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Environmental Protection Agency,
Licensing Department,
Johnstown Castle Estate,
Co.Wexford.

RE: Industrial Emissions Activities Licence Application for Timoleague Agri Gen Ltd., Barryshall, Timoleague, Bandon, Co. Cork. Reg. No: P0986-01.

Dear Sir/Madam,

I refer to your letter requesting clarification of further information dated 03 March 2014 in relation to the above Industrial Emissions Activities Licence Application for Timoleague Agri Gen Ltd.

We here in attach our clarification response in the same numerical order:

1. Confirm if the red line boundary identified on Drawing Number 6722 of Appendix No. 1 of the EIS and Attachment B.2 of the application is the site boundary. State whether the pipeline from the pig farm should be included in the red line boundary and if not, provide reasons why not.

The red line boundary identified on Drawing Number 003 – Overall Site Plan of Appendix No. 2 of the EIS and the location maps in Attachment B.2 of the application, is the site boundary.

All manure will now be transported by tractor tanker/articulated lorries from Martin O' Donovan's Pig Farm Unit to the proposed development at Barryshall, Timoleague, Co. Cork as per Planning Permission.

2. There are inconsistencies between Drawing Numbers 003, 028 and 029. Provide updated drawings that address the inconsistencies and specify the location of the heat exchangers, buffer tank, hot water tank, gas holder, decanter, CHP engines, flare and biofilters.

Drawings No 028 and 029 are Process Flow Diagrams. Drawing No 28 is a simplified schematic diagram indicating the rudimentary outline of the process. Whereas Drawing No 29 is a detailed schematic indicating where pumps, valves probes etc are located on the process, neither provides a specific position of the structures on the site.

Drawing 003 indicates the specific location of the structures on the site in accordance with the requirement of the Planning Regulations. The necessity of the Process Diagram 029 is the scale of the site plan 003 is too small to indicate all pipe routes which would be too cluttered on an overall site plan.

3. Provide a drawing of proposal emission and monitoring points which clearly identifies:

a) storm water discharge points SW1 and the discharge from the ICW to land drain, the land drain(s) to which these points discharge, the path of the land drain(s) to the East Cruary River/Argideen Estuary, Courtmacsherry Estuary SAC and Courtmacsherry Bay SPA.

- **Provide the National Grid Reference(s) for the point(s) at which the land drain(s) referenced above merges with the Easte Cruary River/Argideen Estuary.**

b) emissions to air from the facility including both biofilters, the CHP engines, the flare and the boiler. Ensure this drawing clearly shows the link between the emissions from the biofilters and the CHP engines. Provide National Grid References for all emissions points identifies on this drawing.

A revised vision of Drawing 003 – Overall Site Plan which details the monitoring points SW1, SW2, CHP 1, HP 2, HP 3, BF1 is included in Attachment 1.

4. Storm Water Discharge

a) Describe the existing surface water quality of the local watercourse to which stormwater will be discharged.

a) Attachment 2 deals with Question 4 part (a)

b) Confirm the emission point reference number of the proposed discharge to land drain from the Integrated Constructed Wetland is SW2.

b) The storm water from the operation yard and access road in front of the reception building will be collected and diverted into an integrated constructed wetland (ICW), which will constitute 4 No ponds. The emission point reference number at the Integrated Construction Wetland is SW2.

C) State how and whether the measures proposed to mitigate impacts of stormwater discharges on the watercourse will ensure compliance with the EC Environmental Objectives (Surface Waters) Regulations 2009, as amended, in the receiving waters.

c) In the context of storm-water discharges, the main hazard associated with the proposed development is the storage and handling of liquid organic material – pig manure and other organic material and potential accidental spills of same reaching stormwater discharges.

All organic waste storage structure will be constructed to Department of Agriculture requirements and will be sealed and bunded. An integrity assessment will be carried out on all storage tanks prior to commissioning. Storage structures will have individual leak detection systems which will be monitored on an ongoing basis during operation.

The primary method of containment of uncontrolled discharge is to eliminate them occurring in the first place by:

- Having robust procedures for transferring material to tanks within the facility from road vehicles,
- Ensuring that that delivery vehicles are within impervious kerbed areas before discharging their loads, insuring that the reception tanks have high level alarms,
- Filling of road vehicles from the geo-membrane storage lagoon will be via filling stand pipes located adjacent to the fibre stores at floor level of the fibre stores, 20.5m FFL, which is approximately the level of the crest of the storage basins, with a kerbed collection apron surrounding the stand pipe which drains to a collection chamber.

Control of a catastrophic failure of an over-ground tank would be contained by:

- the location of the geo-membrane lined storage basins to the Southeast of the facility was chosen on the lowest part of the complex the finished floor level of the over-ground tanks and the reception building is 22.5m with the secondary digester floor level 20.5 and the crest level of the storage basin embankment at a similar level (20.5m FFL) see Drawing No 016, to provide containment if there was a catastrophic failure of a process vessel even with each of the basins full there is 500mm freeboard between the top foil and the crest of the basin.

Assuming all the necessary mitigation measures above and in Attachment 4 of this reply are implemented, the risk of contamination to any water courses during construction and operational activities on the proposed development site is low and thus adhering to the EC (Surface Waters) Regulations 2009 who's objective is to prevent further decline of a water bodies' status and to protect enhance and restore the status of the water body. Furthermore, Timoleague Agri Gen Ltd. intends to carry out quarterly analysis of monitoring points SW1 and SW2 at Independent Laboratories.

5. Complete table I.4 (i) of the application form and discuss the existing groundwater quality at the site of the proposed installation and include this information as part of the EIS.

There is no ground water monitoring within the site boundary.

6. Complete the tables referenced in section E.1. of the application form with regard to the emissions to atmosphere from both biofilters, the CHP engines, the boiler and any other significant emissions to air and include as part of the EIS.

Air Dispersion Modelling in accordance with the Air Dispersion Modelling Guidance Document issued by the EPA 2010, is currently out to tender and it is expected to have the results within 6 weeks.

7. Provide air dispersion modelling which is in accordance with the Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) (EPA, 2010) for the proposed emissions to atmosphere from both biofilters, the CHP engines, the boiler and any other significant emissions to air. Include the following in the air dispersion modelling report:

- **The modelling of emissions individually and in combination;**
- **An odour dispersion model;**
- **Confirmation of the measures to be taken to comply with an environmental quality standard; and**
- **Confirmation of how the above measures will minimise pollution pollution over long distances.**

Air Dispersion Modelling in accordance with the Air Dispersion Modelling Guidance Document issued by the EPA 2010, is currently out to tender and it is expected to have the results within 6 weeks.

8. State whether it is proposed to maintain the digestate fibre building under negative pressure. If no, provide reasons why this is not necessary and describe alternate means of odour control proposed. If yes:

- **State by what means air will be extracted.**
- **State what treatment system, if any will be used at air extraction points.**
- **Specify what emission limit values, if any, are proposed for air emission points.**

It is not intended to provide ventilation or air extraction to the stores for the following reasons:

(i) The digestion process reduces significantly the odour potential from the biomass and essentially converts odorous compounds to biogas rendering the solid digestate effectively odourless. The biomass will be allowed to accumulate in the store predominantly in the closed land-spreading period from October to January. The proposed fibrous material store is a 3 section portal framed store with each section enclosed fully separately.

(ii) Maintaining the doors closed during normal operation will reduce the air movement from the building to the surrounding hinterland.

9. Drawing Number 19 indicates that there are vents in the floating covers of the geo-membrane lined manure basins. Confirm how the floating cover and vents prevent odour emissions.

See attached regarding same – Attachment 3.

10. Undertake a screening for Appropriate Assessment <u>for the pipeline project</u> and state whether the activity, individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s), in view of best scientific knowledge and of the conservation objectives of the site(s).

Where it cannot be excluded, on the basis of objective scientific information, following screening for Appropriate Assessment, that an activity, wither individually or in combination with other plans or projects, will have a significant effect on a European Site, the applicant shall provide a Natura Impact Statement, as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations (S.I. No. 477 of 2011). Where, based on the screening, it is considered that an Appropriate Assessment is not required; a reasoned response should be provided.

You are furthermore advised to refer to the document 'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities', issued in 2009 by the Department of the Environment, Heritage and Local Government, and revised in 2010.

All manure will now be transported by tractor tanker/articulated lorries from Martin O' Donovan's Pig Farm Unit to the proposed development at Barryshall, Timoleague, Co. Cork as per Planning Permission.

11. In Appendix 8 section 9 of the EIS the report on the Environmental Impact Assessment – Soils, Geology & Groundwater states that the slurry pipeline from the nearby pig farm will be monitored via pressure gauges with alarms on an on-going basis during operation to alert staff of any leaks. The slurry pipeline is not listed on the Schedule of Leak Detection Monitoring Points provided in Appendix 19. Provide the relevant detail with regard to the control and monitoring of this system.

All manure will now be transported by tractor tanker/articulated lorries from Martin O' Donovan's Pig Farm Unit to the proposed development at Barryshall, Timoleague, Co. Cork as per Planning Permission.

12. Complete table F.1 of the application form detailing information on how it is proposed to treat, abate and control emissions to air and surface water and include as part of the EIS.

Emissions to Surface Water – See Attachment 4 for information relating to the control of emissions to surface water.

Emissions to Air – Air Dispersion Modelling in accordance with the Air Dispersion Modelling Guidance Document issued by the EPA 2010, is currently out to tender and it is expected to have the results within 6 weeks.

13. Complete table F.2 (i) and table F.2 (ii) with respect to emissions to air and ambient monitoring/sampling points respectively and include in chapter 8 of the EIS.

Air Dispersion Modelling in accordance with the Air Dispersion Modelling Guidance Document issued by the EPA 2010, is currently out to tender and it is expected to have the results within 6 weeks.

14. Describe the measures to be taken under abnormal operating conditions, including startup, shutdowns, leaks, malfunctions, breakdowns and momentary stoppages.

Start up: During start up, the loading into the digester will proceed slowly. While doing so careful monitoring and control of the process are essential until the digester attains optimum conditions. Approximately 1-3 months are required to achieve a steady state digester.

Malfunctions, breakdowns and momentary stoppages: If the heat is turned off due to malfunctions, breakdowns and momentary stoppages, a typical digester will lose at least 0.50C to 10C a day if loading of feedstock ceases. Once the temperature has dropped to 280C, the gas production will reduce significantly. To start the digester up again, the contents should be mixed continuously, so there is no mat on the top, and then slowly warmed up again. This process can be used if the operator is in any doubt about contaminated feedstock: if feeding is stopped the digester will recover.

15. Explain in detail how it is proposed to control, manage, store, treat and utilise biogas produced by the digestion process

Biogas production takes place in both of the Digester Tanks at the optimum temperatures and an oxygen free environment. In the vertical Primary Digester the operating temperature is 50 - 55^{O}C. The gas produced occupies the void at the top of the digester tank which has a fixed steel rigid roof; the accumulated gas is piped to the CHP unit and /or boiler.

In the horizontal secondary digester the operating temperature is 38^{o}C. This is a steel sectional tank with a double membrane cover; an air blower maintains a constant pressure of 0.5 Bar between the 2 sheets of the membrane. The gas collection route pipe-work is connected to both digester tanks to maintain a minimum pressure throughout the tanks. This pushes the accumulated biogas to the CHP Unit (The blower is similar to those used by Bouncing Castles).

Conversion of gas to Electricity and Heat is done in a Combined Heat and Power Unit (CHP). This consists of an internal combustion engine coupled to an alternator. The biogas is delivered to the engine using air pressure generated by the double membrane cover on the Secondary Digester. The engine is a spark ignition engine which turns the crankshaft and the alternator to generate electricity which also produces heat around the engine's combustion chambers; water used to cool the engine provides the heat for the digestion process and for space heating.

Gas production is calculated to approximately the capacity of the CHP Unit, in this case approximately 1.1MW of electricity and 1.25MW of heat. The electricity will be exported off-site to a dedicated grid connection, this connection will be a 10/20kv 3 phase line which consists of series of single poles with 3 cables approximately 40mm diameter similar to any existing rural 10/20kv line. It is intended to generate electricity for export to the national grid on a continuous basis with 500 hours down time (5% per year estimated).

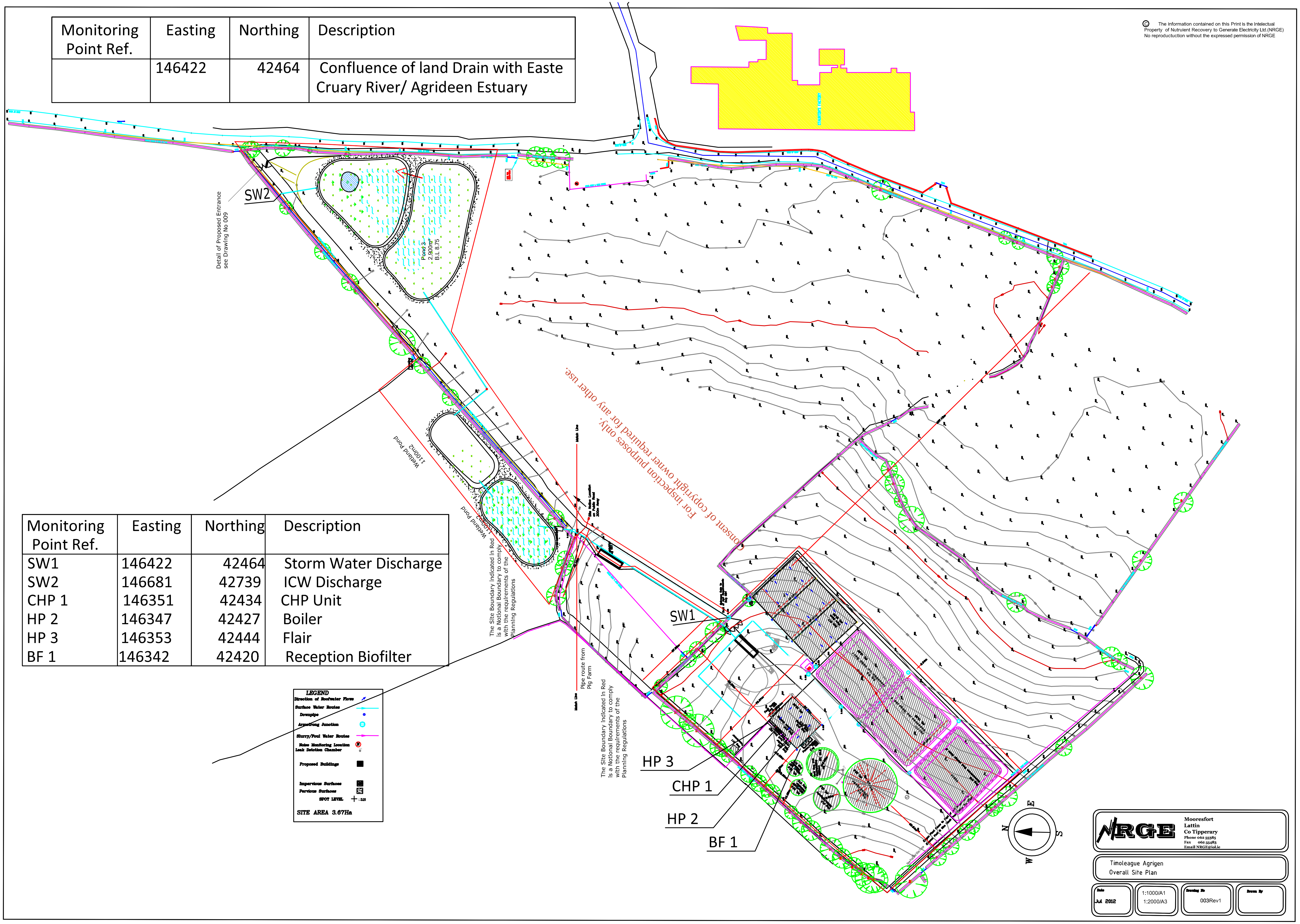
Heat produced by the CHP Unit will be utilised to provide process heating for biogas production and exported to the adjoining Glass-House facility (Planning Reference 13/90) using insulated water-pipes to heat exchange at the glass house complex.

In addition to the above please also provide an updated non-technical summary to reflect the information provided in your reply.

An updated Non-technical summary is attached.

Attachment 1

Monitoring Point Ref.	Easting	Northing	Description
	146422	42464	Confluence of land Drain with Easte Cruary River/ Agrideen Estuary



Monitoring Point Ref.	Easting	Northing	Description
SW1	146422	42464	Storm Water Discharge
SW2	146681	42739	ICW Discharge
CHP 1	146351	42434	CHP Unit
HP 2	146347	42427	Boiler
HP 3	146353	42444	Flair
BF 1	146342	42420	Reception Biofilter

Attachment 2

The main surface water features in the vicinity of the proposed development are the East Cruary River which lies approximately 200m from the southern boundary and the Timoleague River which lies approximately 320m from the northern boundary

The Timoleague and East Cruary Rivers flow in an easterly and north-easterly direction respectively to discharge to the estuary at Timoleague approximately 0.8km from the proposed development site.

Teagasc have put in place a regional monitoring programme at a point down-stream from this site as part of their Agricultural Catchments Programme over recent years, wherein they have recorded flow rates and ambient monitoring has being carried out for phosphorus and nitrate - Location of this stream are shown in the following Ordnance Survey map. Upon completion of this proposed development it is intended to engage with this programme to monitor any impacts from the displacement of applications to land of pig manure, and other organic materials, in this catchment area, with the digestate fertiliser from the anaerobic digester process.

The Agricultural Catchments Programme's Phase 1 Report 2008 – 2011 was published by Teagasc and the Department of Agriculture in 2012. Within this report, Teagasc detailed stream flow of the stream along with phosphorus loads (TP and TRP) and nitrate loads (TON), results are shown in the following tables where Timoleague is referred to as Grassland A.

This study combined site specific pathway studies with catchment integrated studies to characterise N and P transfer pathways in four agricultural catchments with different land management, soil drainage and geology.

It is intended to cooperate fully with Teagasc in this programme to monitor on-going future impacts from this proposed development.

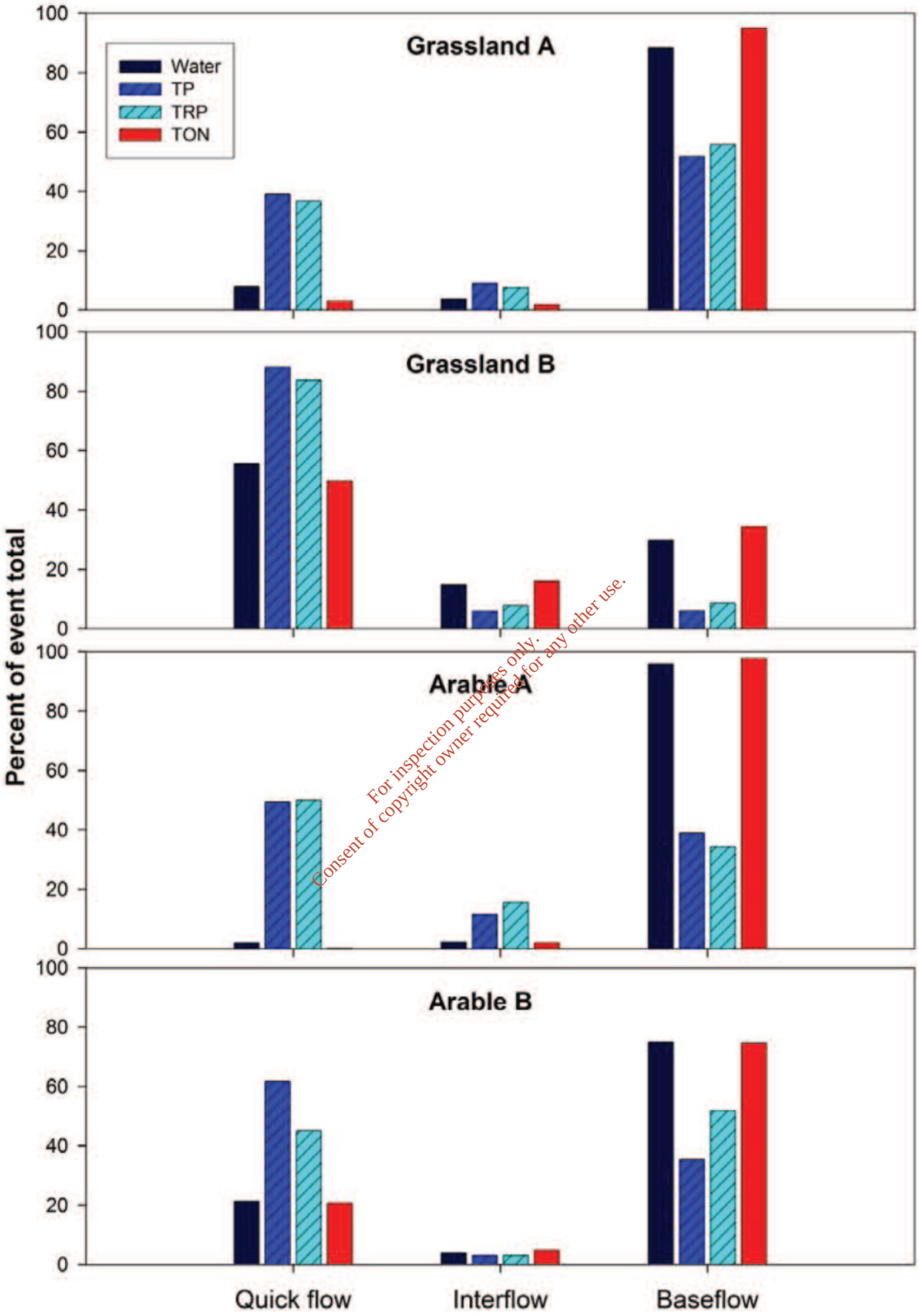


Figure 2. Stream flow and nutrient (TP, TRP and TON) transfer pathways identified and quantified by Loadograph Recession Analysis and expressed as a percenage of event total (total stream discharge and total nutrient flux at catchment outlet) for four agricultural catchments - Arable A (Castledockerell), Arable B (Dunleer), Grassland A (Timoleague), Grassland B (Ballycanew).

Table 1. Summaries of stream flow, TP, TRP and TON loads, load rates and concentrations for dominating transfer pathways from the Loadograph Recession Analysis for the investigated flow events in four agricultural catchments. Concentrations of TP, TRP and TON within the transfer pathways are expressed in mg L^{-1} of pathway activity. QF, quick flow; IF, interflow; and BF, baseflow.

	Pathway	Grassland A			Grassland B			Arable A			Arable B		
		[mm]	[mm h^{-1}]	[%]	[mm]	[mm h^{-1}]	[%]	[mm]	[mm h^{-1}]	[%]	[mm]	[mm h^{-1}]	[%]
Stream flow	**QF**	5.2	0.12	8	12.1	0.34	55	1.0	0.06	2	10.8	0.32	21
	IF	2.4	0.04	4	3.2	0.05	15	1.2	0.02	2	1.9	0.04	4
	BF	57.8	0.05	88	6.5	0.01	30	52.3	0.05	96	38.1	0.04	75
		[g ha^{-1}]	[g $ha^{-1}h^{-1}$]	[mg L^{-1}]	[g ha^{-1}]	[g $ha^{-1}h^{-1}$]	[mg L^{-1}]	[g ha^{-1}]	[g $ha^{-1}h^{-1}$]	[mg L^{-1}]	[g ha^{-1}]	[g $ha^{-1}h^{-1}$]	[mg L^{-1}]
TP	**QF**	27.9	0.61	0.54	40.9	1.14	0.34	16.3	0.74	1.63	107.0	3.15	0.99
	IF	6.5	0.11	0.27	2.7	0.04	0.08	3.8	0.07	0.32	5.2	0.12	0.27
	BF	37.0	0.03	0.06	2.8	0.00	0.04	12.8	0.01	0.02	61.4	0.06	0.16
TRP	**QF**	16.2	0.35	0.31	17.7	0.49	0.15	10.9	0.50	1.09	36.5	1.07	0.34
	IF	3.3	0.06	0.14	1.7	0.03	0.05	3.4	0.06	0.28	2.5	0.057	0.13
	BF	24.7	0.02	0.04	1.8	0.00	0.03	7.5	0.01	0.01	41.8	0.04	0.11
TON	**QF**	93.1	1.98	1.79	178.2	4.95	1.49	7.4	0.37	0.71	490.8	14.44	4.54
	IF	54.1	0.97	2.25	57.2	0.89	1.79	65.1	1.07	5.43	113.0	2.57	5.95
	BF	2835.5	2.58	4.91	123.0	0.11	1.89	3287.0	2.99	6.28	1774.8	1.62	4.66

Attachment 3

The Geo-membrane lined manure basins will be built as per Odournet UK 2001's report "**Odour Impacts and Odour Emission Control Measures for Intensive Agriculture - Part A Odour annoyance assessment and criteria for intensive livestock production in Ireland"**. Attached is a drawing, sourced from Odournet UK, of the proposed Geo-Membrane Lined Basin.

Enclosed slurry storage

"Flexible solutions are becoming more popular, using methods of cover that avoid creation of headspace. An example of a covered storage without headspace are foil basins in an earth enclosure, with a floating foil cover.

Floats support the cover, and an extraction system for escaping digestion gas is provided in the design. They are made out of reinforced plastic (PVC) foil of 1 mm thick (see Figure 9). Stirring of the slurry is achieved through pumping slurry through a specially designed fixed tubing system. These fully enclosed foil basins have an economic lifespan of at least ten years.

Hundreds if not thousands of these systems have been installed in the Netherlands, at commercial pig units. No precise cost data are available, but the supplier indicates that the investment cost is close to half the cost of a concrete storage tank of the same capacity. The foil liner will be viable for an economic life of 10-14 years."

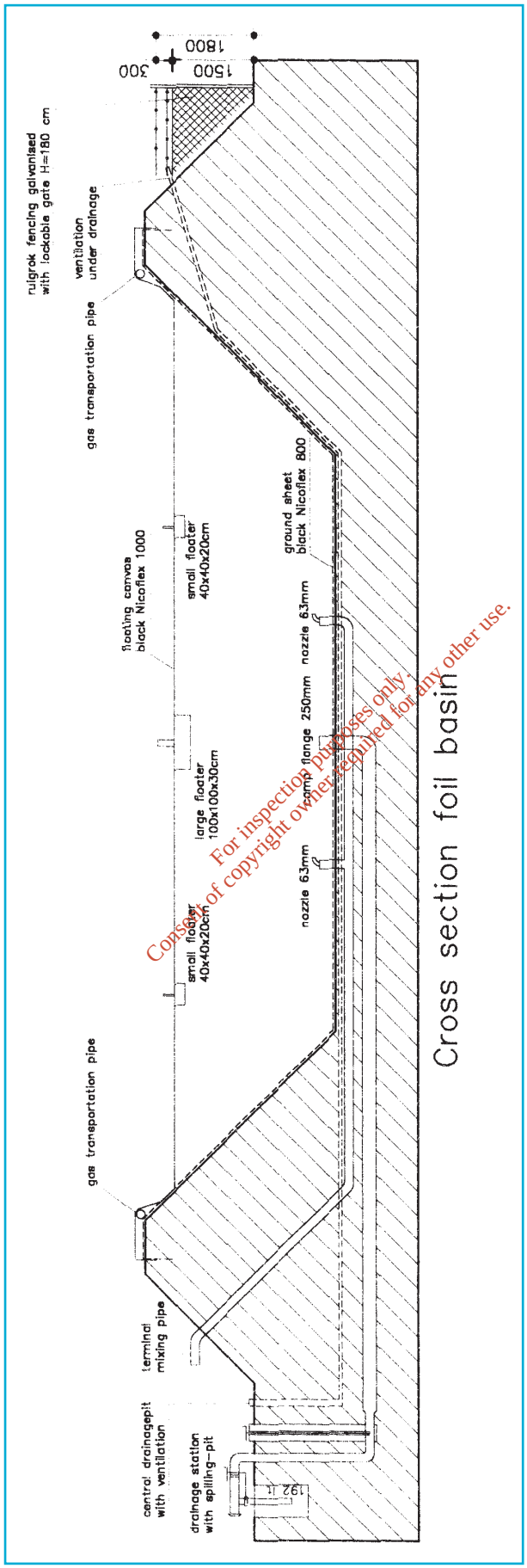


Figure 9 Fully enclosed slurry storage in earth shape with 1mm reinforced PVC lining (drawing courtesy of www.steenbergen.org)

Attachment 4

TABLE F.1(i): ABATEMENT / TREATMENT CONTROL

Emission point reference number: *SW1*

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
COD	Visual inspection of the inspection chamber. A sample will be taken from this watercourse annually and analysed for COD at an independent laboratory.	Inspection Chamber and tested at an independent laboratory	n/a

[1] List the operating parameters of the treatment / abatement system which control its function.

[2] List the monitoring of the control parameter to be carried out.

[3] List the equipment necessary for the proper function of the abatement / treatment system.

TABLE F.1(i): ABATEMENT / TREATMENT CONTROL

Emission point reference number: *SW2*

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
COD	Visual inspection of the inspection chamber. A sample will be taken from this watercourse annually and analysed for COD at an independent laboratory.	Inspection Chamber and tested at an independent laboratory	n/a

[1] List the operating parameters of the treatment / abatement system which control its function.

[2] List the monitoring of the control parameter to be carried out.

[3] List the equipment necessary for the proper function of the abatement / treatment system.

On Site during Construction Stage

Construction Activities pose a risk to watercourses. The main sources of contamination from construction activities include:

Silt: elevated silt loading in surface water discharge may result from construction activities, elevated silt levels leads to long term damage to aquatic ecosystem, clogging the gills of fish and smothering spawning ground. Chemical contaminants bind to organic particles and attach to silt which can lead to increased bio-availability of the contaminant. Silt also stunts aquatic plant growth, limiting the dissolved oxygen supply and reducing the aquatic ecosystem quality. Silt accumulations can also lead to flooding if it deposits, reducing the carrying capacity of the system and potentially causing blockages.

The vast majority of the proposed development consists of the construction of tanks which will be below the existing ground level. These effectively form attenuation ponds for peculation through the sides and the base because there is a requirement for space surrounding the perimeter of the houses and tanks to erect shutter pans etc. for the construction. Therefore, the areas between the existing ground and the tank construction form an effective sump to prevent silted water from reaching the watercourse.

Hydrocarbons: accidental spillages from construction plant and fuel or oil storage depots can cause faecal coli-form contamination due to poor containment and treatment of on-site washing and toilet facilities.

The extent of risk that these impacts have is determined by the proximity of the construction activity to the watercourse, as there is a sufficient distance to the watercourse and the sensitivity of the watercourse.

Installation of oil interceptors and the spill contamination facilities will not pose a risk to the local watercourse as there is a sufficient distance between the outfall and the larger surface water features.

Proposed Mitigation

Prepare an Emergency plan detailing the procedures to be undertaken in the event of a chemical, fuel or other hazardous waste spill, a fire or non compliance incident which any permit of license issues.

Ensure all staff is trained in the implementation of the Emergency Response Plan (***Attachment 11***) and the use of any spill control equipment as required.

Prepare a method statement for the control treatment and disposal of potentially contaminated surface water.

Pollution of aquatic systems during the construction phase will be reduced by the implementation of the following mitigation measures:

- Use of settling ponds, silt traps and bunds and by avoiding constructing burms near watercourses where possible
- When pumping of water is carried out, filters will be used on the suction side also to discharge through a sediment trap.
- Training of site managers, foremen and workforce, including all subcontractors, in the pollution risks and the preventative measures
- Where possible prevent water from entering excavations. Use cut-off ditches to prevent entry of surface water and well point dewatering or cut-off walls for ground water. Use the corner of the excavation as a pump sump and avoid disturbing that corner. Do not allow personnel or plant to disturb water in the excavation.
- Minimise the amount of exposed ground and stockpiles. Stockpiles can be seeded or covered and silt fences constructed from a suitable geo-textile may be useful.
- Wheel washes and plant washing facilities should be securely constructed with no overflow and the effluent should be contained for proper treatment and disposal.
- These should be regularly brushed or scraped and kept free from dust and mud deposits. In dry weather dust suppression measures may be required.
- The risk of spilling of fuel is at its greatest during refuelling of plant.

  Where possible:

  - Refuel mobile plant in a designated area, preferably on an impermeable surface and away from any drains or watercourses.
  - Keep a spill kit available.
  - Never leave a vehicle unattended during refuelling or force open a delivery valve.
  - Check hoses and valves regularly for signs of wear and ensure that they are turned off and securely locked when not in use.
  - Diesel pumps and similar equipment should be placed on drip trays to collect minor spillages. These should be checked regularly and any accumulated oil removed for disposal.

- Concrete is highly alkaline and corrosive and can have a devastating impact on watercourses. It is essential to take particular care with all works involving concrete and cement especially if working near a river, stream or surface water drain. Suitable provision should be made for the washing out of concrete mixing plant or ready mix concrete lorries. Such washings must not be allowed to flow into any drain or watercourse.

On Site During Operational Stage

The main potential threat to water in the vicinity of the proposed development is due to the storage of a relatively large volume of liquid digestate on site in the proposed 3 no Geo-

membrane Lined Basins. In order to ensure that the proposed development does not impact on the water in the hinterland the following measures will be implemented.

(i) All tanks are constructed to Department of Agriculture, Food and Rural Development Standards for construction of farm buildings.

(ii) The provision of a substantial amount of excess digestate storage capacity, well above the 6 month minimum requirement will ensure that organic fertiliser is managed to the highest possible standard on site. The table included at 3.5 calculated the volume of Manure and biomass processed per annum at 39285m^3. There will be storage available for 20,020 m^3 is more than 6 months storage.

This proposed development will further reduce the potential impacts at this site, due to the following mitigation measure,

(i) A leak detection system will be provided under all new structures and facilities in this proposed development. A regular inspection will be carried out of monitoring points, and records of these inspections will be maintained on site.

(ii) All clean water is separated from soiled water. Roof water is collected via galvanised gutters and downpipes and piped underground to a nearby watercourse via a stormwater monitoring point identified as SW1 on Drawing 003 - Overall Site Plan included in Attachment 1 of this reply. This monitoring point will be visually inspected on a weekly basis. A register of these inspections will be maintained on site for inspection. A water sample will be taken on a quarterly basis from this point (SW1) for analysis at an independent accredited laboratory.

The surface water collected from the open yard area in front of the reception building, and the access road will be collected and diverted to an integrated constructed wetland (ICW), before being discharged to the adjacent watercourse, via a monitoring point which will also be visually inspected on a weekly basis – SW2. A register of these inspections will also be maintained on site for inspection. All emissions from the facility (including storm water discharges) will be controlled and monitored by condition of the waste licence if granted by the Environmental Protection Agency.

Customer Farmlands

Digestate can cause serious water pollution if discharged directly to groundwater or surface waters. The digestate will be spread in accordance with the Nitrate Directive Regulations (S.I. No. 610 of 2010) reduces the risk of groundwater contamination. To reduce the risk to groundwater, all pre-treated materials on site will be stored in tanks, built to Dept of Agriculture specifications. All digestate on site will be stored in covered storage tanks, constructed according to Dept. of Agriculture specifications.
There has been no historical contamination of groundwater at this site. This development will minimise the potential impacts at this site, due to the following mitigation measures,

(a) subject to sub-article (5), 200m of the abstraction point of any surface watercourse, 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) subject to sub-article (5), 100m of the abstraction point (other than an abstraction point specified at paragraph (a)) of any surface watercourse, 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) subject to sub-article (5), 25m of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified at paragraph (a) or (b),

(d) 20m of a lake shoreline,

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

(f) subject to sub-articles (8) and (9), 5m of a surface watercourse (other than a lake or a surface watercourse specified at paragraph (a) or (b)).

(g) The application of digestate from the proposed Facility, which will replace the current practice of application of raw pig manure, will greatly reduce the risk of nitrate-nitrogen contamination of groundwater, due to the alteration of nitrogen which occurs in the process, rendering it more suitable for Plant uptake.

(h) AD increases the proportion of nutrients immediately available for uptake by Plants, due to the mineralization of nutrients during the digestion process.