ENVIRONMENTAL IMPACT STATEMENT

PROPOSED EXTENSION TO INTEGRATED PIG PRODUCTION FARM

AT

ANNISTOWN
KILLEAGH
CO CORK

FOR

EOIN O'BRIEN

DECEMBER 2012

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Part 1

0. NON-TECHNICAL SUMMARY

1. NON-TECHNICAL SUMMARY

0.1.1 INTRODUCTION

This pig farm currently has full planning permission to operate as a 600 sow integrated pig farm, permitted under planning Reference No S/06/4260. The pig farm is owned and operated by Mr Eoin O'Brien. The proposed development will occupy a landscaped site of approximately 6.35 hectares, (15.7 acres) outlined red on the attached maps and the land ownership of 15.43 hectares (38.1 acres) is outlined blue on the attached maps all included in Appendix 19. The site is covered by an IPPC Licence No. P0790-02 and the requirements of this still apply and continue to be complied with. The main reasons for increasing the operation to a 1500 sow integrated pig farm are as follows:-

(i) The facility is at present supplying pigs for fattening to a leased pig farm unit also operated by Mr. Eoin O'Brien, the leased unit is located more than twenty miles away and the lease is due to expire. The proposed development will secure the future economic viability of the operation on the site and will lead to improved bio-security, whilst also ensuring the optimum environmental performance of the facility. The current practice of two separate facilities is not sustainable due to rapidly increasing transport costs, additional staff and general running costs involved in running two facilities. Transport costs were identified as one of the main weaknesses of the Irish Pig Industry in the Teagasc Development Strategy for the Irish Pig Industry 2008 to 2015.

(ii) The new Animal Welfare Regulations (SI 311 of 2010) require greater floor space for weaner and finisher pigs. There are changes to washing/cleaning requirements as well as sows being kept in groups for periods of time during gestation, this has lead to a requirement for larger buildings. The proposed development will comply with the E.U. Regulations on Animal Welfare Statutory Instrument 311 2010 and the Farm Animal Welfare Advisory Council Code of Practice for the Welfare of Pigs and Council Directive 2008 120.

(iii) The proposed works include demolition of 6 no. existing buildings. These are approximately 40 years old and are no longer fit for purpose. The proposed replacement buildings will conform to the highest standards and will comply with all the Department of Agriculture Specifications. The Teagasc Development Strategy for the Irish Pig Industry 2008 to 2015 identified a lack of investment in the upgrading of pig production facilities as a weakness in the industry that resulted in reduced efficiency levels. The proposed replacement of existing out dated facilities with modern buildings will help to redress this weakness.

0.1.2 The proposed extension to the integrated pig unit exceeds the thresholds in Schedule 5, Part 2, Section 13a of the Irish Planning 7 Development Regulations, 2001 (SI No. 600 of 2001).

0.1.3 The EIS was prepared having regard to the provisions of European Communities Directive 85/337/EEC as amended by Directive 97/11/EC on the assessment of the effects of certain public and private projects on the environment. This report was also prepared in accordance with the Irish Planning and Development regulations, 2001 (S.I. No. 600 of 2001) and the Planning & Development (Amendment) Act 2010). Due regard was given to the European communities (Environmental Impact Assessment Regulations 1989 to 1999. the EIS has been written so as to address relevant requirements as set out in paragraphs 1 and 2 of the second schedule of the European Communities (Environmental Impact Assessment) (Amendment regulations, 1999 (S.I. No. 93 of 1999).

0.1.4 The EIS was prepared by the following Project Members:-

GES Limited/IE environmental Engineers	J Keohane MSc., BSc., Cgeol M.I.E.I.
David Morrissey, Environmental Consultant	BSc (Agri), DIP Env. Sc. Archaeology NCEA
Murphy McCarthy Consulting Engineers Limited	Tony Dunlea B.E., M.I.E.I.
Teagasc	Pig Production Development Unit, Moorepark Food Research Centre, Fermoy, Co. Cork

The Planning Application, drawings and building details were prepared by Murphy McCarthy Consulting Engineers Limited along with the Traffic Assessment. The main environmental sections were carried out by GES Limited/IE Environmental Consultants and Mr David Morrissey, Environmental Consultant. Mr Ciaran Carroll, Head of the Teagasc Pig Development Department provided advice and assistance

0.2 PROJECT DESCRIPTION

0.2.1. Eoin O'Brien intends to apply for Permission to demolish 6 no. buildings consisting of 3 no. fattening houses, weaner house, dry sow/farrowing house, pump house, to construct 8 no. low emission pig houses consisting of 4 no. fattening houses, 2 no. weaner houses, dry sow house and farrowing house. The development also includes an extension to the existing farrowing house, to construct a covered loading bay/yard area, computer room/pump house, store/office building, 5 no. feed bins, 4 no. water tanks, yard area with 2m high perimeter fencing, 2 no. covered underground pig manure storage tanks, landscaped earth berm to screen the site and construction of additional internal road areas, storm/soiled water collection systems and associated site works for the extension to the existing integrated pig farm.

0.2.2. Both the new building and replacement buildings for those being demolished will be low emission buildings, which incorporate emission reduction measures. These measures are currently the best available technique for the pig production sector. The proposed storage tanks will be underground and will be covered. The storage tanks under the proposed houses will be reinforced concrete tanks. The proposed development will greatly improve the existing situation from an environmental and aesthetic perspective. The other buildings such as a computer room/pump house and store/office building are necessary for the running of the facility. The bins and water tanks will be similar to the existing equipment on site. In order to screen the development, the existing earth berm will be extended and additional earth berms provided on site from the material excavated during construction.

0.3 HUMAN ENVIRONMENT

0.3.1. The development site lies in a rural area 1.5km east of Mogeely and 3.5km west of Killeagh. Outside of a small number of dwellings in the locality, the landscape is almost entirely agricultural in character. The site is well screened from local residences due to a combination of topography, hedgerows set back from the public road and the existing earth berm on site.

0.3.2. The proposed 1500 sow integrated unit will give direct employment to 9 staff members, including a trained manager. It will also give rise indirectly to another 50 jobs in the pig meat processing, milling and service sectors. Thus creating an additional 5 jobs in the unit itself and an additional 30 jobs in the pig processing and service industries.

0.3.3. The development will have a positive impact on human beings from the increased employment it will create and the contribution it will make to food production both directly in the production of pig meat and indirectly through the supply of pig manure as fertiliser for farm lands.

0.3.4. The Teagasc Development Strategy for the Irish Pig Industry 2008 to 2015 reported that the pig industry is the third most important agricultural sector after beef and dairy production. The report stated that the pig production sector employs 7,500 people and generates €1.2 billion of revenue annually. Approximately 60% of the pork produced in Ireland is exported and the worldwide consumption of pork is increasing steadily. It has been envisaged in the Interim report prepared by the Pig Industry Strategy Steering Group (presented to the Minister in January 2010) that the industry can be grown from a €1.2 billion industry to a €1.5 - €1.7 billion industry by increasing annual output from 3.2 million pigs to 4.8 million pigs by 2015. The interim report also stated that this increased output would generate 1,500 additional jobs in the economy and drive exports to aid economic recovery. In addition to this the interim report stated that in order to achieve this increased output and employment the national sow herd would need to be increased from 150,000 sows up to 200,000 sows by 2015. A subsequent report prepared by the Irish Association of Pigmeat Processors (I.A.P.P) in April 2010 stated that output could continue to be grown further beyond 2015 to reach 5.2 million pigs by 2020. In order to achieve this level of output the I.A.P.P. report stated that the national sow herd would need to be increased to 210,000 sows by 2020.The proposed development will contribute to reaching the targets set out in the reports mentioned above.

0.4 ECOLOGY

0.4.1. Within the EIS in Section 4.1 an Ecological Screening Report has been carried out as required under the Habitats Directive. The nearest Natura 2000 sites are as follows:- Blackwater River (Cork/Waterford) S.A.C.No 002170 located 13 kilometres to the east, Ballymacoda (Clonpriest/Pilmore) S.A.C. 000077 located 8 kilometres to the south east, Ballycotton Bay S.P.A. 004022 11 kilometres south of the facility and Cork Harbour S.P.A. 004030 located 11 kilometres to the south west. All four Natura 2000 sites consist of harbours and estuary areas.

The Screening Report concludes that Appropriate Assessment (AA), Natura Impact Statement (NIS) and Natura Impact Reports (NIR) are not required. There are no environmental designations pertaining to the proposed development site. The site does not form part of any Natural Heritage Area (NHA), Special Protection Area (SPA), Special Area of Conservation (SAC), Statutory Nature Reserve or National Park. None of the habitats noted directly correspond to those protected under Annex 1 of the EU Habitats Directive (92/43/EC). The proposed development will not result in the loss of habitat types. No rare or threatened flora or fauna species were observed on the site. Internal and external hedges will not be removed.

0.5 HYDROLOGY

0.5.1. Within Appendix 1 we enclose a Groundwater Risk Assessment carried out by IE Consulting/GES Ltd. They were engaged to undertake a groundwater risk assessment at the pig unit, to support the IPPC License application. The scope of the work included a desk based study to review all relevant documentation, to asses existing data, to undertake a site visit, to obtain groundwater level measurements from the on site well, to identify risk sources at the site, and to make recommendations for future groundwater assessment or monitoring works at the site. The report concluded that the risk sources at the site are the pig manure tanks/ channels at the site and the soak away for domestic effluent. The report proposed the monitoring of any new leak detection systems on site, the bunding of all fuel tanks on site and to assess the integrity of all tanks and pipelines on site. The proposed development will improve the existing situation as a new leak detection system will be provided under the new buildings/ tanks as shown on the drawings in Appendix 19. The tanks under the old buildings are to be demolished and the existing slurry basin is being removed. All new tanks and storage tanks under the buildings will be reinforced concrete tanks in compliance with the Department of Agriculture Specifications.

0.5.2. All clean water from the buildings will be diverted to a storm water collection system and soakaways. The stormwater system both existing and proposed are on the Site Layout Plan in

Appendix 19. The stormwater monitoring point SW1 is being relocated as noted on the drawing. This will be visually inspected on a weekly basis and observations will be recorded on a storm water monitoring register, in addition to this a storm water sample will be taken from the monitoring chamber on a quarterly basis and the sample will be submitted for laboratory analysis. The result of the analysis will also be retained on file in compliance with the conditions set out in the Integrated Pollution Prevention & Control Licence (IPPC Licence) for the facility. Soiled water from routine washing of pig pens will be contained in the slatted tanks under the pens.

0.6 CUSTOMER LANDS AND APPLICATION OF PIG MANURE

0.6.1. The annual production of pig manure from the proposed 1,500 sow integrated unit will be 27,690m³ per annum. see Section 6.2.1. There is demand for 59,394m³ per annum of pig manure for fertiliser by local farmers see Appendix 4. The volume of storage capacity on the site will be 33,614m³ (See Farm Structures Table Appendix 18). Statutory Instrument 610 of 2010 (commonly known as the Nitrates Directive) sets out a minimum capacity of 26 weeks storage for pig production units. The capacity proposed is enough to hold pig manure for 63 weeks which is far in excess of the minimum requirement of 26 weeks.

0.6.2. The pig manure will be applied as fertiliser on farm lands. There is demand for 59,394m³ per annum of pig manure as fertiliser from farmers in the locality of the unit. There is a list of customer farmers provided in Appendix 4 showing their farm codes and the amount of pig manure each farmer requires. The names of the individual farmers are maintained and available to view on the Environmental Protection Agency site register for the facility. The requirements of each farmer has been calculated in compliance with the nutrient limits set out in Statutory Instrument 610 of 2010 (i.e. the Nitrates Directive). A record of movement of organic fertilisers form (Record 3 form see Appendix 8) is completed for each farmer documenting the total amount of pig manure received by them. The Record 3 forms are submitted annually to the Nitrates Section of the Department of Agriculture Fisheries and Food and copies of them are retained on file.

0.7 AIR QUALITY & NOISE

0.7.1. The site is located in a rural area and the local environment is dominated by agricultural activities. Effects of the existing and proposed development on air, are and will continue to be insignificant outside the buildings. The ventilation system in the buildings will ensure that foul air is dispelled high into the atmosphere where it will mix with fresher air and thus minimise odour. Mitigation

measures taken will minimise the effects of odour, including the rations fed to the pigs being formulated to minimise emissions.

0.7.2. The main sources of noise on the development will be at feeding time which is for a duration of 10-15 minutes and from delivery vehicles. The noise generated on the farm is similar to noise generated on any farm enterprise. Noise levels are so insignificant that they do not require monitoring under the IPPC License conditions. The buildings proposed will be low emission buildings and incorporate emission reduction measures, this includes insulation internally throughout the ceilings which reduces the noise levels in the external vicinity of the building.

0.7.3. Thus the measures that have been put in place will ensure that impact/effects of the development on human beings will be minimised. The proposed development will improve the existing situation as they are designed as low emission buildings and the existing buildings to be demolished are 40 years old.

0.8 LANDSCAPE AND VISUAL IMPACT

0.8.1. The development is located in an agricultural area, the proposed and existing buildings will and do blend into the surrounding landscape. The development would be similar to a large farm enterprise. The buildings eaves, apex and ridge heights are kept to the minimum height and pitch outlined in the Department of Agriculture farm building specifications.

0.8.2. The development will be landscaped by extending the existing earth berm and provision of trees and shrubs listed in Appendix 9. Thus, there will be no nuisance or loss of amenity. The development will involve excavating for tanks and building foundations. The material excavated will be used to construct earth berms. No hedgerows will be removed as part of the development.

0.9 CULTURAL HERITAGE

0.9.1. There will be no damage to any site of archaeological or historic interest as a result of this development. Disturbance of the landscape will be minimal during the construction period. The site will be suitably landscaped, with the planting of trees etc., in a manner sensitive to the environment in order to fully screen the site and to enhance biodiversity. A shelter belt will be planted on the earth berm shown on the Site Layout Plan drawings in Appendix 19 using tree and shrub species listed in Appendix 9.

0.10 TRAFFIC

0.10.1. The development site is on the northern side of the L3809. This is a local primary route. As mentioned previously the site is 1.5km from Mogeely and 3.5km from Killeagh. The surrounding road network currently caters for the existing facility and other agriculture and local traffic in the area.

0.10.2. The proposed development will generate a maximum of 30 no. vehicles/day. This equates to 4 no. vehicles/hour. The existing road network has a capacity of 470 no. vehicles/hour which is well in excess of the 4 no. vehicles/hour which will be generated.

0.10.3. In conclusion, the surrounding road network has sufficient capacity to accommodate additional minor levels of traffic generated. The existing roadway is lightly trafficked and would be typical of any rural area.

Part 2

1. ENVIRONMENTAL IMPACT STATEMENT

1 INTRODUCTION

1.1 Relevant Regulations for Environmental Impact Statements (EIS)

The EIS was prepared having regard to the provisions of European Communities Directive 85/337/EEC as amended by Directive 97/11/EC on the assessment of the effects of certain public and private projects on the environment. This report was also prepared in accordance with the Irish Planning and Development regulations, 2001 (S.I. No. 600 of 2001) and the Planning & Development (Amendment) Act 2010). Due regard was given to the European communities (Environmental Impact Assessment Regulations 1989 to 1999. the EIS has been written so as to address relevant requirements as set out in paragraphs 1 and 2 of the second schedule of the European Communities (Environmental Impact Assessment) (Amendment regulations, 1999 (S.I. No. 93 of 1999).

1.2 NATIONAL POLICY

1.2.1. The proposed development is in line with national policy,

(i) as expressed by the Minister for Agriculture in food harvest 2020

(ii) as expressed in the development strategy for the Irish Pig Industry 2008 to 2015 prepared by the Teagasc Pig Production Group and

(iii) is in line with the Interim Report 2010 prepared by the Pig Industry Strategy Steering Group and also

(iv) the 2020 strategy for the Irish Pigmeat Sector prepared by the Irish Association of Pigmeat Processors. The Interim Report mentioned in (iii) sets out a growth potential for an increase in output from 3.2 million pigs per annum in 2009 to 4.8 million pigs per annum in 2015. This increase would grow the Pig Meat Sector from a €1.2 billion industry to a €1.5-€1.7 billion industry. This would generate significant additional export earnings and create in the region of 1,500 additional direct jobs in the economy. In order to achieve this potential the National sow herd will have to increase from 150,000 sows to 200,000 sows.

1.2.2. The Irish Association of Pig Meat Processors have reported that a further increase of national sow numbers by 10,000 sows would increase National annual output to 5.2 million pigs creating an additional 2,000 direct jobs in the industry and growing pig meat exports by 150,000 tonnes.

1.2.3. The proposed development is in accordance with Cork County Council Planning Policy as outlined in the County Development Plan Volume 1-Chapter 5-Economy and Employment. This section of the County Development Plan states that it is an objective of the Development Plan "to support the development of existing farm units" (Ref ECON 5-3). The proposed development will secure the future economic viability of the operation and will lead to improved bio-security whilst also ensuring the optimum environmental performance of the facility.

1.3 ORGANISATIONS AND BODIES CONSULTED

1.3.1. The scoping exercise of the EIS was carried out in line with previous submissions to Cork County Council. Other organisations and bodies consulted include: -

Cork County Council Planning Department
Geological Survey of Ireland
Office of Public Works.
Department of Agriculture.
Department of the Environment.
National Parks and Wildlife Service.
Teagasc
Environmental Protection Agency.
Sites & Monuments Record

2. DESCRIPTION

2.1 Overall Description

2.1.1. Eoin O'Brien intends to apply for Permission to demolish 6 no. buildings consisting of 3 no. fattening houses, weaner house, dry sow/farrowing house, pump house, to construct 8 no. low emission pig houses consisting of 4 no. fattening houses, 2 no. weaner houses, dry sow house and farrowing house. The development also includes an extension to the existing farrowing house, to construct a covered loading bay/yard area, computer room/pump house, store/office building, 5 no. feed bins, 4 no. water tanks, yard area with 2m high perimeter fencing, 2 no. covered underground pig manure storage tanks, landscaped earth berm to screen the site and construction of additional internal road areas, storm/soiled water collection systems and associated site works for the extension to the existing integrated pig farm.

2.1.2. The proposal will accommodate a 1,500 sow fully integrated pig production unit, bringing the carrying capacity to 450 farrowing sows, 1050 dry sows, 9,000 weaners, 9,000 fatteners, 400 gilts and 10 boars. The proposed development entails the demolition of the existing outdated facilities on site and replacing them with modern state of the art facilities, it will also involve consolidating the existing enterprise as the practice of transporting weaners to a leased fattening facility 20 miles away will be discontinued. The development will improve management efficiency and also improve bio-security and herd productivity.

2.2 SIZE AND SCALE OF THE PROPOSED DEVELOPMENT

2.2.1. The size and scale of the proposed development have been chosen after consideration of such matters as the site, customer demand for manure, economic viability and labour efficiency.

2.2.2. In full production the pig population at this site will comprise at any one time of the following maximum stock numbers; 1050 dry sows, 450 suckling sows with bonhams, 9,000 weaner pigs, 9,000 fattening pigs, 400 maiden gilts and 10 boars. Pigs will be removed for slaughter at approximately six months of age.

2.3 SITING, DESIGN, CONSTRUCTION AND STRUCTURAL DETAILS

2.3.1. The proposed development is situated on the site of an existing pig unit facility, which was constructed in 1976, with extensions added most recently in 2006. Development involves the construction of new buildings and items of plant to accommodate the additional animal numbers. The buildings will comply with the new Animal Welfare Requirements which require additional floor area per animal as set out in S.I. 311 of 2010. The new housing designs comply with the low emission designs set out in the BREFF notes (2006). Details of the site layout and design are shown in Appendix 19.

2.4 TYPES AND QUANTITIES OF CO PRODUCT & WASTE

2.4.1. The co-product produced is pig manure. The wastes produced are animal carcasses, emissions, veterinary waste, fluorescent tubes and general refuse.

2.4.2. The major co product from the proposed facility is pig manure; the yearly production of which amounts to 27,690 m3. This pig manure will be exported to customer farms as fertiliser.

TABLE 1: Pig manure Production (See Appendix 5)

Water:Meal Ratio of finishers	M3/sow/week	Number of sows	Total M3/week	Total M3/year
2.5:1	0.355	1,500	532.5	27,690

Source S.I. 610 of 2010 Table 1.

2.5 ANIMAL CARCASSES

2.5.1. The anticipated number of animal carcasses for disposal due to mortalities on an annual basis is estimated as follows:-

Sows @ 4% = 60

Piglets	@	8%	=	2,450
Weaners	@	1.5%	=	500
Fattening Pig	@	1%	=	325

Carcasses will be temporarily stored in a covered sealed metal skip for transport and disposal to a licensed rendering plant at regular intervals. A signed agreement to this effect is given in Appendix 14.

2.6 MORTALITY, TRANSPORT AND DISPOSAL OF CARCASSES

2.6.1. Management practices on the unit will be actively focused on minimising pig mortality. Nevertheless, some will occur and the mortality under good management has been estimated in Section 2.5.1.

2.6.2. Carcasses will be temporarily stored in a covered sealed trailer skip for transport to a licensed rendering plant at regular intervals in the manner normal on such farms.

2.7 OTHER WASTES

2.7.1. A register of all other wastes (i.e. carcasses, veterinary waste, fluorescent tubes, and refuse) will be maintained on site, recording the date, volume and destination. A copy of these registers will be available on site for inspection by Cork County Council, and the EPA at any reasonable time.

- Carcass Register. (see Appendix 14)
- Veterinary Waste Register (see Appendix 15)
- Refuse Register (see Appendix 16)

2.8 DETAILS OF SERVICES REQUIRED

2.8.1. The estimated daily water requirement of the proposed unit in full production will be 83,000 litres (83 M3). A bored well provides water and this well has sufficient capacity for the new development. The analyses of a water sample taken from this well is included in Appendix 11, along with location map. The results of water sample analysis are within the parameters set by the E.P.A. The well we be relocated as part

of the proposed development, this is noted on the attached Site Layout Plan drawings in Appendix 19.

2.8.2. An 80 KVA transformer, adjacent to the site provides electricity supply. A generator on site provides the back up supply with 150 KVA capacity. The existing pole infrastructure servicing this site will be sufficient to deal with the additional power required for this development.

2.9 DETAILS OF FEEDSTUFFS

2.9.1. About 170 tonnes per week of a balanced meal mixture will be consumed on the unit by all categories of pigs. This feed supplied uses the following raw materials (barley, wheat, soyabean meal, sugar beet pulp, pollard, Soya oil, fish meal, molasses, minerals and vitamins). All feeds will be prepared on a low protein basis. This work is supervised on site by Devenish Nutrition. All pigs will also have access to water in compliance with Animal Welfare regulations S.I. 311 of 2010.

2.10 PIG MANURE STORAGE

2.10.1. All pig manure on site will be collected from the animals by underground concrete tanks, built to Dept of Agriculture specifications. A freeboard of 200mm has been allocated to all tanks under slats to contain gasses in compliance with condition 6.8 of the I.P.P.C licence for the facility. This is included for in the Farm Structures Record Appendix 18. It is proposed that new storage tanks will be provided with a leak detection system as shown on the drawings in Appendix 19. There will be no impact from these on surface or ground waters.

2.11 ACCIDENTAL SPILLAGES

2.11.1. Pig manure is the only material of concern, as oil storage tanks on site will be locally bunded. The risk of any sizeable leakage or spillage is minimal. In the event of an accidental spillage of a tanker leaving the site the owner/manager will notify Cork County Council and the EPA and will take the necessary measures to clean up such a spillage. An Emergency Response Procedure has been put in place to deal with such a situation. This procedure is included in Appendix 2. An Emergency Response Procedure is also included in Appendix 2 to deal with any Emergency situation developing on site which may create an environmental risk.

2.12 CONTROL OF RODENTS

2.12.1. Staff members successfully carry out the control of rodents on the site. Mr Eoin O'Brien insures that this work is carried out professionally and that proper records are maintained. A copy of the format used to record this procedure is included in Appendix 3 and is retained on file for the I.P.P.C. licence.

3. HUMAN ENVIRONMENT

3.1 DESCRIPTION OF ALTERNATIVES CONSIDERED

3.1.1 Location of Structures

The site location maps, 1:10560 (6" to 1 mile) and 1:2500, Building Drawings and Site Layout Plans for this development are included in Appendix 19 . The proposed unit is located in the Townland of Annistown, about 1.5km east of Mogeely and 3.5km west of Killeagh. The unit is well set back from the public road which links Killeagh to Mogeely. This facility is located in a wholly agricultural area.

3.1.2 Description of Site

3.1.2.1. There is already an existing pig farm at this site and it is ideally suited to the proposed development as it would consolidate the enterprise and therefore improve the efficiency of production.

3.1.3 Alternative Site Layout and Designs

3.1.3.1. Alternative site layouts and designs were considered. The proposed site layout minimises excavation and maximises the screening of the buildings by the proposed and existing earth berms. The optimum depth of tank was decided upon on the basis of air draughts, capacity, emission reduction and costs etc.

3.1.3.2. Generally the most economical and efficient layout for pig production and pig movement was designed for, with a view to reducing environmental impacts, compliance with animal welfare regulations and providing a safe and healthy environment for staff and livestock.

3.1.4 Alternative processes considered

3.1.4.1 There is no other satisfactory alternative process for pig production. The pig unit is designed to operate with the best technology under the supervision of a highly trained and experienced manager.

3.1.5 Employment and Human Well-being.

3.1.5.1. In full production the pig unit will employ 9 full time staff. These staff will reside locally with a significant positive economic impact on the area. The unit will also indirectly lead to another 50 jobs in pig meat processing, feed compounding and the service sectors.

3.1.5.2. The Teagasc Development Strategy for the Irish Pig Industry 2008 to 2015 reported that the pig industry is the third most important agricultural sector after beef and dairy production. The report stated that the pig production sector employs 7,500 people and generates €1.2 billion of revenue annually. Approximately 60% of the pork produced in Ireland is exported and the worldwide consumption of pork is increasing steadily. It has been envisaged in the Interim report prepared by the Pig Industry Strategy Steering Group (presented to the Minister in January 2010) that the industry can be grown from a €1.2 billion industry to a €1.5 - €1.7 billion industry by increasing annual output from 3.2 million pigs to 4.8 million pigs by 2015. The interim report also stated that this increased output would generate 1,500 additional jobs in the economy and drive exports to aid economic recovery. In addition to this the interim report stated that in order to achieve this increased output and employment the national sow herd would need to be increased from 150,000 sows up to 200,000 sows by 2015. A subsequent report prepared by the Irish Association of Pigmeat Processors (I.A.P.P) in April 2010 stated that output could continue to be grown further beyond 2015 to reach 5.2 million pigs by 2020. In order to achieve this level of output the I.A.P.P. report stated that the national sow herd would need to be increased to 210,000 sows by 2020.The proposed development will contribute to reaching the targets set out in the reports mentioned above.

3.2 Co. Product Use

3.2.1. This proposed development has the potential to provide a locally produced organic fertiliser product for customer farms in the area, thus reducing their dependence on imported chemical fertilisers that are produced from finite resources. The facility will also provide a market for locally grown grain, which can in turn be fertilised by the pig manure resulting from this development. In this way the proposed development will contribute to a more sustainable system of agriculture in the locality.

3.3 REDUCTION OF RISK OF DISEASE SPREAD

3.3.1. The economic viability of a pig production unit at going rates depends primarily on feed conversion ratio and low mortality. High standards of hygiene will ensure that disease is controlled and contained. Access to the unit is strictly restricted, to control the spread of disease to the pig herd. The procedures for dealing with dead animals, as set down in Section 2.6. are standard for the industry.

3.4 DEPOPULATION

3.4.1. Destocking of a unit or complete slaughter of stock on a unit because of a notifable disease has not happened in Ireland for more than 40 years. In the unlikely event of such a disease outbreak, the Department of Agriculture takes total control. In this event Mr Tom O'Brien has an agreement with Duggan Waste Services Ltd, to remove all carcasses from the site in sealed containers, and delivery of same to a licensed rendering plant (See Appendix 8).

3.5 DE-COMMISSIONING/LIFE SPAN OF DEVELOPMENT

3.5.1. All pig units require a major capital investment every 10-15 years to keep them efficient and pleasant places to work. So long as this investment is made there is no reason that a unit of this type could not operate for up to 40 years. However, if for economic reasons or technical reasons this does not occur decommissioning will take place. All pig manure and organic matter will be thoroughly removed from the site. All equipment and materials of value will be salvaged. Unused feed, medication, and fuel will be returned to suppliers. It is then proposed that the unit be left standing after making it safe and secure. It is highly unlikely that this scenario would ever develop due to the high initial capital investment in the unit.

4. ECOLOGY

4.1 Ecological Screening Report

4.1.1 Introduction

4.1.1.1. The EU Birds Directive (2009/147/EC) and the EU Habitats Directive (92/43/EEC) state that member states are required to designate areas in order to protect certain habitats and species contained within them that are considered important to conserve. The designated sites are known as Special Areas of Conservation (SAC) or Special Protection Areas (SPA). The collective term Natura 2000 sites, is used to refer to Special Areas of Conservation and Special Protection Areas.

The EU Habitats Directive requires that an appropriate assessment is required where a project is likely to have a significant effect on the conservation objectives of any Natura 2000 site and the implementation where necessary of measures to preclude negative effects.

The guidelines for completing an appropriate assessment are outlined in "*Assessment of plans and projects significantly affecting Natura 2000 sites, methodological guidance on the provisions of articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC*" (2001), Department of Environment, Heritage and Local Government (2009, revised February 2010) *Appropriate Assessment of plans and Projects in Ireland* and the National Parks and Wildlife Services (2010) Circular NPW 1/10 & PSSP 2/10 *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* A step by step process is provided for in the guidelines.

The first step is referred to as screening and it is applied to determine whether a particular project would have significant environmental effects on a Natura 2000 site and if so would require the implementation of another step known as an Appropriate Assessment.

The Appropriate Assessment analyses the potential impact of a project on the integrity of a Natura 2000 site, with respect to it's function, structure and conservation objectives. If it is found that there are adverse impacts on a Natura

2000 site the potential mitigation of such impacts must then be assessed. Alternative solutions must be examined if a project is to have an adverse impact on a Natura 2000 site. If no alternative solution is found the implementation of the plan may proceed only for imperative reasons of overriding public interest provided that compensatory measures that will offset the impact of the project on a Natura 2000 site are enacted.

4.1.2 Screening of Proposed Project

4.1.2.1. The project being proposed is the construction of pig accommodation and pig manure storage facilities at Annistown, Killeagh, Co. Cork. The project is to take place on the site of an existing pig production unit and will involve the replacement of some of the existing structures with modern state of the art accommodation in order to improve production efficiency. The proposal also involves the consolidation of the existing production facility by eliminating the requirement to transport pigs for finishing to a leased facility more than twenty miles away, thus eliminating the need to transport the pigs from the unit and also improving the biosecurity of the existing facility.

The proposed development will take place in an agricultural area and excavation of the site and construction of the new buildings will take place on an area of improved grassland containing a sown sward of perennial ryegrass (*Lolium perenne*) and white clover (*Trifolium repens*). The site is surrounded by agricultural lands to the North, East and West it is bounded by a road to the south. The nearest Natura 2000 site to the proposed development is approximately 8 kilometres away in a south easterly direction. The Natura 2000 site in question is the Ballymacoda (Clonpriest and Pilmore) site.

The boundary at the western side of the proposed site at Annistown consists of a section of well established hedgerow containing species such as hawthorn (*Crataegus monogyna*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) willow species such as sally (*Salix cinerea*), goat willow (*Salix caprea*) and eared willow (*Salix aurita*), holly (*Ilex aquifolium*) hazel (*Corylus avellana*) brambles (*Prunus spinosa*) furze (*Ulex europeas*), ivy (*Herera helix*) and occasional beech (*Fagus sylvatica*). The section of hedgerow on the western boundary will not be interfered with in anyway during the proposed construction process.

There is a stream flowing at the western side of the hedgerow forming the boundary of the property. The stream is known both as the Dower River and also as the Aughnasassonagh River. The river flows in a southerly direction and is a minor

tributary of the Womanagh River. This stream will not be interfered with in any way while the proposed construction works are being carried out.

The proposed development will have the following features

- The existing entrance and access avenue will be retained the trees lining the access avenue will also be retained.
- All pig manure will be stored in reinforced concrete tanks under the pig houses and also in holding tanks outside the houses. It will be directed to the holding tanks by means of underground channels constructed with reinforced concrete. It is proposed that a leak detection system will be put in place to monitor the integrity of the tanks.
- The pig manure will be transported from the storage tanks to local grassland and tillage farmers and it will be used as an organic fertiliser on their lands in compliance with Statutory Instrument 610 of 2010.
- All storm water from the site will be directed to a soak away and will be inspected weekly and sampled quarterly in compliance with the conditions set out in the I.P.P.C. license for the holding.
- An earthern berm will be put in place to the South, East and West of the site. The berm will be landscaped using a selection of tree and shrub species recommended by the Department of Agriculture. This will improve the aesthetic and biodiversity value of the site.

4.1.3 Designated Natura 2000 Site Ballymacoda (Clonpriest & Pilmore) 000077

4.1.3.1. The site of the proposed development at Annistown, Killeagh, Co. Cork is not located in a Natura 2000 site. The nearest Natura 2000 site to the proposed development is the Ballymacoda (Clonpriest & Pilmore) site located approximately 8 kilometres to the south east of the proposed site.

The Natura 2000 site at Ballymacoda is located mostly downstream of a bridge known locally as the Crompaun bridge on the R633 road between Youghal and Ballymacoda. A segment of the site extends approximately 500 metres upstream from the bridge in a northly direction. The area of the site contains 486.53 Hectares of the Womanagh Estuary and the adjoining fields running from the Crompaun

Bridge down to the sea. The site code for this Natura 2000 site is SAC/SPA 000077 and a site synopsis for the area is attached in Appendix 18.

The site is made up of the estuary of the Womanagh River. The sands and mud flats of the estuary are of conservation interest for a number of macro invertebrate species. The flora of the estuary includes green algae (mostly *Enteromorpha* spp), various types of brown seaweeds and common cord grass (*Spartina anglica*). The site has been designated as it contains four coastal habitats listed in Annex I of the E.U. Habitats Directive. The four Annex I habitats are listed in Table 1 below.

Table 1.Annex I Habitat Types Present at Ballymacoda Natura 2000 Site.

Site Code	Habitat Code	Habitat	% cover Approx
000077	1140	Mudflats and sandflats not covered by seawater at low tide	65
000077	1130	Estuaries	12
000077	1330	Atlantic salt meadows	6
000077	1310	Salicornia and other annuals colonizing mud and sand	1

The channel of the estuary is surrounded by salt marshes and wet fields, the salt marshes being classified as Atlantic salt meadows containing species such as Sea Pursalane (*Halimione portulacoides*), Sea Lavender (*Limonium humile*) and Sea Milkwort (*Glaux maritime*), the lower levels of the marshes contain annual salt marsh species such as Glasswort (*Salicornia* spp) and Sea Blite (*Suaeda maritime*). The salt marshes of the Womanagh estuary are of particular conservation value as they are classified as 'lagoon' type, this type of salt marsh is rare. Table 2 below contains an overview of all of the different habitat types that are present in this Natura 2000 site, the proportion of each habitat type present is given as a percentage of total ground cover.

Table 2 General Site Features

Habitat types	% cover
Tidal rivers, Estuaries, Mud flats, Sand flats & Lagoons	77
Salt marshes, Salt pastures, Salt steppes	6

Coastal sand dunes, Sand beaches, Machair	3
Shingle, Sea cliffs, Islets	1
Bogs, Marshes, Water fringed vegetation & Fens	1
Humid grassland, Mesophile grassland	2
Improved grassland	10

The Ballymacoda (Clonpriest & Pilmore) Natura 2000 site also contains a section of Special Protection Area that has been designated due to the importance of the area for waterfowl. The site is used by a total of 107 species of waterfowl including two Annex I species, the Golden Clover and Bar-tailed Godwit. There are eleven other species that have been present on the site at what are considered to be nationally important numbers. In addition to this a number of other waterfowl species occur at the site in locally important numbers. Table 3 below lists the two Annex I Bird Directive species present.

Table 3.Annex 1 Bird Species Present

Site code	Species code	Species
000077	A140	*Pluvialis apricaria*
000077	A157	*Limosa lapponica*

The conservation value of the Ballymacoda (Clonpriest & Pilmore) Natura 2000 site lies in the fact that it contains a number of important coastal habitats listed in Annex I of the E.U. Habitats Directive and due to the fact that it is important as a site frequented by numerous species of waterfowl including two Annex I Bird Directive species.

4.1.4 Conservation Objectives for Ballymacoda (Clonpriest and Pilmore) SAC No 000077

4.1.4.1. The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. Theses habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and it's citizens to maintain habitats and species in the Natura 2000 network in favourable

conservation condition. The Government and it's agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is reached when it's natural range, and area it covers within that range are stable or increasing, and the specific structure and functions which are necessary for it's long term maintenance exist, and are likely to continue to exist for the foreseeable future and the conservation status of it's typical species are favourable.

The favourable conservation status of a species is achieved when population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of it's natural habitats, and that the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and that there is, and will probably continue to be a sufficiently large habitat to maintain it's populations on a long term basis.

The overall objective is to maintain or restore the conservation status of the Estuaries, Atlantic salt meadows, the Mudflats and Sandflats for which the S.A.C. has been designated and also to maintain or restore the conservation status of *Salicornia* and other mud and sand colonizing annuals for which the site has been designated.

4.1.5. Predicted Impacts

4.1.5.1. There are no predicted impacts to Natura 2000 sites from the proposed development. The development will be taking place 8 kilometres away from the nearest Natura 2000 site which is the Ballymacoda (Clonpriest & Pilmore) site. The development will involve the construction of modern pig accommodation with pig manure storage tanks constructed from reinforced concrete and will operate in compliance with the conditions set out on it's Integrated Pollution Prevention and Control licence (licence number P0790-02) issued by the Environmental Protection Agency. The development will take place on an area of improved grassland that is used at present for grazing bovines and for forage conservation. The proposed development will be surrounded by an earthen berm to the East, the West and the South, the

earthen berm will be landscaped using broadleaf trees and shrubs. There will be no removal of hedgerows during the construction process.

4.1.6. Conclusion

4.1.6.1. In conclusion the above screening shows that an Appropriate Assessment is not required. The development will not have an impact on the designated sites and there are no environmental designations pertaining to the proposed development site. The proposed site does not form any part of a Natura 2000 site, Statutory Nature Reserve or National Park. The proposed development will not result in the loss of any habitat type. No rare or threatened flora or fauna were observed on the site.

4.2 Flora & Fauna Report

4.2.1. Introduction

4.2.1.1. This report reviews the ecology of the pig production site being managed by Mr. Eoin O'Brien at Annistown, Killeagh, Co. Cork and is required in order to support a planning application for the proposed development. The site on which the proposed development will take place consists of improved grassland with a low diversity of plant species all of which are common to areas of improved grasslands.

FLORA & FAUNA IN THE EXISTING ENVIRONMENT

4.2.2. Habitat types

4.2.2.1. The area around the site contains vegetation which can be grouped under the following headings:-

(a) Grassland
(b) Hedgerow
(c) Man made features

a) <u>Grassland</u>

The lands surrounding the existing pig production unit contain improved grassland. The grassland is dominated by cultivars of perennial ryegrass (*Lolium perenne*) and white clover (*Trifolium repens*) which have been

sown for grazing and fodder conservation purposes. This vegetation is typical of lands used for productive agriculture. There is also a sparse distribution of typical grassland weeds such as dock leaves (*Rumex obtusifolius*), thistle (*Cirsium vulgare*), ragwort (*Senecio jacobacea*) buttercup (*Ranunculus repens*) and nettles (*Urtica diocia*). There are no rare or endangered species present in the grassland area.

b) Hedgerow

A mature hedgerow occurs to the west of the pig production unit and forms the boundary between Mr. O'Brien's property and the neighbouring property. The tree and shrub species noted were hawthorn (*Crataegus monogyna*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) willow species such as sally (*Salix cinerea*), goat willow (*Salix caprea*) and eared willow (*Salix aurita*), holly (*Ilex aquifolium*) hazel (*Corylus avellana*) brambles (*Prunus spinosa*) furze (*Ulex europeas*), ivy (*Herera helix*) and occasional beech (*Fagus sylvatica*). The understory plants include nettle (*Urticadiocia*), cow parsley (*Anthriscus sylvestris*) and hogweed (*Heraclbum sphondylium*). Hedgerows provide important nesting and feeding sites for wildlife in areas of productively managed farmland, they also act as nature corridors forming a link between habitats. The proposed development will take place some distance away from the hedgerow and the hedgerow will be retained in it's present condition.

c) Manmade features

A line of broadleaf trees have been planted on both sides of the avenue approaching the pig unit. The trees planted are mostly cherry (*Prunus avium*) with some sycamores (*Acer pseudoplatanus*) as well, the tree line may be useful to wildlife as a roost or nesting site as well as being a potential feed source. The trees will be left in place and will not be interfered with as part of this development.

There is a high earthen bank to the south of the site and partially to the east and the west. The earth bank acts as a screen and a wind break around the site. It has become colonised by brambles (*Prunus spinosa)* and wild grass species such as scutch grass (*Elymus repens*). The earthen bank is of low ecological value. It is proposed to improve the aesthetic and ecological value of the earthen bank by extending it in a northly direction to the west and also in a northly direction to the east of

the proposed development and by then planting trees and shrubs on it using some of the Department of Agriculture approved varieties listed in Appendix 9.

4.2.3. FAUNA

4.2.3.1. Birds observed during the course of the survey included species commonly found in areas of mixed farmland. Members of the crow family (*Carvus* sp) and wood pigeon (*Columba palumbus*) as well as black birds (*Tardus merula*) and wrens (*Trogladytes trogladytes*) were noted around the site as well pied wagtails (*Montacilla alba yarellii*) and chaffinches (*Fringilla coelebs*).

Mammal species that frequent areas of mixed farm land include field mice (*Apodmus sylvatica*), rabbits (*Oryclalagus coliculus*), fox (*Vulper vulpers*), badger (*Meles meles*), the Irish hare (*Lepus timidius hibernicus*) and the Irish stoat (*Mustela erminea hobernica*). The only species of amphibian that may be present in the area is the common frog (*Rama tenporaria*). Invertebrate species on this type of productively managed farmland will include a number of common species but the presence of rare species is considered unlikely.

4.2.4. IMPACT & METIGATION MEASURES

4.2.4.1. The proposed development will take place on an area of improved grassland that is used at present for grazing livestock and producing conservation forage. This type of farmland is common in the area and has a low ecological value. The ecological value of the area will be improved by planting broadleaf trees and shrubs on the earthen berm that will be placed around the proposed development to shelter it and screen it. The newly planted shelter belt will consist of types of native broadleaf trees and shrubs as recommended by the Department of Agriculture (see Appendix 9). The varieties of trees and shrubs will complement those already present on surrounding hedgerows and thus improve the ecological value of the site as they may be used by insects, birds and mammals as roost sites or feeding areas.

5. HYDROLOGY

5.1 Water Quality Analysis

5.1.1. Within Appendix 1 we enclose a groundwater risk assessment carried out by IE Consulting/GES Limited (they were engaged to undertake the Risk Assessment) to support the IPPC License application. The scope of the work included a desk based study to review all relevant documentation, to asses existing data, to undertake a site visit, to obtain groundwater level measurements from the on site well, to identify risk sources at the site, and to make recommendations for future groundwater assessment or monitoring works at the site. The report concluded that the risk sources at the site are the pig manure tanks/ channels at the site and the soak away for domestic effluent. The report proposed the monitoring of any new leak detection systems on site, the bunding of all fuel tanks on site and to assess the integrity of all tanks and pipelines on site. The proposed development will improve the existing situation as a new leak detection system will be provided under the new buildings/ tanks as shown on the drawings in Appendix 19. The tanks under the old buildings are to be demolished and the existing slurry basin is being removed. All new tanks and storage tanks under the buildings will be reinforced concrete tanks in compliance with the Department of Agriculture Specifications.

5.1.2. Water samples were taken from the well supplying the unit, and from the stormwater runoff point. Full analyses results of a recent sample from an independent laboratory are included in Appendix 11. The analysis results are within the parameters set down by the E.P.A. The well will be analysed annually for pH, C.O.D. Nitrate, Total Ammonia, Total Nitrogen, Conductivity & Ortho-phosphate and it will be analysed twice yearly for both Total Coliforms and Faecal Coliforms. The storm water monitoring point will be visually inspected weekly, and a water sample taken quarterly, as is required by conditions C.2.3 & C.6.1 of the IPPC Licence for the facility.

5.2 GROUNDWATER AND SURFACE WATER

5.2.1 Conditions for monitoring surface and ground waters at the site are set down in the Integrated Pollution Prevention & Control licence for the facility.

5.2.2. The well supplying water to the site will be analysed annually in compliance with condition 6.10 of the I.P.P.C. license. The results of the well water sample analysis will be maintained on site for inspection by Cork County Council, and EPA officials, at all reasonable times. The location of this well is marked as on the location maps. (see Appendix 19).

5.3 DRAINAGE FROM THE SITE

5.3.1. Uncontaminated roof water from the pig unit is collected via the proposed stormwater collection system, to a monitoring point identified as SW1 on the site layout plan. A sample will be taken from this point quarterly and analysed for COD at an independent laboratory. All soiled water from the site is diverted to the pig manure storage tanks. A visual inspection of the storm water monitoring point will be made and recorded weekly in compliance with condition 6.10 of the I.P.P.C. license.

6 CUSTOMER LANDS AND APPLICATION OF PIG MANURE

6.1 Customer Lands

6.1.1. The proposed areas on which pig manure will be applied are generally located within 15 miles of the facility. Pig manure will only be applied to lands between 12th January and 15th October in compliance with Statutory Instrument 610 of 2010 (See Appendix 7).

6.1.2. The location of customer farmers for pig manure is shown on maps taken from Ordnance Survey Discovery Series No. 81 as shown in Appendix 4 in compliance with the requirements of the IPPC license. Pig manure will be applied to lands managed by customer farmers at rates compliant with S.I. No 610 of 2010.

6.2 Pig Manure

6.2.1 The annual production of pig manure from the proposed 1,500 sow integrated unit will be 27,690m³ per annum. There is demand for 59,394m³ per annum of pig manure for fertiliser by local farmers see Appendix 4. The volume of storage capacity on the site will be 33,614m³ (See Farm Structures Table Appendix 18). Statutory Instrument 610 of 2010 (commonly known as the Nitrates Directive) sets out a minimum capacity of 26 weeks storage for pig production units. The capacity proposed is enough to hold pig manure for 63 weeks which is far in excess of the minimum requirement of 26 weeks.

6.3 Pig Manure Application

6.3.1. The pig manure will be applied as fertiliser on farm lands. There is demand for 59,394m³ per annum of pig manure as fertiliser from farmers in the locality of the unit. There is a list of customer farmers provided in Appendix 4 showing their farm codes and the amount of pig manure each farmer requires. The names of the individual farmers are maintained and available to view on the Environmental Protection Agency site register for the facility. The requirements of each farmer has been calculated in compliance with the nutrient limits set out in Statutory Instrument 610 of 2010 (i.e. the Nitrates Directive). A record of movement of organic fertilisers form (Record 3 form see Appendix 8) is completed for each farmer documenting the total amount of pig manure received by them. The Record 3 forms are submitted annually to the Nitrates Section of the Department of Agriculture Fisheries and Food and copies of them are retained on file.

6.3.2. In addition to abiding by the nutrient limits set out in the Nitrates Directive, farmers applying pig manure to their lands are also obliged under part 4 of the Nitrates Directive to comply with the defined buffer zones and spreading conditions. The said buffer zones and spreading conditions are outlined in detail in Appendix 6. Pig manure will be applied to lands during the growing season when crops will utilise the nutrients being supplied thus minimising the risk of leaching. Pig manure will not be applied to lands between 15th October and 12th January See Appendix 7.

6.3.3. Conditions for monitoring surface and ground waters at the site are set down in the Integrated Pollution Prevention & Control licence for the facility. A register of pig manure quantities, date of delivery, name and farm code of landowner will be maintained for inspection by Cork County Council, and the EPA at all reasonable times.

6.3.4. There is a requirement under E.U. cross compliance agriculture legislation, that farmers with lands in continuous tillage production should soil sample their lands to test for organic matter levels. In cases where, following soil sample analysis, the organic matter level falls below a threshold of 3.4% a plan has to be implemented to improve the organic matter content of soils. The application of organic fertiliser such as pig manure to such lands is one of the approved methods of improving soil organic matter. The use of organic fertilisers is the method most compatible with tillage operations as it does not require a change to husbandry practices as some of the alternative methods would (see Appendix 10). The proposed facility would supply local tillage farmers with a source of organic fertiliser to improve soil organic matter

7. AIR QUALITY & NOISE

7.1 Air Quality

7.1.1 Impact

7.1.1.1. The proposed development will take place in an entirely agricultural hinterland where typical farm odours are to be found and expected. These odours arise from farmyards and lands during the day to day operations. New buildings will be designed with ventilation facilities that are state of the art for the pig industry based on best available technique. The old buildings are being demolished and the proposed works will improve air quality through their modern design.

7.1.2 Mitigation Measures

7.1.2.1. The following measures will be in place:

- Incorporation of low protein diets on site in line with best practice

-The use of a high-tech computerized ventilation system, in animal houses with a back up system. As a result foul air is dissipated high into the atmosphere where it will be mixed with fresher air thus reducing odours in the locality.

-Strict hygiene and cleanliness will be observed at and around the unit as it will operate as a high hygiene minimal disease unit.

-The skip for collecting dead animals will be covered at all times. Carcasses will be removed off site by Duggan Waste Services Ltd, on a regular basis, and delivered to a licensed rendering plant.

-Transporting pig manure in suitably contained, leak proof vehicles.

7.2 Noise

7.2.1 Impacts

7.2.1.1. The noise generated on the existing and proposed pig farm are similar to noise generated on any farm enterprise. The main noises sources with a pig unit are animals at feeding time, ventilation fans, feed lorries unloading and tractors loading pig manure. The noise level at feeding time lasts for 10-15 minutes, the noise levels from delivery vehicles and from the pigs at

other times is insignificant. The noise generated by these is inaudible other than within the immediate vicinity of the buildings and activity area.

7.2.1.2. Noise levels are measured in decibels and a weighting factor (A) is applied to approximate the frequency response to the human ear. This weighted decibel scale, dB (A) correlates well with human sensations of loudness, disturbance and annoyance. The existing noise levels on site are generally low and typical of a quiet rural area during daytime. Noise levels are not audible from the site above background noise levels. Noise level have never been an issues and the facility is in operation with over 40 years.

7.2.2 Mitigation Measures

7.2.2.1. The noise generated on the farm is similar to noise generated on any farm enterprise. Noise levels are so insignificant that they do not require monitoring under the IPPC License conditions.

7.2.2.2. The buildings proposed will be low emission buildings and incorporate emission reduction measures, this includes insulation internally throughout the ceilings which reduces the noise levels in the external vicinity of the building. Insulation levels in modern pig unit are high, normally 60mm extruded polystyrene in walls and 60mm extruded polystyrene in ceilings. This will greatly muffle noise levels from the interiors of the pig buildings.

8. LANDSCAPE AND VISUAL ASPECTS

8.1 Proposed Site and Structures

8.1.1. Pig farm unit is located in a rural agricultural area. Structures comprise of long, low A roofed houses. The tallest structures on site will be the feed bins at circa 11m high. The proposed buildings consist of single storey, steel framed structures with concrete block plastered walls and fibre cement roof sheeting. The proposed building layouts and design will match the existing buildings on site.

8.1.2. The site is set back from the public road and the existing earth berm screens the site and this will be extended as part of the proposed development. The overall heights and roof pitches are the minimum allowed by the Department of Agriculture Specifications. The height of the eaves revel is approximately 2.7m high and the ridge is 8.9m high approximately.

8.2. Mitigation Measures

8.2.1. All the proposed buildings have been designed to match the existing structures. It is proposed to provide selected landscaping in the form of specimen trees, shrubs, particularly on the proposed earth berms which will screen the site. Details of the proposed landscaping plan are set out in Appendix 8.

8.2.2. The development is located in an agricultural area, the proposed and existing buildings will and do blend into the surrounding landscape. The development would be similar to a large farm enterprise.

8.2.3. The development will be landscaped by extending the existing earth berm and provision of trees and shrubs. Thus, there will be no nuisance or loss of amenity. The development will involve excavating for tanks and building foundations. The material excavated will be used to construct earth berms. No hedgerows will be removed as part of the development.

9. CULTURAL HERITAGE

9.1. Due to the relatively small scale of the proposed development, and the absence during former extraction on site, archaeology may be dealt with summarily. The archaeological status of the proposed site was assessed by consulting the Sites and Monuments Record Maps for County Cork. The proposed construction site is contained in Ordnance Survey sheet number 66 for County Cork. There are no sites recorded on or adjacent to the proposed development site, there are no archaeological sites present in the town land of Annistown. The nearest features listed on the Sites and Monuments record are in neighbouring town lands. The details of each feature and their approximate distances from the site are shown in the table below.

Sites & Monuments Record Code	Feature Type	Townland	Approximate distance & direction from site
CO066-082	Enclosure	Carrignashinny	720 metres South West
CO066-057	Enclosure	Deer Park	600 metres West
CO066-061	Enclosure	Garranejames	1210 metres South
CO066-065	Fulacht Fia	Garranejames	500 metres East
CO066-063	Enclosure	Dromnane	1,500 metres North East

9.2. The proposed development is located a considerable distance away from the nearest archaeological features and therefore it will have no impact on any of these features.

9.3. Several walkovers on the site did not reveal any features of archaeological interest. The possibility exists that undetected features of archaeological interest are present at the site. Such features may be discovered only during excavation for building. In the event that finds or features of potential archaeological significance are discovered on site during excavation for building, it is recommended that the relevant statutory bodies be notified.

10. TRAFFIC

10.1 INTRODUCTION

10.1.1. The development site lies in a rural area, 1.5km east of Mogeely and 3.5km west of Killeagh on the northern side of the local primary route L3809, which links Mogeely to Killeagh and is located 130m west of Aghnasassonagh Bridge.

10.1.2. The existing entrance is well set back from the public road and the entrance has generous splays on both sides to allow for HGVs to enter and exit the site. The entrance road in to the site is a hardcored 3.5m wide road, tree lined on both sides.

10.1.3. The public road is a county road with a typical carriage width of approximately 5.5m with verges of varying width, commonly in the order of 1m either side in the vicinity of the site.

10.2 PROPOSED DEVELOPMENT

10.2.1. Within the table below the typical time generation for a typical working day is shown. They come under the following headings:-

1. Staff Transport

   There will be 9 no. staff members entering and existing the site daily. This will result in 18 no. movements daily.

2. Feed Delivery

   Conservatively we have taken that there will be one delivery per day on average by animal feed delivery lorries.

3. Pigs to Factory

   Conservatively we have taken that there will be one HGV per day on average collecting pigs to bring to the processing plant. This is more likely to be in the range of only 2-3 times per week. The carcass collection lorry visits the site once every two weeks, therefore this would be allowed for within this conservative figure above.

4/5 Pig Manure Deliveries from Site

These deliveries are based on the total volume of 27,690m³/per annum of pig manure. The tractor and tanker have a capacity of 11.4m³ and the HGV has a capacity of 27.3m³. The volume to be removed is divided 20% to tractor and tanker and 80% to HGV.

	Description	Trips in		Trips Out		Two-Way
		Car	HGV	Car	HGV	Car & HGV
1	Staff Members	9		9		18
2	Feed Deliveries		1		1	2
3	Pigs to Factory		1		1	2
4	Pig Manure Delivery from Site HGV		3		3	6
5	Pig Manure Delivery from Site by Tractor & Tanker		1		1	2
		9	6	9	6	30 per day

30 no. per day equates to 4 no. vehicles/hour on average over the working day

10.2.2. We have assessed the existing road capacity using RT180 Geometric Design Guidelines (NRA) as summarised in the Table below:-

Table 2 – Two-day Design Capacities for "Undivided Rural Roads"

Road	Level of Service	Carriageway Width (m)	Reduction Factors Applied		Design Capacity (veh/hr)
			Restricted Lateral Clearance	Roadside Development %	
L3809	C	5.5	0.9	-5.0	470

The above figure of 30 vehicles per day in Table 1 equates to 4 no. vehicles/hour on average over the length of the working day. The local road has a capacity of 470 no. vehicles/hour, therefore the development is using up approximately less than 1% of the available capacity in the road network.

10.3 CONCLUSION:

10.3.1. The "Guidelines for Traffic Impact Assessment" (IHT) states that if the increase in background traffic is less that 10% for uncongested roads and less than 5% for congested roads, then development is considered to have no impact on the surrounding network. The additional traffic generated by the development is insignificant in terms of the existing traffic volumes and road capacity.

10.3.2 Considering the very low traffic volumes associated with the L3809 and the low levels of traffic generated by the development, junction capacity is clearly not an issue.

10.3.3 The surrounding road network has sufficient capacity to accommodate the traffic generated by the proposed development. The road network can safely accommodate the minor increase in traffic, particularly as the surrounding roads currently cater for agriculture and other local traffic.

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