
| | Air | Generation of Odours | Negative | Neutral | Short-term | Adherence to Code of Good Practice to Reduce Odour Emissions at Spreading. High standard of housing and management and washing between batches. Buffer zones from sensitive dwellings / areas. | None |
| | Tourism/ Ammenities / | Landscape | Neutral | Neutral | Long-term | Site location will result in no adverse impact on the environment. | None |
| | | Water Quality | Neutral | Neutral | Long-term | High standard of development and management / Fertiliser planning / Buffer Zones / Codes of Good Practice applied / Integration with existing farming activities | None |
| | Material Assets | Reduction in material / residential quality | Neutral | N/A | Long/ short-term | Site nature and location will ensure that there is no negative impact on the material assets of the area. | None |

## *4 (8) Difficulties encountered in compiling the required information*

The processes and technology involved in the construction and operation of the proposed development are standard for agricultural/poultry developments, and similar to that currently carried out by the applicant, and well understood. In addition the main principles are substantially similar to that already in practice on numerous other farms locally and throughout the county. The technical information on which to base an assessment of impact on environmental parameters is readily available in the public domain.

There were no particular difficulties encountered and there is no reason to consider that there is any serious risk of error attaching to plans and projections for the treatment of wastes to be generated in the proposed development, as a result of the first hand experience gained in the existing development. As stated previously, this planning application and Environmental Impact Assessment Report, relate to the proposed development of 2 No. poultry houses on/adjacent to an existing poultry farm site plus all associated site works and ancillary structures, facilitating an increase to 125,000 - 130,000 birds.

The operation of the existing farm in conjunction with the proposed development will be carried out in accordance with the requirements of Monaghan Co. Co., The E.P.A., The Department of Agriculture, Food and Marine and Bord Bia to achieve maximum efficiency, flock performance and environmental standards

## 5 Description of measures envisaged to avoid, reduce, prevent or if possible, offset any identified significant adverse effects on the environment.

The following best practice / mitigation measures have been proposed to reduce any potential adverse impact, significant, or otherwise:

(i) Provision of sufficient and safe access to the site and measures to avoid excessive soiling of the public road during construction on the site.

(ii) Preservation of existing trees and hedgerows surrounding the site where possible, together with sympathetic design and layout so as to screen the installation from obtrusive view and to allow it to be absorbed into the rural landscape.

(iii) Provision of a storm water drainage system to properly collect and discharge to field drainage all clean rainwater from roofs and clean surfaces, as described in Appendix No. 3 and Appendix No. 16.

(iv) Provision of soiled water drains to properly collect any effluent or soiled water and divert it to the nearest soiled water tank.

(v) The collection and the removal from the site of all manure. All soiled waters to be collected and used on farmland in accordance with S.I. 605 of 2017, as amended.

(vi) All construction waste to be managed in an appropriate manner.

(vii) Appropriate collection and removal from the site of waste materials generated on the site. Record and maintain records of all consignments of waste despatched from the site in accordance with requirements..

(viii) The collection and the removal from the site of all dead animals and all animal tissues. A small proportion of the birds maintained on the farm die prematurely. These carcasses are and will be stored in a covered sealed container on site, awaiting collection by an authorised contractor.

College Proteins is an authorised contractor who regularly removes these carcasses, and any other such material to an authorised Animal By-Products plant at Nobber, Co. Meath, in compliance with existing requirements. Correspondence in this regard is included hereafter, in Appendix No. 6. Ensure collection of animal tissue from the site is in appropriate watertight and covered containers, and timely removal so as to ensure minimal generation or release of odours either at the site, or during transit to the disposal/recovery destination.

(ix) Comprehensive cleaning and hygiene routine to minimise potential odour from the site.

(x) Specially formulated diets to maximise performance and reduce nutrient excretion. See Appendix No. 9.

(xi) Proper maintenance and inspection procedures to ensure that all feeding, water supply, manure removal, and ventilation systems are working to maximum efficiency, ensuring manure is maintained as dry as possible and minimising energy (electricity and gas) consumption.

Implementation of the above will ensure that significant effects on the environment will be avoided and the risk of incidents of environmental significance will be near zero.

# 6. ENVIRONMENTAL MANAGEMENT PROGRAMME

## 6.1. Introduction

The applicant will implement and maintain a comprehensive monitoring programme on site to provide maximum protection for the environment. This plan will in effect be governed by the requirements of the E.P.A., as detailed in any Licence issued to this farm, and by the applicant's requirements under environmental legislation such as S.I. 605 of 2017, as amended. This management plan will involve, but is not limited to, maintaining an organic fertiliser register and visual inspection of all storm water outlets.

Implementing this programme will ensure that there are no negative environmental impacts from the activities associated with the operation of the poultry farm. Any recommendations of the planning authority will be complied with in relation to this Environment Management Programme.

## 6.2. Organic Fertiliser Management Programme

The applicant will implement and manage a programme for the allocation of organic fertiliser in each particular year. The main aspects of the Organic Fertiliser Management Programme are to ensure that the requirements of S.I. 605 of 2017, as amended are met in full by the applicant. This will include;

- The allocation of fertiliser to a registered specialist contractor for use in accordance with the requirements of S.I. 605 of 2017, as amended,

- Proper separation of all clean water on site, and the collection of all soiled water in the soiled water storage tanks.

- Continuous recording of all organic fertiliser transfers off the farm (as per the record 3 form developed by The Department of Agriculture, Food and The Marine, and submission of all records to The Department of Agriculture, Food and The Marine as required.]

## 6.3. Environmental Monitoring Programme

(i) ***Work schedule for fixed structures.***

- A maintenance programme for all structures and systems to be implemented to ensure that same are operating to maximum efficiency

(ii) ***Monitoring fixed structures for the following:***

- checking soiled water and clean water drainage systems for deterioration, leaks and blockages.

(iv) ***Monitoring and analysis***.

- Storm water emission points to be visually inspected and recorded on a weekly basis.
- Soiled Water Storage Tanks – To be monitored and recorded as required for remaining storage capacity.
- Noise, Odour and Dust emissions not to cause an adverse environmental impact outside of the site boundary. As per the existing licenses issued by the Agency the EPA license required for this farm will have specific requirements/conditions pertaining to odour/noise and dust to be complied with.

## *7 Summary*

This proposed development involving the construction of 2 No. poultry houses together with ancillary facilities has been subject to Environmental Impact Assessment in accordance with requirements under the Planning and Development Regulations 2001 (as amended). This resulting E.I.A.R. has been prepared in order to assess the potential impact of the proposed development and any potential cumulative impact with the applicants existing farm and/or other farms (incl. poultry farms) / developments in the area and provide the planning authority with the necessary information to make a decision on this planning application. The E.I.A.R. will also be submitted to the E.P.A. as part of the E.P.A. Licence application to be submitted to the Agency.

The proposed development as outlined will make a significant positive contribution to the rural economy of Co. Monaghan and will serve to increase employment and secure the viability and competitiveness of the applicant's farm enterprise, as well as the wider poultry farming industry. The development will not give rise to any significant environmental effects. The granting of permission to the proposed development would strongly accord with the provisions of the County Development Plan and will provide a significant boost to the economy of Co. Monaghan. The proposed development will be constructed and operated in accordance with the details laid down in this E.I.A.R. and will adhere to conditions imposed as part of any grant of planning permission and E.P.A. Licence for this farm.

**Signed:**

**Paraic Fay**
BAgrSc

28/8/19
**Date**

**C.L.W. Environmental Planners Ltd.**
**The Mews,**
**23 Farnham St.,**
**Cavan Town,**
**Co. Cavan.**

**Tel: 049-4371451**
**Fax: 049-4371447**
**Email: info@clw.ie**

# Appendices

| | | |
|---|---|---|
| Appendix No. 1 | ~ | Site Location Map |
| Appendix No. 2 | ~ | Site Layout (Not to scale)<br>Location of Proposed and<br>Existing Developments |
| Appendix No. 3 | ~ | Drawings of Proposed Development<br>(Not to scale) |
| Appendix No. 4 | ~ | Environmental Protection Agency – Draft<br>Guidelines on EIS – Project Type 13 |
| Appendix No. 5 | ~ | Details of Poultry Litter Contractor |
| Appendix No. 6 | ~ | Animal Tissue Disposal |
| Appendix No. 7 | ~ | Intentionally Blank |
| Appendix No. 8 | ~ | Extent and Location of Lands Available for<br>Application of Soiled Water |
| Appendix No. 9 | ~ | Feed Details |
| Appendix No. 10 | ~ | General/Mixed Waste Disposal |
| Appendix No. 11 | ~ | Extracts from Monaghan County<br>Development Plan 2019- 2025 |

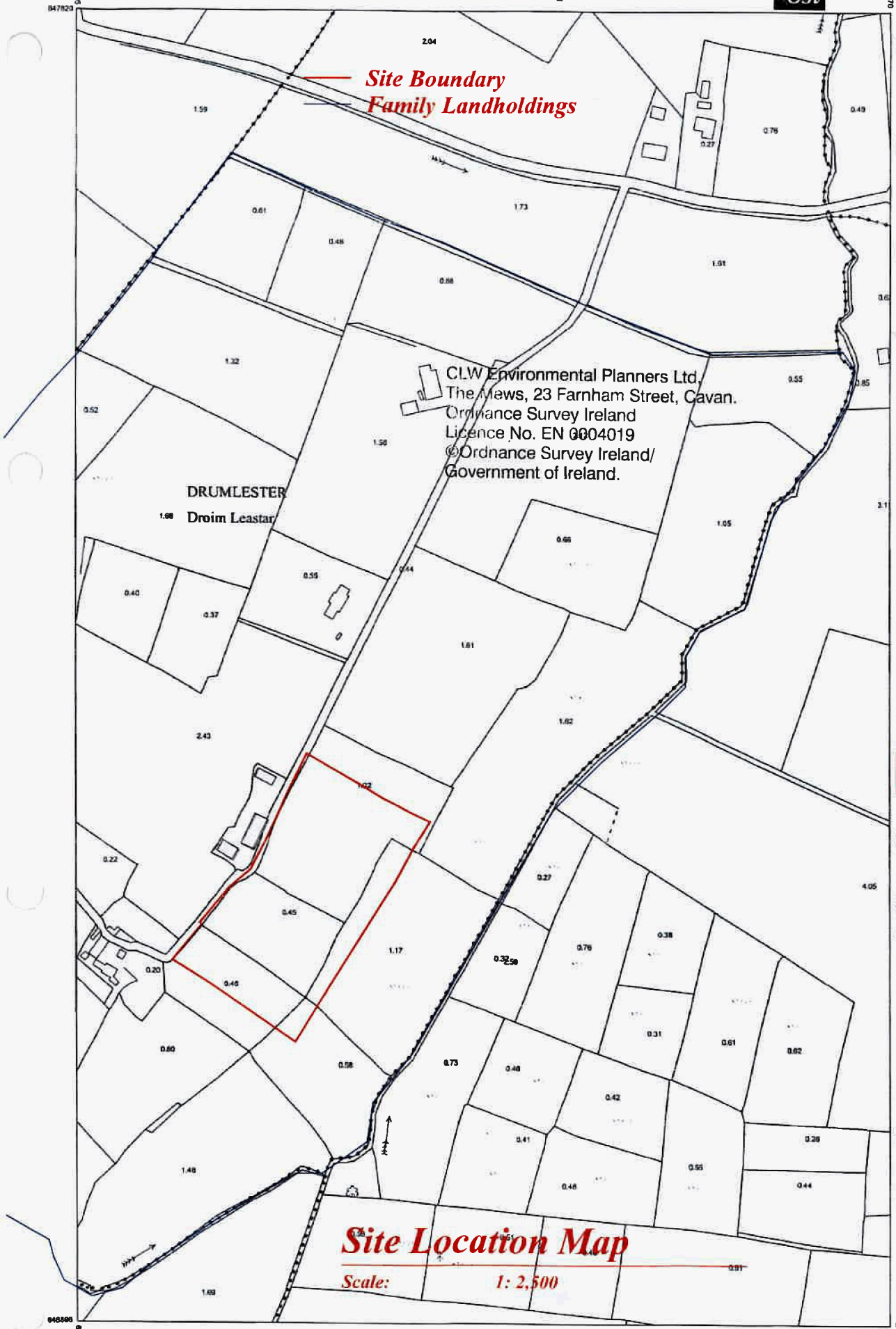
| | | |
|---|---|---|
| *Appendix No. 12* | ~ | *Extract from General Soil Map of Ireland.* |
| *Appendix No. 13* | ~ | *Local Water Quality Data* |
| *Appendix No. 14* | ~ | *Met Data* |
| *Appendix No. 15* | ~ | *Dept. of Agriculture – Minimum Specification for Screening belts for Farmyards and Farm Buildings – S 135* |
| *Appendix No. 16* | ~ | *Water Protection Plan Checklist* |
| *Appendix No. 17* | ~ | *Details relating to a number of noise surveys carried out on intensive farms in the Cavan region.* |
| Appendix No. 18 | ~ | *Natura Impact Statement* |
| *Appendix No. 19* | ~ | *European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 – S.I. 605 of 2017* |
| *Appendix No. 20* | ~ | *G.S.I. Info.* |

# Appendix No. 1

# Site Location Map

Surveyed 2000
Revised 2015
Levelled

# Rural PLACE Map




ITM CENTRE PT COORDS
663082,847359

DESCRIPTION

MAP SHEETS
Digital Map
0830

Authorised Internet Map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© Ordnance Survey Ireland, 2016


Scale:- 1:2,500
Scála:- 1:2,500

0 40 80 120 160 200 Metres
0 150 300 450 600 750 Feet

Plot Ref. No. 19718653_1_1
Plot Date 28-JUN-2016

N

# Appendix No. 2

## Site Layout
*(Not to scale)*

## Location of proposed and existing developments

NOTES:
1. All levels are relative to Ordnance Datum Malin Head
2. 50m sq grid relative to Irish Transverse Mercator Co-ordinate reference system
3. Contours are at .25m intervals

LINE TYPE LEGEND

| | | | |
|---|---|---|---|
| | Box | | Electricity Pole |
| | Downpipe | | Fire Hydrant |
| | Electricity Pole | | Flood Light |
| | Gate | | Inspection Cover |
| | Gully | | Invert Level |
| | Gas Valve | | Lamp Post |
| | Gas Cover | | Manhole |
| | Finished Floor Level | | Post |
| | Electricity Cover | | Pillar |
| | Manhole Cover | | Telegraph pole |
| | Ridge | | Telecom Cover |
| | Spot Level | | Tree |
| | Sign | | Water Meter |

LINE TYPE LEGEND

| | | | |
|---|---|---|---|
| | Boundary | | Surface Change |
| | Building | | Step |
| | Bank Top | | Vegetation Line |
| | Bank Bottom | | Verge |
| | Channel | | Telecom Cover |
| | Fence | | Wall |
| | Kerb | | Railing |
| | Path | | Vertex |
| | Overhead Electricity Line | | Road Edge |

Existing Mature Hedge
Landscaping
Concrete Apron
WELL
Gas Tanks
Waste Water Tank
Existing Mature Hedge
Ex-Cattle Shed
Section A-A
SITE NOTICE " X "
Site Boundary
36m3 Underground
Storage Tank
Switch Manhole
Soak Pit
Ex-Cattle Shed
FFL - 146.70m
Storage Shed
Stoned Area
Site Boundary
Existing Mature Hedge
Existing Open Drain
Provide two way sluice to divert clear water to soakaway and foul water to wash water tank
Silt Trap
Flow of Drain
Switch Manhole
Existing Mature Hedge
HOUSE 1
FFL - 145.00m
HOUSE 2
FFL - 146.00m
HOUSE 3
FFL - 148.00m
Section A-A
Section B-B
Existing Mature Hedge
Existing Mature Hedge
Retaining Wall
Existing Mature Hedge
Existing Hedge to be tickened up where required.
Existing Mature Hedge
Existing Mature Hedge
Retaining Wall
Retaining Wall
Section B-B
Landscaping
Retaining Wall
Existing Mature Hedge

SITE PLAN
Scale 1/500

PROPOSED CONCRETE APRON

SITE BOUNDARY

SITE Area = 1.713 Ha / 4.232 Acres

**LANDSCAPING SPECIFICATION**

ALL SITE WORKS ARE TO BE DONE IN ACCORDANCE WITH THE DEPARTMENT OF ARGICULTURE FISHERIES AND FOOD,"MINUMIUM SPECIFICATIONS FOR SCREENING BELTS AND SHELTER BELTS FOR FARM YARDS AND FARM BUILDINGS"

**PLANTING SCHEDULE**

KEY — NAME

PROPOSED ROWAN, MOUNTAIN ASH, BEECH OR HAWTHORN TREES - MAX HEIGHT 9m @ 3m Centers

PROPOSED HEDGEROW OF WHITETHORN, DOG ROSE/HONEYSUCKLE IVY AND BRAMBLE SHRUBBERY @ 300mm Centers

PROPOSED TIMBER & RAIL FENCING

| COMMOMN NAME | SCIENTIFIC NAME |
|---|---|
| DOG ROSE | ROSA CANINA |
| HONEYSUCKLE | LONICERA PERICIYMENUM |
| BRAMBLE | RUBES FRUCTICOSOS |

NOTE: ALL PLANTING TO TAKE PLACE DURING THE PLANTING SEASON FROM THE 1ST OF OCTOBER TO THE 31ST OF MARCH

NOTE:
All surface water to local watercourse
All Existing Surface Water To be Picked up
New Surface water to be connected to Existing Surface Water Lines with Silt Trap

All sound trees on site shall be retained except for those that require to be moved to facilitate the actual physical development of the site. Existing Hedge rows to be buffed/ tickened up where required.

***PLANTING INDEX***

| KEY | COMMON NAME / BOTANICAL NAME | NAME | SIZE | MATURITY | QTY |
|---|---|---|---|---|---|
| | *Fagus Sylvatica* | Beech | 14-16 cm | 40yrs | 8 |
| | *Crataegus Monogyna* | Hawthorn | 12-14 cm | 10yrs | 8 |
| | *Sorbus Aucuparia* | Rowan | 12-14 cm | 30yrs | 8 |
| | *Fraxinus excelsior* | Ash | 12-14 cm | 35yrs | 8 |
| | WHITETHORN, DOG ROSE/HONEYSUCKLE IVY AND BRAMBLE SHRUBBERY | Hedge | 12-14 cm | 4yrs | 270 |

Hedge along site boundaries
WHITETHORN, Dog
ROSE/HONEYSUCKLE IVY AND
BRAMBLE SHRUBBERY @ 300mm Centers. 50m of Hedge to be Planted

Note
Trees and planting to be planted during first planting season (October – March) after completion of building and site works
All trees to be staked and tied properly.
Any Failures to be replaced in the following season

| REVISIONS | | |
|---|---|---|
| No. | Date | Description |
| | | |

RICS Horizon cabe

Market Square Castleblayney, Co. Monaghan, Ireland
Tel 042 9741067 Mobile 087 6640622 / 087 6120328
Website www.hanlonengineering.ie

Client:
Niall McKenna

Professional:
CLW Environmental

Project Title:
Proposed Poultry House at Drumlester, Co Monaghan

| | | | |
|---|---|---|---|
| Drawn: | TD | Dwg No: | 01/005 |
| Scale: | 1/175 | Date: | 06/08/15 |

A1

NOTES:
1. All levels are relative to Ordnance Datum Malin Head
2. 50m sq grid relative to Irish Transverse Mercator Co-ordinate reference system
3. Contours are at .25m intervals

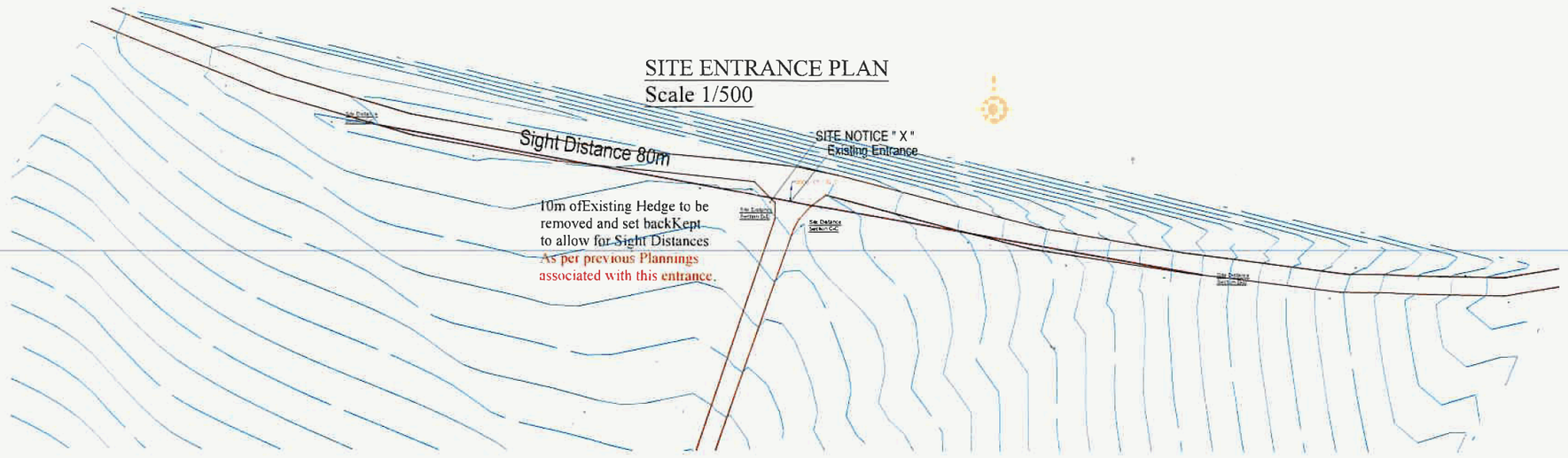
LINE TYPE LEGEND

| | | | |
|---|---|---|---|
| | Box | | Electricity Box |
| | Downpipe | | Fire Hydrant |
| | Electricity Pole | | Fibre Station |
| | Gate | | Inspection Cover |
| | Gully | | Invert Level |
| | Gas Valve | | Lamp Post |
| | Gas Govert | | Manhole |
| | Finished Floor Level | | Post |
| | Electricity Cover | | Pillar |
| | Manhole Cover | | Telegraph pole |
| | Ridge | | Telecom Cover |
| | Spot Level | | Tree |
| | Sign | | Water Meter |

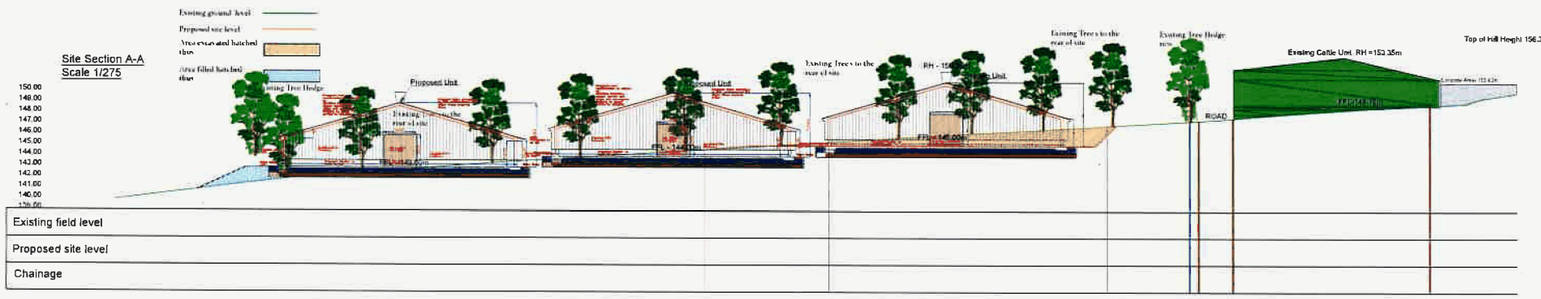
LINE TYPE LEGEND

| | | | |
|---|---|---|---|
| | Boundary | | Surface Change |
| | Building | | Step |
| | Bank Top | | Vegetation Line |
| | Bank Bottom | | Verge |
| | Channel | | Telecom Cover |
| | Fence | | Wall |
| | Kerb | | Railing |
| | Path | | Verge |
| | Overhead Electricity Line | | Road Edge |

# SITE ENTRANCE PLAN
Scale 1/500

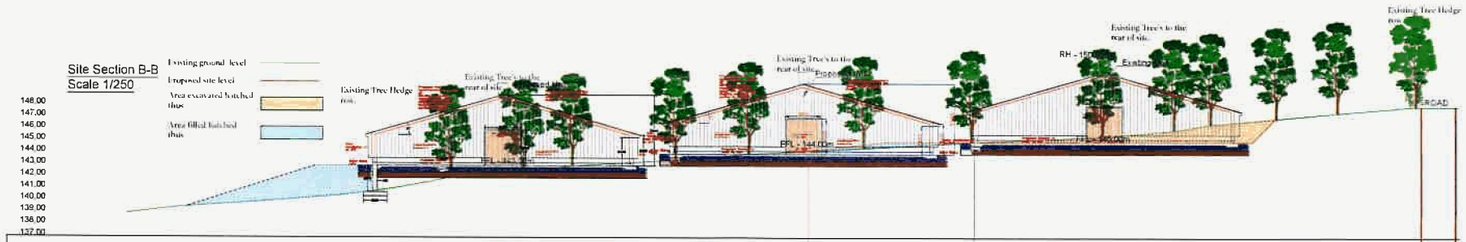



Site Section A-A
Scale 1/275




| | |
|---|---|
| Existing field level | |
| Proposed site level | |
| Chainage | |

Site Section B-B
Scale 1/250

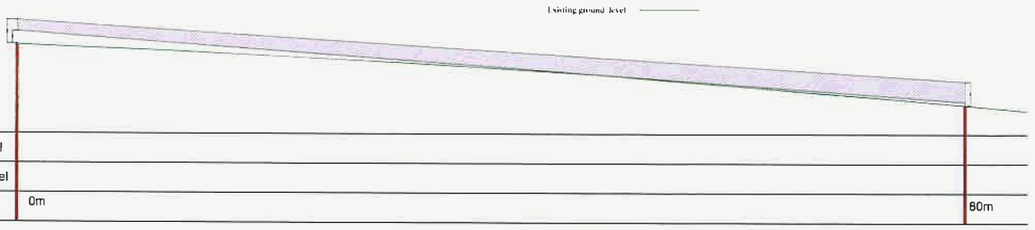



| | |
|---|---|
| Existing field level | |
| Proposed site level | |
| Chainage | |

Site Section C-C
Scale 1/250

| | | |
|---|---|---|
| Existing field level | | |
| Proposed site level | | |
| Chainage | 80m | 0m |

Site Section D-D
Scale 1/250




| | | |
|---|---|---|
| Existing field level | | |
| Proposed site level | | |
| Chainage | 0m | 80m |

REVISIONS

| No. | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

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Tel 042 9747567 Mobile 087 6640601 / 087 9030028
Website www.mckennagroup.ie

Client:
Niall McKenna

Professional:
CLW Environmental

Project Title:
Site Sections

| | | | |
|---|---|---|---|
| Drawn: | TD | Dwg No: | 01/006 |
| Scale: | As Shown | Date: | 26/07/19 |

A1

# Appendix No. 3

# Drawings of Proposed Development
## (Not to scale)

NOTES:
1. All levels are relative to Ordnance Datum Malin Head
2. 50m sq grid relative to Irish Transverse Mercator Co-ordinate reference system
3. Contours are at .25m intervals

| LINE TYPE LEGEND | | | |
|---|---|---|---|
| | Box | | Electricity Box |
| | Downspout | | Fire Hydrant |
| | Electricity Pole | | Flow Station |
| | Gate | | Inspection Cover |
| | Gully | | Invert Level |
| | Gas Valve | | Lamp Post |
| | Gas Cover | | Manhole |
| | Finished Floor Level | | Post |
| | Electricity Cover | | Pillar |
| | Manhole Cover | | Telegraph pole |
| | Ridge | | Telecom Cover |
| | Spot Level | | Tree |
| | Sign | | Water Meter |

| LINE TYPE LEGEND | | | |
|---|---|---|---|
| | Boundary | | Surface Change |
| | Bussing | | Step |
| | Bank Top | | Vegetation Line |
| | Bank Bottom | | Verge |
| | Channel | | Telecom Cover |
| | Fence | | Wall |
| | Hedge | | Railing |
| | Path | | Verge |
| | Overhead Electricity Line | | Road Edge |

REAR ELEVATION

Section A-A

FRONT ELEVATION

Section B-B

SIDE ELEVATION

SIDE ELEVATION

ALL WORK CARRIED OUT TO COMPLY TO S.150, S.123 & S:123A DEPT OF AGRICULTURE & FOOD SPECIFICATIONS

ALL RAINWATER TO BE DIVERTED VIA 100mm P.V.C. DOWNPIPES LOCATED EXTERNALLY AND FIXED TO PORTAL COLUMNS WHERE THEY WILL EXIT INTO GULLYS AT THIS POINT THEY WILL ALL BE CONNECTED & DIVERTED INTO NEARBY OPEN DRAIN

THE COLLECTION AND DISOSAL NETWORK FOR THE CONTROL OF SOILED WATER AT THE FARMYARD, ON COMPLETION OF THE PROPOSED DEVELOPMENT PLAN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF S129

METAL SHELTING OVER STEEL FRAME BUILDING TO PROVEN DETAIL BY SPECIALIST

ALL STEEL SIZES WILL BE VERIFIED BY STRUCTURAL ENGINEERS AND WILL BE SUBJECT TO THEIR DESIGN

SIDE ELEVATION

THE COLLECTION AND DISOSAL NETWORK FOR THE CONTROL OF SOILED WATER AT THE FARMYARD, ON COMPLETION OF THE PROPOSED DEVELOPMENT PLAN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF S129

ALL STEEL SIZES WILL BE VERIFIED BY STRUCTURAL ENGINEERS AND WILL BE SUBJECT TO THEIR DESIGN

FEED SILO

FEED SILO

Fall in Floor

Floor Area House 2 =

Fall in Floor

For Finished Floor Level see Site Plan

Fall in Floor

POULTRY HOUSE

Fall in Floor

All Concrete Finishes to S101, S105

For Finished Floor Level see Site Plan

STORE

FLOOR PLAN

Front Elevation

Front Elevation

Side Elevation

Side Elevation

Section

Wash Tank Plan

DEEP WASH WATER TANK LOCATED UNDERGROUND

Total Floor Area =

Total Volume Area =

| REVISIONS | | |
|---|---|---|
| No. | Date | Description |
| | | |
| | | |
| | | |
| | | |


RICS Horizon cabe
Market Square Castleblayney, Monaghan Ireland
Tel (42) 974067 Mobile 087 6242332 087 7635518
Website www.horizonengineering.ie


Client:
Niall McKenna

Professional:
CLW Environmental

Project Title:
Proposed Poultry Houses at Drumlester. Co Monaghan

| Drawn: | TD | Dwg No. | 01/004 |
|---|---|---|---|
| Scale: | 1/150, 1/100 | Date: | 20/08/2019 |

A1

# Appendix No. 4

# Environmental Protection Agency – Draft Guidelines on EIS – Project Type 13

# PROJECT TYPE 13

| **Pig-rearing installations;<br>Poultry-rearing installations.** | |
|---|---|
| **Introduction** | The principal concerns which are likely to arise in this context stem from the issues of waste handling (mainly slurry/manure) and odours. The significance of impacts is very much a factor of the site's proximity to sensitive receptors such as aquifers or residences. Such projects frequently dispose of wastes at locations which are not adjacent to the animal rearing operations. |
| **Project Description** | **Checklist of items to be described:-** |
| **Construction:-** | ▼ Extension of infrastructure (water, power, access);<br>▼ Site preparation works;<br>▼ Materials;<br>▼ Access. |
| **Operation (including relevant alternatives):-** | ▼ Access and transportation;<br>▼ Food, storage, handling and transportation;<br>▼ Water and power supply;<br>▼ Quantification of inputs (feed, stock, power);<br>▼ Quantification of outputs (animal wastes, products, other wastes);<br>▼ Animal housing structures and associated activities, heating, ventilation, cleaning;<br>▼ Other structures (offices, maintenance);<br>▼ Waste storage, handling and transportation;<br>▼ On-site infrastructure, water storage, roads, fences;<br>▼ Waste disposal areas and transportation routes;<br>▼ Waste disposal methods including equipment, duration, frequency, seasons, weather conditions, monitoring and recording. |
| **Decommissioning (if applicable):-** | ▼ Removability of structures;<br>▼ Long-term contamination. |
| **Growth:-** | ▼ Potential changes in numbers, types, intensity or methods. |
| **Associated developments:-** | ▼ Processing plants;<br>▼ Foodstuff suppliers;<br>▼ Breeding stock suppliers;<br>▼ Equipment suppliers;<br>▼ Off-site infrastructure upgrading. |
| **Environmental Effects** | **Typical significant impacts likely to affect:-** |
| **Human Beings** | ▼ Nuisance and loss of amenity. |
| **Fauna** | ▼ Introduction of predator and scavenger species;<br>▼ Pest control measures;<br>▼ Spreading of disease as a result of contact with contaminated domestic animals/birds, carcasses or slurry. |
| **Flora** | ▼ Potential effects on vegetation due to eutrophication, effluent seepage/ run-off;<br>▼ Waste spreading |
| **Soils (and Geology)** | ▼ Nutrient levels;<br>▼ Assimilative capacity of soils;<br>▼ Transmissivity and conductivity of geology. |

| **Pig-rearing installations;**<br>**Poultry-rearing installations.** | |
|---|---|
| **Water** | ▼ Leakage of effluent (including during transportation);<br>▼ Pollution by contaminated run-off;<br>▼ Disposal of carcasses;<br>▼ Location and timing of slurry spreading. |
| **Air** | ▼ Malodours arising from housing units and manure/slurry stores;<br>▼ Malodours arising from slurry spreading;<br>▼ Malodours due to transportation of livestock/slurry;<br>▼ Noise (particularly in anticipation of feeding);<br>▼ Volatilisation of ammonia. |
| **Climate** | ▼ Gases emitted from slurry/manure;<br>▼ Methane (contribution to greenhouse gases);<br>▼ Ammonia (contribution to acidifying gases). |
| **The Landscape** | ▼ Visibility of structures;<br>▼ Potential visual impact as a result of water body eutrophication;<br>▼ Impact of odours on amenities and landscape character. |
| **Material Assets** | ▼ Potential positive impact if slurry/manure gases are trapped for energy usage;<br>▼ Source of soil nutrients. |
| **Cultural Heritage** | |
| **The Interaction of the Foregoing** | |
| Possible Mitigation Options | |
| | ▼ Re-cycling of slurry/manure as energy source or fertiliser;<br>▼ Monitoring of waste disposal;<br>▼ Management of waste disposal;<br>▼ Noise absorption measures;<br>▼ Effective slurry containment. |

# Appendix No. 5

# Details of Poultry Litter Contractor

# Chicken Litter Re-Cycling Co Op Society Limited

**T/A Poultry Manure Supplies (PMS)**
**Mount Louise, Smithboro, Co. Monaghan, Ireland.**

**Planning Application**

20/05/2019

Dear Sir/Madame,

CLR Co-op Ltd. will be collecting the litter generated from the proposed development of 1 No. poultry house at the farm of Mr. Niall Mc Kenna, Drumlester, Emyvale, Co. Monaghan. CLR Co-op are a registered contractor with the Department of Agriculture, Food and The Marine for the transport of animal by-products (poultry litter) **DAFM Reference No. HAC2342**. All necessary paperwork is and will be maintained, including an annual Record 3 form submitted to Department of Agriculture, Food and the Marine.

Quantity to be removed is estimated to be 50 - 60 tonnes per batch, up to 7 times per annum.

Poultry litter is currently delivered to a number of mushroom compost yards, and with significant demand for this poultry litter it is intended that the additional litter generated on this poultry farm will be accommodated in these compost yards. The following yards are currently supplied by CLR Co-op.

- Carbury Mushrooms , Derrinturn, Carbury, Co. Kildare.
- Custom Compost, Gorey, Co. Wexford.
- Newry Organic Fertilisers, Mayobridge, Co. Down.

Litter may also be allocated to tillage farmers in the Leinster & Munster region for use as an Organic fertilizer.

Poultry Litter is considered a much needed raw material for the mushroom & tillage industry with considerable demand at present.

Yours faithfully,

James O'Harte
CLR Co-op Ltd

**Board Members:** Eamon Keelaghan, Mark McElvaney, Michael McDonnell, Eamon Clerkin, Andy Boylan, Sean McKenna, Andrew Mackeral and James O' Harte.
**Reg. No5329.Address:** Edraguil, Rockcorry, Co. Monaghan.

# Appendix No. 6

# Animal Tissue Disposal

College Proteins Group

# College Proteins

College Road, Nobber, Co. Meath, Ireland.
Tel: +353 (0) 46 909 6000 Fax: +353 (0) 46 905 2062 / 905 2465
Website: www.collegeproteins.ie Email: info@collegeproteins.ie

**Planning Department,**
**Monaghan County Council,**
**The Glen,**
**Glen rd,**
**Monaghan,**
**Co.Monaghan**
21th August 2019

**To Whom It May Concern**:

We wish to confirm that Niall Mc Kenna Drumlester, Emyvale, Co.Monaghan is currently not on our list of customers for collection, however we would be available to collect from him on a regular basis should he wish to open an account with us. The poultry would be contained in 240 litre or 660 litre wheelie bins. Our plant at Nobber, which was custom built on a green field site in 1989 is fully equipped with a modern effluent system, which is regularly monitored by the E.P.A. under IPC licence no. P0037-03. We pride ourselves on having a good reputation in the Rendering Industry, and we have been certified under EU Directive 1069/2009 which governs the industry.

If you require any further assistance, please do not hesitate to contact me.

Yours faithfully,

Ita Brady
Transport Manager

# Appendix No. 7

# Appendix No. 8

# Extent and Location of Lands Available for Application of Soiled Water

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

For Basic Payment Scheme,
Areas of Natural Constraint Scheme and
other Area-Based Schemes Purposes only
**Year:** 2018 **Scale:** 1:5000

**Name:** James & Niall Mc Kenna
**Address:**
Drumlara
Tydavnet
Co Monaghan

**Townland Code:** R15912
**Townland Name:** DRUMLESTER

| Parcel | Digitised | MEA* | Claimed |
|---|---|---|---|
| R15912028 | 0.42 | 0 | 0.00 |
| R15912029 | 31.94 | 31.38 | 31.59 |
| R15912030 | 1.02 | 0 | 0.00 |
| R15912031 | 0.22 | 0 | 0.00 |
| R15912032 | 0.42 | 0 | 0.00 |

**Exclusions**

| Parcel | Excl | Area | Red% | Elig | Type |
|---|---|---|---|---|---|
| R15912029 | X01 | 0.299 | 100% | 0.00 | Scrub |
| R15912029 | X02 | 0.0020 | 100% | 0.00 | Scrub |
| R15912029 | X03 | 0.013 | 100% | 0.00 | Scrub |
| R15912029 | X04 | 0.154 | 100% | 0.00 | Scrub |
| R15912029 | X05 | 0.118 | 5% | 0.11 | Scrub |
| R15912029 | X06 | 0.0030 | 100% | 0.00 | Inactive |
| R15912029 | X07 | 0.034 | 100% | 0.00 | Farm Road |
| R15912029 | X08 | 0.051 | 100% | 0.00 | Stream |

**Ortho Used:** Color Ortho Full Coverage

All areas displayed above are in hectares
* MEA calculation available online via agfood.ie

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Imagery Dates:07/11/2011, 02/05/2016
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R1590549

# Appendix No. 9

# Feed Details

Carton Bros. Limited,
(Milling Division)
Shinan, Shercock,
Co. Cavan, Ireland.

Tel: 042-9669244
Fax: 042-9669379

28th January 2013

## TO WHOM IT MAY CONCERN.

Carton Bros. Ltd. own and operate their own Feed Mill at Shinan, Shercock, Co. Cavan. This gives them complete control over feed formulations and feed quality. As part of an on-going policy of producing the most cost-effective poultry rations consistent with meeting the nutritional requirements for optimum production, Carton Bros. Ltd have adopted the latest technologies for reducing excretion of excess nutrients.

Carton Bros. Ltd were the first Feed Mill in Ireland to use the enzyme "Phytase" across their full range of feeds since March 1999. This has reduced Phosphate excretion by up to 30%. The use of other enzymes to improve the digestibility of feed has allowed smaller quantities to be fed, thus reducing litter output. Carton Bros. Ltd have always formulated to the lowest crude protein content possible thereby minimising the excretion of Nitrate in the litter.

Carton Bros. Ltd are constantly evaluating any new technologies which become available to minimise poultry manure and nutrient excretion and are available to discuss this matter at any time.

Yours Sincerely,

Tom Horan
Agriculture Manager

Directors:
Thos. E. Carton
Justin T. Carton
Vincent A. T. Carton
Reg. Office: Bunker Drive, Clonshaugh Industrial Estate, Dublin 17.
Reg. No. 7915.
VAT No. IE 8Y64675

# Appendix No. 10

# General/Mixed Waste Disposal

NWCPO
National Waste Collection Permit Office

Áras an Chontae, Charleville Road, Tullamore, Co. Offaly
Telephone: 057 9357428



# Waste Collection Permit Details

## 'ermit

**WCP Permit Number: NWCPO-12-06461-03**
NWCPO Reference: NWCPO-12-06461-03

**Exomax (Ireland) Ltd**
T/A
Scotch Corner
Anayalla
Castleblaney Co. Monaghan

04780888
Fax
emmet@mcelvaneywaste.com

## Waste Types

| List of Waste Code | Description | Hazardous? |
|---|---|---|
| 02 01 01 | sludges from washing and cleaning | |
| 02 01 04 | waste plastics (except packaging) | |
| 02 02 03 | materials unsuitable for consumption or processing | |
| 02 03 01 | sludges from washing, cleaning, peeling, centrifuging and separation | |
| 02 03 04 | materials unsuitable for consumption or processing | |
| 02 03 05 | sludges from on-site effluent treatment | |
| 02 05 02 | sludges from on-site effluent treatment | |
| 03 01 01 | waste bark and cork | |
| 04 02 22 | wastes from processed textile fibres | |
| 05 01 03* | tank bottom sludges | ✓ |

1 2 3 4 5 6 7 8 9 10 Page size: 10 100 items in 10 pages

## :ollection Areas

This permit holder is permitted to collect in

Cavan County

Donegal County

Dublin City

Dun Laoghaire-Rathdown

Fingal

# Appendix No. 11

# Extracts from Monaghan County Development Plan 2019 - 2025

# Monaghan
# Landscape Character Assessment

## Viewpoints

0 2.5 5 10 Kilometres

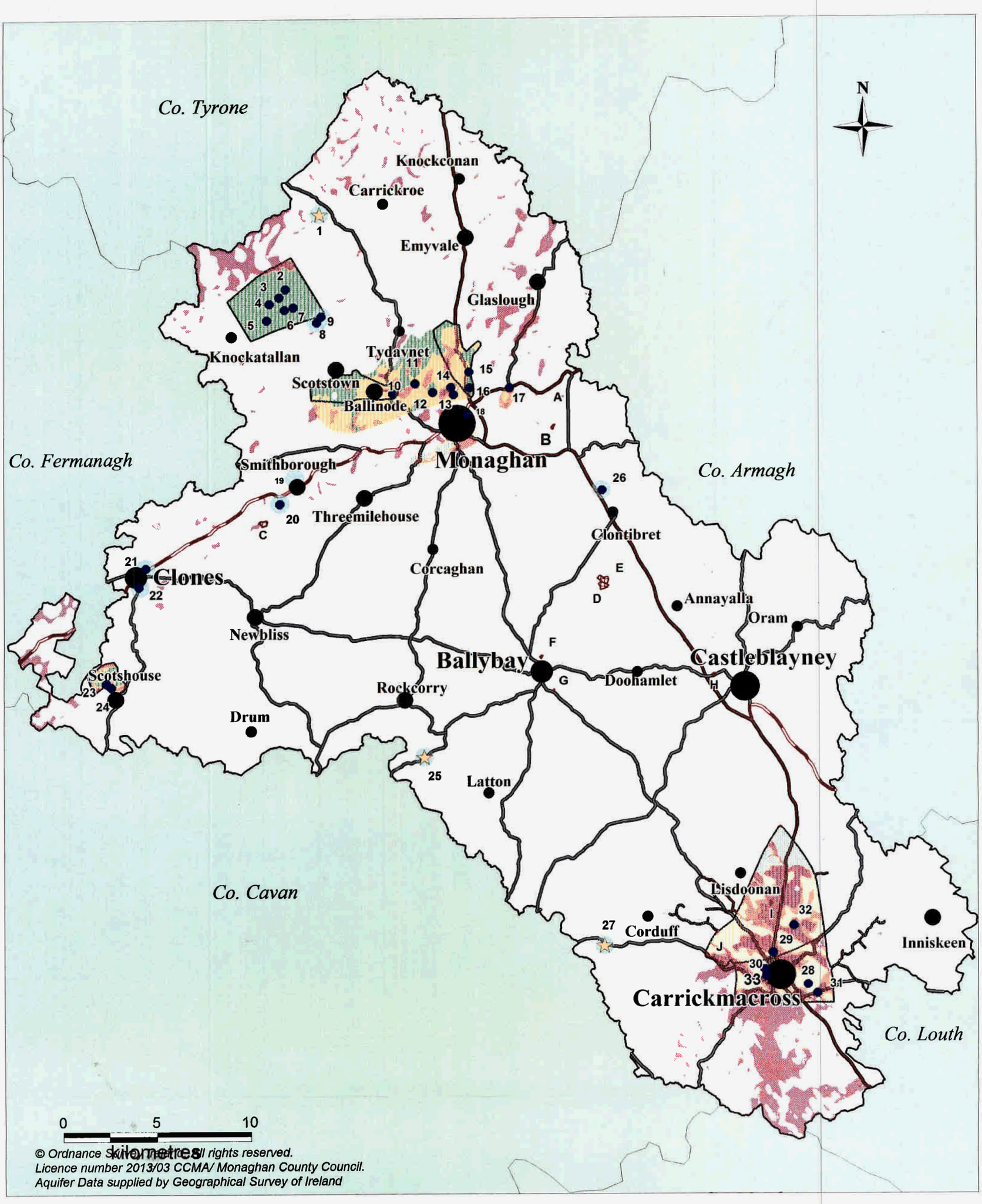
### Legend

- Views Photographed in Early Autumn (Full Leaf Cover)
- Views Photographed In Wintertime (Without Leaf Cover)

Landscape Character Areas

### Landscape Character Types

1. Blanket Bog
2. Drumlin Farmland
3. Drumlin Foothills
4. Farmed Foothills
5. Farmed Lakelands
6. Flat Riverine Farmland
7. River Valley Farmland
8. Undulating Farmland
9. Upland Bog with Afforestation
10. Upland Drumlin Farmland
11. Upland Farmland with Afforestation
12. Upland Farmland with Rock Outcrops
13. Upland Plateau
14. Urban

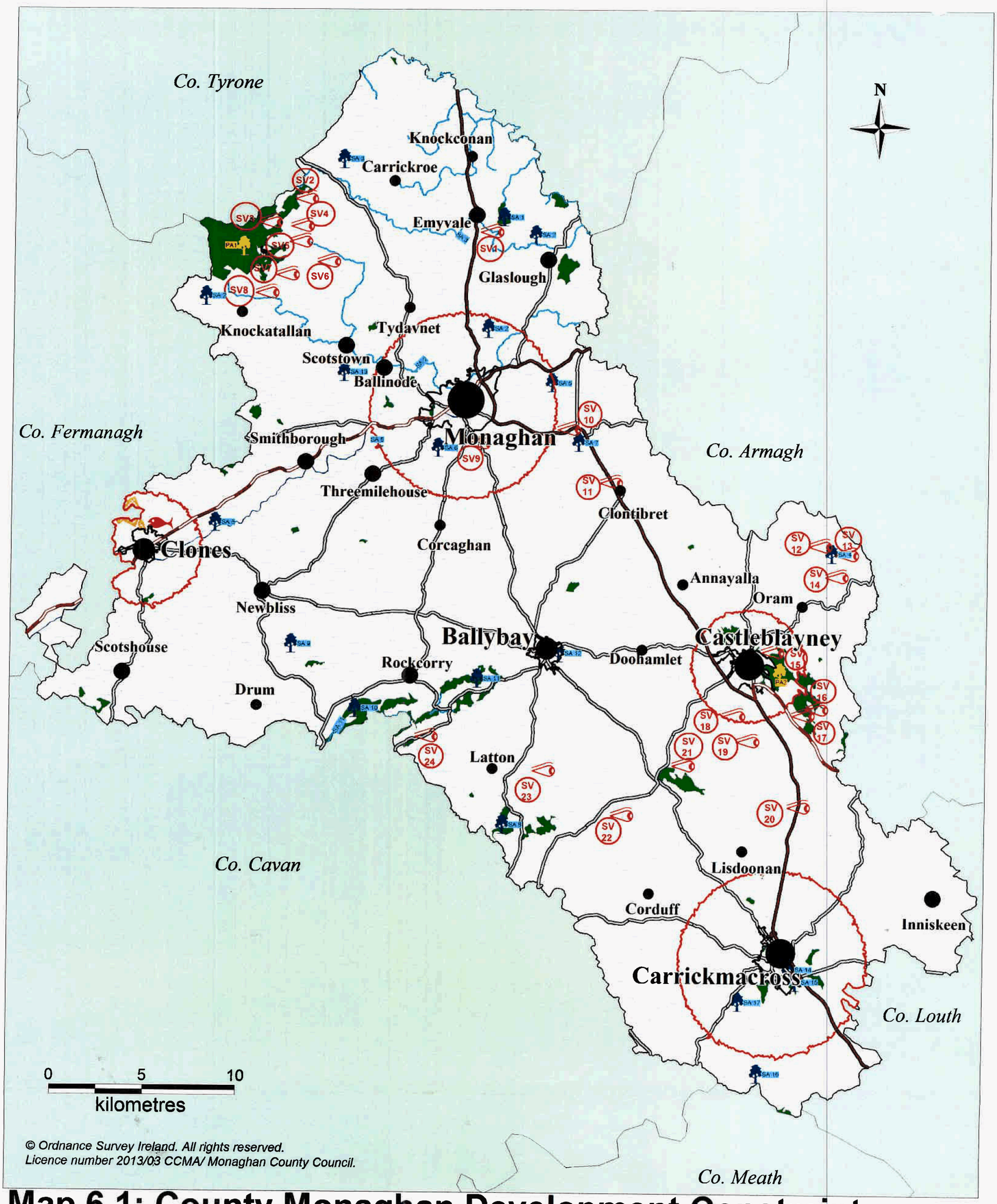



# Map 8.2: Sensitive Ground Waters & Landfills

## Monaghan County Development Plan 2019-2025

- Industrial/Commercial Water Supplies
- Ground Water Supply Sources
- Planning Alert Zones (500m)
- Closed Landfill Sites
- Outcrop/Shallow Rock
- Extreme Vulnerability overlying Regionally and Locally Important Acquifers
- High Acquifer Vulnerability
- Moderate Acquifer Vulnerability
- Low Acquifer Vulnerability
- Source Protection Zone

Monaghan County Council

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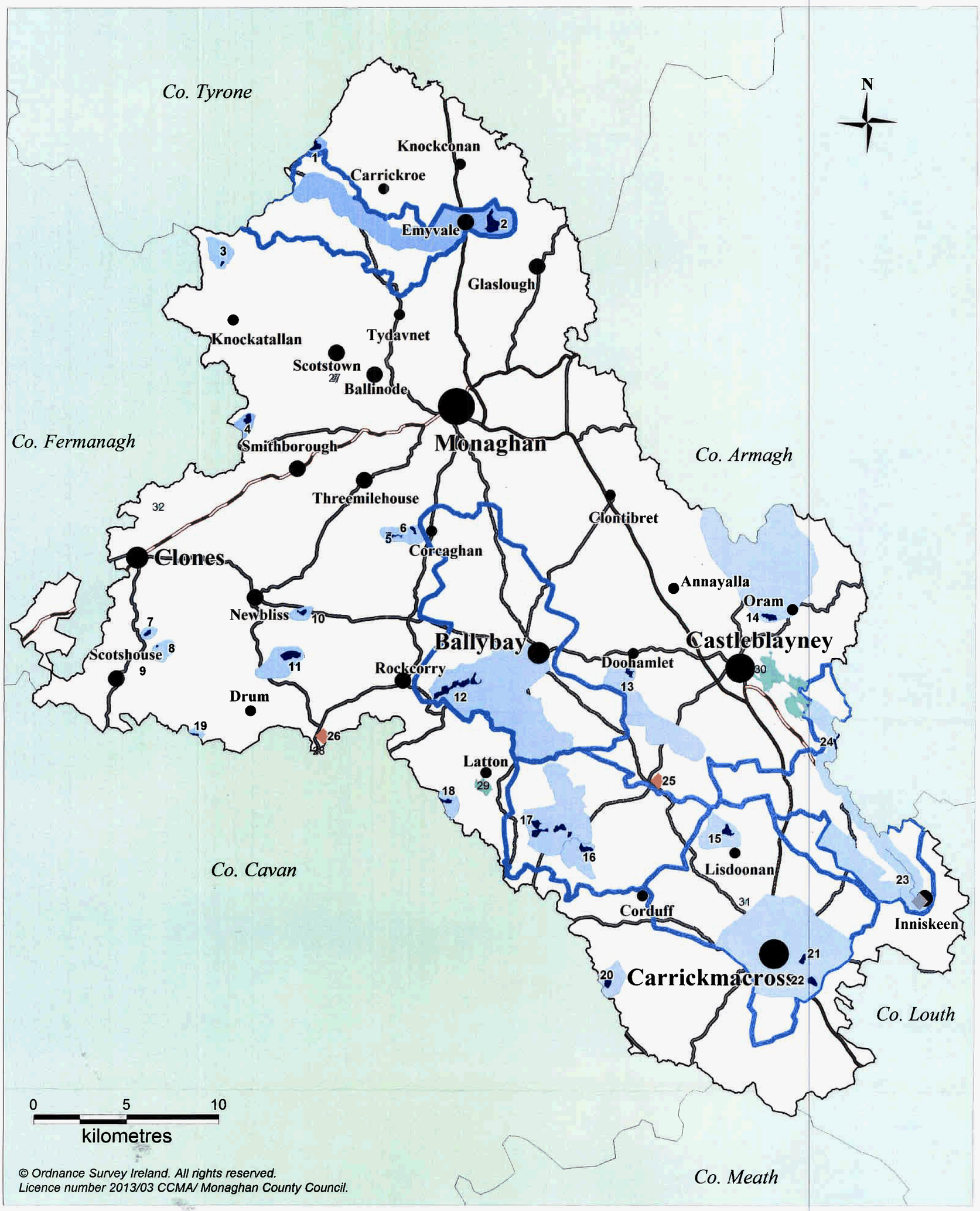
Licence number 2013/03 CCMA/ Monaghan County Council.

# Map 6.1: County Monaghan Development Constraints

## Monaghan County Development Plan 2019-2025

- National Primary Route
- National Secondary Route
- Regional Roads
- Ulster Canal
- Areas Under Strong Urban Influence
- Rivers
- Development Limits
- Special Area of Conservation (cSAC)
- Special Protection Area (SPA)
- Proposed Natural Heritage Areas (pNHA)
- Area of Primary Amenity Value
- Area of Secondary Amenity Value
- Towns/Villages
- Views from Scenic Routes

Monaghan County Council

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Licence number 2013/03 CCMA/ Monaghan County Council.

# Map 8.1: Sensitive Surface Waters

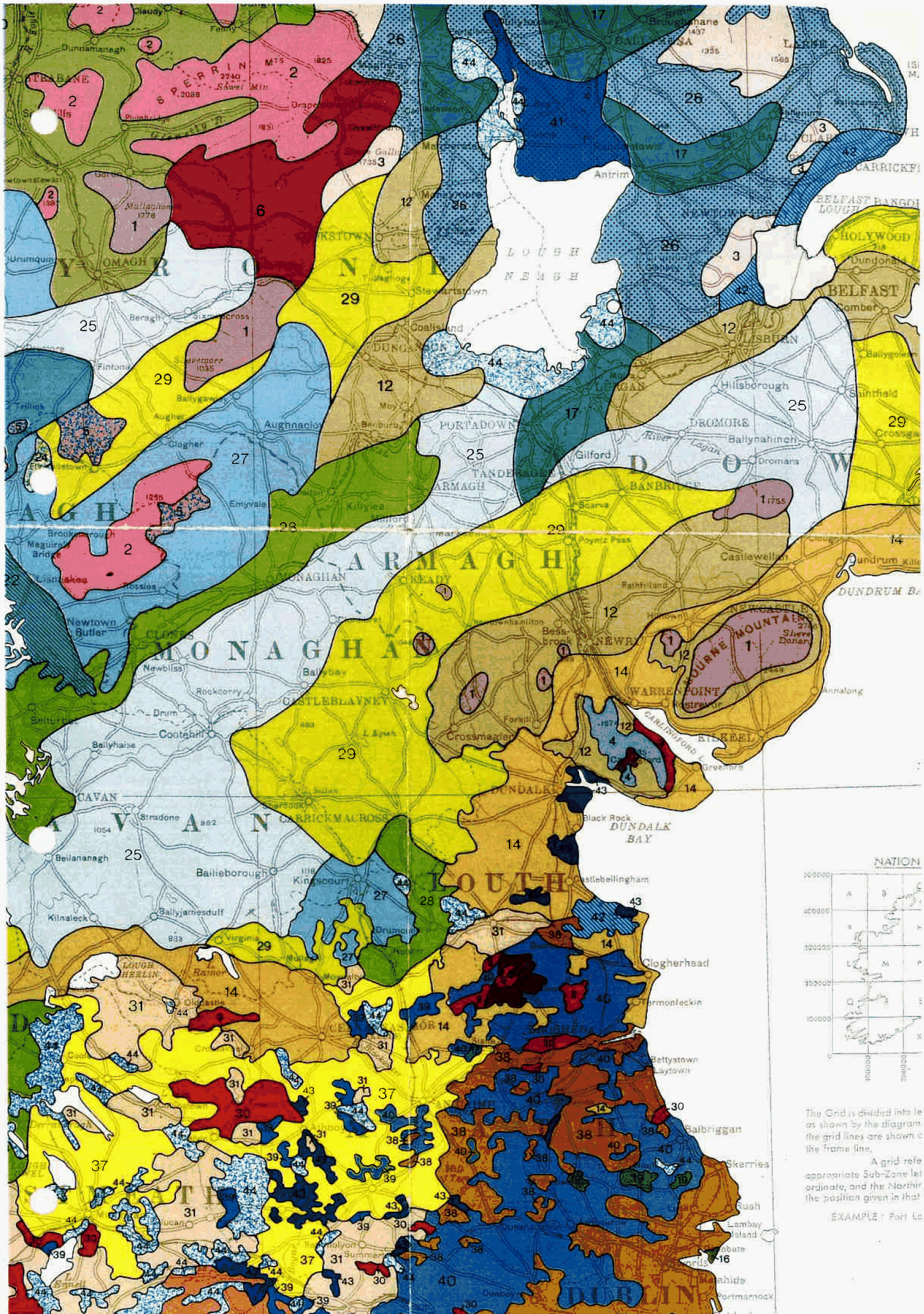
## Monaghan County Development Plan 2019-2025

- Public & Private Lake Sources
- Inner Catchment Areas
- Outer Catchment Areas
- Amenity/Bathing Areas
- River Water Supply Source
- Industrial Water Abstraction Points

Monaghan County Council

# Appendix No. 12

# Extract from General Soil Map of Ireland.


NATION
The Grid is divided into le
as shown by the diagram
the grid lines are shown c
the frame line.
A grid refe
appropriate Sub-Zone let
ordinate, and the Northir
the position given in that
EXAMPLE : Port La

Churchtown HOOK HEAD

7°

MAP COMPILATION: M.J.Gardiner and T.Radford.

Compiled from data supplied by:

Research Staff: M.Bulfin, M.J.Conry, E.Culleton, S.Diamond, T.F.Finch, M.J.Gardiner, R.F.Hammond, J.Kiely, M.Walsh.

Technical Staff: E.Brennan, P.J.Burke, A.Comey, P.Feeney, J.Hartigan, T.Martin, T.O'Shea, T.Radford.

Soils of Northern Ireland: S.McConaghy, V.McAllister.

Cartography: V.Staples, J.Lynch.

Except for soil number changes dictated by the enlarged legend, the soils information for Northern Ireland is the same as that on the first edition, 1969 and sanctioned by the Controller of H.M.Stationery Office. Smaller islands not surveyed.

| Broad Physiographic Divisions | Soil Association | | | Parent Material | Per cent of total area |
|---|---|---|---|---|---|
| | Nos. | Principal Soil | Associated Soils | | |
| Drumlin Wet Mineral and Organic Soils) | 25 | Gleys (50%)* | Acid Brown Earths (40%) Interdrumlin Peat and Peaty Gleys (10%) | Mostly Ordovician–Silurian shale sandstone glacial till | 2·57 3·66 |
| | 26 | Gleys (60)* | Acid Brown Earths (40) | Basalt glacial till | — 1·86 |
| | 27 | Gleys (85)* | Interdrumlin Peat and Peaty Gleys (15) | Mostly Upper Carboniferous limestone and shale–sandstone glacial till | 3·77 4·73 |
| Drumlin Drier Mineral and Organic Soils) | 28 | Grey Brown Podzolics (60) | Gleys (20), Interdrumlin Peat and Peaty Gleys (20) | Mostly limestone glacial till | 3·43 3·23 |
| | 29 | Acid Brown Earths (75) | Interdrumlin Peat and Peaty Gleys (25) | Mostly Ordovician–Silurian shale–glacial till | 1·16 2·73 |
| Flat to Undulating Lowland Mainly dry Mineral Soils) | 30 | Grey Brown Podzolics (70) | Brown Earths (20) Gleys (5) Basin Peat (5) | Limestone morainic gravels and sands | 2·64 2·18 |
| | 31 | Minimal Grey Brown Podzolics (80) | Gleys(10) Brown Earths(5) Basin Peat (5) | Limestone glacial till | 4·47 3·70 |
| | 32 | Degraded Grey Brown Podzolics (50) | Peat(15) Brown Earths(15 Gleys (10), Podzols (10) | Mostly limestone glacial till | 3·08 2·56 |
| | 33 | Shallow Brown Earths and Rendzinas (60) | Grey Brown Podzolics(25) Gleys (10) Peat (5) | Limestone till, shallow in places | 3·21 2·66 |
| | 34 | Minimal Grey Brown Podzolics (70) | Gleys (20) Brown Earths (10) | Limestone glacial till | 6·02 4·98 |
| | 35 | Grey Brown Podzolics (80) | Gleys (10), Brown Earths (10) | Stony limestone glacial till | ·64 ·53 |
| | 36 | Grey Brown Podzolics (80) | Gleys (20) | Limestone gravelly till | ·70 ·58 |
| | 37 | Grey Brown Podzolics (75) | Gleys (20), Brown Earths (5) | Limestone and shale glacial till | 1·42 1·18 |
| | 38 | Grey Brown Podzolics (75) | Gleys (25) | Till of Irish Sea origin with limestone and shale | 1·14 ·95 |
| Flat to Undulating Lowland Mainly wet Mineral and Organic Soils) | 39 | Gleys** (90) | Grey Brown Podzolics (10) | Limestone glacial till | 3·27 2·86 |
| | 40 | Gleys* (80) | Grey Brown Podzolics (20) | Till of Irish Sea origin with limestone and shale | 2·07 1·56 |
| | 41 | Gleys* (75) | Acid Brown Earths (15) Peaty Gleys (10) | Basalt glacial till | — ·22 |
| | 42 | Gleys* (90) | Grey Brown Podzolics (10) | Glacial muds of Irish Sea origin | ·49 ·61 |
| | 43 | Gleys (60) | Brown Earths (20) Peaty Gleys (20) | Alluvium | 1·34 1·15 |
| | 44 | Basin Peat | | | 5·79 5·08 |

Prepared and published by the National Soil Survey, An Foras Taluntais.

6 7 8 9 X Y 1 2 3 4 5 6

Copies of this map and bulletin available from Publications Section, An Foras Taluntais, 19 Sandymount Avenue, Dublin 4.

# Appendix No. 13

# Local Water Quality Data

Environmental Protection Agency

# EPA RIVER QUALITY SURVEYS: BIOLOGICAL

**Biotic indices ("Q Values") reflect average water quality at any location as follows:**

| Q Value* | WFD Status | Pollution Status | Condition ** |
|---|---|---|---|
| Q5, Q4-5 | High | Unpolluted | Satisfactory |
| Q4 | Good | Unpolluted | Satisfactory |
| Q3-4 | Moderate | Slightly polluted | Unsatisfactory |
| Q3, Q2-3 | Poor | Moderately polluted | Unsatisfactory |
| Q2, Q1-2 | Bad | Seriously polluted | Unsatisfactory |

* These Values are based primarily on the relative proportions of pollution sensitive to tolerant macroinvertebrates (the young stages of insects primarily but also snails, worms, shrimps etc.) resident at a river site. The intermediate values (Q1-2, 2-3, 3-4 etc.) denote transitional conditions. The scheme mainly reflects the effects of organic pollution (i.e. de-oxygenation and eutrophication) but where a toxic effect is apparent or suspected the suffix '0' is added to the biotic index (e.g. Q1/0, 2/0 or 3/0). An asterisk after the Q value (e.g. Q3*) indicates something worthy of special attention, typically heavy siltation of the substratum.

** "Condition" refers to the likelihood of interference with beneficial or potential beneficial uses.

Also presented is a description of the exact location surveyed with relevant OS Grid Reference, WFD river water body code and relevant Local Authority.

# Hydrometric Area 03

| Name | Code |
|---|---|
| BLACKWATER (MONAGHAN) | 03B01 |
| CLONTIBRET STREAM | 03C01 |
| CONAWARY (LOWER) | 03C02 |
| MOUNTAIN WATER | 03M01 |
| SCOTSTOWN | 03S02 |
| SHAMBLES | 03S01 |
| SIX MILE LAKE STREAM | 03S03 |

## BLACKWATER (MONAGHAN)

**03B01**

**Date Surveyed (last survey year only):** 13/09/17, 14/09/17, 31/08/17

### Biological Quality Rating (Q Values)

| Station Code | 1973 | 1977 | 1981 | 1983 | 1985 | 1989 | 1993 | 1996 | 1998 | 2001 | 2004 | 2007 | 2010 | 2013 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RS03B010050 | | | | | | 3 | | | | | | | | | |
| RS03B010090 | | | | | | 3-4 | | | | | | | | | |
| RS03B010100 | 4-5 | 4-5 | 4-5 | 3-4 | 3-4 | | | | | | | | | | |
| RS03B010130 | | | | | | 3-4 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 |
| RS03B010200 | 3-4 | 3-4 | 4 | 3-4 | 3-4 | | | | | | | | | | |
| RS03B010300 | 4 | 3-4 | 4 | 4 | 3-4 | 3-4 | 4 | 4 | 4 | 4 | 4 | 3-4 | 3-4 | 4 | 4 |
| RS03B010400 | 4 | 3-4 | 4 | 3-4 | 3-4 | 3-4 | | | | | | | | | |
| RS03B010500 | 4 | 3-4 | 4 | 3-4 | 3-4 | | | | | | | | | | |
| RS03B010510 | | | | | | 3 | 3 | 3-4 | 3 | 3 | 3-4 | 3-4 | 3-4 | 4 | 4 |
| RS03B010580 | | | | | | 3 | | | | | | | | | |
| RS03B010600 | 3 | 2 | 3 | 2-3 | 3 | 2-3 | 3 | | | | | | | | |
| RS03B010650 | | | | | | 2-3 | | 2-3 | 3 | 3/0 | 3 | 3 | 3 | 3-4 | 3-4 |
| RS03B010700 | 3 | 3 | 2-3 | 2-3 | 2-3 | 2-3 | 3 | | | | | | | | |
| RS03B010800 | 3-4 | 3-4 | 3 | 3 | 3 | 3 | 3 | 2-3 | 3 | 3 | 3 | 3 | 3 | 3-4 | 3-4 |

**Most Recent Assessment:**

The Blackwater (Monaghan) was generally in good condition in its upper and middle reaches (0130, 0300 and 0510), with the improvements noted in 2013 being maintained. The two lower sites, while not yet in satisfactory condition, also maintained the improvement in quality noted in 2013. A combination of agriculture and municipal waste pressures are the likely issues in the lower reaches before it joins the River Cor in Northern Ireland.

## Station Details

| Station Code | Station Location | WFD Waterbody Code | Easting | Northing | Local Authority |
|---|---|---|---|---|---|
| RS03B010050 | BLACKWATER (MONAGHAN) - Br E of Knockatallen* | IE_NB_03B010130 | 257528 | 338745 | Monaghan County Council |
| RS03B010090 | BLACKWATER (MONAGHAN) - Br N of Gola* | IE_NB_03B010130 | 258735 | 337345 | Monaghan County Council |
| RS03B010100 | BLACKWATER (MONAGHAN) - Br 1 km u/s Scotstown* | IE_NB_03B010130 | 260205 | 337086 | Monaghan County Council |
| RS03B010130 | 1.5km d/s Scotstown Br. | IE_NB_03B010130 | 261394 | 335942 | Monaghan County Council |
| RS03B010200 | BLACKWATER (MONAGHAN) - Br in Ballinode | IE_NB_03B010300 | 262919 | 335810 | Monaghan County Council |
| RS03B010300 | 1st Br d/s Ballinode | IE_NB_03B010300 | 263807 | 335774 | Monaghan County Council |
| RS03B010400 | BLACKWATER (MONAGHAN) - Br at Crosses | IE_NB_03B010510 | 265562 | 335745 | Monaghan County Council |
| RS03B010500 | BLACKWATER (MONAGHAN) - Br nr Milltown | IE_NB_03B010510 | 266383 | 334653 | Monaghan County Council |
| RS03B010510 | 250m d/s Br nr Milltown | IE_NB_03B010510 | 266597 | 334547 | Monaghan County Council |
| RS03B010580 | BLACKWATER (MONAGHAN) - Br NE of Blackwater Vale | IE_NB_03B010800 | 267505 | 335228 | Monaghan County Council |
| RS03B010600 | BLACKWATER (MONAGHAN) - Br on Monaghan-Aughnacloy Rd | IE_NB_03B010800 | 267515 | 335243 | Monaghan County Council |
| RS03B010650 | Faulkland Br (Upr) | IE_NB_03B010800 | 269181 | 337024 | Monaghan County Council |
| RS03B010700 | BLACKWATER (MONAGHAN) - Faulkland Br | IE_NB_03B010800 | 270280 | 337836 | Monaghan County Council |
| RS03B010800 | Newmills Br | IE_NB_03B010800 | 271895 | 338765 | Monaghan County Council |

# Appendix No. 14

# Met Data

| Clones 1978–2007 averages | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TEMPERATURE (degrees Celsius)** | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| mean daily max | 7.2 | 7.8 | 9.7 | 12.1 | 15.1 | 17.4 | 19.2 | 18.8 | 16.6 | 13.1 | 9.8 | 7.6 | 12.9 |
| mean daily min | 1.6 | 1.6 | 3.0 | 4.2 | 6.5 | 9.5 | 11.4 | 11.1 | 9.2 | 6.6 | 3.9 | 2.3 | 5.9 |
| mean temperature | 4.4 | 4.7 | 6.4 | 8.1 | 10.8 | 13.4 | 15.3 | 15.0 | 12.9 | 9.9 | 6.8 | 5.0 | 9.4 |
| absolute max. | 14.8 | 16.3 | 16.9 | 21.5 | 25.9 | 29.3 | 30.5 | 28.3 | 25.3 | 20.1 | 16.9 | 14.8 | 30.5 |
| min. maximum | -3.8 | -0.4 | 2.3 | 0.0 | 0.0 | 10.1 | 10.7 | 11.3 | 10.7 | 6.2 | 1.6 | -5.7 | -5.7 |
| max. minimum | 12.0 | 11.3 | 11.0 | 12.1 | 13.4 | 16.9 | 18.7 | 18.0 | 17.1 | 15.4 | 12.7 | 12.6 | 18.7 |
| absolute min. | -12.4 | -7.3 | -6.8 | -3.8 | -3.7 | 1.6 | 4.6 | 3.5 | 0.2 | -4.5 | -5.4 | -11.0 | -12.4 |
| mean num. of days with air frost | 9.4 | 8.5 | 5.0 | 2.5 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 4.2 | 7.4 | 38.4 |
| mean num. of days with ground frost | 17.0 | 15.0 | 13.0 | 11.0 | 6.0 | 1.0 | 0.0 | 0.0 | 2.0 | 5.0 | 12.0 | 15.0 | 97.0 |
| mean 5cm soil | 3.5 | 3.6 | 5.2 | 8.1 | 12.1 | 14.9 | 16.4 | 15.6 | 12.8 | 9.3 | 6.2 | 4.4 | 9.4 |
| mean 10cm soil | 4.0 | 4.0 | 5.3 | 7.7 | 11.1 | 14.0 | 15.6 | 15.1 | 12.7 | 9.6 | 6.7 | 4.9 | 9.2 |
| mean 20cm soil | 4.6 | 4.6 | 6.0 | 8.1 | 11.3 | 14.0 | 15.7 | 15.5 | 13.5 | 10.6 | 7.6 | 5.6 | 9.8 |
| **RELATIVE HUMIDITY (%)** | | | | | | | | | | | | | |
| mean at 0900UTC | 89.9 | 88.7 | 86.6 | 81.8 | 77.4 | 78.8 | 81.7 | 84.6 | 87.3 | 89.3 | 90.8 | 90.9 | 85.7 |
| mean at 1500UTC | 83.3 | 77.3 | 72.9 | 67.5 | 66.5 | 68.7 | 69.6 | 71.2 | 72.8 | 77.3 | 82.5 | 85.9 | 74.6 |
| **SUNSHINE (hours)** | | | | | | | | | | | | | |
| mean daily duration | 1.5 | 2.2 | 3.0 | 4.6 | 5.6 | 4.6 | 4.4 | 4.2 | 3.6 | 2.8 | 1.8 | 1.2 | 3.3 |
| greatest daily duration | 7.5 | 9.8 | 11.0 | 13.1 | 15.5 | 16.0 | 15.2 | 14.4 | 12.0 | 9.6 | 8.5 | 6.9 | 16.0 |
| mean num. of days with no sun | 12.1 | 8.3 | 6.0 | 3.8 | 2.2 | 2.6 | 2.2 | 2.8 | 4.0 | 6.9 | 10.3 | 13.2 | 74.3 |
| **RAINFALL (mm)** | | | | | | | | | | | | | |
| mean monthly total | 87.6 | 71.0 | 84.0 | 61.6 | 63.4 | 70.9 | 70.8 | 88.7 | 76.2 | 102.7 | 85.1 | 98.4 | 960.4 |
| greatest daily total | 30.0 | 26.9 | 34.0 | 23.5 | 37.7 | 38.1 | 50.3 | 74.6 | 27.1 | 43.8 | 33.1 | 31.9 | 74.6 |
| mean num. of days with >= 0.2mm | 20 | 17 | 20 | 16 | 16 | 17 | 18 | 18 | 18 | 20 | 19 | 19 | 218 |
| mean num. of days with >= 1.0mm | 15 | 12 | 15 | 12 | 12 | 12 | 13 | 13 | 13 | 15 | 14 | 15 | 161 |
| mean num. of days with >= 5.0mm | 6 | 5 | 6 | 4 | 4 | 5 | 4 | 5 | 5 | 7 | 6 | 7 | 64 |
| **WIND (knots)** | | | | | | | | | | | | | |
| mean monthly speed | 9.2 | 9.4 | 9.4 | 7.9 | 7.2 | 6.7 | 6.3 | 6.3 | 7.0 | 7.8 | 8.2 | 8.7 | 7.8 |
| max. gust | 70 | 81 | 69 | 61 | 53 | 50 | 53 | 49 | 57 | 62 | 60 | 72 | 61.4 |
| max. mean 10-minute speed | 46 | 51 | 41 | 34 | 35 | 31 | 30 | 29 | 37 | 37 | 35 | 44 | 37.5 |
| mean num. of days with gales | 0.6 | 0.4 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.4 | 2.2 |
| **WEATHER (mean no. of days with..)** | | | | | | | | | | | | | |
| snow or sleet | 4.9 | 4.7 | 3.8 | 1.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 2.6 | 18.0 |
| snow lying at 0900UTC | 2.8 | 1.1 | 0.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 1.2 | 6.2 |
| hail | 0.8 | 1.6 | 2.8 | 2.3 | 1.3 | 0.1 | 0.1 | 0.0 | 0.1 | 0.6 | 0.4 | 0.8 | 10.8 |
| thunder | 0.1 | 0.1 | 0.1 | 0.1 | 0.8 | 1.0 | 0.5 | 0.8 | 0.1 | 0.1 | 0.0 | 0.1 | 3.8 |
| fog | 3.7 | 3.6 | 2.1 | 2.2 | 1.5 | 1.3 | 1.6 | 2.9 | 4.0 | 3.5 | 4.0 | 4.4 | 34.8 |

# Appendix No. 15

# Dept. of Agriculture – Minimum Specification for Screening belts for Farmyards and Farm Buildings – S 135

AN ROINN TALMHAÍOCHTA, IASCAIGH AGUS BIA
DEPARTMENT OF AGRICULTURE, FISHERIES AND FOOD

S 135
November 2008

# MINUMUM SPECIFICATION FOR SCREENING BELTS AND SHELTER BELTS FOR FARMYARDS AND FARM BUILDINGS

The receiving of this specification does not imply approval of a grant application. However, if written approval is issued, then this specification becomes part of the contract between the applicant and the Department of Agriculture, Fisheries and Food.

This is a minimum specification. Where the word "SHALL" is used, then that standard (at least) must be followed in grant-aided buildings. Where a procedure is "RECOMMENDED", this is advice only on good practice.

Note that all references to other Department Specifications are to the current edition of that specification [available on the Department of Agriculture, Fisheries and Food Website (www.agriculture.gov.ie) under Farm buildings]. Similarly, references to Standards are to the current edition of the Irish, British or European Standard, as appropriate.

This specification describes the installation and maintenance of trees to screen or shelter a single farm building, or collection of buildings. **Screening** belts refer to rows or groups of trees planted to hide obtrusive buildings, or to soften their impact, particularly in scenic landscapes. **Shelter** belts may also screen buildings, but have the particular purpose of moderating strong winds around buildings and farmyards.

## 1. Safety

### *APPLICANT'S RESPONSIBILITY FOR SAFETY*

Applicants are reminded that they have a duty under the Safety, Health, and Welfare at Work Act 2005 to provide a safe working environment on the farm, including farm buildings, for all people who may work on that farm. There is a further duty to ensure that any contractor, or person hired to do building work, provides and/or works in a safe environment during construction. It is the farmer's responsibility to provide a construction stage project supervisor.

### *SAFETY DURING CONSTRUCTION*

**Farmer/Applicant Responsibility:** Certain construction dangers may be encountered in the course of building or conversion work. Neither the Minister or any official of the Department will be in any way liable for any damage, loss or injury to persons, animals or property in the event of any occurrence related to the development and the applicant shall fully indemnify the Minister or any official of the Minister in relation to any such damage, loss or injury howsoever occurring during the development works.

**Dangers**: If any or all of the work is undertaken by the applicant/farmer he/she should seek competent advice and undertake all temporary work required to ensure the stability of excavations, superstructure, stanchion foundations and wall foundations,

also to divert any drains, springs or surface water away from the works, and to guard against possible wind damage, or any other foreseeable risk.

**Power lines**: Farm buildings shall not be constructed under or nearer than 10m to an overhead power supply. If advice is required, or if power lines need to be diverted, it is the applicant's responsibility to contact, in writing, the local ESB supervisor before construction commences, and then to follow the ESB conditions.

**Danger to children**: It is the applicant's responsibility to prevent children from playing or spending time in the vicinity of any building work.

## 2. Design and Layout of Screening Belts

Factors which influence the layout and the design of a **screening belt** are:-

- The direction from which obtrusive buildings have the greatest impact. This would frequently be the public road, but could also be a scenic viewing place, a neighbouring house or houses, or even the applicant's farmhouse.
- The fact that buildings are on a height or on a ridge making them highly visible from a distance.
- The likely future development of the farmyard:
  Trees should not block any obvious or useful sites for possible new buildings.
- Possible root damage to structures. Trees should be set about 20 metres or more from buildings, yards, concrete tanks, silos, etc.
- Buildings on adjoining property. No belts of trees should be planted within 30 metres of neighbouring dwellings or farm buildings.

When trying to soften the impact of obtrusive buildings it is not necessary to surround buildings or yards completely. One or two stands of reasonably tall trees can entirely change the appearance of a farmyard, and integrate it into the landscape, even if some buildings remain visible.

A single row of trees is not an effective screen, and usually looks unnatural. Two to three rows of trees should normally be planted, though informal groups of trees can be just as effective. Very long straight lines of trees should, where possible, be avoided by introducing curves or breaks.

## 3. Design and Layout of Shelter Belts

Factors which influence the design and layout of a **shelter belt** are:-

- The direction of prevailing winds, and of winds, which are particularly strong because of "funnelling" along valleys or around hills.
- The position of buildings or structures, which particularly need shelter (calf or sheep houses, animal yards, etc.)
- Future development of the farm, and distance from existing buildings or neighbouring buildings, as above.

Shelter belts work best when they allow about 50% of the wind to pass through. The wind should be slowed rather than blocked as for instance, by Lawson Cypresses which simply cause turbulence. A mixture of species including spruces, pines, firs, and broad leaves will provide a naturally porous belt, providing good shelter.

Shelter belts should have about five or six rows of trees, though ten or more rows may be necessary where winds are very strongly funnelled. To be effective, shelter belts should extend in both directions well beyond the line of the structure(s) they are protecting.

Unless protection from strong south winds is essential, the area directly to the south of the building(s) should not be planted to ensure adequate sun and light.

## 4. Site Preparation

The site should be cleared of any scrub and furze and graded to blend with the immediate surroundings. As young trees establish more easily with some initial protection, all existing barriers such as hedges and stone walls should be retained, where possible.

## 5. What to Plant

The choice of species will be based on the following considerations:-

1. The suitability of different species for physical conditions on the site, i.e. -soil type, drainage, exposure etc.
2. The suitability of different species for the landscape. In general deciduous trees are more appropriate than most evergreens. Very narrow tall evergreens (Leyland and Lawson Cypresses) should not be used. They draw attention to buildings and look alien in the Irish landscape. The best indicator of the most suitable species for an area are the trees already grown there successfully and look well (see appendix attached).
3. For both screening and shelter a mixture of species is recommended. Generally one species should predominate at about, 60-70% of planting, with one or two other species, grouped irregularly, providing the remainder. A mixture of too many species should be avoided, as should the use of different species placed in a regular alternating pattern in a long row.

## 6. When to Plant

Planting is carried out when the trees are dormant from October to April. Autumn planting is preferred for deciduous trees, while Spring planting March/April is best for evergreens.

## 7. Handling and Planting

Ensure that all preparatory work is completed before the trees are delivered. Tree roots must never be allowed dry out. Weather permitting; planting should commence immediately the trees arrive.

## 8. Pit Planting

This method is used on dry mineral soils. The young tree is inserted in a hole 150mm x 150mm x 150mm to the depth it was in the nursery soil. The roots should be teased prior to careful back-filling.

## 9. Ploughing and Mounting

Here planting is done by making a slit on the inverted sod/ribbon and inserting the tree so that the roots are between the two grass layers.

## 10. Spacing

Trees are spaced at two metres apart each way. This works out at 2,500 trees per hectare.

## 11. Fertilizer

Areas enclosed as fields and previously used for intensive farming normally require no further fertilizer. Other poorer areas may require a dressing of 400 kg/ha of rock phosphate. Some midland sites may require 200kg/ha of potash. A top dressing of nitrogen is beneficial to sitka spruce as growth rate is slow.

## 12. Fencing

All stock must be completely excluded from the new plantings. Fences must conform to specification S148. They should be kept close to the edge of the plantation to reduce their obtrusive impact on the landscape. In order to protect the young trees the fence should consist of a minimum of three strands of barbed wire plus one metre high sheep wire.

## 13. Maintenance of Screening Belt

It is essential to control growth of grass and weeds around the young trees during the first four years. Unchecked vegetation growth will result in poor tree establishment. Grass and weeds can be controlled by treading or by the use of suitable herbicides. Failures should be replaced each year.

**Note:** Herbicides shall not be used in close proximity to watercourses, field margins or wildlife habitats.

## 14. Minimum and Maximum Planting Areas

This specification refers **only** to the screening or shelter of farm buildings and farmyards.

The **minimum** area of planting for which this specification shall be used is 0.2ha. The **maximum** area that will be grant-aided is 2ha.

Shelter belts to protect herds or crops, or other forestry plantings on the farm, come under the responsibility of the Forest Service of this Department.

General Guide to Tree Species for Irish Farm Conditions

## NATIVE BROADLEAVES

| SPECIES | OPTIMUM SITE | CHARACTERISTICS | TIMBER QUALITY | REMARKS |
|---|---|---|---|---|
| Pedunculate Oak *Quercus Robur* | Well-aerated deep fertile loams. Will do well on heavier soils | Slow growing, long lived tree once the climax vegetation over most of the country | Very high quality timber suitable for many uses. Subject to timber defects when grown on adverse soils | Major forest species. One of our few native broadleaved trees. Very high amenity value |
| Sessile Oak *Quercus Petraea* | Tolerates less rich and lighter textured soils than *Q. robur* | Oaks will not produce good timber on excessively drained or sandy soils | Reputedly slightly better timber than *Q. robur* but site should determine choice | Major forest species. Native to Ireland. Now designated as Irish national tree |
| Ash *Fraxinus Excelsior* | A very exacting species demanding good soil conditions, preferably sheltered, moist well-drained fertile loam soils | A fast growing species regarded as not being suitable for large scale planting | Very high quality timber. Suitable for veneer, furniture and implement handles. High shock resistance | Major forest species. Native tree. Its wide distribution belies the difficulty in producing good quality timber |
| Wild Cherry *Prunus Avium* | Fertile deep well-drained mineral soils. Preference for slightly acid soils but will do well on deep loams over limestone | Fast growing, light demanding, requiring considerable space. The only commercial broadleaved tree with attractive blossoms | Produces one of the most valuable furniture and veneer timbers with a reddish brown sheen. Also used for quality turnery products | Major forest species. Native tree. High quality timber production requires good silvicultural management. A very good farm forestry tree. May suffer from bacterial canker and aphid attack |
| Alder *Alnus spp* | Common alder is a very hardy accommodating species suitable for wet sites. Good wildlife species. Grey and Italian alders will tolerate and grow well on drier sites. Italian alder is has a preference for more alkaline sites | Fast growing nitrogen fixing tree. Suitable broadleaf for even the wettest sites | Durable general purpose timber with a course texture. Less used in recent times | Minor forest species. Common Alder is a native tree. Coppices freely and can be used in mixtures on very infertile sites. Valuable shelter tree |
| Birch *Betula spp* | Pioneer species suited to very acid soils and peats | Fast growing, hardy species, withstands exposure and frost well. Useful as a nurse crop in mixtures but must be kept under control or it will smother a slower growing tree species | Not regarded as a timber tree in Ireland. Is used for pulp in Scandinavia | Minor forest species. Native tree. Young trees coppice freely. May be used as a soil improver. Can be mixed into shelterbelts |
| Willow *Salis spp* | Useful species for wet sites and streamsides | Fast growing useful for conservation and amenity but rarely for timber production. Willow can be used in a variety of ways as a shelterbelt system | Willow rods are regularly used for basket-making and decorative craftwork | Minor forest species. Native tree. Willow is currently being intensively studies as a suitable species for Short Rotation Forestry (Biomass) as an energy source |
| Whitebeam *Sorbus Aria* | Most fertile mineral soils | Attractive amenity tree also suitable for shelter | Not a timber tree | Minor forest species. Native tree. Tolerant of exposed and coastal sites |
| Rowan *Sorbus Aucuparia* | Suitable for lowland and hill acidic sites. Will tolerate even alkaline sites | Hardy tree suitable for exposed sites. Widely used amenity tree | Not a timber tree | Minor forest species. Native tree. Offers good support for wildlife |

## NON-NATIVE BROADLEAVES

| SPECIES | OPTIMUM SITE | CHARACTERISTICS | TIMBER QUALITY | REMARKS |
|---|---|---|---|---|
| Beech<br>*Fagus Sylvatica* | Well drained, loamy, fertile soils with a preference for soils derived mainly from limestone | Tolerant of shade when young. Creates dense shade and suppresses ground vegetation as it reaches maturity | Excellent timber. Wide range of uses including veneer, furniture, flooring and panelling | Major forest species. Non-native tree. Benefits from a nurse on exposed sites. Useful for under-planting. Grey squirrels can be very destructive particularly to young beech |
| Sycamore<br>*Acer Pseudoplatanus* | Prefers a moderately fertile free draining soil. Tolerant of calcareous soils | Fast growing tree that seeds easily. Withstands exposure and smoke pollution very well | Tough, durable, white timber with a range of uses. Figured sycamore is much sought after for veneer and furniture manufacture | Major forest species. Non-native tree. Grey squirrels can be very harmful. A windfirm tree. Rich in wildlife value. Valuable for shelter |
| Poplars<br>*Populus*<br>Hybrid clones | Very exacting species requiring deep, well drained moderately fertile sites | Very fast growing, light demanding tree. Some species susceptible to bacterial canker, select disease resistant clones only | Light hardwood timber with many uses. Suitable for veneer, furniture, joinery, plywood, palletwood and fruit boxes | Potentially major forest species. Non-native tree. Offers great prospects as Short Rotation Forestry species for pulpwood, paper and particle board |
| Red Oak<br>*Quercus Rubra* | Grows well on poor sandy soils | A fast growing tree, less suited to heavy soils | Yields good pale reddish brown timber, straight grained and easy to cleave but not quite so strong as Q.robur | Minor forest species. Non-native tree. High amenity because of its red and russet colours in the autumn |
| Horse Chestnut<br>*Aesculus Hippocastanum* | Thrives on all except waterlogged sites but has a preference for fertile soils | An excellent amenity tree used mainly for avenues or as a specimen tree | Timber is soft, weak and of limited use | Minor forest species. Non-native tree |
| Walnut<br>*Juglans spp* | Deep, well drained, loam textured, moderately fertile soil. Suitable for well sheltered sites with a southerly aspect | J. nigra grows somewhat faster than J. regia but timber may not be as highly figured. Worth pruning to give a clean stem | Strong, tough elastic, high value timber. Valuable decorative timber much used for furniture and veneer | Potentially major forest species. Non-native tree. Abnormal growths called "burr walnut" are much sought after for veneer, an example of diseased or malformed wood being more valuable than healthy timber |
| Lime<br>*Tilia spp* | Grows on a wide range of sites, but prefers moist fertile limestone soils | Relatively fast growing. Suitable for planting as an amenity tree. Attracts swarms of aphids in summertime causing sticky "honeydew" to cover foliage that drips off to ground vegetation | A very soft, light, white or yellow timber of limited use, although can be used for turnery and wood carving | Minor forest species. Non-native tree. Tree flowers are strongly scented and a great attraction for many insects and a rich source of nectar for bees |
| Norway Maple<br>*Acer Platanoides* | Prefers a deep, moist, alkaline soil. Tolerates less fertile and drier sites than sycamore. Avoid exposed sites and frost hollows | Fast growing tree when young. An attractive amenity tree. Greenish yellow flower makes a beautiful sight in early spring. Brilliant red, green and gold coloured leaves in the autumn | Same as sycamore and used for similar purposes, but slightly inferior and not as attractively grained | Minor forest species. Non-native tree. Grey squirrel can be very damaging |

## CONIFERS

| SPECIES | OPTIMUM SITE | CHARACTERISTICS | TIMBER QUALITY | REMARKS |
|---|---|---|---|---|
| Silka Spruce<br>*Picea Sitchensis* | Prefers wet mineral soils and peats with previous agricultural use. Well suited to high rainfall areas. quite tolerant of exposed sites | Very fast growing tree. Avoid low rainfall areas, very dry and frost prone sites. Do not plant in single rows for shelter | Reasonably valuable whitewood. General-purpose timber known as "white deal". Used widely in the general building and construction industry | Major forest species. Non-native tree. An excellent pulpwood tree for paper, fibre and particle-board industries |
| Norway Spruce<br>*Picea Abies* | Prefers less acid mineral soils and peats | Not as fast growing or as tolerant of poor sites and exposure as sikta. More suitable for planting in hollows than sikta, being more resistant to frost damage | Somewhat superior to sitka making it also suitable for joinery | Major forest species. Non-native tree. Good drainage is important to avoid windthrow. Poor wildlife tree because of its very dense shade. Suitable for shelter |
| Douglas Fir<br>*Pseudotsuga Menziesii* | Prefers a moist deep well drained soil of moderate fertility | A fast grower on suitable sites. Ideally suited to sheltered valley slopes. Dislikes waterlogged and shallow soils | An excellent timber of good strength and quality, sometimes referred to as "Oregon pine" it is used for building, flooring, joinery and other uses. Much in demand for transmission poles | Major forest species. Non-native tree. Delayed thinning of crop may lead to windthrow. Poor wildlife value |
| Lodgepole Pine<br>*Pinus Contorta* | Grows on the poorest of mineral and peat soils | A fast growing pioneering species. Withstands exposure better than most other species. Up to recent times was widely planted on even the most difficult of sites | A general-purpose timber, suitable for building, joinery and other uses | Minor forest species now. Non-native tree. Suffers greatly from "basal sweep" reducing the quality of the log. One of the best shelter tree species |
| Larch<br>*Larix spp* | European larch prefers moist, well drained, moderately fertile loams while both Japanese and hybrid larch will tolerate a wider range of sites with a preference for high rainfall areas | Larches are strong, light demanding, deciduous conifers. First generation hybrid is normally faster growing than Japanese and both are faster than European | All larches produce dense valuable commercial timber which is both heavier and stronger than most other softwoods | Major forest species. Non-native tree. Larches have a high amenity and wildlife value. Produces light shade allowing ground vegetation |
| Scots Pine<br>*Pinus Sylvestris* | Thrives on light textured or sandy soils. Tolerant of acid conditions. Avoid poorly drained or alkaline soils and exposure to coastal winds | A strong, light demanding slow growing tree. Can be used as a nurse species. Unsuitable for high elevations or shelter-belting | Good general-purpose softwood timber referred to as "red deal" in the trade. Suitable for construction, flooring, joinery and other uses | Major forest species. Once native but died out, now comes from imported sources. Regarded as the best conifer for both amenity and wildlife. Attracts insects, birds and red squirrels |

## CONIFERS

| SPECIES | OPTIMUM SITE | CHARACTERISTICS | TIMBER QUALITY | REMARKS |
|---|---|---|---|---|
| Monterey Pine<br>*Pinus Radiata* | Light to medium textured free draining loam soils. Can be used on infertile sandy soils. Not frost hardy | Very fast growing tree but often of poor coarse branched form. Requires careful attention to seed selection preferably from new Zealand. Early and heavy pruning helps to produce a worthwhile crop | Not much known about quality of Irish grown timber. Widely used general-purpose timber in southern hemisphere, New Zealand, Australia and Chile | Minor forest species. Non-native tree. A species with potential if quality seed stock can be produced. Suitable for shelterbelts in coastal areas |
| Western Red Cedar<br>*Thuja Plicata* | Requires deep free draining fertile soil. Good on alkaline soils. Avoid poor or very acid soils and exposed sites | Shade tolerant moderately fast growing tree. Useful for under-planting | Produces a lightweight timber of moderate strength. Very durable in outdoor situations, suitable for greenhouses, decking and cladding | Minor forest species. Non-native tree. Regarded as good estate tree suitable for screens, mixtures and game cover |
| Western Hemlock<br>*Tsuga Heterophylla* | Can tolerate acid mineral soils and the better peats. Suitable for low rainfall areas. Avoid planting on sites where previous conifer crop suffered from butt rots | Moderate growth rates. A strong shade bearer and excellent for under-planting. Probably best established under some shade | Good durable timber suitable for quality building purposes | Minor forest species. Non-native tree which has potential for greater use |
| Noble Fir<br>*Abies Noblis* | Prefers well-drained mineral soils. Tolerates moderately acid soils and is less frost tender than other firs. Has a wide pH tolerance | A fast growing tree unsuitable for very poor and dry sites. Christmas tree production may require somewhat less fertile soils | Timber may be (unfairly) regarded a being of inferior quality. Now mostly grown for Christmas tree production and foliage | Minor forest species now developing multiple uses. Non-native tree. When grown for Christmas tree production need to be well managed to produce a compact well furnished tree |
| Corsican Pine<br>*Pinus Nigra var. Maritima* | Wide range of soils from sands to heavy clays. Suitable for coastal areas | Moderate growth rates but a good tree for difficult areas such as exposed areas or sandy soil | Similar to scots pine but not quite as good | Minor forest species. Non-native tree. More resistant to smoke pollution than most conifers. Suitable shelter tree |
| Cupressus like species<br>*Cupressus*<br>*Chamaecyparis*<br>*Cupressocyparis* | Tolerate a wide range of soils except very acid soils and raw peats | Moderate to fast growth rates but very poor stem form or coarse branching In most cases | General purpose softwood uses | Minor forest species. Non-native tree. Macrocarpa suitable for shelter in coastal areas. **Leyland and Lawson although widely used for shelter-belting and screening are in most cases in-appropriate and an intrusion in the landscape** |

# Appendix No. 16

# Water Protection Plan Checklist

# MONAGHAN LOCAL AUTHORITIES
## Water Protection Plan Checklist

(To be accompanied by a Site Drainage Plan - Refer to Chapter 4 of Monaghan County Development Plan 2013-2019)

| General Site and Water Body Details | | | |
|---|---|---|---|
| Planning Ref. No. | ***N/A*** | Applicant | ***Niall Mckena*** |
| Townland | ***Drumlester*** | Water Supply Source | ***Scheme*** |
| X Co-ordinate [1] | ***263007*** | Y Co-ordinate [1] | ***347425*** |
| WMU [2] | IE_NB_Blackwater | RWB [2] | Cavanmore, Trib of Blackwater |
| WB Status [2] | ***Poor*** | Objective [2] | ***Restore 2021*** |
| Groundwater Vulnerability [3] | ***Lm*** | Aquifer Importance [3] | ***P*** |
| Proximity to nearest watercourse (culverted or open), wetland or lake (meters) | | | ***c. 130 m*** |

| Proposed Development<br>Is the development entirely or part of one of the following? (tick) | | | | | |
|---|---|---|---|---|---|
| Domestic dwelling | | Agricultural (cattle/dairy) | | Industrial-food related | |
| Public Works | | Agricultural (mushrooms) | | Industrial-non food | |
| Housing | | Agricultural (poultry) | ***X*** | Quarrying/extractive industries | |
| Institutional | | Agricultural (piggery) | | Transport related | |
| Commercial/Retail | | Other agricultural – specify below | | Filling station/Fuel depot | |
| Mixed Use Development | | | | Other | |

| Waste Water Production and Treatment Method | |
|---|---|
| Domestic type waste waters | ***N/A*** |
| Waste waters produced from any trade, food, preparation or business [4] | ***N/A*** |
| Wheel wash, vehicle wash, cooling waters | ***N/A*** |
| Waste waters produced from quarrying etc [4] | ***N/A*** |
| Other waste waters [4] | ***Soiled water applied to applicant's landholding as per SI 605 of 2017.*** |
| Construction phase waste waters | |
| Frequently asked questions for septic tanks may assist in the "fit for purpose" assessment refer to http://www.monaghan.ie/en/services/environment/water/waterawareness/faqforseptictanks/ | |

| Fuel or Outdoor Material Storage for Non Domestic Developments | |
|---|---|
| Number of fuel storage tanks existing or proposed on site? | ***Gas Storage Tanks*** |
| Are fuel storage tanks bunded [5]? | ***N/A*** |
| Detail liquid / feedstuffs / organic / chemical / waste oil storage on outdoor sites | ***Under Ground mass concrete soiled water tank(s)*** |

| Hard Surface and Open Yard Areas for Non Domestic Developments | |
|---|---|
| Footprint of proposed development including yard areas in $m^2$ | ***c. 3,904*** |
| Is there potential for soiled yard areas from material, product waste or manure handling, fuel dispensing, silt and soil, yard washing etc. | ***Yes*** |
| If yes, are silt trap(s), interceptor(s), soiled water tanks or other control measures shown on drainage plan? | ***Yes*** |
| Has the use of SUDS (Sustainable Urban Drainage Systems – http://www.susdrain.org ) been considered in the design of this development? | ***Yes*** |

| Development History – All Developments | |
|---|---|
| Have previous pollution prevention planning conditions been complied with [6]? | ***Yes*** |
| Does existing development have an up to date (as constructed) site drainage plan? | ***Yes*** |
| Is the existing/proposed development sewered or unsewered? | ***N/A*** |
| If unsewered, is the existing wastewater treatment system fit for purpose[7]? | ***N/A*** |
| Has the storm water drainage system been examined and/or surveyed for misconnections? (Information leaflet available from Environment Section) | ***N/A*** |
| **Checklist of items to be included on Site Drainage Plan** | |
| Location of lakes, watercourse, wells used for water supply, or karst features on or within 25m of domestic or 100m of non domestic development site | ***Yes*** |
| Location of all drainage outfall points | ***Yes*** |
| Foul water drainage system (in Red) | ***Yes*** |
| Storm water drainage system (in Blue) | ***Yes*** |
| Soiled yard area, soiled water drainage and management system, including silt traps, oil interceptor(s) and any SUDS facilities | ***Yes*** |
| Location of waste water treatment facilities | ***N/A*** |
| Location of fuel storage tank(s) | ***(Gas)*** |
| Stream/Lake/Wetland/Riparian Corridors | ***N/A*** |

| Footnotes and Useful Information |
|---|
| [1] Projection in the Irish Grid |
| [2] WMU, RWB, WB status. Objectives available on water maps at www.wfdireland.ie |
| [3] Available in the public mapping section at www.gsi.ie |
| [4] For information leaflets on Business Premises and Proper Use of Drains and information on discharge licensing see: http://www.monaghan.ie/contentv3/services/environment/formsguidesdocumentsdownlands/ http://www.monaghan.ie/contentv3/services/environemtn/water/waterawareness/leaftletsandguidelines/ |
| [5] Guidance: www.envirocentre.ie Best practice for Oil Storage (BPGCS05) |
| [6] Has certification of installation for previously granted wastewater treatment system been required and if so has it been submitted. |
| [7] Refer to EPA Guidance at: http://www.monaghan.ie/contentv3/services/environment/water/waterawareness/faqforseptictanks/ and http://www.monaghan.ie/contentv3/media/monaghanie/content/files/pdf/environment/Water Pollution&DrainageSystems.pdf |
| [8] Refer to Water Body, Sensitive Waters and Sensitive Land Maps in Chapter 4 of the Monaghan County Development Plan 2013-2019 |

| Abbreviations | |
|---|---|
| WMU | Water Management Unit |
| RWB | River Water Body |
| WB Status | Water Body Status |
| IPPC | Integrated Pollution Prevention Control Licence |
| EIA | Environmental Impact Assessment |

| For Office Use: Sensitivity of Location | |
|---|---|
| Is the development located upstream of a high river quality site [8]? | |
| Is the development located within a good status waterbody [8]? | |
| Is the development located in the catchment of a water supply source [8]? | |
| Is the development located within the Source Protection Zone (SPZ) of a groundwater supply source [8]? | |
| Does the development require a discharge licence to surface or ground waters under the Water Pollution Acts? | |
| Risk to waters in relation to scale of development, previous planning/environmental history, IPPC or EIA aspects, site management and location in a sensitive area | |

Applicant: Niall McKenna

Agent: CLW Environmental Planners Date 28/08/2019

# Appendix No. 17

# Details relating to a number of noise surveys carried out on intensive farms in the Cavan region.

Measurement Parameters

$L_{eq}$ Values

$L_{eq}$ (t) values represent the continuous equivalent sound level over a specified time (t). This value expresses the average levels over time and is a linear integral.

Max. P Values

The Max. P value represents the maximum sound pressure level produced by a source during the monitoring period.

$L_{90}$ and $L_{10}$ Values

The $L_{90}$ and $L_{10}$ values represent the sound levels exceeded for a percentage of the instrument measuring time. $L_{10}$ indicates that for 10% of the monitoring period, the sound levels were greater than the quoted value. $L_{10}$ is a good statistical parameter for expressing event noise such as passing traffic. The L90 represents post event sound levels and is a good indicator of background noise levels.

EQUIPMENT USED

| | |
|---|---|
| Cirrus 703A Type One Sound Level Meter | Serial No. 024818 |
| Calibration Certificate Number | 103602 |
| Microphone Type:MK224 | Serial No. 970065 |
| Tripod | |
| | |
| Calibrator CR 513A | Serial No. 024602 |
| Calibration Certificate Number | 101432 |

On Site Calibration.

The instrument was calibrated immediately before and after the measurement periods with no drift in calibration level noted.

| RESULTS OF MEASUREMENTS – FARM 1 (Day-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$ dB(A) | Max.P.dB(A) | $L_{10}$ dB(A) | $L_{90}$dB(A) |
| N1 | 65.3 | 105.6 | 48.8 | 39.4 |
| N2 | 47.1 | 66.2 | 43.2 | 34.9 |
| N3 | 38.4 | 57.8 | 40.0 | 33.2 |
| N4 | 46.7 | 73.3 | 48.6 | 43.6 |
| N5 | 54.6 | 78.3 | 42.4 | 34.0 |

| RESULTS OF MEASUREMENTS – FARM 1 (Night-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 33.2 | 45.9 | 34.2 | 30.6 |
| N2 | 37.0 | 47.2 | 37.0 | 36.2 |
| N3 | 35.1 | 54.2 | 36.8 | 31.6 |
| N4 | 40.2 | 51.4 | 43.6 | 35.0 |
| N5 | 31.3 | 45.2 | 31.3 | 30.6 |

| RESULTS OF MEASUREMENTS – FARM 2 (Day-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 44.2 | 58.6 | 45.1 | 41.7 |
| N2 | 44.6 | 60.8 | 45.4 | 41.7 |
| N3 | 52.1 | 64.9 | 56.0 | 42.3 |
| N4 | 47.5 | 63.8 | 48.2 | 42.8 |
| N5 | 73.8 | 89.0 | 77.1 | 42.7 |

| RESULTS OF MEASUREMENTS – FARM 2 (Night-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 37.3 | 58.9 | 38.2 | 32.6 |
| N2 | 41.7 | 55.8 | 43.3 | 37.8 |
| N3 | 43.0 | 66.2 | 45.4 | 39.2 |
| N4 | 40.6 | 69.5 | 43.8 | 35.5 |
| N5 | 42.7 | 61.9 | 47.2 | 35.4 |

| RESULTS OF MEASUREMENTS – FARM 3 (Day-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 50.4 | 70.3 | 43.3 | 30.6 |
| N2 | 40.2 | 75.9 | 42.0 | 37.2 |
| N3 | 37.2 | 66.2 | 36.0 | 31.2 |
| N4 | 34.9 | 70.2 | 36.6 | 30.6 |
| N5 | 56.1 | 72.5 | 58.1 | 30.7 |

| RESULTS OF MEASUREMENTS – FARM 3 (Night-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 39.8 | 60.1 | 39.8 | 31.0 |
| N2 | 34.8 | 44.8 | 39.0 | 30.8 |
| N3 | 33.5 | 47.2 | 36.8 | 31.8 |
| N4 | 34.0 | 48.1 | 37.3 | 32.0 |
| N5 | 36.2 | 54.9 | 38.0 | 34.2 |

| RESULTS OF MEASUREMENTS – FARM 4 (Day-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{90}$dB(A) | $L_{90}$dB(A) |
| N1 | 49.7 | 63.8 | 42.8 | 34.7 |
| N2 | 49.5 | 66.0 | 52.8 | 37.4 |
| N3 | 59.8 | 88.7 | 62.8 | 47.8 |
| N4 | 50.5 | 68.3 | 58.2 | 43.7 |
| N5 | 54.3 | 94.4 | 59.0 | 40.0 |

| RESULTS OF MEASUREMENTS – FARM 4 (Night-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{90}$dB(A) | $L_{90}$dB(A) |
| N1 | 32.9 | 72.6 | 35.2 | 30.8 |
| N2 | 33.7 | 52.2 | 35.5 | 30.6 |
| N3 | 36.2 | 55.0 | 37.9 | 31.2 |
| N4 | 30.5 | 67.5 | 34.0 | 30.7 |
| N5 | 33.5 | 50.7 | 35.5 | 31.0 |

| RESULTS OF MEASUREMENTS – FARM 5 (Day-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 61.9 | 84.8 | 54.0 | 40.8 |
| N2 | 55.7 | 87.8 | 58.4 | 41.6 |
| N3 | 40.6 | 64.7 | 40.0 | 36.1 |
| N4 | 43.8 | 73.4 | 47.4 | 36.2 |
| N5 | 47.6 | 69.7 | 48.0 | 42.5 |

| RESULTS OF MEASUREMENTS – FARM 5 (Night-time) | | | | |
|---|---|---|---|---|
| Location No. | $L_{eq}$dB(A) | Max.P.dB(A) | $L_{10}$dB(A) | $L_{90}$dB(A) |
| N1 | 35.7 | 54.8 | 36.8 | 31.8 |
| N2 | 32.3 | 43.5 | 33.3 | 30.6 |
| N3 | 36.6 | 54.3 | 36.7 | 33.6 |
| N4 | 34.5 | 59.0 | 36.4 | 31.4 |
| N5 | 36.3 | 62.6 | 37.8 | 34.4 |

## DISCUSSION

CLW Environmental Planners Ltd. are consultants to the five pig rearing units being examined.

As part of the application process, environmental noise resulting from activities associated with the piggeries must be measured at nominated perimeter points and also at the nearest noise sensitive location. Measurements should be made during both day-time and night-time activities at the site.

Environmental noise resulting from activities at the site should not exceed 55.0dB(A) $L_{eq}$ during the day-time (08.00 to 22.00hrs) and 45.0dB(A)$L_{eq}$ during night-time (22.00 to 08.00hrs).

The Leq value for location N1 (Farm 1 – day-time) was above the upper noise limit. However, this position is located adjacent to the piggery entrance and coincided with some movement of slurry tankers in to and out of the unit. This was also the reason for the relatively high Max. P value. When the $L_{eq}$ term, which effectively filters out the effects of the short term tractor noise, is considered as the indicator, then the noise level is considerably below the limit value..

Location N5 (Farm 2 – day-time) was above the limit but noise levels here were entirely associated with traffic on the adjacent national road.

At Farm 3, the $L_{eq}$ value at location N5 was marginally above the limit. However, passing traffic was a considerable noise source.

Location N3 at Farm 4, when measured during day-time, was affected by intermittent hedge-cutting on the adjoining road.

Location N1 at Farm 5 is also situated along a road and traffic from it was a source of noise.

All measurements made during night-time were below the 45dB(A) limit value.

Based on the results, as recorded during the monitoring events, it is not considered that noise levels resulting from activities at any of these piggeries will have any significant impact on the local environment.

# Appendix No. 18

# Natura Impact Statement

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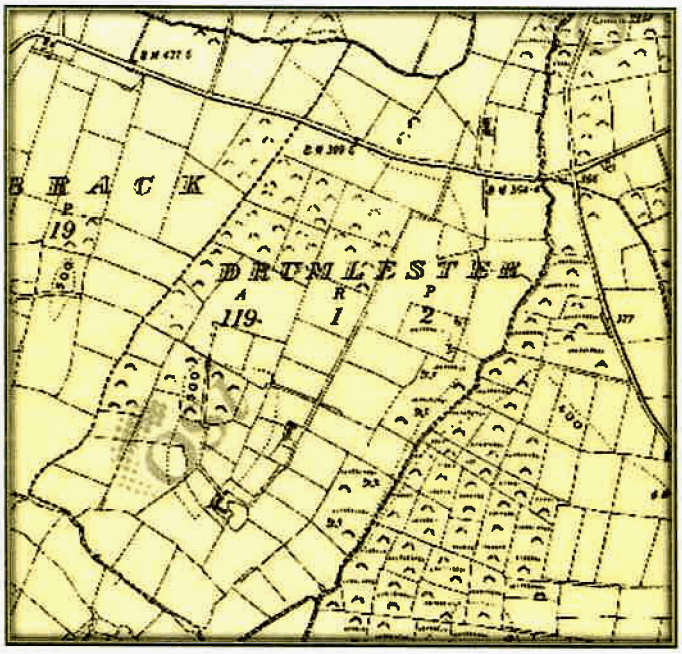
# NATURA IMPACT STATEMENT OF AN APPLICATION FOR A LICENCE AT DRUMLESTER, EMYVALE, CO MONAGHAN

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




***Niall McKenna***
*c/o Paraic Fay*
*C.L.W. Environmental Planners Ltd*
*The Mews*
*23 Farnham Street*

*July 2019*

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# 1 INTRODUCTION

## 1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

This Natura Impact Assessment was prepared for the proposed development of a poultry farm at Drumlester, Emyvale, 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 Drumlester, Emyvale, 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 July 2019 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

Mr Niall McKenna has indicated his intention to shortly apply to Monaghan County Council for planning permission for a development of a poultry farm at Drumlester, Emyvale, Co. Monaghan. The proposed development will consist of the construction of two poultry houses along with all associated site ancillary works. Once completed, the houses will facilitate the accommodation of a maximum of 90,000 broilers, which will increase capacity of the site to 130,000 birds. Planning permission was previously granted on the site (Planning Reference 16357) for the construction of one poultry house. This would have accommodated 40,000 broilers. The applicant will also be applying to the EPA for a License in respect of the proposed development. An extract from the planning drawings can be seen in Figure 1.

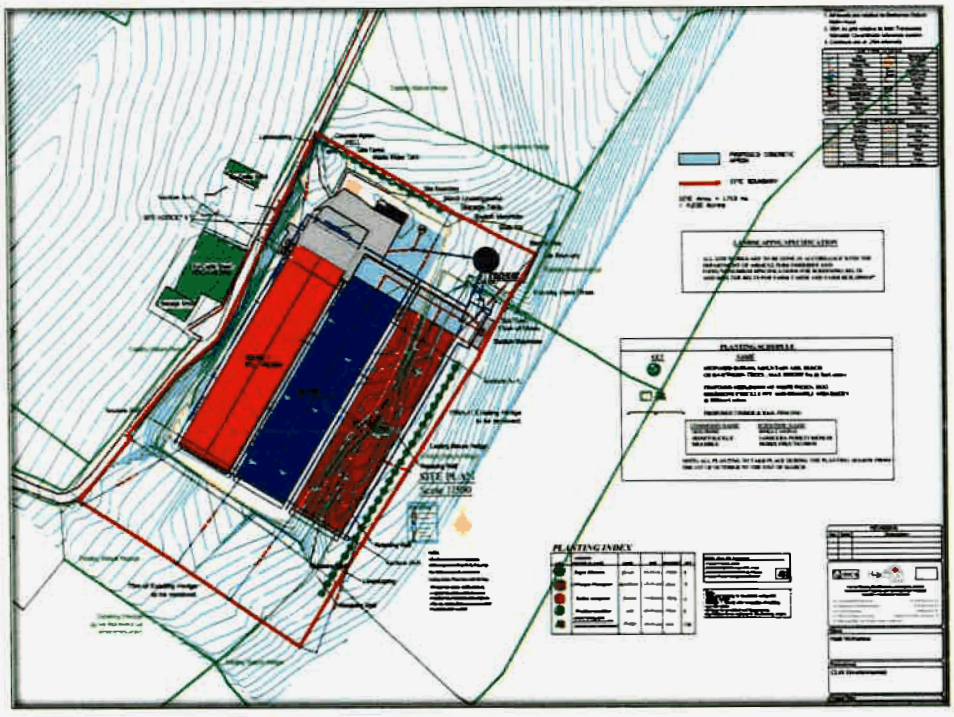

**Figure 1 – Extract from Planning Drawing (As Prepared by Horizon Group)**

The operation of the farm will involve the rearing of the chickens from day olds over a period of approximately 6-7 weeks. There will be approximately 7 cycles of per annum, with a break between batches during which time the cleaning of the houses and yards is carried out. The spent poultry litter and manure will be removed from the farm by specialised contractors where it will be composted and used in the mushroom industry or it will be used as an organic fertiliser on land, in accordance with S.I. 605 of 2017. All records for the movement

of fertiliser will be kept on site and presented to the Department of Agriculture, Food and Marine as requested.

Wash water from the poultry houses will be spread on land owned by the applicant in accordance with S.I. 605 of 2017.

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 | 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 Drumlester. Access to the site is via a cul-de-sac that is just off a local, third class road. The area of the site is 1.7 hectares. It is 5.5km north-west of Emyvale. The dominant land-use surrounding the application site is agriculture and improved agricultural grassland is the dominant habitat. Other habitats represented locally include areas of wet grasslands, scrub, scattered areas of woodland, hedgerows, treelines and watercourses. Site location maps can be seen in Figures 2 and 3 whilst an aerial photograph of the site and its surrounding habitats can be seen in Figure 4.

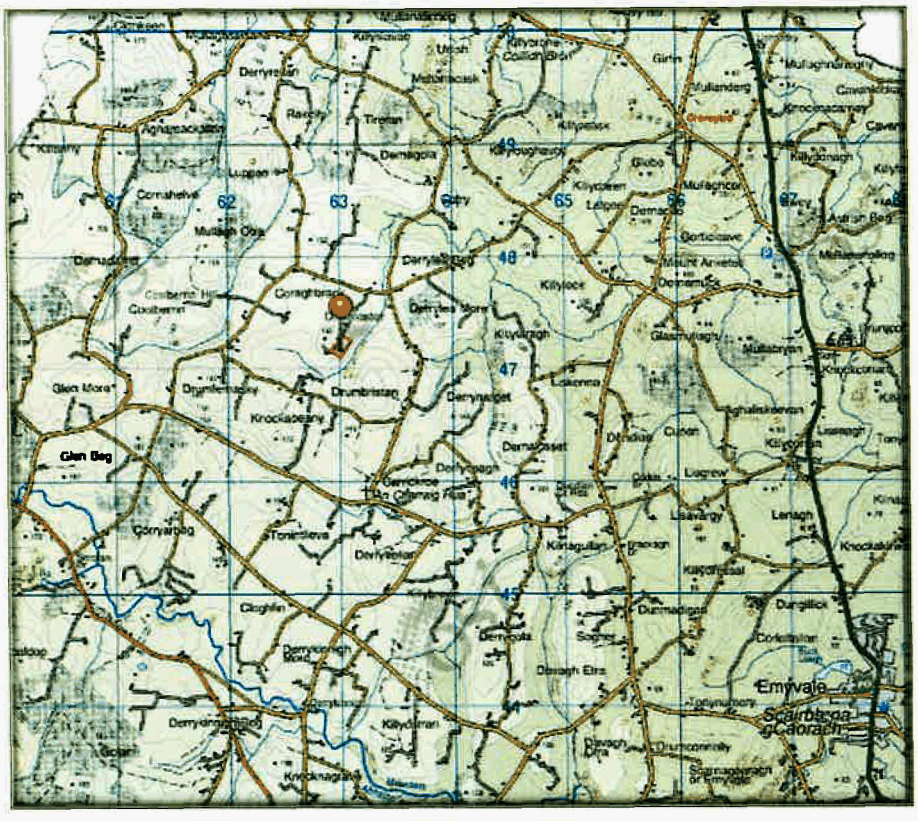


**Figure 2 – Map showing the Location of the Proposed Development Site (Pinned)**

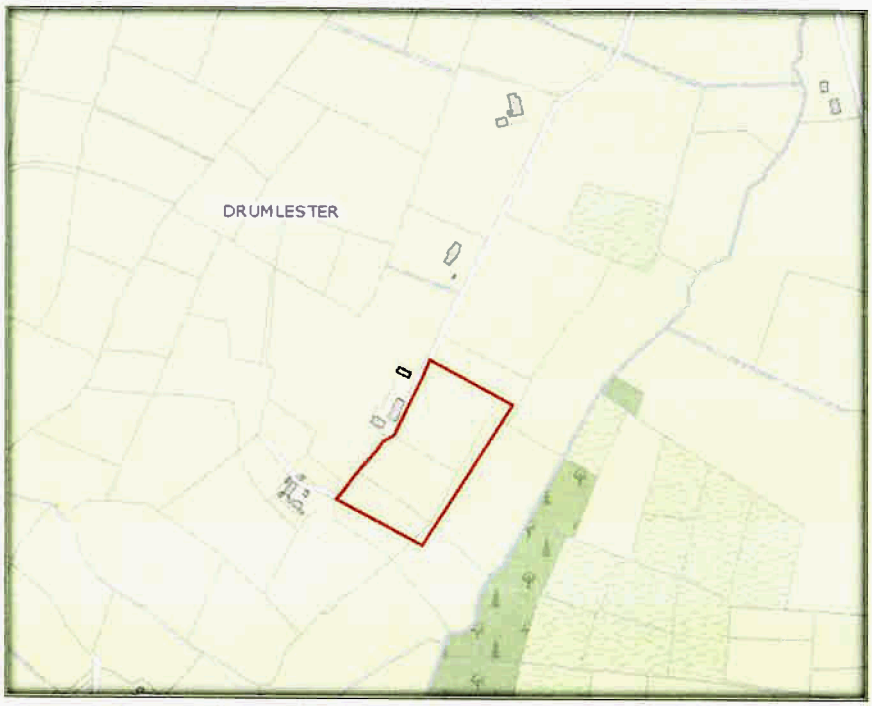


**Figure 3 – Map showing the Location of the Proposed Development Site (Outlined in Red)**

## HABITATS AND SPECIES

Currently, the main habitat within the application site is an improved grassland habitat. The site boundaries consist of hedgerows / treelines and there is also an existing hedgerow that traverses the site.

An examination of the website of the National Biodiversity Data Centre revealed that there are no records for the presence of any notable mammal or plant species from within the relevant one km grid square (H6347) of this proposed development.

### WATER FEATURES AND QUALITY

The application site lies within the Lough Neagh and Lower Bann Hydrometric Area and Catchment, and the Blackwater Sub-Catchment and the Lisavargy Sub-Basin. There are a number of drains close to the application site, whilst the Killybrone Stream is 80m east of the site. This stream is a tributary of the River Blackwater.

The EPA have not defined the ecological status of the drains or streams that are within the sub-basin of this application site. Under the requirements of the Water Framework Directive in Ireland, all watercourses are obliged to meet achieve good ecological status within a specified time frame (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 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. A full description of the sites can be read on the website of the National Parks and Wildlife Service (www.npws.ie) and the Joint Nature Conservation Committee (jncc.defra.gov.uk).

| Site Name & Code | Distance | Qualifying Interests | Potential Impacts |
|---|---|---|---|
| Slieve Beagh SPA 004167 | 3.2 km south-west | • Hen Harrier *Circus cyaneus* | *Potential impacts due to atmospheric emissions will be assessed further.* |
| Slieve Beagh-Mullaghafad-Lisnaskea SPA UK9020302 | 4.6km west | • Hen Harrier *Circus cyaneus* | *Potential impacts due to atmospheric emissions will be assessed further* |
| Slieve Beagh SAC UK0016622 | 6.5km south-west | • Natural dystrophic lakes and ponds<br>• European dry heaths<br>• Blanket bogs | *Potential impacts due to atmospheric emissions will be assessed further* |

**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.

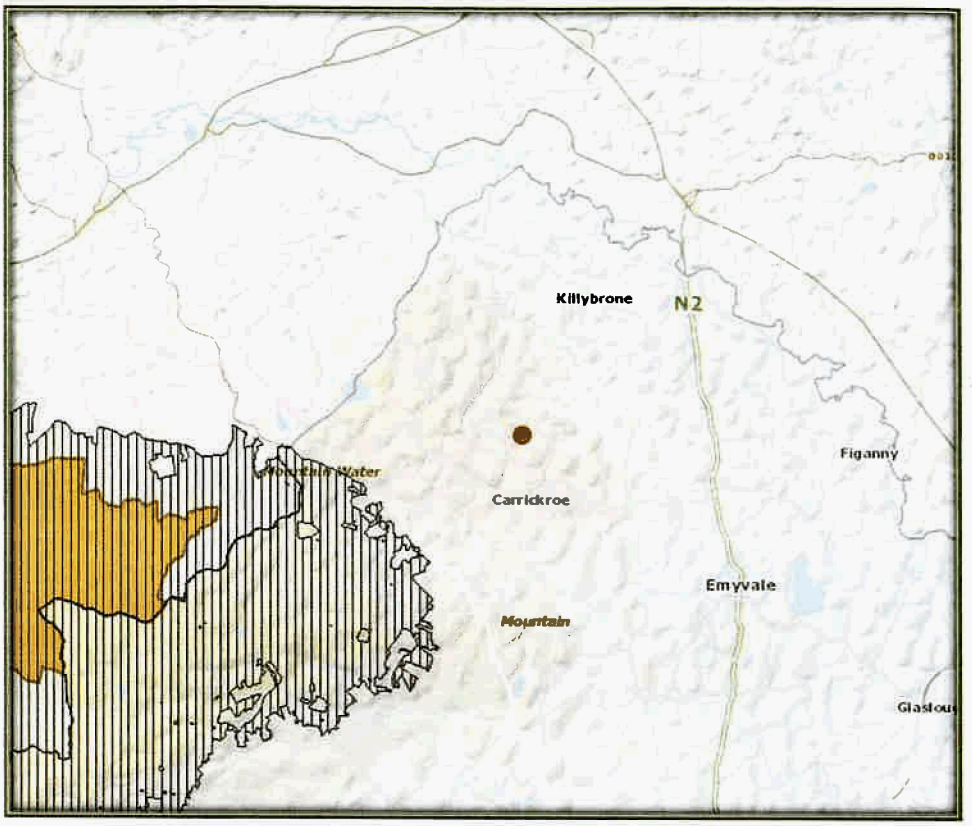


**Figure 4 – The Application Site (Red Dot) in relation to the Natura 2000 sites within 15km. SPAs – Vertical Hatching. SACs – Brown Shading.**

## 3.4 IMPACT ASSESSMENT

The potential impacts of the proposed development on the Natura 2000 sites identified above are described below.

| **Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on nearby Natura 2000 site:** |
|---|
| The proposed development is within 15km of three sites that are designated under the Natura 2000 network. Potential impacts upon these sites arising from atmospheric emissions (ammonia and nitrogen) are possible and will need to be considered further as part of this assessment. There are no other potential impacts upon these Natura 2000 sites arising from the proposed application. |
| **Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the nearby Natura 2000 sites by virtue of:** |
| **Size and scale:** Given the small size and scale of the development in relation to the overall size of the Natura 2000 sites identified, then the likelihood of any direct, indirect or cumulative impacts upon the Natura 2000 sites by virtue of its size and scale is low.<br>**Land-take:** There will be no land-take from any designated site. There will be no interference with the boundaries of any designated site. There will be no loss of any undesignated priority habitats.<br>**Distance from Natura 2000 site or key features of the site:** There are three Natura 2000 sites within 15km of this application site. The closest of these is the Slieve Beagh SPA and this is 3.2km south-west of the application site.<br>**Resource requirements (water abstraction etc.):** No resources will be taken from any Natura 2000 site and there are no resource requirements that will impact upon any designated site.<br>**Emissions**: Neither the construction nor the operation of the proposed development will result in any direct emissions to the Natura 2000 sites identified. Only clean surface water run-off will be directed into local watercourses and silt traps will be installed on all lines. Any associated land-spreading of the manure from this development will be done to in accordance with S.I. 605 of 2017 (as amended). This will minimise run-off from land into the local watercourses.<br>In order to predict atmospheric emissions (ammonia and nitrogen) from the development of this facility, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners to determine the potential impacts on the Slieve Beagh SPA. In this instance a number of factors were taken into account, such as the use of fan ventilation (fans at 6.6m high, 800mm fans with a capacity of 5.7m³/s). This SCAIL model determined that potential impacts upon the Natura 2000 sites arising from the proposed development are possible. These will be considered further.<br>**Excavation requirements:** Excavated material from the construction will be used on site. Bare soil |

will be reseeded straight away where appropriate. Any remaining soil will be disposed of in a responsible manner in a licensed facility away from any designated sites.

**Transportation requirements**: There will be no additional transportation requirements resulting from the proposed development and associated works that will have any impact upon the Natura 2000 sites identified.

**Duration of construction, operation, decommissioning etc:** Once construction begins, it should be complete within one year.

**Describe any likely changes to the nearby Natura 2000 sites arising as a result of:**

**Reduction of habitat area:** The proposed development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. There will be no reduction of designated habitat area. There will be no interference with the boundaries of any designated site.

**Disturbance to key species:** There will be no direct disturbance to any species listed in Annex I of the Birds Directive or Annex II of the Habitats Directive. There will be no disturbance to the hen harrier or any of the habitats that it depends upon. All rodenticide used on site will be used responsibly and in accordance with the best practice guidelines issued the *Campaign for Responsible Rodenticide Use*.

**Habitat or species fragmentation:** There will be no habitat or species fragmentation within any SAC, SPA or pNHA. No ecological corridors between the proposed site and any designated area will be damaged or destroyed.

**Reduction in species density:** There will be no reduction in species density.

**Changes in key indicators of conservation value (water quality etc.):** There will be no negative impacts upon surface or ground water quality. There will be no negative impacts upon the water quality in any designated site. Reductions in air quality in the vicinity of Natura 2000 sites will be considered further.

**Describe any likely impacts on the nearby Natura 2000 sites as a whole in terms of:**

**Interference with the key relationships that define the structure or function of the site**: It is not considered likely that there will be any impacts on the key relationships that define the structure or function of the Natura 2000 sites identified.

| Provide indicators of significance as a result of the identification of effects set out above in terms of: |
|---|
| **Loss** - Estimated percentage of lost area of habitat: None<br>**Fragmentation**: None<br>**Disruption & disturbance**: None<br>**Change to key elements of the site (e.g. water quality etc.):** Reductions in Air Quality and Impacts upon Natura 2000 sites will be considered further. The percentage contribution of ammonia and nitrogen of the critical load of the designated habitats will be calculated. |

## 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 Drumlester (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 Drumlester 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 Drumlester, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners Ltd to determine the potential impacts of this farm (91,000 birds, i.e., proposed increase) on designated sites. In this instance a number of factors were taken into account, such as the use of fan ventilation (fans at 6.6m high, 800mm fans with a capacity of 5.7m3/s). The results of the SCAIL outputs for ammonia are presented in Table 3.

| Slieve Beagh SPA – 3.2km south-west | | | | |
|---|---|---|---|---|
| **Background NH3** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 1.76 µg/m³ | 0.05 µg/m³ | 1.81 µg/m³ | 3 µg/m³ | 1.6% |
| **Slieve-Beagh-Mullaghafad-Lisnaskea SPA UK – 4.6km west** | | | | |
| **Background NH3** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 1.67µg/m³ | 0.036 µg/m³ | 1.70 µg/m³ | 3 µg/m³ | 1.2% |
| **Slieve Beagh SAC UK – 6.5km south-west** | | | | |
| **Background NH3** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 1.59 µg/m³ | 0.024 µg/m³ | 1.61 µg/m³ | 1 -3 µg/m³ | 2.4% - 0.8% |

**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.

It can be seen that the additional load of nitrogen at all of these sites is with 4% of the critical loads of the habitats for which they are designated. In addition, it should be borne in mind that the SCAIL model used is very conservative and in reality, given climatic conditions and prevailing wind, that the contributions of nitrogen at all these habitats will be much less.

| Slieve Beagh SPA 004167 – 3.2km south west | | | | |
|---|---|---|---|---|
| **Background N** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 18.39 kg N/ha/yr | 0.27 kg N/ha/yr | 18.66 kg N/ha/yr | 5-20 kg N/ha/yr | 5.4% - 1.35% |
| **Slieve Beagh-Mullaghfad-Lisnaskea SPA UK9020091 – 4.6km west** | | | | |
| **Background N** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 17.97 kg N/ha/yr | 0.19 kg N/ha/yr | 18.1 kg N/ha/yr | 5 – 20 kg N/ha/yr | 5.6% - 1.4% |
| **Slieve Beagh SAC UK0016622 – 6.5km south-west** | | | | |
| **Background N** | **Process Contribution** | **Total Conc.** | **Critical Load** | **% of CL Range** |
| 17.97 kg N/ha/yr | 0.13 kg N/ha/yr | 18.1 kg N/ha/yr | 10 – 20 kg N/ha/yr (Dry Heath) | 1.9% - 0.95% |
| | | | 5 - 10 kg N/ha/yr (Blanket Bog) | 3.8% - 1.9% |
| | | | 5 - 10 kg N/ha/yr (Dystrophic Lakes in Atlantic / Non Alpine Regions) | 3.8% - 1.9% |

**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 Drumlester will be negligible.

Cumulative impacts arising from emissions from existing farms have been assessed as part of the SCAIL models described above, as emissions from these operations would be taken into account in the background concentrations for each parameter.

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 Drumlester 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).

- Other emission mitigation measures could also be considered for the site. These may include the addition of a heat recovery system, which is proven to reduce ammonia emissions, and / or a pipe 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 Drumlester, Emyvale, Co. Monaghan |
| **Name and location of Natura 2000 site** | There are three Natura 2000 sites within 15km of this application site. The closest of these is the Slieve Beagh SPA and this is 3.2km south-west of the application site. |
| **Description of project** | Construction of Two Poultry Houses |
| **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 as detailed in the mitigation section (Section 5). |
| **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 No. 19

# European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 – S.I. 605 of 2017

STATUTORY INSTRUMENTS.

**S.I. No. 605 of 2017**

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# EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2017

S.I. No. 605 of 2017

# EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2017

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S.I. No. 605 of 2017

# EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2017

I, EOGHAN MURPHY, Minister for Housing, Planning and Local Government, in exercise of the powers conferred on me by section 3 of the European Communities Act 1972 (No. 27 of 1972) and for the purpose of giving further effect to Directive 91/676/EEC of 12 December 1991[1], Directive 2000/60/EC of 23 October 2000[2], Directive 2003/35/EC of 26 May 2003[3], Directive 2006/11/EC of 15 February 2006[4], Directive 2006/118/EC of 12 December 2006[5] and Directive 2008/98/EC of 19 November 2008[6] hereby make the following regulations:

## PART 1

## PRELIMINARY

*Citation, commencement and application*

1. (*a*) These Regulations may be cited as the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017.

(*b*) These Regulations shall apply to all holdings in the State.

(*c*) These Regulations shall apply to all movements of livestock manure in the State.

(*d*) These Regulations shall come into effect on 1 January 2018.

*Purpose of Regulations*

2. The purpose of these Regulations is to give effect to Ireland's Nitrates Action Programme for the protection of waters against pollution caused by agricultural sources. The set of measures in these regulations provides a basic level of protection against possible adverse impacts to waters arising from the agricultural expansion targets set under Food Harvest 2020.

*Revocations*

3. The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 and the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) (No. 2) Regulations 2014 are hereby revoked.

[1]O.J. No. L 375/1, 31 December 1991.
[2]O.J. No. L 327/1, 22 December 2000.
[3]O.J. No. L 156/17, 25 June 2003.
[4]O.J. No. L 64/52, 4 March 2006.
[5]O.J. No. L 372/19, 27 December 2006.
[6]O.J. No. L 312/3, 22 November 2008.

*Notice of the making of this Statutory Instrument was published in "Iris Oifigiúil" of 2nd January*, 2018.

*Interpretation*

4. (1) In these Regulations, save where the context otherwise requires—

"Act of 1992" means the Environmental Protection Agency Act, 1992 (No. 7 of 1992);

"Agency" means the Environmental Protection Agency established under section 19 of the Act of 1992;

"agriculture" includes the breeding, keeping and sale of livestock (including cattle, horses, pigs, poultry, sheep and any creature kept for the production of food, wool, skins or fur), the making and storage of silage, the cultivation of land, and the growing of crops (including forestry and horticultural crops);

"application to land", in relation to fertiliser, means the addition of fertiliser to land whether by spreading on the surface of the land, injection into the land, placing below the surface of the land or mixing with the surface layers of the land but does not include the direct deposition of manure to land by animals;

"aquifer" means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater;

"biochemical oxygen demand" for the purposes of sub-article (2) (*b*) (i) means a 5 day biochemical oxygen demand test done in accordance with method ISO 5815-1:2003, International Organisation for Standardization, or any update of that method;

"chemical fertiliser" means any fertiliser that is manufactured by an industrial process;

"dry matter" for the purposes of sub-article (2)(*b*)(ii) means a test for total solids done in accordance with method 2540B, Standard Methods for the Examination of Water and Wastewater, American Public Health Association, 21st Edition, 2005, or any update of that method;

"eligible area" in relation to a holding and the grassland stocking rate, means the eligible area of the holding or the grassland as appropriate excluding areas under farm roads, paths, buildings, farmyards, woods, dense scrub, rivers, streams, ponds, lakes, sandpits, quarries, expanses of bare rock, areas of bogland not grazed, areas fenced off and not used for production, inaccessible areas and areas of forestry (including Christmas trees), or required to be totally destocked under a Commonage Framework Plan;

"farmyard manure" means a mixture of bedding material and animal excreta in solid form arising from the housing of cattle, sheep and other livestock excluding poultry;

"fertiliser" means any substance containing nitrogen or phosphorus or a nitrogen compound or phosphorus compound utilised on land to enhance growth of

vegetation and may include livestock manure, the residues from fish farms and sewage sludge;

"groundwater" means all water that is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

"holding" means an agricultural production unit and, in relation to an occupier, means all the agricultural production units managed by that occupier;

"livestock" means all animals kept for use or profit (including cattle, horses, pigs, poultry, sheep and any creature kept for the production of food, wool, skins or fur);

"livestock manure" means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form;

"local authority" means a city council or county council within the meaning of the Local Government Act, 2001 (No. 37 of 2001);

"the Minister" means the Minister for Housing, Planning and Local Government;

"the Nitrates Directive" means Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;

"occupier", in relation to a holding, includes the owner, a lessee, any person entitled to occupy the holding or any other person having for the time being control of the holding;

"organic fertiliser" means any fertiliser other than that manufactured by an industrial process and includes livestock manure, dungstead manure, farmyard manure, slurry, soiled water, silage effluent, spent mushroom compost, non-farm organic substances such as sewage sludge, industrial by-products and sludges and residues from fish farms;

"ploughing" includes ploughing and primary cultivation, excluding light cultivation carried out to encourage natural regeneration;

"relevant local authority" means the local authority in whose administrative area a farm holding or part of a farm holding is situated;

"river basin district" means a river basin district established by the European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) or any amendment thereof in relation to the establishment of river basin districts;

"slurry" includes—

(*a*) excreta produced by livestock while in a building or yard, and

(*b*) a mixture of such excreta with rainwater, washings or other extraneous material or any combination of these, of a consistency that allows it

to be pumped or discharged by gravity at any stage in the handling process but does not include soiled water;

"soil test" means a soil sample taken in accordance with the soil sampling procedure set out in Schedule 1 and analysed in accordance with that Schedule, at a laboratory that meets the requirements of the Minister for Agriculture, Food and the Marine for this purpose;

"soiled water" has the meaning assigned by sub-article (2);

"steep slope" means ground which has an average incline of 20% or more in the case of grassland or 15% or more in the case of other land;

"tidal waters" includes the sea and any estuary up to high water mark medium tide and any enclosed dock adjoining tidal waters;

"waters" includes—

(*a*) any (or any part of any) river, stream, lake, canal, reservoir, aquifer, pond, watercourse, or other inland waters, whether natural or artificial,

(*b*) any tidal waters, and

(*c*) where the context permits, any beach, river bank and salt marsh or other area which is contiguous to anything mentioned in paragraph (*a*) or (*b*), and the channel or bed of anything mentioned in paragraph (*a*) which is for the time being dry, but does not include a sewer;

"waterlogged ground" means ground that is saturated with water such that any further addition will lead, or is likely to lead, to surface run-off;

and cognate words shall be construed accordingly.

(2) (*a*) In these Regulations "soiled water" includes, subject to this sub-article, water from concreted areas, hard standing areas, holding areas for livestock and other farmyard areas where such water is contaminated by contact with any of the following substances—

(i) livestock faeces or urine or silage effluent,

(ii) chemical fertilisers,

(iii) washings such as vegetable washings, milking parlour washings or washings from mushroom houses,

(iv) water used in washing farm equipment.

(*b*) In these Regulations, "soiled water" does not include any liquid where such liquid has either—

(i) a biochemical oxygen demand exceeding 2,500 mg per litre, or

(ii) a dry matter content exceeding 1% (10 g/L).

(*c*) For the purposes of these Regulations, soiled water which is stored together with slurry is deemed to be slurry.

(3) In these Regulations a reference to:—

(*a*) an Article, Part or Schedule which is not otherwise identified is a reference to an Article, Part or Schedule of these Regulations,

(*b*) a sub-article or paragraph which is not otherwise identified is a reference to a sub-article or paragraph of the provision in which the reference occurs, and

(*c*) a period between a specified day in a month and a specified day in another month means the period commencing on the first-mentioned day in any year and ending on the second-mentioned day which first occurs after the first-mentioned day.

(4) In these Regulations a footnote to a table in Schedule 2 shall be deemed to form part of the table.

## PART 2

## FARMYARD MANAGEMENT

*Minimisation of soiled water*

5. (1) An occupier of a holding shall take all such reasonable steps as are necessary for the purposes of minimising the amount of soiled water produced on the holding.

(2) Without prejudice to the generality of sub-article (1), an occupier of a holding shall ensure, as far as is practicable, that—

(*a*) clean water from roofs and unsoiled paved areas and that flowing from higher ground on to the farmyard is diverted away from soiled yard areas and prevented from entering storage facilities for livestock manure and other organic fertilisers, soiled water, and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps and

(*b*) rainwater gutters and downpipes where required for the purposes of paragraph (*a*) are maintained in good working condition.

*Collection and holding of certain substances*

6. (1) Livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps arising or produced in a building or yard on a holding shall, prior to its application to land or other treatment, be collected and held in a manner that prevents the run-off or seepage, directly or indirectly, into groundwaters or surface waters of such substances.

(2) The occupier of a holding shall not cause or permit the entry to waters of any of the substances specified in sub-article (1).

*Provision and management of storage facilities*

7. (1) Storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps shall be maintained free of structural defect and be maintained and managed in such manner as is necessary to prevent run-off or seepage, directly or indirectly, into groundwater or surface water, of such substances.

(2) Storage facilities being provided on a holding on or after 31 March 2009 shall—

(*a*) be designed, sited, constructed, maintained and managed so as to prevent run-off or seepage, directly or indirectly, into groundwater or surface water of a substance specified in sub-article (1), and

(*b*) comply with such construction specifications for those facilities as may be approved from time to time by the Minister for Agriculture, Food and the Marine.

(3) Storage facilities other than those referred to in sub-article (2) shall be of such construction and design and shall be maintained and managed in such a manner so as to comply with the requirements of sub-article (1) and article 6(2).

(4) In this article "storage facilities" includes out-wintering pads, earthen-lined stores, integrated constructed wetlands and any other system used for the holding or treatment of livestock manure or other organic fertilisers.

*General obligations as to capacity of storage facilities*

8. (1) The capacity of storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps on a holding shall be adequate to provide for the storage of all such substances as are likely to require storage on the holding for such period as may be necessary as to ensure compliance with these Regulations and the avoidance of water pollution.

(2) For the purposes of sub-article (1) an occupier shall have due regard to the storage capacity likely to be required during periods of adverse weather conditions when, due to extended periods of wet weather, frozen ground or otherwise, the application to land of livestock manure or soiled water is precluded.

(3) For the purposes of Articles 8 to 14, the capacity of storage facilities on a holding shall be disregarded insofar as the occupier does not have exclusive use of those facilities.

(4) For the purposes of Articles 10 to 14 the capacity of facilities required in accordance with these Regulations for the storage of manure from livestock of the type specified in Tables 1, 2 or 3 of Schedule 2 shall be determined by reference to the criteria set out in the relevant table and the rainfall criteria set

out in Table 4 of that schedule and shall include capacity for the storage for such period as may be necessary for compliance with these Regulations of rainwater, soiled water or other extraneous water which enters or is likely to enter the facilities.

(5) The occupier of a holding shall only be eligible to avail of a derogation from the limits on the amount of livestock manure to be applied as specified in Article 20 if the capacity of storage facilities for livestock manure, effluent and soiled water on the holding is in accordance with Articles 8 and 9.

*Capacity of storage facilities for effluents and soiled water*

9. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of—

(*a*) effluent produced by ensiled forage and other crops shall equal or exceed the capacity specified in Table 5 of Schedule 2,

(*b*) soiled water shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 10 days, and

(*c*) soiled water being provided on a holding on or after 1 January 2015 shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 15 days.

*Capacity of storage facilities for pig manure*

10. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by pigs shall, subject to sub-article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by pigs on a holding where all the following conditions are met—

(*a*) the number of pigs on the holding does not at any time exceed one hundred pigs, and

(*b*) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

*Capacity of storage facilities for poultry manure*

11. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by poultry shall, subject to sub-article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by poultry on a holding where all the following conditions are met—

(*a*) tillage or grassland farming is carried out on the holding,

(*b*) the number of poultry places on the holding does not exceed 2,000 places, and

(*c*) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

*Capacity of storage facilities for manure from deer, goats and sheep*

12. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by deer, goats and sheep shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of six weeks.

*Capacity of storage facilities for manure from cattle*

13. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by cattle shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during the period specified in Schedule 3.

*Reduced storage capacity in certain circumstances*

14. (1) The capacity of facilities for the storage of livestock manure on a holding may, to such extent as is justified in the particular circumstances of the holding, be less than the capacity specified in Article 10, 11, 12 or 13, as appropriate, in the case of a holding where—

(*a*) the occupier of the holding has a contract providing exclusive access to adequate alternative storage capacity located outside the holding,

(*b*) the occupier has a contract for access to a treatment facility for livestock manure, or

(*c*) the occupier has a contract for the transfer of the manure to a person registered under and in accordance with the European Communities (Transmissible Spongiform Encephalopathies and Animal By-products) Regulations 2008 S.I. 252 of 2008 to undertake the transport of manure.

(2) Subject to sub-article (3), the capacity of facilities for the storage of livestock manure may be less than the capacity specified in Article 12 or 13, as appropriate, in relation to—

(*a*) deer, goats or sheep which are out-wintered at a grassland stocking rate which does not exceed 130 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure, or

(*b*) livestock (other than dairy cows, deer, goats or sheep) which are out-wintered at a grassland stocking rate which does not exceed 85 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure.

(3) Sub-article (2) shall apply only in relation to a holding where all the following conditions are met—

(*a*) all the lands used for out-wintering of the livestock are comprised in the holding,

(*b*) the out-wintered livestock have free access at all times to the required lands,

(*c*) the amount of manure produced on the holding does not exceed an amount containing 140kg of nitrogen per hectare per annum,

(*d*) severe damage to the surface of the land by poaching does not occur, and

(*e*) the reduction in storage capacity is proportionate to the extent of out-wintered livestock on the holding.

(4) In this article, a grassland stocking rate of 130 kg or 85 kg of nitrogen, as the case may be, means the stocking of grassland on a holding at any time by such numbers and types of livestock as would in the course of a year excrete waste products containing 130 kg or 85 kg of nitrogen, as the case may be, per hectare of the grassland when calculated in accordance with the nutrient excretion rates for livestock specified in Table 6 of Schedule 2.

## PART 3

## NUTRIENT MANAGEMENT

*Interpretation, commencement etc*

15. (1) In this Part, "crop requirement", in relation to the application of fertilisers to promote the growth of a crop, means the amounts and types of fertilisers which are reasonable to apply to soil for the purposes of promoting the growth of the crop having regard to the foreseeable nutrient supply available to the crop from the fertilisers, the soil and from other sources.

(2) The amount of nitrogen or phosphorus specified in Table 7 or 8 of Schedule 2, as the case may be, in relation to a type of livestock manure or other substance specified in the relevant table shall for the purposes of this Part be deemed to be the amount of nitrogen or phosphorus, as the case may be, contained in that type of manure or substance except as may be otherwise specified in a certificate issued in accordance with Article 32.

(3) The amount of nitrogen or phosphorus available to a crop from a fertiliser of a type which is specified in Table 9 of Schedule 2 in the year of application of

that fertiliser shall, for the purposes of this Part, be deemed to be the percentage specified in that table of the amount of nitrogen or phosphorus, as the case may be, in the fertiliser.

(4) The amount of nitrogen or phosphorus available to a crop from an organic fertiliser of a type which is not specified in Table 9 of Schedule 2 shall be deemed to be the amount specified in the table in relation to cattle manure or, where supported by the necessary analysis, the amount of nitrogen estimated on the basis of the C:N ratio of the compost in accordance with Table 9A unless a different amount has been determined in relation to that fertiliser by, or with the agreement of, the relevant local authority or the Agency, as the case may be.

(5) A reference in this Part to the "nitrogen index" or the "phosphorus index" in relation to soil is a reference to the index number assigned to the soil in accordance with Table 10 or 11 of Schedule 2, as the case may be, to indicate the level of nitrogen or phosphorus available from the soil.

*Duty of occupier in relation to nutrient management*

16. (1) An occupier of a holding shall take all such reasonable steps as are necessary for the purposes of preventing or minimising the application to land of fertilisers in excess of crop requirement on the holding.

(2) For the purposes of the determination of the grassland stocking rate in tables 12, 13A and 13B the previous calendar year's stocking rate data shall be used.

(3) (*a*) For the purposes of this article, the phosphorus index for soil shall be deemed to be phosphorus index 3 unless a soil test indicates that a different phosphorus index is appropriate in relation to that soil.

(*b*) The soil test to be taken into account for the purposes of paragraph (*a*) in relation to soil shall, subject to paragraph (*c*), be the soil test most recently taken in relation to that soil.

(*c*) Where a period of four years or more has elapsed after the taking of a soil test, the results of that test shall be disregarded for the purposes of paragraph (*a*) except in a case where that soil test indicates the soil to be at phosphorus index 4.

(*d*) An occupier of a holding located in an area where soils have an organic matter content of 20% and above, as defined on the Teagasc-EPA Indicative Soils map, shall ensure that the soil test undertaken includes organic matter determination. The phosphorus fertilisation rate for soils with more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils. Soil organic matter determination shall not be required where it is certified by a Farm Advisory System Advisor that soils on a holding/field in such areas are mineral soils.

(4) Without prejudice to the generality of sub-article (1) and subject to sub-article (5), the amount of available nitrogen or available phosphorus applied to

promote the growth of a crop specified in Table 12, 13A, 14, 15, 16, 17, 18, 19, 20 or 21 of Schedule 2 shall not exceed the amount specified in the table in relation to that crop having regard to the relevant nitrogen index or phosphorus index, as the case may be, for the soil on which the crops are to be grown. In the case of crops not identified in the tables listed above, fertilisers shall be applied in accordance with the national agriculture and food development authority's guidance as approved by the Minister for Agriculture, Food and the Marine.

(5) Increased phosphorus build-up on grassland on farms with grassland stocking rates of 130kg nitrogen per hectare and above shall only be permitted in accordance with the rates contained in Table 13B provided that the following conditions are met:

(*a*) Soil analysis is carried out for soil phosphorus and soil organic matter contents; soil organic matter testing shall not be required where it is certified by a Farm Advisory System Advisor that all soils on a holding are mineral soils.

(*b*) An occupier availing of the phosphorus build-up programme shall engage the services of a Department of Agriculture, Food and the Marine approved Farm Advisory System Advisor.

(*c*) A detailed farm nutrient plan for the holding shall be submitted in a format specified by the Minister for Agriculture, Food and the Marine.

(*d*) The occupier shall participate in an appropriate training programme specified by the Minister for Agriculture, Food and the Marine for the purpose of meeting the requirements of these regulations.

(6) In the case of a holding on which grazing livestock are held, the amount of available phosphorus supplied to the holding by concentrated feedstuff shall be the amount fed to such livestock in excess of 300kg per 85kg livestock manure nitrogen in the previous calendar year and the phosphorus content of such concentrated feedstuff shall, in the absence of a known phosphorus content or phosphorus content provided by the supplier, be deemed to be 0.5 kg phosphorus in respect of each 100 kg of such concentrated feedstuff.

(7) The nitrogen and phosphorus maximum limits in Tables 12, 13A and 13B are in addition to the nitrogen and phosphorus contained in grazing livestock manure produced on the holding.

## PART 4

## PREVENTION OF WATER POLLUTION FROM FERTILISERS AND CERTAIN ACTIVITIES

*Distances from a water body and other issues*

17. (1) Chemical fertiliser shall not be applied to land within 2m of any surface waters.

(2) Organic fertiliser or soiled water shall not be applied to land within—

(*a*) 200m of the abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying $100m^3$ or more of water per day or serving 500 or more persons,

(*b*) 100m of the abstraction point (other than an abstraction point specified in paragraph (*a*)) of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying $10m^3$ or more of water per day or serving 50 or more persons,

(*c*) 25m of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (*a*) or (*b*),

(*d*) 20m of a lake shoreline or a turlough likely to flood,

(*e*) 15m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),

(*f*) subject to sub-article (13), 5m of any surface waters (other than a lake or surface waters specified at paragraph (*a*) or (*b*)), or

(*g*) the distance specified in sub-article 2(*f*) shall be increased to 10m for a period of two weeks preceding and two weeks following the periods specified in Schedule 4.

(3) Notwithstanding the requirements of sub-articles (2)(*a*), (2)(*b*) and (2)(*c*), the following distances shall apply—

(*a*) 30m from the abstraction point in the case of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying $10m^3$ or more of water per day or serving 50 or more persons,

(*b*) 15m from the abstraction point in the case of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (*a*).

(4) Sub-article (3) shall only apply in situations where a local authority or Irish Water (as the case may be) has completed a technical assessment of conditions in the vicinity of the abstraction point, including taking into account variation in soil and subsoil conditions, the landspreading pressures in the area, the type of abstraction, available water quality evidence and the likely risk to the water supply source and the local authority, in consultation with Irish Water, where relevant, has determined that the distance does not give rise to a risk to the water supply and a potential danger to human health.

(5) A local authority may, following consultation with Irish Water, where relevant, decide to apply the landspreading restriction to the upstream catchment area and to the close proximity downstream of the abstraction point in the case of any surface waters.

(6) A local authority may, in the case of any particular abstraction point and following consultation with the Agency and, where relevant, Irish Water, specify a greater distance to that specified in sub-articles (2) or (3) where, following prior investigations by Irish Water or the local authority (as the case may be), the local authority is satisfied that such distance is appropriate for the protection of waters being abstracted at that point. The distance so specified shall be determined by the local authority using an evidence-based approach which takes into account the natural vulnerability of the waters to contamination from land spreading, the potential risk to human health arising from the landspreading activity as well as the water quality evidence, including information on water quality trends.

(7) Notwithstanding the provisions of sub-articles (2), (3) and (6), a local authority shall, following prior investigations by Irish Water or the local authority (as the case may be) and following consultation with the Agency and, where relevant, Irish Water, specify an alternative distance, including a landspreading exclusion area where necessary, in the case of a water abstraction for human consumption in a scheme supplying $10m^3$ or more of water per day, or serving 50 or more persons, within a timeframe to be agreed with the Agency and, where relevant, Irish Water, where—

(*a*) on the basis of the results of monitoring carried out for the purposes of Article 7 of the European Communities (Drinking Water) Regulations (S.I. No. 122 of 2014), the quality of water intended for human consumption does not meet the parametric values specified in Part I of the Schedule of those Regulations or the quality of water constitutes a potential danger to human health, and it appears to the local authority following consultation with the Agency and, where relevant, Irish Water, that this is due to the landspreading of organic fertilisers or soiled water in the vicinity of the abstraction point, or

(*b*) investigations undertaken by Irish Water as part of the management of a water supply scheme indicate that the landspreading activity presents a significant risk to the drinking water supply or a potential danger to human health having regard to catchment factors in the vicinity of the abstraction point including but not limited to slope, vulnerability, and hydrogeology, the scale and intensity of land spreading pressures, the type of water supply source and water quality evidence, including information on water quality trends.

(8) A distance specified by a local authority in accordance with sub-articles (3), (5), (6) and (7) may be described as a distance or distances from an abstraction point, a hydrogeological boundary or topographical feature or as an area delineated on a map or in such other way as appears appropriate to the authority.

(9) In relation to sub-articles (6) and (7), "prior investigations" means, in relation to an abstraction point, an assessment of the susceptibility of waters to contamination in the vicinity of the abstraction point having regard to—

(*a*) the direction of flow of surface water or groundwater, as the case may be,

(*b*) the slope of the land and its runoff potential,

(*c*) the natural geological and hydrogeological attributes of the area including the nature and depth of any overlying soil and subsoil and its effectiveness in preventing or reducing the entry of harmful substances to water, and

(*d*) where relevant, the technical specifications set out in the document "Groundwater Protection Schemes" published in 1999 (ISBN 1-899702-22-9) or any subsequent published amendment of that document.

(10) Where a local authority specifies a distance in accordance with either of sub-articles (3), (5), (6) or (7) the authority shall, as soon as may be—

(*a*) notify the affected landowners, Irish Water, the Agency and the Department of Agriculture, Food and the Marine of the distance so specified,

(*b*) send to the Agency a summary of the report of any investigations undertaken and the reasons for specifying the alternative distance,

(*c*) make an entry in the register maintained in accordance with Article 30(6), and

(*d*) publish and maintain on the local authority website an updated schedule of setback distances specified for each drinking water supply.

(11) The Agency may issue advice and/or direction to Irish Water or a local authority in relation to any requirements including requirements for technical assessments and prior investigations arising under sub-articles (2), (3), (4), (5), (6), (7), (8) or (9) and Irish Water or a local authority (as the case may be) shall comply with any such advice or direction given.

(12) Notwithstanding sub-article (2)(*f*), organic fertiliser or soiled water shall not be applied to land within 10m of any surface waters where the land has an average incline greater than 10% towards the water.

(13) Where farmyard manure is held in a field prior to landspreading it shall be held in a compact heap and shall not be placed within-

(*a*) 250m of the abstraction point of any surface waters or borehole, spring or well used for the abstraction of water for human consumption in a

water scheme supplying $10m^3$ or more of water per day or serving 50 or more persons,

(*b*) 50m of any other borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified at paragraph (*a*),

(*c*) 20m of a lake shoreline or a turlough likely to flood,

(*d*) 50m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),

(*e*) 20m of any surface waters (other than a lake or surface waters specified at paragraph (*a*)).

(14) Farmyard manure shall not be held in a field at any time during the periods specified in Schedule 4 as applicable to that substance.

(15) Silage bales shall not be stored outside of farmyards within 20m of surface waters or a drinking water abstraction point in the absence of adequate facilities for the collection and storage of any effluent arising.

(16) No cultivation shall take place within 2m of a watercourse identified on the modern 1:5,000 scale OSi mapping or better, except in the case of grassland establishment or the sowing of grass crops.

(17) Supplementary feeding points shall not be located within 20m of waters and shall not be located on bare rock.

(18) In the case of holdings with grassland stocking rates of 170kgs nitrogen per hectare from livestock manure or above, bovine livestock shall not be permitted to drink directly from waters from 1 January 2021 onwards. Where bovine livestock have direct access to water from the holding, a fence shall be placed at least 1.5m from the top of the riverbank or water's edge (as the case may be) by 1 January 2021. It will be permissible to move livestock across a watercourse to an isolated land parcel where necessary, provided that both sides of the watercourse are fenced.

(19) In the case of holdings identified in sub-Article 18, supplementary drinking points may not be located within 20m of surface waters from 1 January 2021.

(20) There shall be no direct runoff of soiled water from farm roadways to waters from 1 January 2021. The occupier of a holding shall comply with any specification for farm roadways specified by the Minister for Agriculture, Food and the Marine pursuant to this requirement.

(21) There shall be no direct runoff of soiled waters to waters resulting from the poaching of land on the holding.

*Requirements as to manner of application of fertilisers, soiled water etc*

18. (1) Livestock manure, other organic fertilisers, effluents, soiled water and chemical fertilisers shall be applied to land in as accurate and uniform a manner as is practically possible.

(2) Organic and chemical fertilisers or soiled water shall not be applied to land in any of the following circumstances—

(*a*) the land is waterlogged;

(*b*) the land is flooded or likely to flood;

(*c*) the land is snow-covered or frozen;

(*d*) heavy rain is forecast within 48 hours, or

(*e*) the ground slopes steeply and there is a risk of water pollution having regard to factors such as surface runoff pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover.

(3) A person shall, for the purposes of sub-article (2)(*d*), have regard to weather forecasts issued by Met Éireann.

(4) Organic fertilisers or soiled water shall not be applied to land—

(*a*) by use of an umbilical system with an upward-facing splashplate,

(*b*) by use of a tanker with an upward-facing splashplate,

(*c*) by use of a sludge irrigator mounted on a tanker, or

(*d*) from a road or passageway adjacent to the land irrespective of whether or not the road or passageway is within or outside the curtilage of the holding.

(5) Subject to sub-article (6), soiled water shall not be applied to land—

(*a*) in quantities which exceed in any period of 42 days a total quantity of 50,000 litres per hectare, or

(*b*) by irrigation at a rate exceeding 5 mm per hour.

(6) In an area which is identified on maps compiled by the Geological Survey of Ireland as "Extreme Vulnerability Areas on Karst Limestone Aquifers", soiled water shall not be applied to land—

(*a*) in quantities which exceed in any period of 42 days a total quantity of 25,000 litres per hectare, or

(*b*) by irrigation at a rate exceeding 3 mm per hour unless the land has a consistent minimum thickness of 1m of soil and subsoil combined.

(7) For the purposes of sub-article (6), it shall be assumed until the contrary is shown that areas so identified as "Extreme Vulnerability Areas on Karst Limestone Aquifers" do not have a consistent minimum thickness of 1m of soil and subsoil combined.

*Periods when application of fertilisers is prohibited*

19. (1) Subject to this article, the application of fertiliser to land is prohibited during the periods specified in Schedule 4.

(2) Sub-article (1) shall not apply in relation to the application to land of—

(*a*) soiled water, or

(*b*) chemical fertilisers to meet the crop requirements of Autumn-planted cabbage or of crops grown under permanent cover, or

(*c*) fertilisers whose application rate or usage rate is less than 1kg per hectare of available nitrogen or phosphorus.

*Limits on the amount of livestock manure to be applied*

20. (1) 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 of nitrogen per hectare. Where imported livestock manure is to be applied to the land on the holding, calculations shall be based on the previous calendar year's stocking rate.

(2) For the purposes of sub-article (1), the amount of nitrogen produced by livestock and the nitrogen content of livestock manure shall be calculated in accordance with Tables 6, 7 and 8 of Schedule 2 except in the case of pig manure or poultry manure where a different amount is specified in a certificate issued in accordance with Article 32 in relation to that manure.

(3) For the purposes of sub-article (1), the area of a holding shall be deemed to be the eligible area of the holding.

*Ploughing and the use of non-selective herbicides*

21. (1) Where arable land is ploughed between 1 July and 30 November the necessary measures shall be taken to provide for emergence, within 6 weeks of ploughing, of green cover from a sown crop. A rough surface shall be maintained prior to a crop being sown in the case of lands ploughed between 1 December and 15 January.

(2) Where grassland is ploughed between 1 July and 15 October the necessary measures shall be taken to provide for emergence by 1 November of green cover from a sown crop.

(3) Grassland shall not be ploughed between 16 October and 30 November.

(4) (*a*) When a non-selective herbicide is applied to arable land or to grassland in the period between 1 July and 30 November the necessary measures shall be taken to provide for the emergence, within 6 weeks

of the application, of green cover from a sown crop or from natural regeneration.

(*b*) When a non-selective herbicide is applied to land after 15 October, the requirement in sub-article 4 (*a*) shall be reduced to 75% of the relevant cereal area where a contract is in place for seed crops or crops producing grain destined for human consumption which prohibits the application of a non- selective herbicide preharvest.

(5) Where green cover is provided for in compliance with this Article, the cover shall not be removed by ploughing or by the use of a non-selective herbicide before 1 December unless a crop is sown within two weeks of its removal.

(6) In the case of land which is ploughed in the course of a ploughing competition under the auspices of the National Ploughing Association, a temporary exemption applies in the form of an extension to the time period specified in sub-article (1) or (2) for establishment of green cover after the land is ploughed.

## PART 5

## GENERAL

*General duty of occupier*

22. (1) An occupier of a holding shall ensure compliance with the provisions of these Regulations in relation to that holding.

(2) An occupier of a holding shall comply with any advice or guidelines which may be issued from time to time for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

*Keeping of records by occupier*

23. (1) Records shall be maintained for each holding which shall indicate—

(*a*) total area of the holding,

(*b*) eligible area of the holding,

(*c*) cropping regimes and their individual areas,

(*d*) livestock numbers and type,

(*e*) an estimation of the annual fertiliser requirement for the holding and a copy of any Nutrient Management Plan prepared in relation to the holding,

(*f*) quantities and types of chemical fertilisers moved on to or off the holding, including opening stock, records of purchase and closing stock,

(*g*) livestock manure and other organic fertilisers moved on to or off the holding including quantities, type, dates and details of exporters and

importers, as the case may be, in a format specified by the Minister for Agriculture, Food and the Marine,

(*h*) the results of any soil tests carried out in relation to the holding,

(*i*) the nature and capacity of facilities on the holding for the storage of livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps, including an assessment of compliance with Articles 9 to 14,

(*j*) the quantities and types of concentrated feedstuff fed to grazing livestock on the holding, and

(*k*) the location of any abstraction point of water used for human consumption from any surface waters, borehole, spring or well.

(2) Where fertiliser is used on a holding and a certificate of the type mentioned in Article 15 or 20 was issued in relation to that fertiliser in accordance with Article 32, a copy of the certificate shall be retained and be available for inspection on the holding for a period of not less than five years from the expiry of validity of the certificate.

(3) Records shall be prepared for each calendar year by 31 March of the following year and shall be retained for a period of not less than five years.

(4) Notwithstanding sub-paragraphs (1), (2) and (3), an occupier shall, where requested by the Minister, the Minister for Agriculture, Food and the Marine, a local authority or the Agency, provide such information as is requested relating to the movement of organic fertilisers on or off the holding.

*False or misleading information*

24. A person shall not compile information which is false or misleading to a material extent or furnish any such information in any notice or other document for the purposes of these Regulations.

*Authorised person*

25. (1) In this Article, "authorised person" means—

(*a*) a person who is an authorised person for the purposes of section 28 of the Local Government (Water Pollution) Act, 1977 (No. 1 of 1977), or

(*b*) a person appointed under sub-article (11) to be an authorised person for the purposes of these Regulations.

(2) An authorised person may for any purpose connected with these Regulations—

(*a*) enter and inspect any premises for the purposes of performing a function under these Regulations or of obtaining any information which he or she may require for such purposes,

(*b*) at all reasonable times, or at any time if he or she has reasonable grounds for believing that there is or may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, arising from the carrying on of an activity at a premises, enter any premises and bring onto those premises such other persons (including a member of the Garda Síochána) or equipment as he or she may consider necessary, or

(*c*) at any time if he or she has reasonable grounds for suspecting there may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, involving the use of any vehicle halt and board the vehicle and require the driver of the vehicle to take it to a place designated by the authorised person, and such a vehicle may be detained at that place by the authorised person for such period as he or she may consider necessary.

(3) An authorised person shall not enter into a private dwelling under this article unless one of the following conditions applies—

(*a*) the entry is effected with the consent of the occupier or

(*b*) the entry is authorised by a warrant issued under sub-article (7).

(4) Whenever an authorised person enters any premises or boards any vehicle, under this article, he or she may—

(*a*) take photographs and carry out inspections, record information on data loggers, make tape, electrical, video or other recordings,

(*b*) carry out tests and make copies of documents (including records kept in electronic form) found therein and take samples,

(*c*) monitor any effluent, including trade effluent or other matter, which is contained in or discharged from a premises,

(*d*) carry out surveys, take levels, make excavations and carry out examinations of depth and nature of subsoil,

(*e*) require that the premises or vehicle or any part of the premises or anything in the premises or vehicle shall be left undisturbed for a specified period,

(*f*) require information from an occupier of the premises of any occupant of the vehicle or any person employed on the premises or any other person on the premises,

(*g*) require the production of, or inspect, records (including records held in electronic form) or documents, or take copies of or extracts from any records or documents, and

(*h*) remove and retain documents and records (including documents held in electronic form) for such period as may be reasonable for further examination,

which the authorised person, having regard to all the circumstances, considers necessary for the purposes of exercising any function under these Regulations.

(5) (*a*) An authorised person who, having entered any premises or boarded any vehicle pursuant to these Regulations, considers that a risk to the environment arises from the carrying on of an activity at the premises or involving the use of the vehicle, may direct the owner or occupier of the premises or the driver of the vehicle to take such measures as are considered by that authorised person to be necessary to remove that risk.

(*b*) If the owner, occupier or driver referred to in paragraph (*a*) fails to comply with a direction of an authorised person under this subsection, the authorised person may do all things as are necessary to ensure that the measures required under the direction are carried out and the costs incurred by him or her in doing any such thing shall be recoverable from the owner or occupier by him or her, or the person by whom he or she was appointed.

(6) A person shall not—

(*a*) refuse to allow an authorised person to enter any premises or board any vehicle or to bring any person or equipment with him or her in the exercise of his or her powers,

(*b*) obstruct or impede an authorised person in the exercise of any of his or her powers,

(*c*) give to an authorised person information which is to his or her knowledge false or misleading in a material respect, or

(*d*) fail or refuse to comply with any direction or requirement of an authorised person.

(7) (*a*) Where an authorised person in the exercise of his or her powers under this Article is prevented from entering any premises, or if the authorised person has reason to believe that evidence related to a suspected offence under these Regulations may be present in any premises and that the evidence may be removed therefrom or destroyed, or if the authorised person has reason to believe that there is a significant immediate risk to the environment, the authorised person or the person by whom he or she was appointed may apply to the District Court for a warrant under this Article authorising the entry by the authorised person onto or into the premises.

(*b*) If, on application being made to the District Court under this Article, the District Court is satisfied, on the sworn information of the authorised person that he or she has been prevented from entering a premises, the Court may issue a warrant authorising that person, accompanied, if the Court deems it appropriate by another authorised person or a member of the Garda Síochána, as may be specified in the warrant, at any time or times within one month from the date of the issue of the warrant, on production if so requested of the warrant, to enter, if need be by force, the premises concerned and exercise the powers referred to in sub-article (4) or (5).

(8) An authorised person may, in the exercise of any power conferred on him or her by these Regulations involving the bringing of any vehicle to any place, or where he or she anticipates any obstruction in the exercise of any other power conferred on him or her by these Regulations, request a member of the Garda Síochána to assist him or her in the exercise of such a power and any member of the Garda Síochána to whom he or she makes such a request shall comply with this request.

(9) Any certificate or other evidence given, or to be given, in respect of any test, examination or analysis of any sample shall, in relation to that sample, be evidence, without further proof, of the result of the test, examination or analysis unless the contrary is shown.

(10) When exercising any power conferred on him or her by these Regulations an authorised person shall, if requested by any person affected, produce a certificate or other evidence of his or her appointment as an authorised person.

(11) A person may be appointed as an authorised person for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

(12) In this article "premises" includes land whether or not there are any structures on the land.

*Offences and related matters*

26. (1) A person who contravenes a provision of Parts 2 to 5 and Schedule 5 of these Regulations, excluding Article 17(5), (6), (7), (10) and (11), is guilty of an offence and shall be liable—

(*a*) on summary conviction to a Class A fine or to imprisonment for a term not exceeding 3 months or both or,

(*b*) on conviction on indictment to a fine not exceeding €500,000 or to imprisonment for a term not exceeding one year or to both such fine and such imprisonment.

(2) Where an offence under these Regulations has been committed by a body corporate and it is proved to have been so committed with the consent or connivance of or to be attributable to any neglect on the part of any person who, when the offence was committed, was a director, manager, secretary or other

officer of the body corporate, or a person purporting to act in any such capacity, that person, as well as the body corporate, is guilty of an offence and liable to be proceeded against and punished as if guilty of the first-mentioned offence.

(3) Where the affairs of a body corporate or unincorporated body are managed by its members, sub-article (2) shall apply to the acts and defaults of a member in connection with the functions of management as if such a member were a director or manager of the body.

(4) A prosecution for a summary offence under these Regulations may be taken by a local authority or the Agency.

(5) A prosecution for a summary offence may be taken by a local authority whether or not the offence is committed in the functional area of the authority.

(6) Where a court imposes a fine or affirms or varies a fine imposed by another court for an offence under these Regulations, prosecuted by the Agency or a local authority, it shall, on the application of the Agency or local authority concerned (made before the time of such imposition, affirmation or variation), provide by order for the payment of the amount of the fine to the Agency or local authority, as the case may be, and such payment may be enforced by the Agency or local authority, as the case may be, as if it were due to it on foot of a decree or order made by the court in civil proceedings.

(7) Where a person is convicted of an offence under these Regulations the court shall, unless it is satisfied that there are special and substantial reasons for not so doing, order that person to pay to the Agency or local authority concerned the costs and expenses, measured by the court, reasonably incurred by the Agency or local authority in relation to the investigation, detection and prosecution of the offence, including costs incurred in the taking of samples, the carrying out of tests, examinations and analyses and in respect of the remuneration and other expenses of employees, consultants and advisers.

(8) (*a*) Where a local authority has reason to believe that an offence has been or is being committed in relation to a holding the authority may by notice require the person who appears to the authority to be the occupier to provide such information as is specified in the notice in relation to the alleged offence and it shall be the duty of that person to provide such information within the time frame specified in the notice insofar as is known to him or her.

(*b*) A notice issued in accordance with paragraph (*a*) shall set out the provisions of Articles 22(1) and 24 and of sub-article (1).

(9) Where a local authority considers that an offence under these Regulations has been or is being committed in relation to a holding the authority shall take such enforcement measures as are warranted by the circumstances and as are necessary to ensure satisfactory compliance with these Regulations and which, save in the case of a trivial or insignificant offence or specific mitigating circumstances, shall include prosecution for the alleged offence.

(10) (*a*) Where on application by motion by the Agency or a local authority to the District Court, Circuit Court or the High Court, the court hearing the application is satisfied that a person has failed or is failing to comply with a provision of Parts 2 to 5 of these Regulations, the court may by order—

(i) direct the person to comply with the provisions,

(ii) make such other provision, including provision in relation to the payment of costs, as the court considers appropriate, and

(iii) make such interim or interlocutory order as it considers appropriate.

(*b*) An application for an order under this Article may be made whether or not there has been a prosecution for an offence under these Regulations in relation to the relevant failure of compliance and shall not prejudice the initiation of a prosecution for an offence under these Regulations in relation to the failure of compliance.

(11) The powers, duties and functions assigned to a local authority or the Agency by this Article are additional to, and not in substitution for, the powers, duties and functions assigned by the Local Government (Water Pollution) Acts 1977 and 1990 or any other statute.

(12) A local authority shall maintain a register of inspections undertaken of farm holdings and information received for the purposes of Article 26(8) and shall keep updated a record of all enforcement measures undertaken in accordance with the requirements of Article 26(9).

## PART 6

## FUNCTIONS OF PUBLIC AUTHORITIES

*Minister for Agriculture, Food and the Marine*

27. (1) The Minister for Agriculture, Food and the Marine shall carry out, or cause to be carried out, such monitoring and evaluation programmes in relation to farm practices as may be necessary to determine the effectiveness of measures being taken in accordance with these Regulations.

(2) The Minister for Agriculture, Food and the Marine shall, in relation to each year, make the overall results of monitoring and evaluations carried out in accordance with sub-article (1) available to the Agency, to the Minister and, on request, to a local authority.

(3) The Minister for Agriculture, Food and the Marine shall prepare and keep updated a register of all holdings and shall, on request, make a copy of the register available to the Minister, the Agency or a local authority.

(4) The Minister for Agriculture, Food and the Marine shall make available to the Minister, a local authority and/or the Agency a report of an inspection or

inspections carried out for the purposes of these Regulations and/or upon written request other information in relation to any holding or holdings as the case may be where such transfer of data is necessary for the purposes of ensuring compliance with these Regulations.

(5) The Minister for Agriculture, Food and the Marine shall make available to the Minister, a local authority and its agents upon written request information in relation to any holding or holdings as the case may be where such transfer of data is necessary for the purposes of promoting compliance with these Regulations.

*Making and review of action programme by the Minister*

28. (1) The Minister shall, following consultation with the Minister for Agriculture, Food and the Marine and other interested parties in accordance with this Article, prepare and publish not later than 31 December 2021 and every four years thereafter, a programme of measures (hereafter in this Article referred to as "an action programme") for the protection of waters against pollution from agriculture.

(2) An action programme required by sub-article (1) shall include all such measures as are necessary for the purposes of Article 5 of the Nitrates Directive and shall contain a review of the action programme most recently made for those purposes and of such additional measures and reinforced actions as may have been taken.

(3) The Minister shall ensure that all interested parties are given early and effective opportunities to participate in the preparation, review and revision of an action programme required by this Article and for this purpose shall—

(*a*) inform interested parties by public notices or other appropriate means including electronic media, in relation to any proposals for the preparation, review or revision of an action programme,

(*b*) make available to interested parties information in relation to the proposals referred to in paragraph (*a*) including information about the right to participate in decision-making in relation to those proposals,

(*c*) provide an opportunity for comment by interested parties before any decision is made on the establishment, review or revision of an action programme,

(*d*) in making any such decision, take due account of the comments made by interested parties and the results of the public participation, and

(*e*) having examined any comments made by interested parties, make reasonable efforts to inform those parties of the decisions taken and the reasons and considerations on which those decisions are based, including information on the public participation process.

(4) The Minister shall ensure that such reasonable time is allowed as is sufficient to enable interested parties to participate effectively.

(5) Where the Minister publishes any information in accordance with this Article, the Minister shall—

(*a*) do so in such manner as the Minister considers appropriate for the purpose of bringing that information to the attention of the public, and

(*b*) make copies of that information accessible to interested parties free of charge through a website or otherwise.

(6) The Minister shall specify by way of public notice on a website or otherwise the detailed arrangements made to enable public participation in the preparation, review or revision of an action programme, including—

(*a*) the address to which comments in relation to those proposals may be submitted, and

(*b*) the date by which such comments should be received.

(7) In this Article "interested parties" includes persons who—

(*a*) are carrying on any business which relies upon the water environment or which is affected, or likely to be affected, by the action programme, or

(*b*) are carrying on any activities which have or are likely to have an impact on water status, or

(*c*) have an interest in the protection of the water environment whether as users of the water environment or otherwise.

*Agency*

29. (1) The Agency shall prepare at four-yearly intervals a report in accordance with Article 10 of the Nitrates Directive and shall submit such report to the Minister.

(2) The Agency shall undertake a review of progress made in implementing these Regulations and shall submit a report to the Minister by 30 June 2021 and every four years thereafter with the results of that review and with recommendations as to such additional measures, if any, as appear to be necessary to prevent and reduce water pollution from agricultural sources.

(3) In preparing the reports required under sub-articles (1) and (2) the Agency shall consult with the Department of Agriculture, Food and the Marine and the co-ordinating local authority in each river basin district, and such other persons as it considers appropriate.

(4) The Department of Agriculture, Food and the Marine, the relevant local authorities and Irish Water shall provide the Agency with such information appropriate to their functions as may be requested by the Agency for the purposes of these Regulations.

(5) Each monitoring programme prepared by the Agency for the purposes of Article 10 of European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) shall include provision for such monitoring as is necessary for the purposes of these Regulations.

(6) The Agency shall, from time to time as it considers appropriate, make recommendations and give directions to a local authority in relation to the monitoring and inspections to be carried out, or other measures to be taken, by the authority for the purposes of these Regulations and may revise such recommendations and directions at such times thereafter as the Agency considers appropriate.

(7) The powers, duties and functions assigned to the Agency by these Regulations are additional to, and not in substitution for, the powers, duties and functions assigned to the Agency by section 63 of the Environmental Protection Agency Act, 1992 (No. 7 of 1992) or any other statute.

*Local authorities*

30. (1) A local authority shall carry out, or cause to be carried out, such monitoring of surface waters and groundwaters at selected measuring points within its functional area as makes it possible to establish the extent of pollution in the waters from agricultural sources and to determine trends in the occurrence and extent of such pollution.

(2) A local authority shall carry out or cause to be carried out such inspections of farm holdings as is necessary for the purposes of these Regulations and shall aim to co-ordinate its inspection activities with inspections carried out by other public authorities.

(3) For the purposes of sub-article (2) a local authority shall aim to develop co-ordination arrangements with other public authorities with a view to promoting consistency of approach in inspection procedures and administrative efficiencies between public authorities and to avoid any unnecessary duplication of administrative procedures and shall have regard to any inspection protocol which may be developed by the Minister, following consultation with the Minister for Agriculture, Food and the Marine.

(4) A local authority shall, in the exercise of its functions for the purposes of these Regulations—

(*a*) consult to such extent as it considers appropriate with the Minister, the Minister for Agriculture, Food and the Marine, the Agency, Irish Water and such other persons as it considers appropriate, and

(*b*) have regard to any recommendations made, and comply with any direction given, to the authority by the Agency in accordance with Article 29.

(5) A local authority shall follow the protocol as established by the Minister for furnishing a report of an inspection or inspections to the Department of

Agriculture, Food and the Marine and such other persons as it considers appropriate for the purposes of these Regulations where non-compliance has been detected.

(6) A local authority shall maintain a register of all prior investigations carried out by the local authority itself or carried out by Irish Water within its jurisdiction, and distances specified, for the purposes of Article 17.

*Compliance with Data Protection Acts*

31. The provision of information by a local authority, the Agency or the Minister for Agriculture, Food and the Marine in accordance with Article 27, 29 or 30 of these Regulations shall not be a breach of the Data Protection Acts, 1988 and 2003.

*Certificate in relation to nutrient content of fertiliser*

32. (1) A certificate of the type specified in Article 15 or 20 may be issued by a competent authority where the authority is satisfied that the nutrient content of the fertiliser in question has been assessed on the basis of appropriate methodologies based on net farm balance and is as specified in the certificate.

(2) A certificate issued under this Article shall be valid for such period, not exceeding twelve months, as shall be specified in the certificate.

(3) In this Article "competent authority" means—

(*a*) the Agency in relation to fertiliser arising in an activity in relation to which there is in force a licence under Part IV of the Act of 1992, and

(*b*) the Minister for Agriculture, Food and the Marine in relation to any other fertiliser.

(4) Notice of the methodologies used for the purposes of sub-article (1) shall be notified to the European Commission by the competent authority.

*Exemption for exceptional circumstances for research*

33. (1) A temporary exemption from a requirement of these Regulations may be granted to a person by the Agency or the Minister for Agriculture, Food and the Marine in the case of exceptional circumstances relating to research.

(2) A temporary exemption for the purposes of sub-article (1) shall be granted by way of certificate issued to a person by the Agency or the Minister for Agriculture, Food and the Marine and shall be subject to such conditions, if any, as are specified in the certificate.

(3) A certificate issued for the purposes of this Article shall specify the nature, extent and duration of the exemption to which the certificate relates and a copy of the certificate shall be sent as soon as may be to the relevant local authority.

*Transitional provisions*

34. Notwithstanding Articles 16 and 26 and sub-article (2), the application to land of phosphorus in excess of the quantities prescribed by Article 16 shall not be an offence for the purposes of Article 16 in a case where—

(*a*) the excess arises from the application of pig manure, and

(*b*) the excess amount does not exceed the amounts specified in Schedule 2, Table 22 of these Regulations from the prescribed dates.

SCHEDULE 1

SOIL TEST

A soil test refers to the results of an analysis of a soil sample carried out by a soil-testing laboratory that meets the requirements of the Minister for Agriculture, Food and the Marine for this purpose.

The analysis for phosphorus and, where appropriate, organic matter content and soil pH, and the taking of soil samples shall be carried out in accordance with the procedures below.

**Analysis for Phosphorus**

The Morgan's extractable P test as detailed below shall be used to determine the Soil P Index.

**Preparation of soil sample**

The soil shall be dried at 40°C for at least 24 hours (longer if necessary to ensure complete drying) in a forced draught oven with moisture extraction facilities. It shall then be sieved through a 2 mm mesh screen to remove stones and plant debris. After thorough mixing, it shall be sub-divided to obtain a representative sample. Where large samples are received at the laboratory, the entire sample shall be dried and sieved prior to sub-sampling for analysis.

**Morgan's extracting solution**

Constituents:— 1,400 ml of 40% NaOH in approximately 15 litres of water. Add 1,440 ml of glacial acetic acid. Make up to 20 litres with water and adjust pH to 4.8. The pH of the solution must be checked regularly and adjusted as necessary before use. A volume ratio of one part sieved soil to five parts of solution must be used, e.g. 6 ml of the prepared soil sample is extracted with a 30 ml volume of Morgan's extracting solution. The sample shall be shaken for 30 minutes to get a suitable mix and permit intended reaction, after which it is filtered through a No. 2 Whatman filter paper into vials for analysis. The filtered extract shall be analysed using standard laboratory techniques.

Results shall be reported in mg per litre.

**Analysis of organic matter**

Organic matter content shall be determined by loss on ignition.

Place a quantity of the prepared soil sample in an oven for 16 hours at 105°C. Remove and cool in a desiccator. Put approximately 4g of this soil into a pre-weighed crucible and determine the weight of the soil (initial weight). Place in a muffle furnace at 500°C for 16 hours for ashing. Remove the crucible, cool in a desiccator and determine the weight of the ash (final weight).

The organic matter of the soil is the difference in weight between the initial and final weights expressed as a percentage of the initial weight.

**Analysis of soil pH**

Soil pH shall be determined by measuring pH in a soil:water suspension of 1:2 ratio. Place 10 ml of dried sieved soil and 20 mls of deionised water into a suitable container. Mix thoroughly and allow to stand for at least 10 minutes. Stir for 30 seconds, and allow to settle immediately before recording the pH on a meter calibrated using buffer solutions of pH 4.0 and 7.0

**Soil Sampling Procedure**

The soil sample shall be taken in accordance with the procedure as specified below:

(*a*) The sampling area shall not exceed 4 hectares. Exceptionally, where soil types and cropping of lands were similar during the previous five years, a sample area of up to 5 hectares shall be deemed acceptable.

(*b*) Separate samples shall be taken from areas that are different in soil type, previous cropping history, slope, drainage or persistent poor yields.

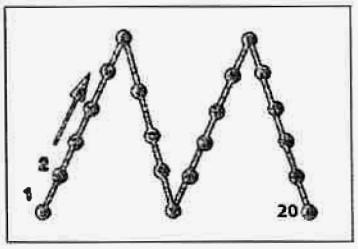
(*c*) Any unusual spots such as old fences, ditches, drinking troughs, dung or urine patches or where fertiliser or lime has been heaped or spilled shall be avoided.

(*d*) A field shall not be sampled for phosphorus until 3 months after the last application of any fertiliser containing this nutrient (chemical or organic).

(*e*) The sampling pattern shown in the figure below shall be followed. A soil core shall be taken to the full 100 mm depth. 20 cores shall be taken from the sampling area and placed in the soil container to make up the sample. Ensure the container is full of soil.

(*f*) The field and sample numbers shall be written/attached onto the soil container.

Figure 1: Sampling pattern



## SCHEDULE 2

## CRITERIA AS TO STORAGE CAPACITY AND NUTRIENT MANAGEMENT

### Table 1 Slurry storage capacity required for sows and pigs

| Unit type | $m^3$/week[1] | | | | |
|---|---|---|---|---|---|
| Water:meal ratio changing for finishers only | 2.0:1 | 2.5:1 | 3.0:1 | 3.5:1 | 4.0:1 |
| Breeding unit (per sow place) | - | - | - | - | 0.174 |
| Integrated unit (per sow place) | 0.312 | 0.355 | 0.398 | 0.441 | 0.483 |
| Finishing unit (per pig) | 0.024 | 0.031 | 0.039 | 0.046 | 0.053 |

[1]An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

### Table 2 Slurry storage capacity required for cattle, sheep and poultry

| Livestock type | $m^3$/week[1] |
|---|---|
| Dairy cow | 0.33 |
| Suckler cow | 0.29 |
| Cattle > 2 years | 0.26 |
| Cattle (18-24 months old) | 0.26 |
| Cattle (12-18 months old) | 0.15 |
| Cattle (6-12 months old) | 0.15 |
| Cattle (0-6 months old) | 0.08 |
| Lowland ewe | 0.03 |
| Mountain ewe | 0.02 |
| Lamb-finishing | 0.01 |
| Poultry — layers per 1000 birds (30% DM) | 0.81 |

[1]An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

### Table 3 Storage capacity required for dungstead manure

| Livestock type | Solid fraction ($m^3$/week) | Seepage fraction ($m^3$ /week)[1] |
|---|---|---|
| Dairy cow | 0.28 | 0.04 |
| Suckler cow | 0.25 | 0.03 |
| Cattle > 2 years | 0.23 | 0.02 |
| Cattle (18-24 months old) | 0.23 | 0.02 |
| Cattle (12-18 months old) | 0.13 | 0.01 |
| Cattle (6-12 months old) | 0.13 | 0.01 |
| Cattle (0-6 months old) | 0.07 | 0.01 |

[1]Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 4 Average net rainfall during the specified storage period

| County | Millimetres per week |
|---|---|
| Carlow | 24 |
| Cavan | 27 |
| Clare | 32 |
| Cork | 37 |
| Donegal | 38 |
| Dublin | 17 |
| Galway | 34 |
| Kerry | 45 |
| Kildare | 18 |
| Kilkenny | 23 |
| Laois | 22 |
| Leitrim | 33 |
| Limerick | 26 |
| Longford | 23 |
| Louth | 20 |
| Mayo | 40 |
| Meath | 19 |
| Monaghan | 23 |
| Offaly | 20 |
| Roscommon | 26 |
| Sligo | 32 |
| Tipperary | 27 |
| Waterford | 31 |
| Westmeath | 21 |
| Wexford | 25 |
| Wicklow | 33 |

*Article 9*

Table 5 Storage capacity required for effluent produced by ensiled forage

| Crop | Minimum storage requirement | ($m^3$/100 tonnes) |
|---|---|---|
| | Short Term Storage[1] | Full Storage |
| Grass | 7 | 21 |
| Arable silage | 7 | 21 |
| Maize | 4 | 10 |
| Sugar beet tops | 15 | 50 |

[1]Only permitted where a vacuum tanker or an irrigation system is available on the holding.

Article 14 and 20

Table 6 Annual nutrient excretion rates for livestock

| Livestock type | Total Nitrogen | Total Phosphorus |
|---|---|---|
| | kg/year | kg/year |
| Dairy cow | 85 | 13 |
| Suckler cow | 65 | 10 |
| Cattle (0-1 year old) | 24 | 3 |
| Cattle (1-2 years old) | 57 | 8 |
| Cattle > 2 years | 65 | 10 |
| Mountain ewe & lambs | 7 | 1 |
| Lowland ewe & lambs | 13 | 2 |
| Mountain hogget | 4 | 0.6 |
| Lowland hogget | 6 | 1 |
| Goat | 9 | 1 |
| Horse (>3 years old) | 50 | 9 |
| Horse (2-3 years old) | 44 | 8 |
| Horse (1-2 years old) | 36 | 6 |
| Horse foal (< 1 year old) | 25 | 3 |
| Donkey/small pony | 30 | 5 |
| Deer (red) 6 months — 2 years | 13 | 2 |
| Deer (red) > 2 years | 25 | 4 |
| Deer (fallow) 6 months — 2 years | 7 | 1 |
| Deer (fallow) > 2 years | 13 | 2 |
| Deer (sika) 6 months — 2 years | 6 | 1 |
| Deer (sika) > 2 years | 10 | 2 |
| Breeding unit (per sow place) | 35 | 8 |
| Integrated unit (per sow place) | 87 | 17 |
| Finishing unit (per pig place) | 9.2 | 1.7 |
| Laying hen per bird place | 0.56 | 0.12 |
| Broiler per bird place | 0.24 | 0.09 |
| Turkey per bird place | 1 | 0.4 |

Article 15 and 20

Table 7 Amount of nutrient contained in $1m^3$ of slurry

| Livestock type | Total Nitrogen (kg) | Total Phosphorus (kg) |
|---|---|---|
| Cattle | 5.0 | 0.8 |
| Pig | 4.2 | 0.8 |
| Sheep | 10.2 | 1.5 |
| Poultry — layers 30% DM | 13.7 | 2.9 |

For the purposes of calculation, assume that 1 $m^3$ = 1,000 litres = 1 tonne.

Table 8 Amount of nutrients contained in 1 tonne of organic fertilisers other than slurry

| Livestock type | | Total Nitrogen (kg) | Total Phosphorus (kg) |
|---|---|---|---|
| Poultry manure | broilers/deep litter | 11.0 | 6.0 |
| | layers 55% dry matter | 23.0 | 5.5 |
| | turkeys | 28.0 | 13.8 |
| Dungstead manure (cattle) | | 3.5 | 0.9 |
| Farmyard manure | | 4.5 | 1.2 |
| Spent mushroom compost | | 8 | 1.5 |
| Sewage sludge | | Total nitrogen and total phosphorus content per tonne shall be declared by the supplier in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations,1998 to 2001 and any subsequent amendments thereto. | |
| Dairy processing residues and other products not listed above | | Total nitrogen and total phosphorus content per tonne based on certified analysis shall be provided by the supplier. | |

Article 15

Table 9 Nutrient availability in fertilisers

| Fertiliser | Availability (%) | | |
|---|---|---|---|
| | Nitrogen | Phosphorus | |
| | | Soil Index 1& 2 | Soil Index 3 & 4 |
| Chemical | 100 | 100 | 100 |
| Pig and poultry manure | 50 | 50 | 100 |
| Farmyard manure | 30 | 50 | 100 |
| Spent mushroom compost | 20 | 50 | 100 |
| Cattle and other livestock manure (including that produced on the holding) | 40 | 50 | 100 |

Table 9A Nutrient availability in compost

| Compost C:N ratio[1] | N availability (%) |
|---|---|
| <10 | 25 |
| 12.5 | 17.5 |
| 15.0 | 10 |
| 17.5 | 5.5 |
| >20 | 0.0 |

[1]The determination of the C:N ratio shall be based on a methodology agreed with the Agency or the Minister for Agriculture, Food and the Marine

Table 10 Determining nitrogen index for tillage crops

| Tillage crops that follow permanent pasture | | | |
|---|---|---|---|
| Nitrogen Index | | | |
| Index 1 | Index 2 | Index 3 | Index 4 |
| The 5th tillage crop following permanent pasture. For subsequent tillage crops use the continuous tillage table. | The 3rd or 4th tillage crop following permanent pasture. If original permanent pasture was cut only, use index 1. | The 1st or 2nd tillage crop following permanent pasture (see also Index 4). If original permanent pasture was cut only, use index 2. | The 1st or 2nd tillage crop following very good permanent pasture which was grazed only. |
| Continuous tillage: — crops that follow short leys (1-4 years) or tillage crops | | | |
| Previous crop | | | |
| Index 1 | Index 2 | Index 3 | Index 4 |
| Cereals<br>Maize | Sugar beet<br>Fodder beet<br>Potatoes<br>Mangels<br>Kale<br>Oil seed rape, Peas, Beans | | |
| | Leys (1-4 years) grazed or cut and grazed | | |
| | Swedes removed | Swedes grazed in situ | |
| Vegetables receiving less than 200 kg/ha nitrogen | Vegetables receiving more than 200 kg/ha nitrogen | | |

Table 11 Phosphorus index system

| Soil phosphorus index | Soil phosphorus ranges (mg/l) | |
|---|---|---|
| | Grassland | Other crops |
| 1 | 0.0-3.0 | 0.0-3.0 |
| 2 | 3.1-5.0 | 3.1-6.0 |
| 3 | 5.1-8.0 | 6.1-10.0 |
| 4 | > 8.0 | >10.0 |

Table 12 Annual maximum fertilisation rates of nitrogen on grassland

| Grassland stocking rate[1] | Available Nitrogen[2] |
|---|---|
| (kg/ha/year) | (kg/ha) |
| ⩽170 | 206 |
| Grassland stocking rate greater than 170 kg/ha/year[3, 4] | |
| 171-210 | 282 |
| 211-250 | 250 |
| >250 | 250[5] |

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (ha) (grazing and silage area). Stocking rate refers to grassland area only.
[2]The maximum nitrogen fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[3]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive).
[4]From 1 January 2021 these fertilisation rates are only applicable where the fertiliser type specified by the Minister for Agriculture, Food and the Marine is used.
[5]The application of nitrogen from livestock manure (including that deposited by the animals themselves) to the eligible grassland area shall not exceed 250 kg nitrogen per hectare per year.

Table 13A Annual maximum fertilisation rates of phosphorus on grassland

| Grassland stocking rate[1] (kg/ha/year) | Phosphorus Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha) [2,3,6] | | | |
| <85 | 27 | 17 | 7 | 0 |
| 86-130 | 30 | 20 | 10 | 0 |
| 131-170 | 33 | 23 | 13 | 0 |
| Grassland stocking rate greater than 170 kg/ha/year[4,5] | | | | |
| 171-210 | 36 | 26 | 16 | 0 |
| 211-250 | 39 | 29 | 19 | 0 |
| >250 | 39 | 29 | 19 | 0 |

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.
[2]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[3]Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.
[4]The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[5]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).
[6]An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

Table 13B Annual maximum fertilisation rates of phosphorus on grassland adopting increased P build-up application rates

| Grassland stocking rate[1] (kg/ha/year) | Phosphorus Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha) [2,3,6] | | | |
| 131-170 | 63 | 43 | 13 | 0 |
| Grassland stocking rate greater than 170 kg/ha/year[4,5] | | | | |
| 171-210 | 66 | 46 | 16 | 0 |
| 211-250 | 69 | 49 | 19 | 0 |
| >250 | 69 | 49 | 19 | 0 |

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.
[2]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[3]Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.
[4]The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[5]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).
[6]An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

Table 14 Annual maximum fertilisation rates of available nitrogen on grassland (cut only, no grazing livestock on holding)

| | Available nitrogen (kg/ha) |
|---|---|
| 1st cut | 125 |
| Subsequent cuts | 100 |
| Hay | 80 |

Table 15 Annual maximum fertilisation rates of phosphorus on grassland cut only

| Phosphorus Index | | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Available Phosphorus (kg/ha)[1,2,3] | | | | |
| First cut | 40 | 30 | 20 | 0 |
| Subsequent cuts | 10 | 10 | 10 | 0 |

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[2]The fertilisation rates apply to grassland where there is no grazing livestock on the holding.
[3]The fertilisation rates in this table apply to those areas of farms where hay or silage is produced for sale off the holding on farms stocked <85kg grassland stocking rate.

Table 16 Maximum fertilisation rates of nitrogen on tillage crops

| Crop | Nitrogen Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Nitrogen (kg/ha) | | | |
| Winter Wheat [1,2] | 210 | 180 | 120 | 80 |
| Spring Wheat [1,2] | 160 | 130 | 95 | 60 |
| Winter Barley [1] | 180 | 155 | 120 | 80 |
| Spring Barley [1,3] | 135 | 100 | 75 | 40 |
| Winter Oats[1] | 145 | 120 | 85 | 45 |
| Spring Oats[1] | 110 | 90 | 60 | 30 |
| Sugar Beet | 195 | 155 | 120 | 80 |
| Fodder Beet | 195 | 155 | 120 | 80 |
| Potatoes: Main Crop, >120 days[4] | 250 | 190 | 170 | 140 |
| Potatoes: Maincrop/seed, 90-120 days[4] | 270 | 230 | 210 | 180 |
| Potatoes: Early, 60-90 days[4] | 210 | 170 | 150 | 120 |
| Potatoes: Salad, <60 days[4] | 140 | 120 | 100 | 60 |
| Maize | 180 | 140 | 110 | 75 |
| Field Peas/Beans | 0 | 0 | 0 | 0 |
| Oil Seed Rape | 225 | 180 | 160 | 140 |
| Linseed | 75 | 50 | 35 | 20 |
| Swedes/Turnips | 90 | 70 | 40 | 20 |
| Kale | 150 | 130 | 100 | 70 |
| Forage Rape | 130 | 120 | 110 | 90 |

[1]Where proof of higher yields is available, an additional 20kg N/ha may be applied for each additional tonne above the following yields:
Winter Wheat — 9.0 tonnes/ha Spring Wheat — 7.5 tonnes/ha
Winter Barley — 8.5 tonnes/ha Spring Barley — 6.5 tonnes/ha
Winter Oats — 7.5 tonnes/ha Spring Oats — 6.5 tonnes/ha
The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.
[2]Where milling wheat is grown under a contract to a purchaser of milling wheat, an extra 30 kg N/ha may be applied.
[3]Where malting barley is grown under a contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address a proven low protein content in the grain.
[4]Length of growing season

Table 17 Maximum fertilisation rates of phosphorus on tillage crops

| Crop | Phosphorus Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha)[1] | | | |
| Winter Wheat [2,3,5] | 45 | 35 | 25 | 0 |
| Spring Wheat [2,3] | 45 | 35 | 25 | 0 |
| Winter Barley [2,3,5] | 45 | 35 | 25 | 0 |
| Spring Barley [2,3] | 45 | 35 | 25 | 0 |

| Crop | Phosphorus Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha)[1] | | | |
| Winter Oats [2,3,5] | 45 | 35 | 25 | 0 |
| Spring Oats [2,3] | 45 | 35 | 25 | 0 |
| Sugar Beet | 70 | 55 | 40 | 20 |
| Fodder Beet | 70 | 55 | 40 | 20 |
| Potatoes: Main Crop | 125 | 100 | 75 | 50 |
| Potatoes: Early | 125 | 115 | 100 | 50 |
| Potatoes: Seed/Salad | 125 | 115 | 100 | 85 |
| Maize | 70 | 50 | 40 | 20[4] |
| Field Peas | 40 | 25 | 20 | 0 |
| Field Beans | 50 | 40 | 20 | 0 |
| Oil Seed Rape | 55 | 45 | 35 | 0 |
| Linseed | 35 | 30 | 20 | 0 |
| Swedes/Turnips | 70 | 60 | 40 | 40 |
| Kale | 60 | 50 | 30 | 0 |
| Forage Rape | 40 | 30 | 20 | 0 |

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[2]Where proof of higher yields is available, an additional 3.8kg P/ha may be applied on soils at phosphorus 1, 2, or 3 for each additional tonne above a yield of 6.5 tonnes/ha. The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.
[3]Where pH is greater than or equal to 7, 20kg P/ha may be applied on soils at phosphorus index 4.
[4]Must be incorporated prior to or during sowing.
[5]For winter cereals on soils of P index 1 and 2, 20 kg of the maximum P fertilisation rate may be applied up to 31st October, which must be incorporated prior to or during sowing.

## Table 18 Maximum fertilisation rates of nitrogen on vegetable crops

| Crop | Nitrogen Index | | | | Maximum additional supplementation (Top dressing) |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| | Available Nitrogen (kg/ha) | | | | |
| Asparagus (Establishment) | 140 | 115 | 95 | 70 | |
| Asparagus (After harvest) | 0 | 0 | 0 | 0 | 70 |
| Broad Beans | 0 | 0 | 0 | 0 | |
| French Beans | 90 | 85 | 75 | 70 | |
| Beetroot | 140 | 125 | 105 | 90 | |
| Brussels Sprouts | 120 | 115 | 105 | 100 | 180 |
| Spring Cabbage | 50 | 35 | 15 | 0 | 250 |
| Other Cabbage | 150 | 135 | 115 | 100 | 100 |
| Broccoli | 120 | 115 | 100 | 90 | 120 |
| Cauliflower (Winter and Spring) | 75 | 50 | 25 | 0 | 150 |
| Cauliflower (Summer and Autumn) | 120 | 85 | 65 | 40 | 120 |

| Crop | Nitrogen Index | | | | Maximum additional supplementation (Top dressing) |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| | Available Nitrogen (kg/ha) | | | | |
| Carrots | 90 | 70 | 40 | 0 | |
| Celery | 120 | 85 | 65 | 50 | 180 |
| Courgettes | 140 | 125 | 105 | 90 | |
| Leeks | 150 | 130 | 100 | 80 | 150 |
| Lettuce | 100 | 90 | 80 | 70 | 50 |
| Onions | 70 | 60 | 50 | 40 | 70 |
| Scallions | 90 | 80 | 70 | 60 | 60 |
| Parsley | 100 | 80 | 60 | 40 | 150 |
| Parsnip | 100 | 85 | 70 | 50 | 70 |
| Peas (Market) | 0 | 0 | 0 | 0 | |
| Rhubarb | 100 | 90 | 80 | 70 | 200 |
| Spinach | 140 | 125 | 105 | 90 | 100 |
| Swede (Horticultural) | 70 | 45 | 25 | 20 | 30 |
| Swede (Transplanted crops) | 90 | 60 | 30 | 0 | |

Table 19 Maximum fertilisation rates of phosphorus on vegetable crops

| Crop | Nitrogen Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha)[1] | | | |
| Asparagus (Establishment) | 65 | 45 | 35 | 20 |
| Asparagus (After harvest) | 27 | 22 | 15 | 10 |
| Broad Beans | 65 | 45 | 35 | 20 |
| French Beans | 65 | 45 | 35 | 20 |
| Beetroot | 65 | 45 | 35 | 20 |
| Brussels Sprouts | 65 | 45 | 35 | 20 |
| Spring Cabbage | 65 | 45 | 35 | 20 |
| Other Cabbage | 65 | 45 | 35 | 20 |
| Broccoli | 65 | 45 | 35 | 20 |
| Cauliflower (Winter and Spring) | 65 | 45 | 35 | 20 |
| Cauliflower (Summer and Autumn) | 65 | 45 | 35 | 20 |
| Carrots | 65 | 45 | 35 | 20 |
| Celery | 88 | 65 | 55 | 28 |
| Courgettes | 65 | 45 | 35 | 20 |
| Leeks | 65 | 45 | 35 | 20 |
| Lettuce | 80 | 60 | 40 | 20 |

| Crop | Nitrogen Index | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | Available Phosphorus (kg/ha)[1] | | | |
| Onions | 65 | 45 | 35 | 20 |
| Scallions | 65 | 45 | 35 | 20 |
| Parsley | 65 | 45 | 35 | 20 |
| Parsnip | 65 | 45 | 35 | 20 |
| Peas (Market) | 65 | 45 | 35 | 20 |
| Rhubarb | 65 | 45 | 35 | 20 |
| Spinach | 65 | 45 | 35 | 20 |
| Swede (Horticultural) | 70 | 60 | 45 | 35 |
| Swede (Transplanted crops) | 70 | 60 | 45 | 35 |

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 20 Annual maximum fertilisation rates of nitrogen on fruit/soft fruit crops

| | Available Nitrogen (kg/ha) |
|---|---|
| Apples (Dessert) | 125 |
| Apples (Culinary) | 125 |
| Pears | 50 |
| Cherries | 70 |
| Plums | 70 |
| Blackcurrants | 80 |
| Gooseberries | 40 |
| Raspberries | 60 |
| Strawberries | 50 |
| Redcurrants | 60 |
| Loganberries | 50 |
| Blackberries | 50 |

Table 21 Annual maximum fertilisation rates of phosphorus on fruit/soft fruit crops

| Phosphorus Index | | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Available Phosphorus (kg/ha)[1] | | | | |
| Apples (Dessert) | 25 | 16 | 12 | 8 |
| Apples(Culinary) | 20 | 12 | 10 | 8 |
| Pears | 16 | 8 | 4 | 0 |
| Cherries | 16 | 8 | 4 | 0 |
| Plums | 16 | 8 | 4 | 0 |
| Blackcurrants | 20 | 16 | 12 | 8 |

| Phosphorus Index | | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Available Phosphorus (kg/ha)[1] | | | | |
| Gooseberries | 20 | 16 | 12 | 8 |
| Raspberries | 20 | 16 | 12 | 8 |
| Strawberries | 16 | 8 | 4 | 0 |
| Redcurrants | 20 | 16 | 12 | 8 |
| Loganberries | 20 | 16 | 12 | 8 |
| Blackberries | 20 | 16 | 12 | 8 |

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 22 Phosphorus excess limits Article 34

| Date | Total available phosphorus (kg/ha) |
|---|---|
| 1 January 2017 | 3 |
| 1 January 2018 | 3 |
| 1 January 2019 | 2 |
| 1 January 2020 | 1 |
| I January 2021 | 0 |

## SCHEDULE 3

*Articles 10, 11, 13 and 16*

### STORAGE PERIODS FOR LIVESTOCK MANURE

1. The storage period specified for the purposes of Articles 10(2), 11(2), 13 and 16(5)(*b*) is—

(*a*) 16 weeks in relation to holdings in counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow;

(*b*) 18 weeks in relation to holdings in counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath;

(*c*) 20 weeks in relation to holdings in counties Donegal and Leitrim, and

(*d*) 22 weeks in relation to holdings in counties Cavan and Monaghan.

2. Where 20% or more of a holding lies within one or more counties of higher storage requirement as specified in paragraph 1, the holding shall be deemed for the purposes of this Schedule to lie wholly within the county in relation to which the longest storage period is specified.

## SCHEDULE 4

*Articles 14, 17 and 19*

### PERIODS WHEN APPLICATION OF FERTILISERS TO LAND IS PROHIBITED

1. In counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow, the period during which the application of fertilisers to land is prohibited in the period from—

(*a*) 15 September to 12 January in the case of the application of chemical fertiliser

(*b*) 15 October to 12 January in the case of the application of organic fertiliser (other than farmyard manure)

(*c*) 1 November to 12 January in the case of the application of farmyard manure.

2. In counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath, the period during which the application of fertilisers to land is prohibited is the period from—

(*a*) 15 September to 15 January in the case of the application of chemical fertiliser

(*b*) 15 October to 15 January in the case of the application of organic fertiliser (other than farmyard manure)

(*c*) 1 November to 15 January in the case of the application of farmyard manure.

3. In counties Cavan, Donegal, Leitrim and Monaghan, the period during which the application of fertilisers to land is prohibited is the period from—

(*a*) 15 September to 31 January in the case of the application of chemical fertiliser

(*b*) 15 October to 31 January in the case of the application of organic fertiliser (other than farmyard manure)

(*c*) 1 November to 31 January in the case of the application of farmyard manure.

L.S.

GIVEN under the Official Seal of the Minister for Housing, Planning and Local Government,
20 December 2017.

EOGHAN MURPHY,
Minister for Housing, Planning and Local Government.

## EXPLANATORY NOTE

*(This note is not part of the Instrument and does not purport to be a legal interpretation)*

These Regulations revoke the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014.

These Regulations, which give effect to Ireland's 4th Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and include measures such as

- periods when land application of fertilisers is prohibited
- limits on the land application of fertilisers
- storage requirements for livestock manure, and
- monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.

The Regulations give further effect to several EU Directives including Directives in relation to protection of waters against pollution from agricultural sources ("the Nitrates Directive"), dangerous substances in water, waste management, protection of groundwater, public participation in policy development and water policy (the Water Framework Directive).

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DUBLIN
PUBLISHED BY THE STATIONERY OFFICE
To be purchased from
GOVERNMENT PUBLICATIONS,
52 ST. STEPHEN'S GREEN, DUBLIN 2.
(Tel: 01 - 6476834 or 1890 213434; Fax: 01 - 6476843)
or through any bookseller.

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ISBN 978-1-4468-7244-4

€10.16

9 781446 872444

Wt. (B33218). 285. 12/17. Essentra. Gr 30-15.

# Appendix No. 20

# G.S.I. Info.

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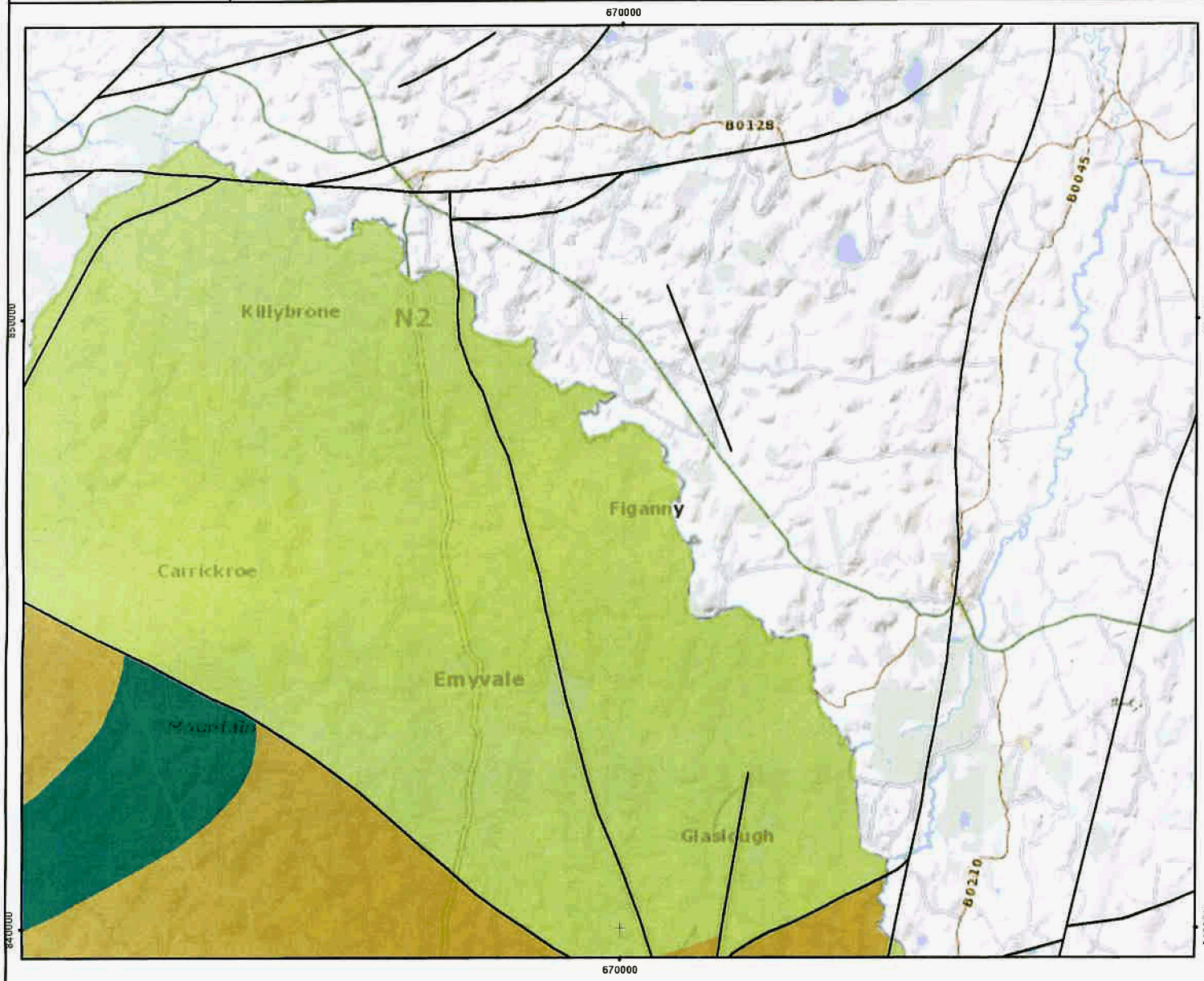
# Aquifer Class




## Legend

### Bedrock Aquifer Faults

- Bedrock Aquifer Faults

### Bedrock Aquifer

- RK - Regionally Important Aquifer - Karstified
- Lm - Locally Important Aquifer - Bedrock which is Generally Moderately Productive
- Lk - Locally Important Aquifer - Karstified
- Ll - Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones

Scale: 1:100,000

**Geological Survey Ireland**

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0 0.5 1 2 mi
0 1 2 4 km

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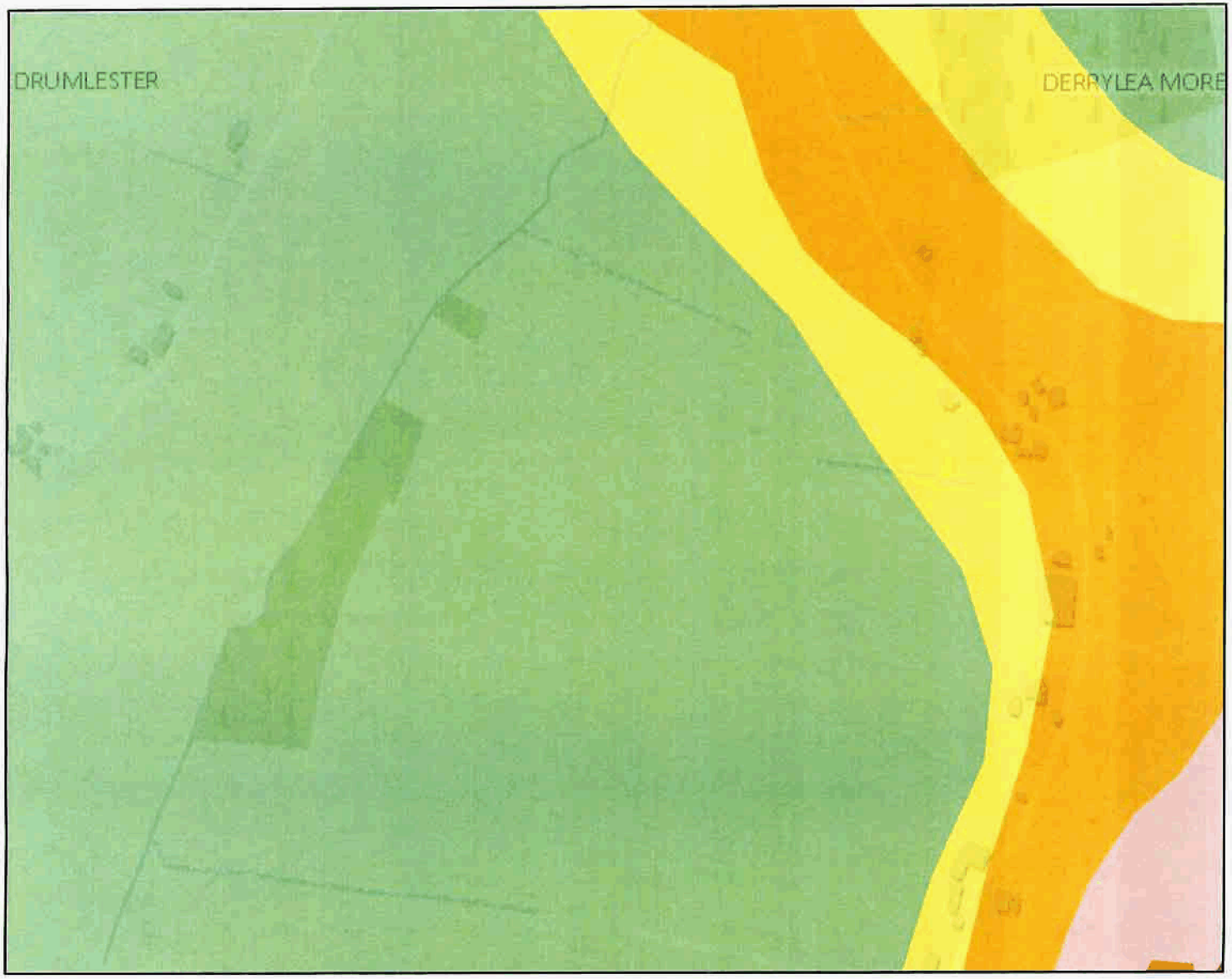
# Groundwater Vulnerability




## Legend

**National Groundwater Vulnerability Ireland**

- Rock at or near Surface or Karst
- Extreme
- High
- Moderate
- Low

Scale: 1:5,000

**Geological Survey Ireland**

N W E S

0 0.035 0.07 0.14 mi

0 0.05 0.1 0.2 km

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