Industrial Emissions Activities Licence

Application Form

EPA Reg. №:
(Office use only)

Environmental Protection Agency
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Tracking Amendments to Application Form

Version No.	Date	Amendment since previous version	Reason
V.1.0	June 2013	N/A	Introduction of IE (Licensing) Regulations 2013
V.2.0	March 2014	Amendments to Section A, B and I.	Further clarification of IE (Licensing) Regulations 2013
V.3.0	January 2015	Amendments to Section G.1 Amendments to Section I.8	REACH Environmental Considerations, Main Alternatives and BAT
V.4.0	June 2015	Amendments to Section A	To require summary table of impacts in Non-Technical summary
		Amendment to Section B.1	Change from "Owner/Operator" to "Applicant"
		New Section B.3B	In relation to Fees
		Amendments to Section B.6	Additional requirements in relation to planning history and the submission of EISs.
		Amendment of Section B.10	Addition of Yes/No tick box
		New Section D.2.2	Additional information required in relation to waste storage and closure costs.
		Amendments to Section L	To reflect BAT & IED requirements

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ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for an Industrial Emissions Activity Licence under the Environmental Protection Agency Act, 1992, as amended. There is a separate application form for applicants who wish to apply for Classes 6.1 or 6.2 Intensive Agriculture.

The Application Form **must** be completed in accordance with the instructions included in this form and available on the EPA website. A valid application for an Industrial Emissions Activity (IEA) licence must contain the information prescribed in the Environmental Protection Agency (Industrial Emissions)(Licensing) Regulations, 2013. Regulation 9 of the Regulations sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Regulation 9. In order to ensure a legally valid application in respect of Regulation 9 requirements, please complete the Regulation 9 Checklist provided in Annex 2.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Environmental Protection Agency Act, 1992, as amended, and the Environmental Protection Agency (Industrial Emissions)(Licensing) Regulations 2013. While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantees, undertakings and warranties concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the information requirements set out in the Application Form and any clarifying explanation on the EPA website then the requirements in this Application Form shall take precedence. The requirements of the 2013 Regulations, referenced above, shall take precedence over any considerations mentioned in this Application Form or on the website.

SECTION A: NON-TECHNICAL SUMMARY

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the carrying on of the activity/activities and describe mitigation measures proposed or existing to address these impacts. This description should also indicate the normal operating hours and days per week of the activity.

The following information must be included in the non-technical summary:

- The relevant class or classes of activity in the First Schedule of the EPA Act 1992 as amended,
- Indication of whether EIS and planning permission documents are included,
- Indicate relevant BAT guidance documents or BAT Conclusions decisions,
- The title of the relevant BREF document
- Information on how the emission levels have been determined,
- Indication if EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006 apply,
- If a derogation under Section 86A(6) is being sought and the specific reasons for such derogation,
- A description of:

– the installation (plant, methods, processes, abatement, recovery and treatment systems and operating procedures for the activity), with emphasis on the main measures to avoid , reduce and, if possible offset the major adverse effects on the environment

– the raw and auxiliary materials, substances, preparations, fuels and energy which will be produced by or utilized in the activity,

– the sources of emissions from the installation,

– the environmental conditions of the site of the installation (e.g. soil and groundwater, air, noise, surface water) including reference to a Baseline Report where applicable,

– the nature and quantities of existing and proposed emissions from the installation into each medium as well as a summary of the assessment of the effects of the emissions on the environment as a whole,

– the proposed technology and other techniques to prevent or eliminate, or where this is not practicable, limit, reduce or abate emissions from the installation,

– summary of the quantity and nature of wastes which may be produced or accepted at the installation,

– measures to ensure that waste production is avoided in accordance with the waste hierarchy in Council Directive 98/2008/EC on waste and section 21A of the Waste Management Act 1996, as amended; where waste is generated, it is prepared for re-use, recycled or recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment (applicants should provide this information in the context of the Waste Management Act 1996, as amended);

– all the appropriate preventive measures are taken against pollution, in particular through application of the Best Available Techniques (BAT) or BAT Conclusions Decision;

– the necessary measures are to be taken under abnormal operating conditions, including start up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages;

– the necessary measures to be taken on and following permanent cessation of activities to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state or the state established in the baseline report if required;

– measures planned to monitor emissions into the environment,

– measures to comply with an environmental quality standard,

– measures to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater,

– measures to be taken for minimizing pollution over long distances or outside the territory of Ireland,

– the main alternatives to the proposed technology, techniques and measures studied by the applicant.

Where an EIS is submitted as part of the licence application, summarise the likely significant effects of the activity in the following format:

Environmental Factor	**Likely effects identified**	**Brief description of effect**	**Mitigation measures proposed to control effect**
Human Beings	Neutral impact on noise	Additional waste processing and CHP	Carried out in doors or in fully enclosed units
	Positive impact on traffic	There will be a reduction in traffic to and from the facility	
Flora and fauna	No impact		
Soil	No significant impact		
Water	No impact on groundwater	No discharge to groundwater	
	No impact on surface water run off	Quality of rain water runoff is good	Rainwater collection system for roofs for use in treatment system
	Neutral impact on treated waster discharge quality	No change to discharge water anticipated	
Air	Drop in exhaust and dust emissions	Reduction in level of traffic to and from facility	
	Negligible impact on odours	Mixed household and commercial wastes stored and processed on site	Odours will be controlled by new system including an air collection system and filter
Climate	Reduction of facility's carbon footprint	Reduction in reliance on non-renewable sources of electricity	
		Production of renewable electricity to sell to national grid	

Landscape	Neutral impact	Additional storage tanks and digesters	New infrastructure will be smaller than existing buildings and will not be visually intrusive
Material Assets	Negligible impact	Area zoned for industrial and related development	
Cultural Heritage	No impact	There are no known archaeological, heritage or socio-cultural features on the site	

Supporting information should form **Attachment № A.1**

Non-Technical Summary

1) Introduction

ERAS ECO Ltd is Cork's leading sludge management company and has been operating its facility at Foxhole, Youghal since 2007. The facility operates under a Waste Licence (W0211-01)(IED) issued by the Environmental Protection Agency (EPA) and treats sewage sludge from local authority sewerage treatment plants and non-hazardous sludges from industrial waste water treatment plants operating mainly in the Cork area. Currently the sludge is dried at the facility, before being shipped to Germany for use as a fuel. Lime stabilisation of sludge is also carried out at the facility and the stabilised material is then sent offsite to be spread on pre-approved landbanks.

The site can also take in recyclable waste (paper, cardboard, plastic, metal, wood) from local businesses and industries, but this stopped in 2009 as the quantities were too small to make economic sense. The reason for the fall off was a combination of the reduction in the amount of waste being produced and that the customers wanted a full service collection, which included mixed waste containing non-dry recyclables, for example food waste. Therefore there is a need to expand on the types of waste that can be accepted in order to meet customer needs.

ERAS ECO Ltd has seen an opportunity to introduce a new way of sludge treatment (anaerobic digestion) that will produce electricity and heat, which can either be used on site or sold to the National Grid.

2) Planning

A planning application was submitted to Cork County Council on the 27th January 2011 (Ref 11/4123). Planning permission was approved on the 27th May 2011 but this was subsequently appealed to An Bord Pleanala (Ref. PL04.239166) on the 22nd June 2011.

An Bord Pleanala approved permission (27th February 2013) for the anaerobic digestion element of the planning application but refused planning for the following development:

"The upgrading of the existing sludge drying process through the introduction of a second innovative recovery process utilising super critical water oxidation (Aqua Critox® technology) capable of accepting hazardous wastes and the ancillary plant associated with it including above ground nitrogen storage tank; above ground liquid oxygen storage tank; five number above ground liquid/solvent storage tanks and three number cooling towers."

As a result of the refusal from An Bord Pleanala for this element of the project it has not been included in the IE Licence Application.

The EIS which accompanied the original planning application is included with the IE Licence Application along with An Bord Pleanala's decision and Inspectors Report (**Attachment No. B6**).

The site and proposed activities do not come under the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2006.

3) Existing Site

The site occupies almost 1.6 hectares and is approximately 2km from Youghal There are two main processing buildings, offices, weighbridges, a vehicle wash, paved open yards and parking areas (Drawing 10P521-01 – **Attachment No. B2**). The site operations use electricity supplied by the ESB, water from the Council mains supply as well as harvested rainwater.

Sanitary wastewater is treated in an on-site wastewater treatment plant. There are 6 full time and 3 part time workers including management, technical and staff office staff and general operatives.

The sludge treated at the site is produced at sewerage works operated by Irish Water and wastewater treatment plants at industrial sites. The sludge is treated in a dedicated building (Building 2). The treatment involves drying the sludge using heat from a wood chip fired boiler and also the addition of lime.

The steam is collected and condensed and treated in an on-site wastewater treatment plant. The air inside the building is also collected and treated in an odour control plant. The treated sludge is exported to Germany where it is used as a fuel. At present, the site has approval to treat 30,000 tonnes of sludge per year. Lime stabilised sludge can be landspread on pre-approved land banks.

ERAS ECO Ltd had offered a solid recyclable wastes (paper, cardboard, plastic, metal etc) service to businesses and industries. At present the site has approval to take in 70,000 tonnes per year of these wastes. Up to 2009, the materials were taken in, checked and processed (separated into the different types) in a dedicated building (Building 1) and then sent on to other recovery plants. However, for commercial reasons this stopped in 2009. The building is now used to store wood chip for the boiler and sludge awaiting treatment.

Proposed Changes

The new anaerobic digestion plant consist of two above ground digester tanks, which will treat the sludge and produce a gas (methane) that will be used to generate electricity and heat in a new CHP plant. The electricity will be used at the facility instead of the ESB supply and the heat may be used in the existing sludge drying process.

Ormonde Organics is exploring the potential for a direct connection to the national gas grid as an alternative to the on-site utilisation of the biogas. If this is approved the biogas will be treated on site to remove the impurities before it is fed into the national grid.

The residue from the process, which will include a fibre like solid and a liquid that will be treated in the sludge drier and the wastewater treatment plant, respectively. The new system will allow ERAS ECO Ltd to treat an extra 10,000 tonnes of sludge per year.

The non-hazardous mixed waste that contains some foodstuffs from businesses, industries and households will be taken in, checked and processed in the Waste Recovery Building (Building 1). As the wastes will contain materials that can cause smells, an odour control system will be provided.

To comply with the planning permission the overall quantities of waste will reduce to 65,000 tonnes/year, which will include:

Commercial & Industrial and Household Waste	20,000 tonnes
Non-Hazardous Sludge	40,000 tonnes
Leachate from Landfills	5,000 tonnes

4) Operating Hours

Proposed hours of operation:

The Sludge Dryer and Anaerobic Digestion Plant will operate on a 24 hour basis, 7 days a week. There will be shut-down periods for regular maintenance on the sludge dryer.

Proposed hours of construction and development works and timeframes:

Normal hours of construction (7am to 7pm, Mondays – Saturdays) will be maintained throughout the construction and development works. A works programme is currently not available as no contractor has yet been appointed to the project.

For waste activities, the proposed hours of waste acceptance:

Deliveries to the site are between 7am and 10pm, Mondays to Fridays, and on Saturdays between 7am and 2pm, as licensed.

5) Classes of Activity

Class	Description
11.1	The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
11.4 (a) (i) (ii)	Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving one or more of the following activities: • biological treatment • physico- chemical treatment
11.4 (b) (i) (ii)	Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Water Treatment Regulations 2001 (SI No. 254 of 2001) apply): • biological treatment; when the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day • Pre-treatment of waste for incineration or coincineration

6) BAT / Bref Documents

ERAS ECO Ltd carried out a review of the proposed development against the BAT Conclusions and recommendations on best practice in the following guidance documents:

- Reference Document on Best Available Techniques for the Waste Treatments Industries August 2006
- Reference Document on Best Available Techniques for Energy Efficiency February 2009.
- Reference Document on Best Available Techniques from Storage

An assessment of how the facility will comply with the BAT Conclusions on Waste Treatment is included in **Attachment No. I8** along with an analysis of the proposed development against the BAT Conclusions on Energy Management and an assessment against the BAT Conclusions on Storage.

7) Waste Management Policies

The proposed changes are consistent with European Union, national and regional waste management policies and plans. The proposed anaerobic digestion system, which will produce electricity and heat, complies with national and regional policy on biological treatment and development of renewable energy sources.

8) Raw & Auxiliary Materials and Energy Use

Raw materials and energy that will be used include:-

- Diesel for on-site equipment
- Light fuel oil for boiler start-up operations
- Woodchip
- Hydraulic oil and engine oil for use in on-site equipment
- Electricity
- Water
- Acid for scrubbers in Biofilter systems

9) Sources of Emissions

The actual and proposed emissions from the site are:

- Noise from plant and equipment used to process the wastes, delivery/collection vehicles and odour control fans.
- Dust from waste processing and vehicle movements on yards during dry weather.
- Rainwater runoff from the yards and building roofs.
- Treated sanitary effluent.
- Treated process effluent.
- Air emissions from boiler, odour control units and proposed CHP plant
- Odours from the processing of the waste.
- Wastes from the processing of wastes.

10) Site Location

The site is approximately 2km north of Youghal town centre on the western bank of the Blackwater Estuary in a low lying area known as the Youghal Mudlands to the south of the confluence of the Tourig and Blackwater Rivers.

The surrounding area is in low-density industrial / commercial use, with Youghal Landfill to the immediate east of the site, an NCT test centre to the west and an industrial estate / business park to the northwest. The adjacent lands to the south are at present vacant and undeveloped with the area beyond being grassland which has established itself on the reclaimed lands used for recreation, wildlife and amenity purposes, being part of the Slob Banks Walk, alongside the Blackwater Estuary.

11) Existing Environment, Potential Environmental Effects and Mitigation Measures

a) Climate

The climate in the area is mild and wet, with the prevailing wind from the south west. The proposed changes will not have any impact on the local climate. The reduction in reliance on non-renewable sources of electricity due to on-site generation using the biogas will have a positive impact in reducing the facility's overall carbon footprint.

b) Soils & Geology

The soils at the site comprise made ground overlying a gravely clay. The underlying bedrock is limestone. The proposed changes will only require minor disturbance of the ground and will not give rise to any new emissions to the ground and therefore there will be no impacts on soil.

c) Water

Water quality monitoring has found the quality of the rainwater run-off from the site is good. The proposed changes will not affect the quality of the run-off.

Rainwater collected from roofs and open yards is currently harvested in the stormwater attenuation tank and reused in the treatment process. This reduces the amount of run-off from the site and also the volume of water taken from the mains supply, which has a positive impact.

As there will be no direct discharge to groundwater, the impacts on groundwater will be imperceptible.

At present, the water from the sludge drier is collected and treated in the on-site wastewater treatment plant and the treated water is discharged to the estuary. In the long term it is proposed to connect to the Council's sewer that will be connected to the new Youghal Town sewerage treatment works.

The existing Waste (IED) Licence defines the quality of the discharge and the flow rate to ensure that it does not affect the water quality or ecology in the estuary. The Licence also requires ERAS ECO Ltd to monitor the quality of the treated water to ensure the treatment plant is working properly.

Recent changes to the existing WWTP have improved the quality of the discharge and made it compliant with the relevant emission limit values. The proposed new

developments on-site will not affect the quality of the treated water discharged to the estuary and will have a neutral impact.

There are no proposed changes to SE 1, while a continuous TOC monitor is proposed for SW 1 – the discharge from the stormwater attenuation tank.

d) Ecology

The entire site is either paved or covered by buildings. It is not proposed to disturb any ground and the proposed changes will have no impact on the local ecology. The treated effluent from the wastewater treatment plant discharges into the Blackwater River Lower Estuary / Youghal Harbour.

Although there will be no changes to the effluent quality, an Appropriate Assessment was undertaken and a Natura Impact Statement prepared due to the Blackwater's designation as a Natura 2000 site. This Natura Impact Statement is separate from the EIS, but was submitted with the planning application under separate cover. A copy of the NIS is included in **Attachment No. B6**.

Mitigation measures have been identified for both the construction and operational phases of the proposed development.

e) Air Quality

The proposed changes will mean a reduction in the level of traffic to and from the facility that is currently approved, with a consequent drop in exhaust emissions and dust. The current dust control measures, which include damping down paved areas in dry weather, have proven to be effective and will continue to be used.

Odours from the sludge treatment process are controlled by an advanced odour control system, installed in 2007, which collects air, treats it in a series of scrubbers and filters and discharges through emission point A2. This control system has proven to be effective. There is also an emission point (A1) associated with the sludge dryer boiler stack.

There are no proposed changes to these two existing emission points (A1 & A2).

Odours from the building (Building 1) where the mixed Household and mixed Commercial & Industrial wastes will be processed will be controlled by a new odour control system, which will include an air collection system and specially designed filter (A3).

The biogas from the anaerobic digesters will be passed through a scrubbing system to remove impurities before entering the CHP plant. The exhaust from the CHP plant (A4) will be a main emission point. In the event that a connection to the national gas grid is obtained, the biogas will be treated to remove impurities, which will include carbon dioxide. The carbon dioxide will either be discharged to atmosphere or liquefied and bottled and sent of site for use.

The existing and proposed discharges from all relevant air emission points on-site have been modelled and the results show that the overall air emissions from the site will have a negligible impact on the surrounding environment.

f) Noise

All waste processing is and will continue to be carried out either indoors or in fully enclosed units. Noise surveys carried out to assess the noise from the proposed changes have established that they will not cause an impact at the nearest residence, which is approximately 250m away. The proposed changes will have a neutral impact.

g) Landscape

The new storage tanks and digesters will be smaller than the existing buildings and will not be visually obtrusive. The changes will have a neutral impact on the landscape.

h) Traffic

The proposed changes, which will result in a reduction in the licensed amount of waste accepted from 110,000 tonnes to 65,000 tonnes/year, means that there will a decrease in the traffic to and from the site. The local road network will not be affected and there will be a positive impact associated with the reduction in traffic.

i) Cultural Heritage

There are no known archaeological, heritage or socio-cultural features on the site. The development works will involve limited ground disturbance and therefore will not have an impact on cultural heritage.

j) Human Beings

Land use in the surrounding area is a mix of industrial, commercial, residential and agricultural. The nearest house is approximately 250m from the site boundary. There are no hospitals, hotels or holiday accommodation within 1 km of the site. The odour control measures that are and will be provided will ensure that odours from the handling of the household waste and sludge will not cause problems. The reduction in traffic movement will have a positive effect and any impacts associated with the other changes will be imperceptible.

k) Material Assets

The site is in an area zoned for industrial and related development, and it does not have a significant leisure or amenity value. The reduction in the traffic volumes will have a slight positive impact on the local road network and will have no impact on amenities and leisure land use in the vicinity of the site.

l) Interaction of the Foregoing

The proposed changes have the potential to impact on climate, air quality and human beings. The reduction in traffic volumes and rainwater run-off will have a positive impact on the air quality (dust and exhaust emissions) and usage of the mains water supply. The production of biogas, which is a renewable energy source, will have a positive impact on the climate

There is the potential for impacts associated with noise, odour and traffic. The location, design and proposed method of operation have taken these potential

impacts into account. Proven effective control measures will continue to be implemented to ensure that the facility will have an overall neutral impact.

12)Proposed Technology and other Techniques to prevent or eliminate, or where this is not practicable, limit, reduce or abate emissions from the installation.

The design and method of operation of both the existing facility and proposed development are based on the requirements of the European Commission's Reference Document on Best Available Techniques for the Waste Treatment Industries 2006 (BREF), which specifies the Best Available Techniques (BAT) for Waste Management Facilities. An assessment of compliance with the BAT Conclusions in the Reference document on BAT for Energy Efficiency and BAT from the emissions from the storage BAT reference document has been completed.

The current Licence specifies the manner in which the facility must operate so as to ensure that pollution and/or nuisance to neighbours and the general public is prevented. It requires that the site's management team has the appropriate training and qualifications; prescribes the types of wastes and processes that can be carried out; specifies how wastes and raw materials that have the potential to cause pollution are handled and stored; lists the control measures that must be applied to prevent nuisance and requires appropriate emergency response procedures to be in place.

13) Measures to Comply with Waste Management Hierarchy

The existing facility and the planned development is designed to maximize waste recovery including energy recovery, from the incoming waste streams. The proposed changes are consistent with the Waste Hierarchy as the energy recovery from the anaerobic digestion process will gain the maximum value from the waste.

14) BAT

Condition 2 of the current Waste Licence requires ERAS ECO Ltd to develop and implement an Environmental Management System for the facility, which is consistent with the BREF on Waste Treatment.

The Licence requires ERAS ECO Ltd to prepare operational control procedures for all waste activities and ensure that facility staff are provided with the appropriate skills and training to perform their assigned functions.

It also requires the implementation of the control measures specified in the BREF in so far as they apply to biological treatment and the prevention of soil contamination. The conditions also specify the relevant control techniques referenced in the Agency's BAT
Guidance.

The proposed changes take into consideration the requirements of the BREF in particular;

- The collection and treatment of odorous air from the waste reception and treatment areas. This will be achieved by a combination of building design and construction; provision of a negative air system, and the treatment of the odorous air in appropriately designed and operated treatment plant.

An assessment of compliance with the BAT Conclusions in the Reference document on Best Available Techniques for Energy Efficiency and BAT from the Emissions from storage BAT Reference Document has been completed.

15) Abnormal Operating Conditions

ERAS ECO Ltd has adopted Emergency Response Procedures (ERP). The ERP identifies potential hazards at the site that may cause damage to the environment and also specifies roles, responsibilities and actions required to deal quickly and efficiently with all foreseeable major incidents and to minimise environmental impacts.

16) Avoidance of the Risk of Environmental Pollution due to Closure of the Facility

ERAS ECO Ltd has prepared a Closure Restoration and Aftercare Management Plan (CRAMP) for the installation and this has been submitted to the EPA.

17) Environmental Monitoring

Dust
Dust is and will be monitored annually. It is currently monitored 3 times a year at 3 locations (D1 – D3).

Noise
Noise will be monitored annually at the four existing monitoring locations (N1 – N3, and NSR).

Odour
Daily odour patrols around the site perimeter will be carried out as required under current licence conditions.

Surface Water
The surface water discharge from the site will be visually monitored on a daily basis with quarterly monitoring undertaken in accordance with existing licence conditions. As the discharge will be intermittent and linked to rainfall events grab samples will be collected. It is also proposed to install a continuous TOC monitor on the surface water system.

Air Emissions
Air emissions from the biofilters, boiler and CHP engine will be monitored in accordance with licence conditions.

Wastewater
Emissions to the sewer (SE 1) will be monitored in accordance with existing licence conditions.

18) Measures to Comply with an Environmental Quality Standard

The emission limit values proposed in the application and those that will be set by the EPA in the new licence are and will be based on achieving compliance with the relevant EQS.

19) Measures to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater.

There are no direct discharges to groundwater and the main operational areas of the site are covered by roofs and concrete yards.

20) The Main Alternatives to the Proposed Technology, Techniques and Measures

Alternative Sites

The original EIS involved an extensive survey of industry/enterprise zoned lands in Cork that were potentially suitable for waste activities. The subject site was considered suitable, based on the site selection criteria applied, which included proximity to waste sources, proximity to a developed transportation network, suitable zoning and compatible surrounding land use, distance from potential sensitive receptors and distance from historic sites and monuments.

The features of the site that render it particularly suitable for the proposed waste activities are:

(a) Proximity to Waste Arising:

The existing facility primarily serves pharmaceuticals industries located in the Cork region, which are the primary sources of the hazardous solvent wastes. Its location in east Cork is well positioned for this purpose.

(b) Access :

- Proximity to national road network – the facility is approximately 1.5 kilometres from the N25.
- Good site access – all vehicles delivering waste to the facility approach via the Rincrew roundabout and take the R634 towards Youghal. There is no need for waste vehicles to enter the town of Youghal. A newly reconstructed approach road off the R634 to the facility, NCT Centre and Youghal Landfill was completed in 2009.

(**c**) Layout:

- The site is relatively large (1.6 hectares) and the existing buildings have the capacity to accommodate the waste solvent treatment process.
- Existing services and infrastructure which will be retained – the site already has adequate electricity and water supply for the proposed developments.

(d) Location:

- Good separation distance from residential areas (approximately 250 m);
- Site does not interfere or encroach on any areas of scientific archaeological value

As the site is already an authorised waste activity and is adjacent to a non-hazardous waste landfill, the proposal will increase the range of waste recovery activities carried out.

Conclusion

The site is suitable for its current use, which is compatible with the proposals to increase the volumes of non-hazardous sludge that will be treated and to accept household, C&I mixed waste and other non-hazardous industrial wastes.

Alternative Processes

Anaerobic Digestion

The digester will comprise a solids feeder and digestion tank, which will be enclosed by an impermeable cover and heated to 37^{O}C. The tank will be continuously stirred and fed with sludges. This process will produce a biogas containing approximately 65 % methane, which will then be treated and used either as a fuel in the CHP plant or possible fed into the national gas grid. as a fuel in the CHP plant. As the proposed system is tried and tested, and is particularly suited to the treatment of sludges and the generation of biogas, an alternative was not considered.

SECTION B: GENERAL

B.1. Applicant

Name*:	ERAS ECO Ltd
Address:	Foxhole
	Youghal
	County Cork
Tel:	024 90246
Fax:	024 90264
e-mail:	

* This should be the name of the applicant which is current on the date this Licence Application is lodged with the Agency. It should be the name of the legal entity (which can be a limited company or a sole trader). A trading/business name is **not acceptable**.

Name and Address for Correspondence
Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Name:	ERAS ECO Ltd
Address:	Foxhole
	Youghal
	County Cork
Tel:	024 90246
Fax:	024 90264
e-mail:	dmullally@ormondeorganics.ie

CRO No. and address of registered or principal office of Body Corporate

CRO No.	388559
Address:	Killowen
	Portlaw
	County Waterford
Tel:	
Fax:	
e-mail:	

If the applicant is a body corporate, the following information must be attached as **Attachment B1**:

a) a Certified Copy of the Certificate of Incorporation under the Companies Act.
b) the Company's Registration Number from the Companies Registration Office.
c) Particulars of Registered Office of the Company.

A certified copy of the Certificate of Incorporation is included in **Attachment No. B1**.

Name and address of the proprietor(s) of the land on which the activity is situated (if different from applicant named above):

Proprietor's Name:	Not Applicable
Address:	
Tel:	
Fax:	
e-mail:	

Name and address of the owner(s) of the building and ancillary plant in which the activity is situated (if different from applicant named above):

Name:	Not Applicable
Address:	
Tel:	
Fax:	
e-mail:	

Primary Contact details for <u>enforcement purposes</u> where licence is granted. PLEASE NOTE THIS CONTACT <u>CANNOT</u> BE A CONSULTANT. ALSO IT MUST <u>NOT</u> BE A PERSON WHO IS ALREADY A REGISTERED EDEN CONTACT FOR ANY OTHER LICENCE ISSUED BY THE AGENCY.

Name:	Denis Mulally
Position in organisation:	Facility Manager
Address:	Foxhole
	Youghal
	County Cork
Tel:	024 90246
Fax:	024 90264
e-mail:	dmullally@ormondeorganics.ie

B.2. Location of Activity

Name:	ERAS ECO Ltd
Address*:	Foxhole
	Youghal
	County Cork
Tel:	024 90246
Fax:	024 90264
Contact Name:	Denis Mullaly
Position:	Facility Manager
e-mail:	dmullally@ormondeorganics.ie

* Include any townland.

National Grid Reference (12 digit 6E,6N)	209653E, 079770N

Location maps (≤A3), appropriately scaled, with legible grid references should be enclosed in **Attachment B.2.** The site boundary must be outlined on the map in colour.

Geo-referenced digital drawing files (e.g. AutoCAD files) in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points, are also required. This data should be provided to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

Name of geo-referenced digital drawing files	Georeferenced Site Plan Drawing
Name of CD-Rom with digital drawing files	ERAS ECO Ltd – IE Licence Drawings

B.3. Class of Activity

Identify the relevant activities in the First Schedule of the EPA Act 1992, as amended, to which the activity relates:

Class	Description	Identify Main IED Activity
11.1	The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.	
11.4 (b) (i) (ii)	Recovery of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Water Water Treatment Regulations 2001 (SI No. 254 of 2001) apply): • biological treatment; when the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day. • Pre-treatment of waste for incineration or co-incineration	Anaerobic Digestion

B.3A Industrial Emissions Directive

Specify which category/categories of industrial activity referred to in Annex I of the Industrial Emissions Directive (2010/75/EU) is/are to be carried out at the installation.

Category	Description	Identify Main IED Activity
5.3 (b) (i) (ii)	Recovery of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities and excluding activities covered by Council Directive 91/271/EEC: • Biological treatment – when the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day. • Physico-chemical treatment	Anaerobic Digestion

State whether the installation falls under the scope of Chapters III, IV , V and/or VI of the Industrial Emissions Directive (2010/75/EU) and if yes specify the relevant sections and Annex.

IED Chapter(s) and relevant Annex(es)

The installation does not fall under the scope of Chapters III, IV, V and or/VI.

Supporting information should be included in **Attachment № B.3A**.

B.3B Application Fee

State each class of activity (per the First Schedule of the EPA Act) for which a fee is being submitted. Application fees are set out in the following regulations:

- EPA (Licensing Fees) Regulations 1994, for all First Schedule activities except classes 11.2 to 11.7; and
- EPA (Licensing Fees) Regulations 2013, for First Schedule activity classes 11.2 to 11.7.

First Schedule Activity	Fee (in €)
11.1	4444
11.4 (b)	6000
Total fee paid	10,444

* add rows to the table as necessary

B.4 Classes of Waste Activity

If a waste activity is proposed, i.e. if any First Schedule of the EPA Act 1992, as amended class 11 activity is specified in section B.3 above, identify below the relevant activities as listed in Annex I and Annex II of the Waste Framework Directive (2008/98/EC).

TABLE B.4 Classes of Waste Activity

Waste Framework Directive 2008/98/EC

Annex I Disposal Operations		Y/N
D 1	Deposit into or on to land (e.g. including landfill, etc.).	N
D 2	Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.).	N
D 3	Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.).	N
D 4	Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.).	N
D 5	Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.).	N
D 6	Release into a water body except seas/oceans.	N
D 7	Release to seas/oceans including sea-bed insertion.	N
D 8	Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12.	N
D 9	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcinations, etc.).	N
D 10	Incineration on land.	N
D 11	Incineration at sea.[1]	N
D 12	Permanent storage (e.g. emplacement of containers in a mine, etc).	N

[1] This operation is prohibited by EU legislation and international conventions.

Annex I Disposal Operations		Y/N
D 13	Blending or mixing prior to submission to any of the operations numbered D 1 to D 12.[2]	N
D 14	Repackaging prior to submission to any of the operations numbered D 1 to D 13.	N
D 15	Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced).[7]	N

Annex II Recovery Operations		Y/N
R 1	Use principally as a fuel or other means to generate energy.[3]	Y
R 2	Solvent reclamation/regeneration.	N
R 3	Recycling /reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).[4]	Y
R 4	Recycling/reclamation of metals and metal compounds.	Y
R 5	Recycling/reclamation of other inorganic materials.[5]	Y
R 6	Regeneration of acids or bases.	N
R 7	Recovery of components used for pollution abatement.	N

[2] If there is no other D code appropriate, this can include preliminary operations prior to disposal including pre-processing such as, inter alia, sorting, crushing, compacting, pelletising, drying, shredding, conditioning or separating prior to submission to any of the operations numbered D1 to D12.

[3] This includes incineration facilities dedicated to the processing of municipal solid waste only where their energy efficiency is equal to or above:

- 0.60 for installations in operation and permitted in accordance with applicable Community legislation before 1 January 2009,
- 0.65 for installations permitted after 31 December 2008,

using the following formula:

Energy efficiency = (Ep - (Ef + Ei)/ (0.97x(Ew+Ef)

In which:

'Ep' means annual energy produced as heat or electricity and is calculated with energy in the form of electricity being multiplied by 2.6 and heat produced for commercial use multiplied by 1.1(GJ/year),

'Ef' means annual energy input to the system from fuels contributing to the production of steam (GJ/year),

'Ew' means annual energy contained in the treated waste calculated using the net calorific value of the waste (GJ/year),

'Ei' means annual energy imported excluding Ew and Ef(GJ/year),

'0.97' is a factor accounting for energy losses due to bottom ash and radiation.

This formula shall be applied in accordance with the reference document on Best Available Techniques for waste incineration.

[4] This includes gasification and pyrolisis using the components as chemicals.

[5] This includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.

Annex II Recovery Operations		Y/N
R 8	Recovery of components from catalysts.	**N**
R 9	Oil re-refining or other reuses of oil.	**N**
R 10	Land treatment resulting in benefit to agriculture or ecological improvement.	**N**
R 11	Use of waste obtained from any of the operations numbered R 1 to R 10.	**Y**
R 12	Exchange of waste for submission to any of the operations numbered R 1 to R 11.[6]	**Y**
R 13	Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced).[7]	**Y**

[6] If there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, inter alia, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11.

[7] Temporary storage means preliminary storage according to point (1) of Article 3 [of the Waste Framework Directive 2008/98/EC].

B.5. Employees/ Capital Cost

Give-

(i) In the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or

(ii) In any other case, the gross capital cost of the activity to which the application relates.

Number of Employees (existing facilities):	15 Full Time
Gross Capital Cost (new proposals) €	Not Applicable

B.6. Relevant Planning Authority and/or Public Authority

Give the name of the planning authority in whose functional area the activity is or will be carried out.

Name:	Cork County Council
Address:	County Hall
	Carrigrohane Road
	Cork
Tel:	021 4276891
Fax:	021 4276321

Considering the entire site to which the activity relates, has planning permission ever been required for the site? (Tick No or Yes in the table)

No		See Section **B.6(a)** below **NOTE:** For **Agency initiated reviews**, you can disregard the instructions in B.6(a) and progress to Section B.7.
Yes	√	See **all** of Sections **B.6(b) to (f)** below. Please note that **all** structures comprising or for the purposes of the activity must be accounted for in the tables in sections below B.6(c) to B.6(f) below. **NOTE:** For **Agency initiated reviews**, you only need to complete the tables in Sections B.6(c), B.6(d) and B.6(e) below. You **DO NOT** need to submit an EIS or the letters on confirmation referred to below.

If this is a licence review application, was planning permission required for the changes proposed as part of this review application? (Tick No or Yes in the table)

No		Provide confirmation in writing from the planning authority or An Bord Pleanála that this is the case.	
Yes	√	Planning Ref No:	PL04.239166

B.6 (a) Where planning has never been required

Where the activity which is the subject of this licence/review application has never required a grant of planning permission previously, **Attachment № B.6** must include a confirmation in writing from the planning authority or An Bord Pleanála, as the case may be, that the activity does not involve development or that the activity constitutes development but is exempted development. The letter of confirmation from the planning authority and/or An Bord Pleanála, as the case may be, must also confirm whether EIA has been carried out by the planning authority or An Bord Pleanála for any part of the site of the activity.

Not Applicable

B.6 (b) Environmental Impact Statements

In the following table, indicate the option which applies to your application and provide the information requested accordingly.

Option	Applicable? (Yes/No)
For new licence applications OR review applications where the last licence (excluding reviews initiated by the EPA) was determined **before** 30th September 2012 • Where planning permission has been/is required for the site of the activity, **you must submit the most recent EIS associated with a planning application or planning permission for the site of the activity.** • Where planning is granted, the planning decision and planners report associated with the EIS should also be submitted.	**Yes** **Yes (Attachment B6)**
For review applications where the last licence (excluding reviews initiated by the EPA) was determined **after** 30th September 2012 • If this is an application for a licence review, and the last licence review (not including reviews initiated by the EPA) **was determined after 30th September 2012**, you are only required to submit the most recent EIS which has arisen through the planning process **since the last licence review**. The planning decision and planners report associated with the EIS should also be submitted.	**No**
Where an EIS has never been required at planning stage Where an EIS has never been required for any planning permission then you must provide confirmation in writing from the planning authority or An Bord Pleanála that an environmental impact assessment was not required by or under the Planning and Development Act 2000, as amended for **each** of the planning permissions associated with the site of the activity. This information should be included in **Attachment № B.6**.	**No**

B.6 (c) Planning under Consideration

Where there is currently a planning application under consideration with a Planning Authority or An Bord Pleanala for any aspect of the site to which this licence application relates:

1. Provide confirmation in writing from a planning authority or An Bord Pleanála, as the case may be, that an application for permission comprising or for the purposes of the activity to which the application for a licence relates is currently under consideration.
2. Complete the Planning under Consideration Table below, indicating whether an Environmental Impact Statement (EIS) is required by the Planning Authority/An Bord Pleanala as part of that application.
3. Where an EIS is not required by the Planning Authority/An Bord Pleanala for a planning application, you must provide confirmation in writing from the planning authority or An Bord Pleanála that an environmental impact assessment is not required by or under the Planning and Development Act 2000 in **each** case. This information should be included in **Attachment № B.6**.

Not Applicable

Planning under Consideration Table:

Planning or Appeal Reference Number	Planning Authority (PA)/An Bord Pleanala (ABP)	Date of application	Brief description	Letter of confirmation from PA/ABP that application is under consideration?	EIS required with Planning Application? (Yes/No)	If "no", letter of confirmation from PA/ABP that EIA is not required?

Note: Please be advised that in accordance with Section 87(1D)(d) of the EPA Act 1992, as amended, a Proposed Determination **cannot** issue on a licence application while a planning application (for a development comprising or for the purposes of an activity to which the licence application relates and for which EIA is required) is under consideration with a planning authority or An Bord Pleanala.

B.6 (d) Planning Granted

Where planning permissions have been granted for the site of the activity:

1. List all of the permissions relating to the site in the Planning Granted Table below and indicate whether an EIS was required by the Planning Authority/An Bord Pleanala as part of that permission. Submit the planners report and final decision for each permission granted.

2. Where an EIS was not required by the Planning Authority/An Bord Pleanala for a planning permission, you must provide confirmation in writing from the planning authority or An Bord Pleanála that an environmental impact assessment was not required by or under the Planning and Development Act 2000 for **each** planning permission granted. This information should be included in **Attachment № B.6**.

Planning Granted Table:

Planning or Appeal Reference Number	Planning Authority/An Bord Pleanala	Date of Planning Decision (Final)	Brief description	EIS required with Planning Application? (Yes/No)	If "no", Letter of confirmation from planning authority/An Bord Pleanala that EIA was not required?
S/00/7093	Cork Co. Co.	30/8/2001	Construction of a waste transfer station (Never Constructed)		
047531	Cork Co. Co.	4/2/2005	Appealed to An Bord Pleanala – PL04.211117	Yes	
PL04.211117	An Bord Pleanala	13/7/2005	Waste recovery / transfer and sludge drying building.	Yes	
114123	Cork Co. Co.	27/5/2011	Appealed to An Bord Pleanala – PL04.239166	Yes	
PL04.239166	An Bord Pleanala	27/2/2013	Approval sought for a second innovative recovery process utilising super critical water oxidation capable of accepting hazardous wastes (not approved) and the construction of two number above ground anaerobic digester tanks and digestate storage tank for the treatment of sludge and production of methane gas and generation of electricity (approved).	Yes	

Note: Please be advised that where planning permission has been granted or a planning application is under consideration, and in accordance with Section 87(1C) of the EPA Act 1992, as amended, the Agency shall ***refuse to consider*** the licence application if the applicant does not comply with the requirements of Section 87(1B) of the EPA Act.

B.6 (e) Exempted Developments and structures/modifications not regarded as "development".

Where any structure or modification on site has been determined by the planning authority or An Bord Pleanála to be "exempted development" or is considered not to be development, provide confirmation in writing from the relevant authority. List all of the structures/modifications considered to be "exempted development" or to not involve development in the table below.

Not Applicable

Exempted Development/No Development:

Planning Authority/ An Bord Pleanala	Date of letter from PA/ABP confirming their determination	Brief description of structure/modification	Tick if exempted development	Tick if considered not to be development

B.6 (f) Other Consents Granted

List all consents (**other than planning permissions**) issued by any relevant competent authority (other than the planning authority/An Bord Pleanala) for the development relating to this application which required EIA to be carried out as part of the consent process e.g. a foreshore licence. These EISs are **not** required to be submitted with the licence application at this point.

Not Applicable.

Consent Reference Number	Competent Authority	Date of Grant of Consent	Brief description	EIS required with Consent Application?

Appropriate Assessment

Where applicable, provide a copy of any screening for Appropriate Assessment report and Natura Impact Statement (NIS) that was prepared for consideration by any planning/public authority as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) in relation to the activity. Where a determination that an Appropriate Assessment is required has been made by any planning/public authority in relation to the activity, a copy of that determination and any screening report and Natura Impact Statement (NIS), and any supplemental information furnished in relation to any such report or statement, which has been provided to the planning/public authority for the purposes of the Appropriate Assessment shall be included in **Attachment № B.6.**

A copy of the NIS is included in **Attachment No. B6**.

Licences and permits

For existing activities, **Attachment № B.6** should also contain a table of references to all licences and permits past and present, including those in force at the time of submission of this application. This should include, but is not limited to, any permits/licenses or registration under GHG Emissions Trading Regulations and GMO Regulations.

Licence/Permit reference number	Brief Description	Date granted	Currently in force? (Yes/No)
W0211-01	3rd Schedule Activities: • Class 7 • Class 11 • Class 12 • Class 13 4th Schedule Activities: • Class 2 • Class 3 • Class 4 • Class 9 • Class 11 • Class 12 • Class 13	9th November 2006	Amended – see below.
W0211-01 (IED)	Activities: • 11.1 • 11.4 (a)(i) • 11.4 (a)(ii) • 11.4 (b)(i) • 11.4 (b)(ii)	7th January 2014	Yes

Attachment No. B6

The following information has been included in **Attachment No. B6:**

- PL04.211117 Decision & Inspectors Report
- PL04.239166 Decision & Inspectors Report
- EIS & NIS For Planning Application PL04.239166

The development authorised by permission S/00/7093 did not proceed

B.7. Relevant Water Services Authority

In the case of a discharge of any trade effluent or other matter to a sewer of a Water Services Authority, give the name of the Water Services Authority in which the sewer is vested or by which it is controlled.

Name:	Irish Water
Address:	PO Box 860l
	South City Delivery Office
	Cork
Tel:	1850 448448
Fax:	

In the case of a discharge of any trade effluent or other matter to a sewer not vested by a Water Services Authority, the applicant must supply as **Attachment № B.7**;

(a) the name and address of the owner(s) of the sewer and the waste water treatment plant to which the sewer discharges (e.g. IDA, SFADCo or private undertaker) and who are responsible for the quality of the treated effluent discharging to waters and
(b) a copy of the effluent regulations and the agreement between the applicant and the aforementioned.

Details of owner(s) of a sewer and waste water treatment plant not vested in a Water Services Authority

Name:	Not Applicable
Address:	
Tel:	
Fax:	

B.8. Relevant Regional Health Service Executive

The applicant should indicate the Regional Health Service Executive where the activity is or will be located.

Name:	HSE South
Address:	Model Business Park
	Model Farm Road
	Cork
Tel:	021 4928703
Fax:	

B.9 Site Notice, Newspaper Advertisement and Planning Authority Notice.

Attachment № B.9 should contain a copy of the text of the site notice, a map (no larger than A3) showing its location on site (in accordance with Article 6 of the Regulations) and a copy of the newspaper advertisement. A copy of the notice given to the Planning Authority should also be included.

The site notice, newspaper advertisement and planning authority notice are included in **Attachment No. B9.**

The map showing the location of the site notice is included in **Attachment No. B2.**

B.10 Seveso II Regulations

State whether the activity is an establishment to which the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) apply.

☐ Yes √ No

If yes, outline how the process comes under these regulations.

Supporting information should be included in **Attachment № B.10**.

B.11 Mercury Regulation

State whether the activity is one to which the following apply:

- European Communities Mercury (Export Ban and Safe Storage) Regulations (S.I. No. 27 of 2012),

- Regulation (EC) No 1102/2008 of the European Parliament and of the Council of 22 October 2008 on the banning of exports or metallic mercury and certain mercury compounds and mixtures and the safe storage of metallic mercury.

☐ Yes √ No

If yes, outline in **Attachment № B.11** how the activity comes under these Regulations.

B.12 Regulations Controlling Fluorinated Greenhouse Gases and Ozone Depleting Substances

State whether the installation is one to which the following apply:

– Operator of equipment and systems containing ozone depleting substances, in accordance with Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer.

☐ Yes √ No

– Operator of equipment and systems containing fluorinated greenhouse gases, in accordance with Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases.

☐ Yes √ No

If yes, outline in **Attachment № B.12** how the activity comes under these regulations.

More information and guidance is available on the EPA website:

http://www.epa.ie/air/airenforcement/ozoneguidanceanddownloads/

B.13 Review of a licence

State the grounds on which an application for a review of a licence is being made and give the reference number to the relevant licence in the register.

The review is required to allow the construction and operation of new biological treatment process comprising anaerobic digesters, digestate storage tank and a combined heat and power plant

Provide, where appropriate, a copy of the Office of Environmental Enforcement (OEE) correspondence that indicates that the reason for the review cannot be accommodated within the scope of the existing licence.

Include results of emission monitoring and other data, that enables a comparison of the operation of the installation with the best available techniques described in the applicable BAT conclusions and with the emission levels associated with the best available techniques in accordance with Section 86A(9) of the Act of 1992 as amended.

The results of the emission monitoring and other data, which includes air dispersion modelling of the existing and proposed new emission points to air, are included in the application.

Where the OEE has agreed any variations or adjustments to the conditions or schedules of the existing licence, the licensee must provide details of these agreed variations and adjustments to the existing licence conditions. An updated, scaled drawing of the site layout (no larger than A3) providing visual information on such adjustments or variations where appropriate should be included.

In the case of once-off assessments/ reports required under conditions/ schedules of the existing licence the licensee must provide details of those assessments/ reports that have been completed and agreed with the OEE or as otherwise agreed.

Attachment № B.13 shall include the schedule of variations and/or adjustments together with the updated drawing.

Condition/ Schedule No.	Existing Condition	OEE Agreement Reference	Description
		W0211-01/AK05CN	Approval for the acceptance and bulking of MSW in Building 1
		W0211-01/AK06CN	Approval for the acceptance and bulking of farm plastics

Supporting information should be included in **Attachment № B.13**.

SECTION C: MANAGEMENT OF THE INSTALLATION

C.1 Site Management & Control

Details should be provided on the management structures for the activity. Organisational charts and all relevant environmental management policy statements, including provisions for on-going assessment of environmental performance, are required.

As part of the company's environmental policy, the plant's management is committed to continual improvement in environmental, quality, occupational health & safety and performance.

Management does ensure that the necessary resources are available to comply with all objectives stated in the site's environmental policy.

A copy of the company's Organisational Structure and Environmental Policy are provided in Attachment C.

C.2 Environmental Management System (EMS)

Indicate whether an Environmental Management System has been developed for the installation. If yes, specify which standard and include a copy of the accreditation certificate.

In accordance with condition 2.2.2.3 of W0211-01, ERAS ECO Ltd. have established, implemented and maintained an Environmental Management System. The EMS is in line with ISO 14001:2004 and complies with all regulatory and legislative requirements pertinent to industry, local operating environment and customer requirements.

The Environmental Management System is reviewed annually together with the company's Environmental Objectives and Targets. The achievement of the environmental targets is evaluated on an annual basis.

The Facility Manager, EHSQ Manager and the operational staff are responsible for achieving these objectives and targets within a set time frame. The environmental objectives and targets which are established at relevant functions and levels within the company are consistent with the company's environmental policy and legislative requirements.

Objectives and targets must also be consistent with BAT and the financial, operational and business requirements of the organisation.

C.3 Hours of Operation

Provide details of the hours of operation for the installation, including:
(a) Proposed hours of operation.
(b) Proposed hours of construction and development works and timeframes.
(c) For waste activities, the proposed hours of waste acceptance.
(d) Any other relevant hours of operation expected.

The authorised operating hours are:

- With the exception of emergencies or as may be agreed by the Agency**,** the waste recovery/transfer facility shall be operated, and waste shall be accepted at or despatched from the waste recovery/transfer facility and sludge drying facility, only between the hours of 0700 hrs and 2200 hrs Monday to Friday, and 0700 hrs and 1400 hrs on Saturdays.

- The waste recovery/transfer facility shall not operate or accept/despatch waste on Sundays or on Public Holidays without the agreement of the Agency.
- The sludge drying facility shall not accept/despatch waste on Sundays or on Public Holidays without the agreement of the Agency.

(a) Proposed hours of operation

The Sludge Dryer and Anaerobic Digestion Plant will operate on a 24 hour basis, 7 days a week. There will be shut-down periods for regular maintenance on the dryer.

(b) Proposed hours of construction and development works and timeframes.

Normal hours of construction (7am to 7pm, Mondays – Saturdays) will be maintained throughout the construction and development works. A works programme is currently not available as no contractor has yet been appointed to the project.

(c) For waste activities, the proposed hours of waste acceptance.

Deliveries to the site are between 7am and 10pm, Mondays to Fridays, and on Saturdays between 7am and 2pm, as licensed.

(d) Any other relevant hours of operation expected.

There are no other relevant hours of operation expected.

ERAS ECO Ltd requests the inclusion of a provision for the amendment of the waste acceptance hours subject to the Agency's approval. This is to accommodate future customer requirements in relation to the timing of waste collections.

C.4 Fit and Proper Person

The EPA Act in Section 83(5)(xi) specifies that the Agency shall not grant a licence unless it is satisfied that the applicant or licensee or transferee as the case may be is a fit and proper person. Section 84(4) of the EPA Act specifies the information required to enable a determination to be made by the Agency.

- Indicate whether the applicant or other relevant person has been convicted under the Environmental Protection Agency Act 1992, as amended, the Waste Management Act 1996, as amended, the Local Government (Water Pollution) Acts 1997 and 1990, the Air Pollution Act 1987 and the Air Pollution Act 1987 (Environmental Specifications for Petrol and Diesel Fuels)(Amendment) Regulations 2004.
- Provide details of the applicant's technical knowledge and/or qualifications, along with that of other relevant employees.
- Provide information to show that the person is likely to be in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out that activity.

This information should form **Attachment № C**.

ERAS ECO Ltd has not been convicted under the Environmental Protection Agency Act 1992, as amended, the Waste Management Act 1996, as amended, the Local Government (Water Pollution) Acts 1997 and 1990, the Air Pollution Act 1987 and the Air Pollution Act 1987 (Environmental Specifications for Petrol and Diesel Fuels) (Amendment) Regulations 2004.

Details of the relevant employees' technical qualifications are provided below.

Name	Position	Duties and Responsibilities	Experience /Qualifications
Denis Mullally BBS	Facility Manager	Management of all persons & activities onsite, schedule/organise waste customers/ deliveries and consignation of waste from site.	12 years' experience in the management of Waste Sites (W0116-02 and W0220-01. FAS Waste Management Certificate
Mike Dee	EHSQ Manager	Co-ordination of Environmental, Health & Safety aspects of site.	7 Years in EHSQ. BSC in Environmental Management, Certificate in Safety & Health, NEBOSH Safety Diploma

A copy of the most recent financial accounts is included in **Attachment No.C**.

SECTION D: INFRASTRUCTURE & OPERATION

D.1. Operational Information Requirements

Describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity, to include a copy of such plans, drawings or maps, (site plans and location maps, process flow diagrams), and such other particulars, reports and supporting documentation as are necessary to describe all aspects of the activity. Maps and drawings must be no larger than A3 size.

A development and operational history of the site should be included here.

Attachment Nº D should contain a list of all unit operations (processes) to be carried out, including flow diagrams of each with any relevant additional information.

Existing Layout

The existing site layout is shown on Drawing No 10P521-01. The main features of the facility are as follows:

- Administrative Office Building
  - Canteen;
  - Public Information Room;
  - Toilets & Changing Rooms;
  - Laboratory;
  - Other Offices: Weighbridge/ Main Office/ Control Room; Facility Manager.

- Building 1
  - Designated Wood Waste Area;
  - Designated Biomass Storage Area;
  - Workshop.

- Building 2
  - Biomass/ Woodchip Storage Area;
  - Sludge Reception Area;
  - Sludge Drying Area.

- WWTP
  - Balance Tank;
  - Culligan Filters;
  - Carbon Filters;
  - Hypochlorite Mixing Tanks;
  - Other Tanks: Treated Water; Washwater; Sludge,

- Transformer Building

- Above Ground Fire Water Storage Tank

- Underground Stormwater Retention Tank.

- Car parking area,

- Weighbridge & Wheel Wash
- Perimeter Fencing
- Ancillary features including roads, sewerage and surface water drainage, hardstanding open yards, bunded chemical and fuel storage areas and back up generator.

Existing Activities

Sludge Treatment

The treatment processes comprise reducing the moisture content and pasteurisation using either a biomass fuelled drier, or the addition of lime. The incoming sludges are weighed and samples collected for testing in the on-site laboratory. The sludge, which has a minimum Dry Solids (DS) content of 10%, is then directed either to Building 2 for treatment, or to Building 1 for temporary storage pending treatment.

At the sludge drier, the sludge is tipped into reception bins (covered with hydraulic lids and gratings) from where it is pumped to a dosing / mixing bin. From the bin, it passes into a dryer, which is heated using steam generated in a biomass (woodchip) fired boiler. The woodchip is stored in Building 1.

The building is fitted with interlocked rapid roller doors providing efficient containment of odours within the building. The steam from the drier is ducted to a scrubber/separator, where it is condensed. Any fine particulate matter is returned to the dryer and the condensed effluent is sent to the on-site WWTP where it is treated before discharge.

The purged steam and volatile organics evaporating from the WWTP and odorous air from the sludge reception bin, which is fitted with a system that extracts the air from the hopper, are ducted to a biofilter odour abatement system. The extraction system provides negative ventilation to the area handling the sludge (i.e. where odours are generated).

The dried sludge is then transferred to a product cooling conveyor. The product, which has a moisture content of less than 20%, is then screened to separate the fines, which are returned by the fines conveyer to the front of the dryer. The end-product is a sterilised granulated material suitable for use as a fuel. Presently this dried sludge (~ 1100 tonnes per annum) is exported to a licensed recovery facility in Germany.

In addition to the drier, sludge can be treated by the controlled addition of lime using a fully enclosed auger. The lime reacts with the moisture in the sludge, raising the temperature and the pH. The odorous air is collected and treated in an odour abatement system. The dried sludge is sent off site and land spread on agricultural lands in accordance with best agricultural practice. Further information can be found in *Landspreading Handled/Managed Sludge on Agricultural Landbanks* (Ormonde Organics 2010, unpublished).

C & I Waste Recovery

This was originally carried out in Building 1, but was stopped in 2009 for commercial reasons. It involved the acceptance of source segregated (paper, plastic, cardboard, metals) and mixed dry recyclables. The source segregated materials were baled. The mixed dry recyclables were manually sorted and then baled. All of the materials were sent off site for further treatment and recovery. In 2012 the Agency approved the temporary

acceptance and bulking up of MSW in Building 1 in response to a shortfall in capacity in the Cork Region due to an incident at another Materials Recovery Facility

Proposed Layout

The proposed site layout is shown on Drawing No 12659-tek02-01, and will involve the following changes to the existing site layout:

- Provision of 2 No AD Treatment Tanks (combined capacity 2,208m^3) digester tanks immediately outside the Waste Recovery Building and a digestate storage tank at the southern site boundary. The waste acceptance, solids feeder and other associated AD (e.g. gas conditioning) will be located within Building 1.

- Provision of a new CHP plant adjacent to the AD digester tanks.

- Provision of an odour abatement system at the southern side of Building 1.

Proposed Developments

The current Waste Licence does not allow the processing of mixed waste. Therefore, it is proposed to process mixed C&I wastes and also household waste, which is similar in composition (source segregated dry recyclables and mixed waste).

An Anaerobic Digestion (AD) Plant is proposed to treat the non-hazardous municipal and industrial WWTP sludges. The biogas produced by the system will treated to remove impurities and then used to generate electricity and heat in a new Combined Heat and Power (CHP) plant. These new energy sources will be used on site, with surplus electricity sold to the National Grid. As an alternative to the on-site utilisation of the biogas, Ormonde Organics is assessing the potential of feeding the purified gas directly into the national gas grid.

The new biological treatment plant will lead to an increase in the quantities of sludge accepted from 30,000 tonnes/year to 40,000 tonnes.

In addition to the anaerobic digestion, Ormonde Organics is considering a new treatment process for spent yeasts whey permeates to produce a high value animal nutrition ingredient. The yeast slurries and whey permeates are by production of the brewing and dairying industry. The treatment process would be similar to the sludge drying where steam would be used to increase the dry matter content of the yeast to 90%. The dried ingredient would then be packaged in 25kg and 1,000 kh bags.

Anaerobic Digestion Process Description

The fully enclosed AD system will be capable of processing up to 20,000 tonnes per annum of non-hazardous industrial sludges. Two (2 No) purpose built anaerobic digesters will be constructed adjacent to Building 1 and an above ground digestate storage tank will be provided at the southern site boundary.

Non-hazardous sludges will be delivered to Building 1, where they will be off loaded directly into a feeder hopper and then transferred via a fully enclosed conveyor, to the tanks, each of which will be maintained at 37^{O}C.

The AD process produces a biogas, fibre and liquor. The biogas will comprise largely methane and carbon dioxide, but will also contain a small amount of impurities, primarily

hydrogen sulphide and ammonia as well as traces of other gases. The biogas will be treated before being used as a fuel in an on-site CHP plant, which will produce heat and electricity that will meet on-site energy needs or exported to the national grid. If a direct connection to the national gas grid proves feasible, the biogas will be treated to remove the impurities and carbon dioxide before it is fed into the grid.

The fibre will be treated in the sludge drier and the liquor will be recirculated to the digesters and, where necessary, treated in the on-site WWTP.

A process flow diagram of the proposed system is included in **Attachment No. D**.

The new system will allow ERAS ECO Ltd treat an additional 10,000 tonnes of sludge per annum.

Municipal Solid Waste Processing

Municipal Solid Waste (MSW), comprising C&I and Household waste will be accepted. The MSW will comprise source segregated dry recyclables and mixed residual waste. The dry recyclables will be of a similar type to the C&I wastes currently approved (paper, plastic, cardboard, tetrapak, cans etc). The residual waste will include putrescible wastes - for example foodstuffs.

All the wastes will be handled in Building 1. The dry recyclables will be handled in the area designated for the C&I waste. The residual mixed waste will be handled in a separate designated area that will be provided with an odour control system comprising air extraction and ducting to a carbon filter that will be positioned outside the western wall of the building. The residual mixed waste will not be processed on-site, but will be bulked up for transfer from the site on the same day as arrival.

Animal Nuttrition Ingredient Manufacture

The yeast treatment process, if it proceeds, may require equipment for the drying process, material handling and a packaging plant. While it will not be a waste activity, as it will be carried out inside the licensed area, Ormonde Organics will submit details to the Agency for its approval before processing begins.

Development & Operational Site History

ERAS ECO Ltd was established to meet the demand for recovery facilities within Ireland. In particular, its focus was the treatment of wastewater treatment plant (WWTP) sludges and the recovery of Commercial and Industrial (C&I) wastes.

In 2001, planning permission was granted for the construction of a waste transfer station (Ref No. S/00/7093, 30th August 2001), however this development did not proceed. In 2005 permission was granted for the construction of a sludge treatment facility (Ref No. S/04/7531 04th February 2005). The Waste Licence was granted in November 2006 and the facility was constructed and commissioned in 2007.

The current licence authorises the acceptance and treatment of a maximum of 30,000 tonnes/year of non-hazardous municipal sewage sludge and sludge from industrial WWTPs. The facility can also accept 70,000 tonnes of C&I waste and 10,000 tonnes of leachate. The total authorised capacity is 110,000 tonnes per annum, but the actual annual input is less than 10,000 tonnes.

The current site layout is shown on Drawing No 10P521-01. Sludge treatment has been on-going in Building No 2 since the facility was commissioned in 2007, however for commercial reasons the recovery of C&I waste, which was carried out in Building 1, stopped in 2009. In 2012 the Agency approved the acceptance and bulking for transfer of MSW in Building 1 and the acceptance and bulking prior to transfer of farm plastics.

The facility currently processes non-hazardous biological sludges from industrial and municipal sources. The processes, which are regulated by the Waste Licence include sludge drying and lime treatment.

The facility is authorised to treat landfill leachate, but this process has not yet started. The facility also accepts wood waste and woodchip from off-site waste recovery facilities for use as a fuel in the biomass boiler that supplies steam to the sludge dryer.

ERAS ECO Ltd has seen an opportunity to introduce a new way of sludge treatment (anaerobic digestion) that will produce a biogas that can either be used on site to generate electricity and heat or be fed directly into the national gas grid. The proposed new anaerobic digestion process is the reason why a licence review application is being made.

D.2 Additional requirements for waste Activities (not covered above or elsewhere) (All Class 11 of the First Schedule of the EPA Act 1992, as amended)

This section D.2 of the application form should be completed only by applicants applying for classes 11.1, 11.2, 11.3, 11.4, 11.5, 11.6 and 11.7 (i.e. waste activities) of the First Schedule to the EPA Act 1992, as amended.

D.2.1 Wastes to be accepted

State what wastes will be accepted at the installation for recovery or disposal. Complete table Table D.2(i) and include in **Attachment No. D.2** of the application. The following general guidelines may assist in containing the size of Table D.2(i) where there is a long list of EWC codes proposed.

- For any individual waste stream, described by EWC code or main waste description (e.g. municipal solid waste, mixed recyclables, C&D waste), comprising more than 5% of total intake, complete a single row in table D.2(i).
- For every hazardous waste stream, describe by EWC code, complete a single row in table D.2(i).
- Other waste streams, where the list of waste is long, may be aggregated, according to a waste category, with each relevant EWC code provided.

An EWC code should be provided for every waste proposed for acceptance at the installation.

State whether any wastes to be accepted are classified as animal by-products in accordance with Regulation 1069/2009 and identify the relevant wastes.

Table D.2(i) has been completed.

The maximum annual tonnage of waste to be handled at the site should be indicated and the year to which the quantity relates indicated.

Maximum Annual Tonnage (tonnes)	65,000
Year	2016

It should be noted that an applicant may be issued with a licence which restricts the type and quantity of wastes which may be accepted.

The tonnages of waste which may be treated at the facility on an annual basis has been set under An Bord Pleanala's decision PL04.239166, as follows:

- Commercial, Industrial & Household Waste 20,000 tonnes
- Non Hazardous Sludge 40,000 tonnes
- Leachate from landfills 5,000 tonnes

D.2.2 Waste Storage and Closure Costs

State the maximum amount of waste that will be held or stored at the installation at any one time. This should include waste in:

- reception, inspection and quarantine areas,
- storage pending treatment,
- storage after treatment, and
- vessels, chambers or tanks during treatment or processing.

State the cost of disposing of waste (including treated waste) held, in storage or in process at the installation. Do not provide the recovery/recycling cost and do not assume that the waste will have a positive monetary value (it may have degraded in the period before removal from the closed installation).

Complete the following table (consistently using either tonnes or cubic metres as your unit of measurement for all entries):

Location of waste	Tonnes	Cubic metres	Unit cost (per tonne or m^3) for - removal AND - disposal in case of sudden closure	Disposal route and/or technique	Notes, rationale, clarifications
Building 1 Untreated MSW	50	€150	MRF	Transport and treatment at licenced MRF in Cork	
Building 1 Treated MSW.	50	150	MRF	Transport and treatment at licenced MRF in Cork	

Building 1 Quarantine Area	1	450	Haz Waste Treatment Facility	Transport and treatment at licensed Hazardous Waste Treatment Facility	
Building 2 Untreated Sludge	50	100	Biological Treatment Plant	Transport and treatment at authorised biological treatment plant	
Building 2 Treated Sludge	80	100	Biological Treatment Plant	Transport and treatment at authorised biological treatment plant	
AD Plant Digesters 1 & 2	2,200	100	Biological Treatment Plant	Transport and treatment at biological treatment plant.	
AD Plant Digestate Storage Tank	500	15	Landspread	Landspreading on approved landbanks	
Total					

* add rows to the table as necessary

D.2.3 Waste Acceptance Procedures

Provide a copy of the waste acceptance procedures employed or to be employed. Describe procedures for checking waste loads as they arrive at the installation. Describe procedures to be implemented in the event of a load of waste arriving at the installation that does not conform to waste acceptance procedures. The location of a quarantine area for handling suspect or non-compliant loads should be described and illustrated on a suitable site drawing.

ERAS ECO Ltd has prepared a documented waste acceptance and handling procedure for the current operations that ensure only suitable wastes are accepted and that these are processed in a manner to produce a good quality product. The incoming wastes are weighed at the weighbridge and the accompanying documentation is checked. Any waste not deemed suitable is not accepted and the driver of the vehicle is instructed to return the waste to the producer.

The weighbridge system (WIMS) is used to log all waste loads arriving at the site and the following information is recorded:

- Description of the waste including waste types (e.g. Sewage Cake)., and relevant List of Waste (LoW) codes;

- The origin of the waste, including all customer details;
- Haulier Details;
- Vehicle Registration;
- Driver Name; and
- Weight of the waste load.

Upon leaving the weighbridge, all waste delivery vehicles are directed to the appropriate off-loading or temporary storage points, where the materials will be inspected.

If staff members are satisfied that the load is acceptable it will be processed as required. Any loads considered to be suspect will be removed to a dedicated Quarantine Area for further inspection. If the inspection identifies the materials do not meet the relevant acceptance criteria, the staff will arrange for the load to be returned to the producer. The existing waste quarantine area located outside the south-west corner of Building 1 will be relocated to inside the building.

For landfills and relevant incineration activities, describe how the requirements of *Municipal Solid Waste – Pre-treatment and Residuals Management: An EPA Technical Guidance Document* (EPA, 2009) will be implemented.

Not Applicable

For landfills, the applicant should ensure that the requirements of Council Decision 2003/33/EC are addressed in waste acceptance procedures.

Not Applicable

D.2.4 Waste and material outputs from waste activities

Describe the waste and material outputs from the installation resulting from the treatment of waste. If no treatment is carried out on the waste, the waste outputs will be the same as the inputs.

If waste is treated, describe the nature and quantity of the treated waste and its onward fate/destination, and in particular whether it is sent for onward recovery or disposal operations.

If waste is treated and a material is produced that is no longer a waste, provide the rationale for such classification. The requirements of article 28 of the European Communities (Waste Directive) Regulations 2011 should be addressed in any such rationale.

As per condition 11.10 of the current licence, a full record of all incoming / outgoing waste is kept and updated on a monthly basis and then reported annually in the site's AER and PRTR documents.

The main existing on site waste activities are summarized as follows:

- Non-hazardous industrial or municipal WWTP sludge are inspected, accepted, dried and exported as a fuel.

  Stabilised sludge (using lime) is sent offsite for land spreading at pre-approved landbanks.

- Non-hazardous grade wood/ woodchip is accepted, stored and used onsite as a fuel for the onsite boiler. To improve our self-sufficiency capability some wood is

delivered in a non-chipped form and this is shredded onsite when the quantities are sufficient.

Boiler ash from the on-site boiler is sent offsite for disposal.

- The facility is licensed to accept non-hazardous waste from Commercial and Industrial sources. Since 2008 – 2011 the acceptance of these waste streams has been curtailed.

- Small amounts of office and canteen waste are segregated on-site and sent offsite for recovery or composting.

All incoming/ outgoing waste is recorded by means of an integrated weighbridge and software system.

As part of the proposed anaerobic digestion process, the following waste streams will be generated:

- Fibre – this will be sent to the on-site sludge drying plant and then exported for heat recovery.

- Biogases – these will be scrubbed to remove hydrogen sulphide, ammonia and other gases, prior to either utilising the methane to provide fuel for a new on-site CHP plant or feeding it into the national gas grid.

- Digestate – this will be returned to the digester tanks or sent to the on-site wastewater treatment plant for treatment prior to discharge to sewer.

Table H.3(i) has been completed.

D.2.5 Principles of self-sufficiency and proximity

Describe how the proposed waste activities will contribute to the State's obligation to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers. Describe how the proposed waste activities will enable the State to move towards being more self-sufficient in the management of these wastes.

Supporting information should form **Attachment № D.**

Section 2.0 of the EIS discusses "Waste Planning Policy" both at national and local levels.

D.3 Additional Requirements for landfills (not covered above or elsewhere) (Class 11.5 of the First Schedule of the EPA Act 1992, as amended)

Not Applicable

This section D.3 of the application form should be completed only by applicants applying for classes 11.5 and 11.7 (landfills and underground storage facilities) of the First Schedule to the EPA Act 1992, as amended. This includes landfills that are associated with other industrial activities.

All landfills must comply with the requirements of the Landfill Directive (1999/31/EC). It is the applicant's responsibility to ensure that all relevant requirements of the Directive are addressed and information provided in **Attachment D.3** of the application.

For wastes to be disposed of by landfilling on-site at industrial installations, full details of the disposal site should be submitted (to include *inter alia,* site selection procedures,

location maps, (no larger than A3) geology, hydrogeology, operational plan, containment, gas and leachate management, post-closure care).

Applicants should have regard to the requirements of the Landfill Manuals published by the Environmental Protection Agency.

D.3.1 Class of landfill

Complete Table D.3(i) and include in Attachment D.3 of the application. State which of the categories in Table D.3(i) is relevant to the current application.

Table D.3(i) Class of landfill

(a) landfill for hazardous waste	☐
(b) landfill for non-hazardous waste	☐
(c) landfill for inert waste	☐

D.3.2 Scale of waste deposition

Complete Table D.3(ii) and include in Attachment D.3 of the application. State the total quantity of waste for which authorisation is sought to be deposited in the landfill.

Table D.3(ii) Scale of waste deposition at the landfill

Total quantity of waste to be deposited at the landfill	Tonnes*	Void in cubic metres (m^3)
(a) Waste deposited to date		
(b) Total waste to be deposited over the lifetime of the development (including deposited to date)		

* Explain any conversion/density factors used in calculating the tonnage from the void, or vice versa.

D.3.3 Liner System

Complete Table D.3(iii) and include in Attachment D.3 of the application. Table D.3(iii) provides a checklist of items that should be described in greater detail in Attachment D.3.

D.3.4 Leachate Management

Complete Table D.3(iv) and include in Attachment D.3 of the application. Table D.3(iv) provides a checklist of items that should be described in greater detail in Attachment D.3. Provide a list and illustrate on a site drawing the location of all leachate monitoring, extraction and lead detection boreholes or installations.

D.3.5 Landfill Gas Management

Complete Tables D.3(v)a to D.3(v)d and include in Attachment D.3 of the application. The tables provide a checklist of items that should be described in greater detail in Attachment D.3. Provide an estimate of the volume of landfill gas which will be produced by the waste for the next 20 years.

D.3.6 Capping System

Complete Table D.3(vi) and include in Attachment D.3 of the application. Table D.3(vi) provides a checklist of items that should be described in greater detail in Attachment D.3.

D.3.7 Meteorological Data

State in Attachment D.3 what arrangements are proposed for the measurement of meteorological data at the landfill installation, or for the collation of relevant meteorological information from nearby facilities.

D.3.8 Cost of the landfill of waste

Describe in Attachment D.3 how all of the costs involved in the setting up and operation of the landfill, including the cost of financial provision, and the estimated cost of the closure and aftercare of the site for a period of at least 30 years will be covered by the gate fee to be charged for the disposal of waste.

SECTION E: EMISSIONS

E.1. Emissions to Atmosphere

E.1.A. Details of all point emissions to atmosphere

Details of all point emissions to atmosphere should be supplied. Complete Table E.1(i) for Boiler Emissions and Table E.1(ii) and E.1(iii) for all other main emission points. Complete Table E.1(iv) for minor emission points and provide results of emission monitoring where available.

A summary list of the emission points, together with maps and/or drawings (no larger than A3), and supporting documentation should be included as **Attachment Nº E.1**. Plans of emission elevations, relevant roof heights, etc., should also be included, as should detailed descriptions and schematics of all abatement systems.

The applicant should address in particular any emission point where the substances listed in the Schedule of EPA (Industrial Emissions)(Licensing) Regulations 2013, S.I. No. 137 of 2013, are emitted.

For emissions outside the BAT guidance limit or BAT Conclusions levels, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s). These notes can be found on the EPA website at www.epa.ie.

A drawing showing the locations of all the emission points in in Attachment No E.1

Air Emission Points

There is one existing boiler emission point **(A1).** There is one existing main emission point **(A2) ,** which is from the bio-filter for the sludge drying building (Building 2).

There will be two additional main emission points associated with the development, follows:

- **A3** – Odour Control Unit (OCU) for Building 1 (MSW processing facility)
- **A4** – CHP Plant

Table E.1(i) has been completed for A1, while Tables E.1(ii) and E.1(iii) have been completed for all other emission points.

Drawing No. 15-183-01 – Emission & Monitoring Points **(Attachment No. E),** shows the location of the existing and proposed emission points.

A site and building elevation drawing is in **Attachment No. B2.**

Sludge Dryer Boiler Stack (A1 – Existing)

The sludge drying process (non-contact) uses pressurised (12 bar) steam generated by the on-site biomass boiler. The start-up procedure uses light fuel oil which raises the furnace temperature to approximately 400ºC. Upon reaching this temperature the system is manually switched to woodchip, which increases the temperature to > 600 ºC.

The flue gas is treated in a cyclone and a bag filter, which meet the requirements of BAT.

Biofilter (A2 – Existing)

As required by Condition 6.8.3 of the current licence, the wet sludge storage bin is vented to the onsite bio-filter. As required by Conditions 6.8.4 and 6.8.5, gaseous emissions from the condensate (cooling) tower and from the WWTP are treated in the on-site bio-filter. The bio-filter was installed and commissioned in May 2008.

OCU (A3 – New)

A new OCU comprising an air extraction system and carbon filter will be provided to treat odours from the mixed MSW processing area in the Building 1. The OCU will have a treatment capacity of 30,000 Nm^3/hour. The total treatment capacity required for the mixed MSW processing area is 15,000 Nm^3/hour. The additional 15,000 Nm^3/hour capacity is provided to treat odorous air from the AD plant and the sludge drying area, if this is considered necessary.

CHP Plant Stack (A4 – New)

The CHP Plant Stack will have a volume flow rate of 6,000 Nm^3/hour and exhaust temperature will be at 723 ºC. The constituents of the emission are shown in the Table below.

CHP Plant	Units	Rate	Mass emission rate (g/s)
Carbon monoxide	mg/Nm^3	<1,400	2.41
Oxides of nitrogen	mg/Nm^3	<500	0.861
Sulphur dioxide	mg/Nm^3	<500	0.861
Total particulates	mg/Nm^3	<140	0.241
Hydrogen chloride	mg/Nm^3	<50	0.086
Hydrogen fluoride	mg/Nm^3	<5.0	0.0086
Total Organic Carbon (methane)	mgC/Nm^3	<1,000	1.722
Total non methane (VOCs)	mg/Nm^3	<75	0.124
Hydrogen Sulphide	mg/Nm^3	<5	0.00861
Volume flow rate	Nm^3/hr	6,000	-
Temperature	ºC	723	-

The CHP plant will have a gas flare that will only operate when the plant is shut down for maintenance. The constituents will be similar to those emitted from the plant.

SI No. 137 of 2013

The following substances listed in Schedule 1 of SI No. 137 of 2013 will be in the emissions at points A1 and A4:

- Sulphur Dioxide
- Oxides of Nitrogen
- Carbon Monoxide
- Particulate Matter (PM10)
- Hydrogen chloride
- Hydrogen fluoride

The emission limit values (ELV) that apply to A 1 are specified in Schedule B 1 and include nitrous oxide (NO_2,), carbon monoxide (CO) and particulates. It is assumed similar ELVs

will be applied to the CHP plant exhaust (A4). The ELVs comply with BAT requirements for combustion sources.

E.1.B. Fugitive and Potential emissions

Give summary details of fugitive and potential emissions in Table E.1(v).

Potential fugitive emissions comprise dusts and odours from the buildings and digesters. Dust deposition monitoring is carried out at three on-site locations three times annually. The monitoring has confirmed that the emissions comply with the dust deposition limits specified in the licence.

Dust Emission ($mg/m^2/day$) Sample Location	Q4 2015 30 Days	Q1 2016 30 Days	Emission Limit ($mg/m^2/day$)	Test Method
D1	77.2	172.6	350	BHP AC 017
D2	94.7	329.1	350	BHP AC 017
D3	231.1	307.6	350	BHP AC 017

In relation to activities listed in the Schedule of Council Directive 2010/75/EU (on Industrial Emissions) S.I. No.565 of 2012 on installations and activities using organic solvents;

- specify the relevant category of activity in the Schedule
- specify how the requirements in relation to fugitive emissions will be met.

Organic solvents are neither used nor generated on-site.

For waste activities, dust and odour emissions should be described under the headings in this section.

Full details and any supporting information should form **Attachment E.1.**

Dust

Odours

Mixed MSW Processing Building

An OCU comprising a negative air extraction system and carbon filter will be installed in Building 1.

E.2 Emissions to Surface Waters

Tables E.2(i) and E.2(ii) should be completed and provide results of emission monitoring where available.

A summary list of the emission points, together with maps/drawings (no larger than A3) and supporting documentation should be included as **Attachment № E.2**.

The applicant should address in particular any emission point where the substances listed in the Schedule of EPA (Industrial Emissions) (Licensing) Regulations 2013 S.I. No. 137 of 2013, are emitted.

Details of all substances listed in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, contained in any emission must be presented. All surface water runoff and storm water drains discharging to surface water bodies must be included. A National Grid Reference (12 digit, 6E, 6N) must be given for all discharge points the identity and type of receiving water (river, ditch, estuary, lake, etc.) must be stated.

Where relevant, describe proposed measures or controls that have been identified in a pollution reduction plan for the river basin district prepared in accordance with Part V of the EC Environmental Objectives (Surface Waters) Regulations 2009 for the reduction of pollution by priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances.

For emissions outside the BAT guidance limit or BAT Conclusions levels, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

There are no direct emissions to surface water. Treated effluent from the on-site process WWTP and rainwater run-off discharges to an Irish Water sewer that outfalls to Youghal Harbour / Lower River Blackwater. Further information is provided in E3.

E.3 Emissions to Sewer

Tables E.3(i) and E.3(ii) should be completed and provide results of emission monitoring where available.

Tables E.3(i) and E.3(ii) have been completed for SE 1 and SW 1.

A summary list of the emission points, together with maps and/or drawings (no larger than A3) and supporting documentation should be included as **Attachment № E.3**. Details of all List I and List II substances listed in the Annex to EU Directive 2006/11/EC (as amended), contained in any emission must be presented. All relevant information on the receiving sewer**,** including any effluent treatment/abatement systems, not already described, with schematics as appropriate should also be included in **Attachment №E.3**.

Surface Water

Rainwater run-off from roofs and non-waste storage paved areas is collected in the surface water drainage system. This connects to two silt/ oil interceptors (Class 1 and designed in accordance I.S. EN 858) and a storm water retention tank.

The runoff is reused on-site when possible (wheel wash, the bio-filter, cooling water for the dry product and to backwash the WWTP filters) thereby reducing the site's reliance on mains water from Irish Water. The surplus water from the tank discharges to the Irish Water combined sewer via a non-return valve. The sewer outfalls to the estuary.

There is no flow restriction on the discharge from the retention tank, but the licence does specify ELVs. There is continuous pH monitoring on the outflow and in addition there are daily visual inspections and composite samples are collected and tested at quarterly intervals. The results are submitted to the Office of Environmental Enforcement and the most recent results are in Table E.3 (a)

Table E.3(a): Surface Water Monitoring Results

Parameter	Discharge Limits	06/08/2015	09/10/2015	09/10/2015
pH	None	7.17	6.90	7.4
Temperature	None			
Conductivity	None			
Suspended Solids	None	35	102	<10
B.O.D.		3.5	2.0	3
C.O.D.		17	29	3

Wastewater

Wastewater generated at the site comprises sanitary wastewater from the offices, condensate from the sludge drying unit and wash water from the vehicle wheel wash. The sanitary wastewater is treated in a proprietary treatment system (Puraflo©) before being discharged to the Irish Water combined sewer.

The condensate and wash water from the wheel wash is treated in the process WWTP. This comprises an inlet mixing chamber and pH adjustment, a balance tank with air diffusers, sand filters, a dissolved air floatation unit, carbon filters and a hypolchlorite disinfection system. Harvested rainwater is used to backwash the filters. The treated effluent discharges to the Irish Water combined sewer. Surplus digestate from the anaerobic digestion system will be sent to the WWTP for treatment prior to discharge.

The licence sets a maximum discharge rate of 170m^3/day (7m^3/hour) and also specifies the ELV. The discharge is subject to routine monitoring including continuous pH monitoring and the collection and testing of composite samples. The results are submitted to the Office of Environmental Enforcement. The most recent results are in Table E.2(a) below.

The results of recent monitoring for SE 1 are presented in Table E.2(a) below, which also contains the discharge limits specified in the Waste Licence.

Table E.3(b): SE 1 Monitoring Results

Parameter	Units	Discharge Limits	Date	02/02/15	04/12/2015
pH		6.0 – 8.5	7.43		7.32
Temperature	°C	25 (max)			
BOD	mg/l	20	2.93	1.4	2.0
COD	mg/l	125	7.44	<1	<1
Suspended Solids	mg/l	35	35		<10
Total Nitrogen (as N)	mg/l	10	8.428	3.2	8.0
Sulphate	mg/l	100	19.7	9.4	7.5
Ammonia (as N)	mg/l	0.5	0.11	0.04	
Total Phosphorus (as P)	mg/l	1.0	0.01		
Cyanide	mg/l	0.01	0.0046	0.006	
VOC	µg/l	50	0.001		
Semi VOV	µg/l	50	0.001		
Lead	µg/l	5	0.01	<0.006	<0.006
Zinc	µg/l	100	0.01	0.0894	0.049
Copper	µg/l	30	0.001	0.0328	0.0096
Cadmium (Total)	µg/l	5	0.01	<0.0006	<0.0006
Arsenic (Total)	µg/l	20	0.01	<0.001	<0.001
Chromium	µg/l	15	0.001	<0.002	<0.002
Nickel	µg/l	25	0.003	0.0039	<0.003
Mercury	mg/l			<0.0001	<0.0001
Faecal Coliforms (FC)		<250 FC 100 mls			
		100 µg/l	<7	<7	<7

The emission may contain substances listed in the Schedule of EPA (Industrial Emissions) (Licensing) Regulations 2013 S.I. No. 137 of 2013, as follows:

- Arsenic
- Chromium
- Zinc
- Lead
- Copper
- Cadmium (Total)
- Nickel

Drawing 15-193-02 in **Attachment No. E3** shows the installation's drainage system.

For emissions outside BAT guidance limit (where given), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within any limits set out in the BAT guidance note(s).

The current ELVs for the emission to sewer are within BAT levels.

E.4 Emissions to Ground

Describe in **Attachment № E.4** the existing or proposed arrangements necessary to give effect to Council Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Council Directive 80/68/EEC on the protection of groundwater against pollution by certain dangerous substances.

The applicant should supply details of the nature and quality of any substance (agricultural and non-agricultural waste) to be landspread (slurry, effluent, sludges etc) as well as the proposed application rates, periods of application and mode of application (e.g., pipe discharge, tanker) having regard to the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2010, S.I. No 610 of 2010.

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

There are no direct emissions to ground on-site. The entire site is covered with buildings and concreted areas thereby limiting the potential for soil and groundwater contamination. The paved areas are subject to regular inspection and are maintained in good condition. All underground drainage systems and tanks are inspected every 3 years.

E.5 Noise Emissions

Give particulars of the source, location, nature, level, and the period or periods during which the noise emissions are made or are to be made. Table E.5 (i) should be completed, as relevant, for each source. Supporting information should form **Attachment № E.5**.

The Agency's *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012) should be consulted (available on www.epa.ie) where a noise impact assessment is required. A planned programme of improvement towards meeting upgraded standards is required and should have due regard to the noise control and mitigation measures outlined in section 8 and appendix (IX) of the *Guidance Note.* This programme should highlight specific goals and a time scale, together with options for modification, upgrading or replacement, as required, to bring the emissions within the limits as set out in the *Guidance Note*.

Existing noise emissions arise from several sources:

- Truck movements through entrance and weighbridge
- Truck and plant movements around yard areas
- Sludge drying process
- Operation of waste water treatment plant

All existing and proposed treatment processes, including the sludge handling and anaerobic digestion will occur within enclosed buildings/tanks and the CHP unit associated with the AD plant will be housed in a suitable container.

Table E5 : Noise Monitoring Results

Station	Date of monitoring	Time	L_{Aeq}	L_{A10}	L_{A90}	LAmax	Tonal or impulsive noise	Comments	Is site compliant with noise limits (day/evening/night)?
N1	28/10/2015	13.33 - 15.03	57	47.8	59.2	59.2	No	Local Traffic Noise	Yes
N2	28/10/2015	14.58 - 16.28	52.6	44.4	54.9	54.9	No	Site noise, distant traffic	Yes
N3	28/10/2015	13:20 - 14:50	54.3	46.3	56.3	56.3	No	Local traffic, industrial noise	Yes
NSR	28/10/2015	11.09 - 12.39	62	52.2	63.9	63.9	No	Local traffic, no site noise	Yes

E.6 Tabular Data on Emission Points

Applicants should submit the following information for each emission point:

Point Code	**Point Type**	**Easting**	**Northing**	**Verified**	**Emission**
Provide label ID's assigned in section E	A=Atmospheric SW=Surface Water SE = Sewer GW=Groundwater N = Noise SL=Soil/Ground WS=Waste	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used	e.g. SO_2, HCl, NH_3

An individual record (i.e. row) is required for each emission point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

An Excel spreadsheet showing the information for each emission point is in **Attachment No. E**.

SECTION F: CONTROL & MONITORING

Describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation.

Describe the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages.

Describe the measures to be taken to prevent or eliminate emissions and/or avoid pollution.

Describe what appropriate measures are to be taken where an Environmental Quality Standard requires stricter conditions than would be determined with reference to BAT

F.1: Treatment, Abatement and Control Systems

Details of treatment/abatement systems (air and effluent emissions) should be included, together with schematics as appropriate.

Sludge Dryer Boiler Stack (A1 – Existing)

The flue gas is treated in a cyclone and a bag filter, which meet the requirements of BAT.

Biofilter (A2 – Existing)

The bio-filter was installed and commissioned in May 2008.

OCU (A3 – New)

The OCU will have a treatment capacity of 30,000 Nm^3/hour. The total treatment capacity required for the mixed MSW processing area is 15,000 Nm^3/hour. The additional 15,000 Nm^3/hour capacity is provided to treat odorous air from the AD plant and the sludge drying area, if this is considered necessary.

CHP Plant Stack (A4 – New)

The CHP Plant Stack will have a volume flow rate of 6,000 Nm^3/hour and exhaust temperature will be at 723 ºC.

Fugitive emissions are minimised using air ventilation systems and associated abatement equipment. Site staff conduct daily odour monitoring at the site entrance and boundaries.

The sludge drying building is fitted with rapid closing roller doors and hydraulic lids on reception bins. The bio-filter odour abatement system extracts air from various stages of the sludge treatment process, including head gases from the storage hopper; the purged steam and evaporating volatile organics from the drying process; and also off-gases from treatment of the dryer condensate in the WWTP. The system provides negative air pressures in the areas where the sludge is handled.

In 2008 a performance assessment audit was completed. The audit report, which was issued in 2009, identified a number of measures that would improve performance that included:

1. Adoption of odour management/control procedures;

2. Additional sealing of the building fabric;

3. Maintenance of the existing good housekeeping practices;

4. An assessment of the operation of the bio-filter.

All the recommendations were implemented and an Odour Management Strategy (OMS) was developed. This includes weekly inspection of the bio-filter media, measuring the pressure differential across the bed, monitoring of ammonia, hydrogen sulphide, and mercaptans, and monitoring of the sump water (bacterial and pH levels).

For each Emission Point identified complete Table F.1(i) and include detailed descriptions and schematics of all abatement systems.

Table F 1(i) has been completed.

Attachment № F.1 should contain any supporting information.

F.2: Emissions Monitoring and Sampling Points

Identify monitoring and sampling points and outline proposals for monitoring **emissions**. Table F.2(i) should be completed (where relevant) for air emissions, emissions to surface waters, emissions to sewer, emissions to ground and waste emissions. Where **ambient** environment monitoring is carried out or proposed, Table F.2 (ii) should be completed as relevant for each environmental medium.

Include details of monitoring/sampling locations and methods.

Attachment № F.2 should contain any supporting information.

Tables F.2(i) and F.2(ii) have been completed.

F.3: Tabular Data on Monitoring and Sampling Points

Applicants should submit the following information for each monitoring and sampling point:

Point Code	Point Type	Easting	Northing	Verified	Pollutant
Provide label ID's assigned in section F3	M=Monitoring S=Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used	e.g. SO_2, HCl, NH_3

An individual record (i.e. row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

Point source monitoring/sampling refers to monitoring from specific emission points (e.g. from a boiler stack or outlet from a wastewater treatment plant). Examples of ambient monitoring includes monitoring of ambient air quality (e.g. boundary or off-site) or monitoring of river quality upstream/downstream of an effluent discharge.

An Excel spreadsheet showing the requested information is in **Attachment No. F.**

SECTION G: RESOURCE USE AND ENERGY EFFICIENCY

G.1 Give a list of the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity.

The list(s) given should be very comprehensive, all materials used, fuels, intermediates, laboratory chemicals and product should be included.

Particular attention should be paid to materials and product consisting of, or containing, dangerous substances as described in the EU (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations 2003 [SI 116/2003] as amended and Regulation (EC) No. 1272/2008. The list must classify these materials in accordance with both of these Regulations, and must specify the designated Risk Phrases (R-Phrases) and Hazard Statements. Hazard statements for each substance should be in accordance with Article 21 of the EC Regulation 1272/2008.

The list must identify any **Substances of Very High Concern (SVHC)** listed in Annex XIV of the REACH Regulations (Regulation (EC) No 1907/2006) as amended and indicate whether the use has been authorised or is exempted in accordance with the Regulation. In the case(s) of exempted use(s) the list must state the basis for each intended exempted use concerned.

The raw and ancillary materials, substances, preparations, fuels and energy that will be produced by or used are used on-site are water, diesel, engine and hydraulic oil for the plant, light fuel oil, water, woodchips , hypochlorite aluminium sulphate and sodium hydroxide (WWTP) and biogas. There are no *"Substances of Very High Concern (SVHC)"* used on-site.

The facility obtains its water supply from the Irish Water mains supply and recycled water from rainwater harvesting.

The water is used in three main areas:

- Process Water (Sludge Dryer Plant Boiler, Cooling screw and wheel wash).
- Fire Water (Fire fighting equipment for entire site) – storage tank.
- In the administration building for sanitary water and potable water.

There is a rainwater harvesting system using the surface water run-off that is stored in the retention tank. This is used as required in the wheel wash, the bio-filter and as cooling water for the dry product. The water is also used to backwash filters in the on-site process water treatment tank. This has a positive impact in reducing the volume of run-off and reducing the amount taken from the mains supply.

Tables G.1 (i) and G.1(ii) must be completed. Copy as required.

Tables G.1 (i) and G.1(ii) have been completed.

Supporting information should be given in **Attachment Nº G.**

For waste activities (class 11 of the First Schedule to the EPA Act 1992, as amended), do not include here the list of wastes to be accepted for recovery and disposal. This should be described in section D.2 of the application.

G.2 Energy Efficiency

A description of the energy used in or generated by the activity must be provided in **Attachment Nº G**. Outline the measures taken to ensure that energy is used efficiently having regard to the relevant decision on BAT conclusions and/or BAT guidance and where appropriate, an energy audit with reference to the EPA Guidance document on Energy Audits should be carried out.

The existing facility is a significant consumer of energy in the form of electricity, oil & woodchip. As woodchip is the chosen fuel for steam generation for the drying plant, this is the primary source of energy, while electricity is the second most important. Diesel is used to fuel the onsite machinery and light fuel oil is used start-up the boiler.

Electricity Usage

While the electricity needs will increase under the proposed development, this will be off-set by the electricity generated by the CHP plant.

Sludge Dryer / Boiler

With the exception of fuel oil used during start-up, the boiler is fired by wood chip, which is a renewable resource.

Energy Audit

An energy audit was completed in 2010. A new audit will be carried out following the installation and commissioning of the AD plant.

BAT

The BAT conclusions identified in the Reference Document on Best Available Techniques for Energy Efficiency February 2009 have been reviewed and are assessed in **Attachment No. I8** – Table I.8.3.

SECTION H: MATERIALS HANDLING

H.1 Raw Materials, Intermediates and Product Handling

All materials will have been listed in Tables G.1 (i) and G.(ii) of **Section G**.

Details of the storage conditions, location within the site, segregation system used and transport systems within the site should be outlined here in **Attachment Nº H.1**. In addition, information relating to the integrity, impermeability and recent testing of pipes, tanks and bund areas should be outlined.

In accordance with condition 6.14 of Waste License W0211-01, *"all tanks and pipelines shall be maintained impervious to materials carried by stored therein. The integrity and water tightness of all underground pipes, tanks, bunding structures or containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the license prior to use. This testing shall be carried out by the license at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial works arising from them shall be maintained by the licensee".*

All underground pipework was tested in accordance to the relevant standards in 2013.

All bunds and sumps have been designed and tested in accordance with the requirements of BS8007 – Standard Code Practice for the Design Liquid Retaining Concrete Structures and in accordance with Chapter 6 of Environmental Protection Agency IPPC Guidance Notes, June 2004. An integrity assessment of all bunds was carried out in 2013. The bund integrity assessment report and certificates of all onsite bunds have previously been submitted to the EPA.

The following is a list of bunds currently on-site.

- **Diesel Fuel Oil Tank Bund –**

  The unit is a Kingspan Ecosafe ES2600 Double skinned tank measuring 2585mm x 1570mm x 1465mm high .The maximum capacity of the vessel is 2600lts. The tank is designed and constructed in accordance with OFS T- 100 (OFCERT No. 0641099913).

- **Main Chemical Store Area**

  The main chemical store is an enclosed covered 4 IBC Bunded Chemical Store – purchased from Chemstore (Model 4IBC-P).

- **Spill Trays**

  There are six mobile bunds located throughout the site (Bund References 001-006) which were last integrity tested in 2013. These bunds are used to store materials supplied to the site in either drums or IB's.

- **Sludge reception bin**

  Reinforced mass concrete tank.

- **Quarantine Area**

  There is also a concrete bund (Bund Ref. 007) used for the quarantine of unsuitable waste. This was tested in 2013.

H.2 Waste Prevention

Describe in **Attachment Nº H.2** the arrangements for the prevention of waste in accordance with Part III of the Waste Management Act 1996, as amended. Describe what measures will be taken to prevent the generation of waste to the extent possible. State whether the installation has participated in any projects under the National Waste Prevention Programme.

Waste Prevention

Very little waste is generated at the site. What waste is produced is mainly from the following activities:

- office and canteen
- site maintenance activities
- construction works (when they occur)

Where waste is generated, recovery, reuse and recycling options are always investigated prior to a decision being taken on the only other option which is disposal.

H.3 Describe the arrangements for the recovery or disposal of solid and liquid wastes generated at the installation.

Applicants should ensure that information is provided for each waste generated at the installation under each of the following headings:

(a) Description & nature of waste
(b) Source
(c) European Waste Catalogue Code (Commission Decision 2000/532/EC, as amended)
(d) Animal by-product category per EC Reg. 1069/2009 where relevant
(e) Amount in tonnes per month
(f) Location and method of disposal or recovery (on-site or off-site)

The following information should also be provided where appropriate:
(g) Analysis of the waste (include test methods and Q.C.)
(h) Its location of storage and the manner by which the integrity/impermeability of storage areas is maintained
(i) Period or periods of generation of the waste

Where any waste would be classified as Hazardous Waste as defined in the Waste Management Act, 1996, as amended, this should be made clear in the information provided.

The Table H.3(i) should be completed with a single row for each waste generated at the installation. The table should be provided as part of **Attachment Nº H.3.**

For waste activities (class 11 of the First Schedule to the EPA Act 1992, as amended), do not repeat the information already sought in section D.2.3 of the application form and presented in Attachment D.2 of the application.

Facility operations generate small quantities of office and canteen type wastes. ERAS ECO Ltd implements a source segregation policy to maximise the recovery of potential recyclable materials from these wastes.

The plant and equipment are serviced by on-site and offsite maintenance personnel. Waste oils and batteries generated during maintenance are removed off-site for disposal/recovery at licensed treatment/recovery facilities.

The oil interceptors on the surface water drainage system are routinely cleaned and emptied and the contents removed off-site for disposal/treatment at an appropriately licensed facility.

The mixed MSW processing will generate various waste streams that will be sent offsite for recovery and recycling where possible or disposal if there are no other alternatives.

Table H.3(i) has been completed.

H.4 Waste hierarchy

Where waste is generated by the installation, describe in **Attachment № H.4** how it will be in order of priority in accordance with section 21A of the Waste Management Act 1996, as amended, prepared for re-use, recycling, recovery or where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment.

Section 29(2A) of the Waste Management Act 1996, as amended states that it shall be the duty of waste producers and holders to ensure that waste undergoes recovery operations in accordance with sections 21A and 32(1) of the Acts.

Describe how the waste hierarchy specified in article 21A of the Waste Management Act 1996, as amended, will be implemented at the installation. Describe how the waste generated at the installation will be managed in accordance with the waste hierarchy.

For waste whose generation cannot be prevented, describe what measures will be in place to ensure that waste is collected separately (if technically, environmentally and economically practicable) and will not be mixed with other waste or other material with different properties.

Chapter 2 of the EIS discusses the Planning Context and Policy for the existing and proposed development. Included is a discussion on the waste management hierarchy. The principle of MSW processing and sludge drying / stabilisation and anaerobic digestions is appropriate and fully in accordance with the Waste Hierarchy which seeks to prioritise reuse, recycling and energy recovery over waste disposal.

H.5 Waste recycling and recovery

Describe how the activities at the installation contribute to national targets for the recycling and recovery of waste, not least:

- the preparing for reuse and the recycling of paper, metal, plastic and glass; and
- the preparing for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the list of waste.

State whether and describe how food waste will be managed in accordance with the requirements, as may be relevant, of the Waste Management (Food Waste) Regulations 2009.

As referred to above, the operation generates small quantities of office and canteen type wastes. ERAS ECO Ltd implements a source segregation policy to maximise the recovery of potential recyclable materials from these wastes and minimise disposal.

The mixed MSW processing will generate various waste streams that will be sent offsite for recovery and recycling where possible or disposal if there are no other alternatives.

Brown bin waste, food waste segregated from the incoming MSW and arising in the canteen will be treated in the AD plant.

Supporting information should form **Attachment № H.5**.

SECTION I: EXISTING ENVIRONMENT & IMPACT OF THE ACTIVITY

Describe the conditions of the site of the installation.

Provide an assessment of the effects of any emissions on the environment, including on an environmental medium other than that into which the emissions are made.

Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

I.1.Assessment of atmospheric emissions

Describe the existing environment in terms of air quality with particular reference to ambient air quality standards.

Provide a statement as to whether or not emissions of main polluting substances (as defined in the Schedule of EPA (Industrial Emissions)(Licensing) Regulations 2013, S.I. No. 137 of 2013) to the atmosphere are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Attachment Nº I.1 should also contain full details of any dispersion modelling of atmospheric emissions from the activity, where required. When carrying out dispersion modelling, regard should be had to the EPA "Air Dispersion Modelling from Industrial installations Guidance Note (AG4)" or similar guidelines from a recognised authority.

Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

An assessment of the impact of the proposed development on air quality is presented in Attachment 1.1, which contains a report prepared by Odour Monitoring Ireland on odour and air quality impacts that included air dispersion modelling.

The current air quality and odour management controls and procedures will continue to be implemented. A new odour control unit (OCU) comprising an air extraction system and carbon filter will be provided to treat odours from the mixed MSW processing area in the Building 1.

Any main polluting substances (as defined in the Industrial Emissions (Licensing) Regulations (SI 137 of 2013)) will not impair the surrounding environment.

I.2. Assessment of Impact on Receiving Surface Water

Describe the existing environment in terms of water quality with particular reference to environmental quality objectives and standards and any objectives and standards laid down for protected areas. Table I.2(i) should be completed

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of EPA (Licensing)(Amendment) Regulations 2004, S.I. No. 394 of 2004) to water are likely to impair the environment.

Indicate whether or not the activity complies with the requirements of the EC Environmental Objectives (Surface Waters) Regulations 2009, S.I. No. 272 of 2009.

If the discharge is to water body that is already achieving high status, or if the discharge is to waters draining to the surface water bodies identified under the First Schedule of the *EC Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009*, compliance must be with the 95%ile **high** status limits.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment Nº I.2.**

For emissions outside emission limit established according to the combined approach, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting the upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits established in accordance with the combined approach.

An assessment of the impacts of the development on the water quality in Youghal Harbour is presented in Chapter 7 and Appendix 4 of the EIS.

At present, rainwater falling on the yards and roofs is collected and passed through oil interceptors and a retention tank. Some of the water is used in the wheel-wash and to backwash the filters in the on-site process WWTP, with the surplus discharged to the Irish Water combined sewer that outfalls to Youghal Harbour.

Sanitary wastewater is treated in the on-site proprietary wastewater treatment system(Puraflo©) before being discharged to the Irish Water foul sewer. The wash water from the wheel wash and condensate from the sludge drier is collected and treated in the on-site process WWTP and the treated water is discharged to the estuary. Surplus digestate from the anaerobic digesters will be treated in the on-site process WWTP before being discharged to the Irish Water combined sewer. In the longer term it is proposed to discharge the wastewater to the new Irish Water treatment plant when this has been constructed and commissioned.

The licence sets ELVs for the treated effluent and a maximum flow rate to ensure that it does not affect the water quality or ecosystems in the estuary. The licence also requires monitoring the quality of the treated water to ensure the WWTP is working properly.

The proposed changes will not affect the quality of the treated water discharged to the estuary and will have a neutral impact.

Any main polluting substances (as defined in the (Licensing)(Amendment) Regulations (SI 394 of 2004)) will not impair the surrounding environment.

The emissions to water are regulated by the existing licence and the monitoring specified in the licence is carried out. The ELVs comply with the requirements of the EC Environmental Objectives (Surface Water) Regulations (SI 272 of 2009).

I.3. Assessment of Impact of Sewage Discharge.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

With regard to Article 15 of the Industrial Emissions Directive (or Section 86A(8) of the EPA Act 1992, as amended), describe how the environment as a whole is provided an equivalent level of protection and will not lead to higher levels of pollution in the environment.

Full details of the assessment and any other supporting information should form **Attachment № I.3.**

At present there is no discharge to a sewage treatment plant. It is proposed to discharge the treated wastewater from the on-site proprietary sanitary wastewater treatment unit and the process WWTP to the new Irish Water Youghal Town treatment plant when this has been commissioned.

I.4 Assessment of Impact of Ground/Groundwater Emissions

Baseline Report

In the case of an activity that involves the use, production or release of relevant hazardous substances (as defined in section 3 of the EPA Act 1992 as amended), and having regard to the possibility of soil and groundwater contamination at the site of the installation, provide a baseline report in accordance with section 86B of the EPA Act 1992 as amended. Has the Agency indicated in pre-application discussions that a baseline report is required?

A baseline report shall contain the information necessary to determine the state of contamination of soil and groundwater at the time the report is drawn up in order that a quantified comparison may be made to the state of the site upon the permanent cessation of the industrial emissions directive activity.

Guidance in relation to baseline reports is available on the EPA website at www.epa.ie.

The Baseline Report should be included in **Attachment I.4** and clearly labelled as such.

The Baseline Report is in Attachment I.4.

Describe the existing groundwater quality. Tables I.4 (i) should be completed.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made. This includes lands preading, land injection etc.

An assessment of the impact of the impact of the development of the ground and groundwater is in Chapters 6 and 7 of the EIS.

The soils at the site comprise made ground overlying a gravely clay. The underlying bedrock is limestone. There are no current emissions to ground/groundwater. The proposed changes will only require minor disturbance of the ground and will not give rise to any new emissions to the ground and therefore there will be no impacts on soil.

Groundwater quality monitoring is carried out biannually in three on-site groundwater monitoring wells and the results are submitted to the Agency. The results indicate some contamination is present within the made ground in the vicinity of the site. The background groundwater quality within the area of the estuary is naturally poor due to saline intrusion.

The proposed changes will not result in any direct or indirect to groundwater and the impacts on will be imperceptible.

Land on which material may be land spread shall be identified on a suitable scaled map (1:10,560 and 1:50,000) and submitted as no greater than A3 size. All vulnerable (as a result of ground emissions) surface water bodies must be identified on these maps. Additional information should be included in **Attachment № I.4**.

Land spreading is not carried out within the licensed area.

Attachment № I.4 should also contain full details of any modelling carried out of the potential impact of emissions from the activity on groundwater.

Landspreading of Agricultural/Non Agricultural Wastes

Tables I.4(ii) and I.4.(iii) should be complete where applicable. Further information is available in the Application Guidance Document.

Table I.4 (i) has been completed.

I.5 Ground and/or Groundwater Contamination

Summary details of known ground and/or groundwater contamination, historical or current, on or under the site must be given.

The results of the groundwater quality monitoring indicate some contamination is present within the made ground in the vicinity of the site. The background groundwater quality within the area of the estuary is naturally poor due to saline intrusion.

Indicate whether or not compliance with the requirements of the EC Environmental Objectives (Groundwater) Regulations 2010, S.I. No. 9 of 2010 can be achieved.

The activity will not give rise to any direct or indirect discharge to ground or groundwater and will comply with the requirements of the EC Environmental Objectives (Groundwater) Regulations 2010, S.I. No. 9 of 2010 in relation to the prevention and limiting inputs of pollutants to groundwater.

Full details including all relevant investigative studies, assessments, or reports, monitoring results, location and design of monitoring installations, plans, drawings, documentation, including containment engineering, remedial works, and any other supporting information should be included in **Attachment № I.5**.

A description of the soil and groundwater conditions is in the Baseline Assessment in Attachment 1.4.

I.6 Assessment of the Environmental Impact of On-site Waste Recovery and/or Disposal.

Describe the arrangements for any on-site recovery and disposal of waste generated by the activity.

Give details and an assessment of the impact of any existing or proposed on-site waste recovery or disposal activities on the environment, including environmental media other than those into which the emissions are to be made.

This information should form **Attachment № I.6.**

The majority of the wastes accepted at the facility are processed and transferred for recovery, with a minority going forward for disposal. No wastes are disposed of at the site. A detailed assessment of the environmental impacts of the on-site waste processing activities is presented in the EIS that accompanies this application.

I.7 Noise Impact

Give details and an assessment of the impacts of any existing or proposed noise emissions on the environment, including environmental media other than those into which the emissions are to be made.

Ambient noise measurements

Complete Table I.7 (i) in relation to the information required below:

(i) State the maximum Sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)

(ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.

(iii) Give details of the background (or residual) noise levels experienced at the site in the absence of noise from this operation.

Prediction models, maps (no larger than A3), diagrams and supporting documents, including details of noise attenuation and noise proposed control measures to be employed, should form **Attachment № I.7.**

Noise Impact

An assessment of the noise impacts associated with the current facility and proposed changes is Chapter 11 and Appendix 6 of the EIS.

All waste processing is and will continue to be carried out either in doors or in fully enclosed units. Noise surveys carried out to assess the noise from the proposed changes have established that they will not cause an impact at the nearest residence, which is approximately 250m away. The proposed changes will have a neutral impact.

Table I.7(i) cannot be completed as the equipment proposed for the new development has not yet been ordered.

I.8 Environmental Considerations, Main alternatives and BAT

I.8a Describe in outline the main alternatives to the proposed technology, techniques and measures which were studied having regard to the reference document on Economic and Cross-media Effects.

I.8b Identify in the table below all relevant decisions on BAT Conclusions (Commission Implementing Decision (CID)), BAT reference document(s) (BREFs) and EPA BAT guidance document(s) having regard to the activities and processes proposed or carried out at the installation.

These documents are available on the European IPPC bureau website at http://eippcb.jrc.ec.europa.eu/reference/ and the EPA website www.epa.ie.

Title of Document
• Reference Document on Best Available Techniques for the Waste Treatments Industries August 2006 • Reference Document on Best Available Techniques for Energy Efficiency February 2009. • Reference Document on Best Available Techniques from Storage

1.8c In order to determine BAT for the installation, tabulate using table I.8(i) below, all of the BAT conclusions from the relevant decision on BAT Conclusions (CID) or where this has not been adopted by the Commission of the European Union, the conclusions on BAT from the relevant BAT reference documents (BREF). To assist you with this, some pre-populated template documents are available for download on the EPA website http://www.epa.ie/pubs/forms/lic/industrial%20emissions/

For each BAT, in Table I.8(i), state whether it is applicable to your installation and describe how each BAT applies or not to your installation and provide information on your compliance with the requirement.

It may be useful to first identify all the 'Not Applicable' BATs and provide your reasoning in the 'Applicability Assessment' box as to why you consider this particular BAT is not applicable at/to your entire installation having regard to the scope/ definitions, general considerations and the information on applicability. (You may need to make reference to relevant processes/activities or individual emission points to provide a comprehensive response).

For each applicable BAT, state the status; 'Yes', 'Will be' or 'No' as appropriate, the use of each of these terms is described below. Information on compliance in the 'Applicability Assessment' box should include, where applicable, the following:

(i) Identification of the relevant process/ activity or individual emission points that the BAT requirement applies to at your installation;
(ii) Where BAT is to use one or a combination of listed techniques, specify the technique(s) implemented/proposed at your installation to achieve the BAT;
(iii) In relation to emissions the emission level achieved at the installation under normal conditions as compared with the BAT associated Emission Levels (only applicable to decisions on BAT conclusions); and
(iv) A comment on how the requirements are being met or will be met, e.g., a description of the technology/operational controls/management proposed to meet the requirements.

Use of terms:

(a) 'Yes' – To be selected where the installation is currently compliant with this BAT requirement.

(b) 'Will be' – To be selected where a further technique is required to be installed to achieve compliance with the BAT requirement. In this case you must also specify the date by which the installation will comply with the BAT Conclusion requirement.

(c) 'No' – (only applicable to decisions on BAT Conclusions) To be selected where the achievement of emission level associated with BAT as described in a decision on BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to –
   (i) the geographical location or the local environmental conditions of the installation concerned, or
   (ii) the technical characteristics of the installation concerned.

   Note: By selecting 'No' to an applicable emission level associated with a BAT requirement you are required to provide a detailed assessment that includes the reason and justification, in accordance with the requirements of Section 86A(6) of the EPA Act 1992 as amended.

Please note the following:

I. Refer to the EPA BAT Guidance Note relevant to the sector for BAT associated emission levels in the circumstances where a relevant decision on BAT Conclusions has not been adopted by the European Commission i.e. no CID in place.

II. Where a decision on BAT conclusion or conclusion on BAT from a BAT reference document does not apply to activities/ processes or certain aspects of an installation, refer to the relevant EPA BAT Guidance Note(s) for the determination of BAT.

Refer to **Attachment No. I 8**.

I.8d Emerging Techniques

State whether you propose to test and use an 'emerging technique' in particular those identified in the BAT reference documents relevant to the activity:

☐ Yes ☒ No

If yes, describe your proposal and include in **Attachment Nº. I.8d.**

I.8e Other relevant conclusions on BAT

Please note that other reference documents may be relevant such as:
(a) BREF on Common waste water and waste gas treatment/management systems in the Chemical Sector;
(b) BREF on Emissions from Storage;
(c) BREF on Energy Efficiency;
(d) BREF on Industrial Cooling Systems;

Other documents that may be relevant:
(a) REF on Economic and Cross-media Effects;
(b) REF on Monitoring of Emissions from IED installations;
(c) Landfill Directive 1999/31/EC etc.

In this case tabulate using table I.8(i) below all the relevant BAT conclusions. Complete a separate table for each BREF and follow the instructions given above. To assist you with this, some pre-populated template documents are available for download on the EPA website http://www.epa.ie/pubs/forms/lic/industrial%20emissions/

Refer to I.8b above.

I.8f Describe any environmental considerations which have been made with respect to the use of cleaner technologies, waste minimisation and raw material substitution.

Refer to completed documents in **Attachment No. I8.**

I.8g Describe the measures proposed or in place to ensure that:

(a) The best available techniques are or will be used to prevent or eliminate or, where that is not practicable, generally reduce an emission from the activity;
(b) no significant pollution is caused;
(c) waste production is avoided in accordance with the waste hierarchy in Council Directive 98/2008/EC on waste and section 21A of the Waste Management Act 1996, as amended; where waste is produced, it is prepared for re-use, recycled or recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment (applicants should provide this information in the context of sections 29(2A), 32 and 38(5A) of the Waste Management Act 1996, as amended);
(d) energy and other resources are used efficiently;
(e) the necessary measures are taken to prevent accidents and limit their consequences;
(f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

Supporting information should form **Attachment No. I.8a to g.**

Table I.8 (i) CONCLUSIONS ON BAT (One table for each relevant BAT reference document)

Title of Document			
BAT reference Number	**BAT Statement**	**Applicability Assessment**	**State technique and whether it is in place or state schedule for implementation**
e.g. BAT 1	*BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features:….*	*Applicable*	*Standardised EMS in place*
Title of Document *e.g Emissions from storage BREF*			
5.1.1.2	*BAT is to cover open top tank by applying a floating cover, flexible or tent cover or a rigid cover*	*One open top tank on-site*	*Proposed to cover with floating cover in 2015*

Refer to completed documents in **Attachment No. I8.**

SECTION J: ACCIDENT PREVENTION & EMERGENCY RESPONSE

Describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.

Also outline what provisions have been made for response to emergency situations outside of normal working hours, i.e., during night-time, weekends and holiday periods.

Supporting information should form **Attachment № J.**

ERAS ECO Ltd has prepared an Accident Prevention Procedure and an Emergency Response Procedure.

SECTION K: REMEDIATION, DECOMMISSIONING, RESTORATION & AFTERCARE

Describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, including provision for post-closure care of any potentially polluting residuals.

There is an explicit requirement in EU and Irish law for financial provision for landfills and extractive waste facilities. For new activities subject to the requirements of the Landfill Directive (1999/31/EC) and the Extractive Waste Directive (2006/21/EC) that are not already licensed by the Agency, state whether the following have been prepared:

- an Environmental Liabilities Risk Assessment (ELRA);
- a Closure, Restoration and Aftercare Management Plan (CRAMP); and
- a proposal for Financial Provision that covers all liabilities identified in the ELRA and CRAMP.

Regard should be had by applicants to relevant Agency guidance on these matters.

Copies of any relevant documents and any supporting information should be included as Attachment No. K.

The Agency may prioritise other sectors (e.g. contaminated land, risk of waste facility closure liabilities, risk based on Seveso classification) and require the preparation of a proposal for financial provision before making a decision on a licence application. Applicants are advised to discuss the requirement for financial provision with the Agency prior to making an application.

Supporting information should be included as **Attachment No. K.**

As the site is currently licensed by the EPA there has been a requirement to complete the following documents:

- Residuals Management Plan (Condition 10)
- Environmental Liabilities Risk Assessment (Condition 12.3.2)
- Financial Provision (Condition 12.3.3)

CRAMP

The Closure, Restoration and Aftercare Management Plan (CRAMP) was completed in November 2007 by an external consultant (Q.E.D Engineering Ltd) and submitted to the Agecny. A copy of the CRAMP is in in **Attachment No. K**

ELRA

The Environmental Liabilities Risk Assessment (ELRA) was completed in 2007 by (Q.E.D Engineering Ltd and submitted to the Agency. copy of the ELRA is in **Attachment No. K**.

Financial Provision

The financial provision instrument used to cover the above identified costs is the site's Environmental Impairment Liability Insurance.

SECTION L: STATUTORY REQUIREMENTS

Indicate how the requirements of section 83(5)(*a*)(i) to (v) and (vii) to (xa) of the Act of 1992 shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3)(*b*) of that Act or any applicable best available techniques (BAT) conclusions adopted in accordance with Article 13(5) of the Industrial Emissions Directive and the reasons for the selection of the arrangements proposed.

Indicate whether or not the activity is carried out, or may be carried out, or is located such that it is liable to have an adverse effect on -
(a) a site placed on a list in accordance with Part 3 of S.I. 477 of 2011, or
(b) a site where consultation has been initiated in accordance with Article 5 of the EU Habitats Directive (92/43/EEC).

Undertake a screening for Appropriate Assessment 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 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, either individually or in combination with other plans or projects, will have a significant effect on a European Site, 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, provide a reasoned response.

Please refer to Natura Impact Statement included in **Attachment No. B6** that was completed as part of the EIS for the site**.**

Indicate whether or not the activity is liable to have an adverse effect on water quality in light of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009).

Ongoing water quality monitoring has found the quality of the rainwater run-off from the site to be good. The proposed changes will not affect the quality of the run-off.

Indicate whether or not the activity is liable to have an adverse effect on water quality in light of the European Communities Environmental Objectives (Ground Water) Regulations 2010 (S.I. No. 9 of 2010).

Ongoing monitoring of groundwater has not identified any adverse effects on groundwater quality. There are no proposed direct discharges to groundwater in relation to the proposed new activity.

Indicate whether any of the substances specified in the Schedule of the EPA (Industrial Emissions)(Licensing) 2013, S.I. No. 137 of 2013, are discharged by the activity to the relevant medium.

Emissions to Air

- Sulphur Dioxide
- Nitrogen Oxides
- Carbon Monoxide
- Particulates (PM10)

Emissions to Water (via Irish Water Combined Sewer)

- Metals and their compounds (Cadmium, Chromium, Copper, Lead & Zinc)

Indicate if the best environmental practices are in place for control of diffuse emissions from the installation as set out in the following legislation:

(a) a BAT Conclusions Implementing Decision published by the EC.

A BAT Conclusions Implementing Decision has not yet been published by the EC, however the BAT specified in BREF 08 2006 have been applied to the activity (refer to **Attachment No. I8**).

(b) a specification prepared by the Agency in accordance with Section 5 of the *Environmental Protection Agency Act 1992* as amended;

The practices described in the Agency's Draft Final BAT Guidance on the Waste Sector: Materials Recovery and Transfer have been applied in the design of the activity and in the proposed method of operation.

(c) the *Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001)* as amended by the *Urban Waste Water Treatment (Amendment) Regulations 2004 (S.I. No. 440 of 2004)* or any future amendment thereof;

The current licence authorises the discharge of treated effluent to the estuary and the requirements of the Urban Wastewater Treatment Regulations 2001 were taken into consideration. There are no proposed changes to the current ELVs.

(d) the *European Communities (Good Agricultural Practice for Protection of Waters) Regulations 20 (S.I. No. 610 of 2010)* or any future amendment thereof;

Not Applicable. The offsite landspreading of the treated sludge is undertaken by third party contractors and not directly by ERAS ECO Ltd. The contractors work within the guidelines issued under the Good Agricultural Practices for the Protection of Waters.

(e) the *Local Government (Water Pollution) Act, 1977 (Control of Cadmium Discharges) Regulations 1985 (S.I. No. 294 of 1985)*;

The licence specifies an ELV for cadmium in the treated effluent from the on-site WWTPT

(f) the *Local Government (Water Pollution) Act, 1977 (Control of Hexachlorocyclohexane and Mercury Discharges) Regulations 1986 (S.I. No. 55 of 1986)*;

Hexachlorocyclohexane is not used at the installation. The licence specifies an ELV for cadmium in the treated effluent from the on-site WWTPT.

(g) the *Local Government (Water Pollution) Acts, 1977 and 1990 (Control of Carbon Tetrachloride, DDT and Pentachlorophenol Discharges) Regulations 1994 (S.I. No. 43 of 1994)*; and,

Not Applicable.

(h) measures or controls identified in a pollution reduction plan for the river basin district prepared in accordance with Part V of the *EC Environmental Objectives (Surface Waters) Regulations 2009 S.I. No. 272 of 2009* for the reduction of pollution by priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances.

The installation is within the Blackwater Water Management Unit (WMU). One of the pressures on water quality is the Youghal Town Wastewater Treatment Plant. It is proposed to connect to the new Irish Water treatment plant serving Youghal Town when this is commissioned.

Supporting information should be included as **Attachment Nº L** with reference to where the information can be found in the application.

SECTION M: DECLARATION

Declaration

I hereby make application for a revised licence, pursuant to the provisions of the Environmental Protection Agency Act, 1992, as amended, and Regulations made thereunder.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website. This consent relates to this application itself and to any further information, submission, objection, or submission to an objection whether provided by me as Applicant or any person acting on the Applicant's behalf.

Signed by:_____ **Date:**_____
(on behalf of the organisation)

Print signature name:_____

Position in organisation:_____

Company stamp or seal:

ANNEX 1: TABLES/ATTACHMENTS

TABLE D.2(i) Waste Acceptance (type and quantities)

Rows should be added to the table as necessary.

EWC Code	Waste description (the actual description of the waste, not the text accompanying the EWC code)	Tonnes per annum (existing)	Tonnes per annum (proposed)
	Commercial, Industrial & Household Waste	**70,000**	**20,000**
02 01 04	Waste plastics from agriculture		
15 01 01	Paper & Cardboard Packaging		
15 01 02	Plastic Packaging		
15 01 04	Metal Packaging		
15 01 06	Mixed Packaging		
16 01 20	Glass		
17 05 04	Soils and stones other than those mentioned in 17 05 03		
17 09 04	Mixed construction and demolition wastes		
19 12 07	Wood other than that mentioned in 19 12 06		
20 01 02	Paper & Cardboard		
20 01 08	Canteen Waste		
20 01 38	Wood other than that mentioned in 20 01 37		
20 01 39	Plastics		
20 01 40	Metals		
20 02 01	Biodegradable Waste		
20 03 01	Mixed Municipal Waste		
20 03 07	Bulky Waste		

EWC Codes identified from Table 1 in the Waste Summary section of the 2013 and 2014 Annual Environmental Reports.

TABLE D.2(i) Waste Acceptance (type and quantities)

Rows should be added to the table as necessary.

EWC Code	Waste description (the actual description of the waste, not the text accompanying the EWC code)	Tonnes per annum (existing)	Tonnes per annum (proposed)
	Commercial, Industrial & Household Waste (Cont'd)		
19 12 01, 20 01 01	Paper & Cardboard		
07 02 13, 15 01 05, 17 02 03, 19 12 04	Plastic		
15 01 07, 17 02 02, 19 12 05	Glass		
02 01 10, 17 04 01, 17 04 02, 17 04 03, 17 04 04, 17 04 05, 17 05 06, 17 05 07, 17 04 11, 19 10 01, 19 10 02, 19 12 02, 19 12 03, 20 01 34	Metals & Non-metals		
15 01 09, 19 12 08, 20 01 10, 20 01 11	Textiles		
20 01 36	WEEE		
03 01 05, 03 03 01, 15 01 03, 17 02 01	Wood / Timber		
17 01 01, 17 01 02, 17 01 03, 17 01 07, 17 03 02, 17 05 06, 17 05 08, 17 06 04, 17 08 02, 19 12 08, 20 02 02	C&D		

TABLE D.2(i) Waste Acceptance (type and quantities) (Continued)

Rows should be added to the table as necessary.

EWC Code	Waste description (the actual description of the waste, not the text accompanying the EWC code)	Tonnes per annum (existing)	Tonnes per annum (proposed)
	Non Hazardous Sludge	**30,000**	**40,000**
02 02 04	Sludges from on-site effluent treatment		
02 07 04	Powders from Industrial Plants / Beverage Waste		
02 07 05	Sludge from Industrial Plants		
05 01 10	Sludge from Industrial Refining		
07 02 12	Sludge from on-site effluent treatment plant		
07 05 12	Sludge from Organic Chemical Processing		
10 13 04	Waste from thermal plants		
11 01 10	Waste sludge		
19 02 06	Filter cakes		
19 08 05	Sludge from treatment of urban wastewater		
19 09 02	Sludge from municipal water treatment plants		
19 09 04	WWTP Solids		
02 02 04, 02 03 05, 02 04 03, 02 05 02, 02 06 03, 03 03 11, 04 01 07, 04 02 20, 06 05 03, 07 01 12, 07 03 12, 07 04 12, 07 06 12, 07 07 12, 10 01 21, 10 12 13, 19 06 04, 19 06 06, 19 08 12, 19 08 14, 19 09 03, 19 09 06, 19 11 06, 19 12 12, 19 13 04, 19 13 06, 19 02 03, 19 12 10, 20 03 04			
	Leachate from Landfills	**10,000**	**5,000**
19 07 03	Landfill leachate		

TABLE D.3(III) LINER SYSTEM

NOT APPLICABLE

	y/n
Provide information in Attachment D.3 to fulfil Annex 1 of the Landfill Directive	
Is the type of liner system specified?	
Has a Quality Control Plan been specified?	
Has a Quality Assurance Plan been specified?	
Has independent, third-party supervision, testing and controls been specified?	
Have basal gradients for all cells and access ramps to the cells been designed?	
Has a leak detection system been specified?	

TABLE D.3(IV) LEACHATE MANAGEMENT ARRANGEMENTS

NOT APPLICABLE

	y/n
Is there a Leachate Management Plan?	
Have annual quantities of leachate been calculated?	
Has the total quantity of leachate been calculated?	
Has the size of the cells been specified taking account of the water balance calculations?	
Has a leachate collection system been specified?	
Has a leachate storage system been specified?	
Has a system for monitoring the level of leachate in the waste been designed?	
Is leachate recirculation proposed/practised?	
Has leachate treatment on-site been specified?	
Has leachate removal been specified?	

Table D.3(v)a. Landfill Gas Management

Not Applicable

	y/n
Is there a Landfill Gas Management Plan?	
Is there a passive venting system?	
Does the passive system cover all of the filled area?	
Have gas alarm systems been installed in the site buildings?	
Have measures been installed to prevent landfill gas migration (e.g. barriers)?	
Has a time-scale been proposed for the installation of landfill gas infrastructure?	
Is gas flaring undertaken at the site?	
Is there an active (i.e., pumped) landfill gas extraction system?	
Does the active system cover all of the filled area?	
Is landfill gas used to generate energy at the site?	
Have emissions from the flarestack and utilisation plant been assessed for source, composition, quantity and level and rate? See section F of the application form for requirements.	

Has a maintenance programme for the control system been specified?	
Has a condensate removal system been designed?	

Table D.3(v)b Landfill Gas Monitoring for existing landfill gas flares and utilisation plants

Not Applicable

Parameter	Concentration (mg/Nm^3)	Frequency of Analysis	Method of Analysis
Inlet			
Methane (CH_4) % v/v			
Carbon dioxide (CO_2) %v/v			
Oxygen (O_2) % v/v			
Outlet			
Volumetric Flow Rate			
SO_2			
Nox			
CO			
Particulates			
TA Luft Class I, II, III organics			
Hydrochloric acid			
Hydrogen Fluoride			

Table D.3(v)c Landfill Gas Monitoring

Not Applicable

Parameter	Proposed Frequency of Analysis		Method of Analysis
	Gas boreholes, vents, wells and perimeter locations	**Installation Office**	
Methane (CH_4) % v/v			
Carbon Dioxide (CO_2) % v/v			
Oxygen (O_2) % v/v			
Atmospheric Pressure			
Temperature			

Table D.3(v)d Landfill Gas Infrastructure

Not Applicable

Equipment	Monitoring Frequency	Monitoring Action
Gas Collection System		
Gas Control System		

Table D.3(vi) Capping System

Not Applicable

	y/n
Has the daily cover been specified?	
Has the intermediate cover been specified?	
Has the temporary capping been specified?	
Has the Capping System been designed and does it meet the requirements of the Landfill Directive Annex 1 (3.3)?	
Does the Capping System include a flexible membrane liner?	
Have all capping materials been specified?	
Has a Method Statement for construction been produced?	
Has a Quality Control Plan been produced?	
Has a Quality Assurance Plan been produced?	
Has a programme for monitoring landfill stability been developed?	
Has a programme for monitoring landfill settlement been developed?	

Table E.1 (i) BOILER EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point:

Emission Point Ref. Nº:	A1	
Location:	Sludge Dryer Boiler Stack	
Grid Ref. (12 digit, 6E,6N):	209710E, 079775 N	
Vent Details	Diameter: 0.8 m	Height above Ground(m): 16.5 m
Date of commencement of emission:		

Characteristics of Emission:

Boiler rating Steam Output: Thermal Input:			**3.5** MW
Boiler fuel Type: Maximum rate at which fuel is burned % sulphur content:			**Wood and backed up with low sulphur diesel fuel.** kg/hr
NOx			**250** mg/Nm^3 0ºC. 3% O_2(Liquid or Gas), 6% O_2(Solid Fuel)
Maximum volume* of emission			**11,600** m^3/hr 0ºC, 3 % O_2 (liquid or gas), 6 % O_2 (solid fuel)
Minimum efflux velocity			**12** m.sec^{-1}
Temperature	**250** ºC(max)	**180**ºC(min)	**230** ºC(avg)

* Volume flow limits for emissions to atmosphere shall be based on Normal conditions of temperature and pressure, (i.e. 0ºC,101.3kPa), dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included):*

Periods of Emission (avg)	**60** min/hr **24** hr/day **351** day/yr

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. Nº:	A2
Source of Emission:	Biofilter
Location:	WWTP Area
Grid Ref. (12 digit, 6E,6N):	209708E, 079819N
Vent Details Diameter: Height above Ground(m):	 0.22 m 2.75 m
Date of commencement:	2007

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	Nm^3/d	Maximum/day	**36,000** Nm^3/d
Maximum rate/hour	**1,500** Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	ºC(max)	ºC(min)	ºC(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

Emission Point Ref. Nº:	A3
Source of Emission:	Odour Control Unit
Location:	Materials Recovery Building & AD Plant
Grid Ref. (12 digit, 6E,6N):	209652E, 079780N
Vent Details Diameter: Height above Ground(m):	 0.80 m 15 m
Date of commencement:	

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	Nm^3/d	Maximum/day	29,980 Nm^3/d
Maximum rate/hour	Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	ºC(max)	ºC(min)	ºC(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

Emission Point Ref. Nº:	A4
Source of Emission:	CHP Plant
Location:	
Grid Ref. (12 digit, 6E,6N):	
Vent Details Diameter: Height above Ground(m):	
Date of commencement:	

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	Nm^3/d	Maximum/day	Nm^3/d
Maximum rate/hour	Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	ºC(max)	ºC(min)	ºC(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A1***

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Nitrogen Oxides (as NO_2)		250		4.64	Not Applicable		250		2.9		1,017.9
Carbon Monoxide		150		2.32	Not Applicable		150		1.74		610.74
Particulates		1000		11.6	Bag Filter		20		0.232		81.43

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A2***

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Ammonia Organics Hydrogen Sulphide Mercaptons Amines					Biofilter						

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A3***

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Ammonia Organics Hydrogen Sulphide Mercaptons Amines					Biofilter						

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A4***

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions

Not Applicable

Emission point Reference Numbers	Description	Emission details[1]				Abatement system employed
		material	mg/Nm 3(2)	kg/h.	kg/year	

1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.
2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

TABLE E.1(v): EMISSIONS TO ATMOSPHERE – Fugitive and Potential atmospheric emissions

Not Applicable

Emission point ref. no. (as per flow diagram)	Description	Malfunction which could cause an emission	Emission details (Potential max. emissions)[1]		
			Material	mg/Nm^3	kg/hour

[1] Estimate the potential maximum emission for each malfunction identified.

TABLE E.2(i): EMISSIONS TO SURFACE WATERS (One page for each emission)

Not Applicable

Emission Point:

Emission Point Ref. №:	
Source of Emission:	
Location of discharge :	
Grid Ref. (12 digit, 6E,6N):	
Name of receiving waters and water body code:	
Flow rate in receiving waters:	_____$m^3.sec^{-1}$ Dry Weather Flow _____$m^3.sec^{-1}$ 95%ile flow
Available assimilative capacity:	kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)

Emission point reference number: ***Not Applicable***

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

TABLE E.3(i): EMISSIONS TO SEWER (One page for each emission)

Emission Point:

Emission Point Ref. №:	SE 1
Location of connection to sewer:	
Grid Ref. (12 digit, 6E,6N):	209701E, 079869 N
Name of sewage undertaker:	Cork County Council

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	**170** m^3
Maximum rate/hour	**7** m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	**60** min/hr **24** hr/day **365** day/yr

TABLE E.3(i): EMISSIONS TO SEWER (One page for each emission)

Emission Point:

Emission Point Ref. №:	SW 1
Location of connection to sewer:	Monitoring Location (Connection to Sewer is at SE 1)
Grid Ref. (12 digit, 6E,6N):	209691E, 079865N
Name of sewage undertaker:	Cork County Council

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		**Dependent on Rainfall**

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):* **Dependent on Rainfall**

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number: ***SE 1***

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Temperature					25°C (max)				
pH					6.0 – 8.5				
BOD					20		3.4	1,241	
COD					125		21.25	7,756	
Suspended Solids					35		5.95	2,172	
Total Nitrogen (as N)					10		1.7	621	
Sulphate					100		17	6,205	
Ammonia (as N)					0.5		0.085	31.03	
Total Phosphorus (as P)					1.0		0.17	62.05	
Cyanide					0.01		0.0017	0.62	
VOC					0.05		0.0085	3.10	
Semi VOC					0.05		0.0058	3.10	

TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number: ***SE 1 (Cont'd)***

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Lead					0.005		0.0009	0.31	
Zinc					0.1		0.017	6.21	
Copper					0.03		0.0051	1.862	
Cadmium (Total)					0.005		0.0009	0.31	
Arsenic (Total)					0.02		0.0034	1.241	
Chromium					0.015		0.0026	0.931	
Nickel					0.025		0.0043	1.551	
Faecal Coliforms (FC)					<250 FC/100mls				

Based on existing emission limit values identified in Schedule B.4 of the Waste Licence.

TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number: ***SW 1***

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Temperature					25°C (max)				
pH					6.0 – 8.5				
Conductivity					No existing limit				
Suspended Solids					No existing limit		Dependent on Rainfall		

TABLE E.4(i): EMISSIONS TO GROUND (1 Page for each emission point)

Not Applicable

Emission Point or Area:

Emission Point/Area Ref. Nº:	
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (12 digit, 6E,6N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.4(ii): EMISSIONS TO GROUND - Characteristics of the emission (1 table per emission point)

Not Applicable

Emission point/area reference number: _____

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

Table E.5(i): NOISE EMISSIONS - Noise sources summary sheet

Not possible to complete as equipment items not yet ordered.

Source	Emission point Ref. No	Equipment Ref. No	Sound Pressure[1] dBA at reference distance	Octave bands (Hz) Sound Pressure[1] Levels dB(unweighted) per band									Impulsive or tonal qualities	Periods of Emission[2]
				31.5	63	125	250	500	1K	2K	4K	8K		

1. For items of plant, sound power levels may be used.
2. Periods of emission should state if the plant item in question operates on a continuous or intermittent basis. If intermittent then further details of the hours of operation and any potential impulsive components associated with the source should be clearly identified.

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

Emission point reference number: ***A1***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
Bag Filter Integrity	Differential Pressure	Manometer	Appropriate spares held on-site
Air Flow	Pitot tube / flow meter	Filter	
	Visual Inspection	Fan	

[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: ***A2***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
Intake Air	Weekly	Fan/Motor/Belt Assembly	Appropriate Spares held on-site
Differential Pressure	Weekly	Manometer	
Gas Loading	Weekly	Flowmeter	
Fan Operation	Daily	Visual Inspection	
Sprinkler System	Daily	Visual Inspection	
Visual Inspection of Bed	Weekly	Visual Inspection	
pH Return Water	Monthly	Standard Method	
Bed Material – Moisture	Biannually	Standard Method	

[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: ***A3***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
Carbon Filter Integrity	Differential Pressure	Manometer	Appropriate spares held on-site
Air Flow	Flow Rate	Pitot tube / flow meter	
	Visual Inspection	Fan	

[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: ***A4***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
Combustion Temperature	Temperature	Thermometer	Appropriate spares held on-site
Air Flow	Flow Rate	Pitot tube / flow meter	
	Visual Inspection	Fan	

[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: ***SE 1***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up
pH	Continuous	pH meter with recorder	Appropriate equipment is held on-site for standby / spares.
Temperature	Continuous	Temperature probe with recorder	
Flow	Continuous	Flow meter with recorder	
Effluent pH	Continuous	IBC level sensor	
Neutralisation (to pH >6.8)		Caustic soda dosing pump Condensate feed pump with low level protection	
Urea Dosing		IBC level sensor Urea dosing pump	
Anoxic Zone		Submersible mixer	
Blowers		Pressure switch Temperature switch	
MBR Tank (membrane filtration)		Level probe Level sensor Flow meter	
Final permeate pumping		Submersible Pump	
Others			

[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: ***SW 1***

Control[1] parameter	Monitoring to be carried out[2]	Equipment [3]	Equipment back-up

[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.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **A1**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
NOx	Quarterly	Accessible		Flue Gas Analyser
CO	Quarterly	Accessible		Flue Gas Analyser
Particulates	Quarterly	Accessible		Isokinetic / Gravimetric
SOx	Quarterly	Accessible		Flue Gas Analyser

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **A2**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Ammonia	Biannually	Accessible		Colorimetric Indicator Tube
Organics	Biannually	Accessible		Adsorbent tubes and pumps/GC
Hydrogen Sulphide	Biannually	Accessible		Colorimetric Indicator Tube
Mercaptons	Weekly	Accessible		Colorimetric Indicator Tube
Amines	Biannually	Accessible		NIOSH Method 2010

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **A3**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **A4**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **SE 1**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Flow	Continuous	Accessible		On-line flow meter with recorder
Temperature	Weekly			Temperature probe
pH	Weekly			pH electrode/meter
Biological Oxygen Demand	Monthly		24 hr Composite	Standard Method
Chemical Oxygen Demand	Weekly		24 hr Composite	Standard Method
Suspended Solids	Weekly		24 hr Composite	Gravimetric
Total Nitrogen (as N)	Quarterly		24 hr Composite	Standard Method
Sulphate	Quarterly		24 hr Composite	Standard Method
Total Phosphate	Biannually		24 hr Composite	Standard Method
Cyanide	Biannually		24 hr Composite	Standard Method
Mercury	Biannually		24 hr Composite	Standard Method
VOC	Quarterly		24 hr Composite	Standard Method
Semi VOC	Quarterly		24 hr Composite	Standard Method
Metals (Pb, Zn, Cu, Cd, As, Cr, Ni)	Annually		24 hr Composite	AA / ICP
Faecal Coliforms	Quarterly		24 hr Composite	Standard Method
Toxicity (if required)	When Required		24 hr Composite	Agree with Agency

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Emission Point Reference No. : **SW 1**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Visual	Daily	Accessible	Grab	Sample and examine for colour and odour
Temperature	Quarterly	Accessible	Grab	Temperature Probe
pH	Quarterly	Accessible	Grab	pH electrode/meter
Conductivity	Quarterly	Accessible	Grab	Conductivity meter
Suspended Solids	Quarterly	Accessible	Grab	Standard Method

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Monitoring Point Reference No: **D3**

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
Dust Deposition	3 times a year	Accessible		Bergerhoff gauge / Gravimetric

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Monitoring Point Reference No: **Site Boundaries**

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
Odour	Daily	Accessible		Sniff Test

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Monitoring Point Reference No:_____**MW 1**_____

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
pH	Biannually	Accessible	Grab	pH electrode / meter
Conductivity				Conductivity Meter
COD				Standard Method
Diesel Range Organics				Standard Method
Petrol Range Organics				Standard Method
Nitrate				Standard Method
Total Ammonia				Standard Method
Chloride				Standard Method
Cadmium				Standard Method
Cobalt				Standard Method
Iron				Standard Method
Manganese				Standard Method
Arsenic				Standard Method
Organohalogens				GC-MS

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Monitoring Point Reference No:_____**MW 2**_____

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
pH	Biannually	Accessible	Grab	pH electrode / meter
Conductivity				Conductivity Meter
COD				Standard Method
Diesel Range Organics				Standard Method
Petrol Range Organics				Standard Method
Nitrate				Standard Method
Total Ammonia				Standard Method
Chloride				Standard Method
Cadmium				Standard Method
Cobalt				Standard Method
Iron				Standard Method
Manganese				Standard Method
Arsenic				Standard Method
Organohalogens				GC-MS

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

Monitoring Point Reference No: **MW 3**

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
pH	Biannually	Accessible	Grab	pH electrode / meter
Conductivity				Conductivity Meter
COD				Standard Method
Diesel Range Organics				Standard Method
Petrol Range Organics				Standard Method
Nitrate				Standard Method
Total Ammonia				Standard Method
Chloride				Standard Method
Cadmium				Standard Method
Cobalt				Standard Method
Iron				Standard Method
Manganese				Standard Method
Arsenic				Standard Method
Organohalogens				GC-MS

Table G.1(i) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. Nº or Code	Material/ Substance[1]	CAS Number	Danger[2] Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	R[3] - Phrase	S[3] - Phrase	Hazard Statement [4]
100	**Diesel**	68334-30-5	Carc Cat 3, Xn		328,068 litres	Fuel	R40-65	S2-24-36/37-43-62	None
101	**Hydraulic/ Engine oil**	Mixture 64741–89–5 64741–88–6474–54–7 64749–42-3							None
		.							

Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. Article 2(2) of S.I. No. 116/2003.
3. Schedules 9 and 10 of S.I. No. 62/2004 (as amended by S.I. No. 271/2008)
4. EC Regulation 1272/2008 (Chemicals Act 2008 (13 of 2008) and 2010)

Table G.1(ii) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. Nº or Code	Material/ Substance	Odour			Pollutants (Tick and specify Group/Family Number)				Controlled Substances	Relevant hazardous substance (3)
		Odourous Yes/No	Description	Threshold µg/m³	EC EO (Surface Waters) Regulations 2009		EC EO Groundwater) Regulations 2010		REACH SVHC(2)	y/n
					Specific pollutants	Priority (hazardous) substances	Hazardous[1]	Non-hazardous[1]		
100	**Diesel**	Yes	Characteristic	N/A	N/A	N/A	Haz			

Note 1: The EPA Classification of Hazardous and Non-Hazardous Substances in Groundwater, December 2010.

Note 2: Where relevant, specify whether the substance is on the Authorisation List (Annex XIV Regulation (EC) No 1907/2006 as amended) or Restriction List (Annex XVII Regulation (EC) No 1907/2006 as amended). Also, indicate whether the use has been authorised or exempted in accordance with Regulation (EC) No 1907/2006 as amended.

Note 3: Relevant hazardous substances are those substances or mixtures defined within Article 3 of Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater.

TABLE H.3(i): Generation of waste at the installation and its management

Waste description	EWC Code (use asterisk to indicate whether hazardous waste or not)	Category per Animal By-products Regulation 1069/2009	Source of waste	Quantity generated (tonnes per month)	Location of recovery of disposal (on-site, off-site, exported)	Method of recovery or disposal (e.g. recycling, energy recovery, other incineration, landfill)
Plastic Packaging	15 01 02		On-site processing of waste		Offsite, Leinster Environmentals	R3
Mixed Municipal	20 03 01		On-site processing of waste		Offsite, Greenstar Recycling	D1
Plastics (except packaging)	02 01 04		On-site processing of waste		Exported, CEDO Recycling	R5
Plastics (except packaging)	02 01 04		On-site processing of waste		Exported, British polythene	R5
Plastics (except packaging)	02 01 04		On-site processing of waste		Exported, Waste Recovery Services	R13
Materials unsuitable for processing	02 07 04		On-site processing of waste		Offsite, Ormonde Organics	R3
Boiler Dust	10 01 01		On-site processing of waste		Offsite	D1
Paper & Cardboard Packaging	15 01 01		On-site processing of waste		Offsite, Cork Recycling Co.	R12
Plastic Packaging	15 01 02		On-site processing of waste		Offsite, Cork Recycling Co.	R12
Plastic Packaging	15 01 02		On-site processing of waste		Offsite, Filmco Ltd	R3
Mixture of C&D waste	17 01 07		On-site processing of waste		Offsite, Scariff Plant Hire	D1
Aluminium	17 04 02		On-site processing of waste		Offsite, Pouladuff Car Dismantlers	R4

TABLE H.3(i): Generation of waste at the installation and its management

Waste description	EWC Code (use asterisk to indicate whether hazardous waste or not)	Category per Animal By-products Regulation 1069/2009	Source of waste	Quantity generated (tonnes per month)	Location of recovery of disposal (on-site, off-site, exported)	Method of recovery or disposal (e.g. recycling, energy recovery, other incineration, landfill)
Treated Sludges	19 08 05		On-site processing of sludge		Offsite, Approved Landbanks	D2
Sludge	19 08 12		On-site processing of sludge		Offsite, Lagan Cement	R1
Sludge	19 08 12		On-site processing of sludge		Export, Remondis	R1
Sludge	19 08 12		On-site processing of sludge		Offsite, Rilta Environmental	R1
Wood	19 12 07		On-site processing of waste		Offsite, Doheny Waste	R13
Wood	19 12 07		On-site processing of waste		Offsite, Waste Recovery Services	R13
Wood	20 01 38		On-site processing of waste		Offsite, Waste Recovery Services	R13
Plastics	20 01 39		On-site processing of waste		Offsite, Waste Recovery Services	R13
Metals	20 01 40		On-site processing of waste		Offsite, Pouladuff Car Dismantlers	R4
Metals	20 01 40		On-site processing of waste		Offsite, Cork Metal	R4
Metals	20 01 40		On-site processing of waste		Offsite, Hammond Lane	R4
Biodegradable Waste	20 02 01		On-site processing of waste		Offsite, Cremins Compost	R3

TABLE H.3(i): Generation of waste at the installation and its management

Waste description	EWC Code (use asterisk to indicate whether hazardous waste or not)	Category per Animal By-products Regulation 1069/2009	Source of waste	Quantity generated (tonnes per month)	Location of recovery of disposal (on-site, off-site, exported)	Method of recovery or disposal (e.g. recycling, energy recovery, other incineration, landfill)
Mixed Municipal Waste	20 03 01		On-site processing of waste		Offsite, Greenstar Recycling	R13
Mixed Municipal Waste	20 03 01		On-site processing of waste		Offsite, Limerick Co. Co.	R13
Mixed Municipal Waste	20 03 01		On-site processing of waste		Offsite, Thornton Waste	R13
Mixed Municipal Waste	20 03 01		On-site processing of waste		Offsite, Waste Recovery Services	R13
Bulky Waste	20 03 07		On-site processing of waste		Offsite, Greenstar Recycling	R13
Bulky Waste	20 03 07		On-site processing of waste		Offsite, Thornton Waste	R13
Bulky Waste	20 03 07		On-site processing of waste		Offsite, Waste Recovery Services	R13

Note:

It is not possible to identify the quantity generated per month as it depends on the waste quantities brought to site for processing. The locations identified for offsite recovery / disposal sites are based on the 2014 PRTR information. The final destinations can change on an annual basis.

Table I.2(i) SURFACE WATER QUALITY

(Sheet 1 of 2) Monitoring Point/ Grid Reference: No monitoring of the Lower River Blackwater is undertaken by ERAS ECO Ltd.

Parameter	Results (mg/l)				Sampling method[2] (grab, drift etc.)	Normal Analytical Range[2]	Analysis method / technique
	Date	Date	Date	Date			
pH							
Temperature							
Electrical conductivity EC							
Total Ammonia as N							
Chemical oxygen demand							
Biochemical oxygen demand							
Dissolved oxygen DO							
Orthophosphate as P							
Nitrate as N							
Nitrite as N							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							

Surface Water Quality (Sheet 2 of 2)

No monitoring of the Lower River Blackwater is undertaken by ERAS ECO Ltd.

Parameter	Results (mg/l)				Sampling method (grab, drift etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Nickel Ni							
Potassium K							
Sodium Na							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Nitrite NO_2							
Nitrate NO_3							
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Phosphate PO_4							

Table I.4(i) GROUNDWATER QUALITY
(Sheet 1 of 2) Monitoring Point/ Grid Reference: **MW 1 NB. Monitoring well numbers not presented in the analysis results – only descriptions of where they are located. Made assumptions based on Figure 7.3 of EIS**

Parameter	Results (mg/l)				Sampling method (composite etc.)	Normal Analytical Range	Analysis method / technique
	28/3/14	11/11/14	Date	Date			
pH	7.22	7.14					APHA-4500-H+-B
Temperature							
Electrical conductivity EC	681	576					APHA - 2510 - B
Total Ammonium as N	1.82	0.1					APHA -4500-NH3-D
Nitrite as N							
Nitrate as N							
Orthphosphate as P							
Dissolved oxygen DO							
Residue on evaporation (180°C)							
Aluminium Al							
Arsenic As	<0.01	<0.001					APHA - 3120 - B
Boron B							
Calcium Ca							
Cadmium Cd	<0.01	<0.0006					APHA - 3120 - B
Chromium Cr							
Chloride Cl	35.231	35.8					APHA - 4110 - B
Copper Cu							
Cyanide Cn, total							
Iron Fe	<0.001	2					APHA - 3120 - B
Lead Pb							
Magnesium Mg							
Manganese Mn	<0.001	0.113					APHA - 3120 - B
Mercury Hg							
Nickel Ni							
Potassium K							
Sodium Na							

Sulphate SO_4							

GROUNDWATER QUALITY (SHEET 2 OF 2) MW 1 **NB. Monitoring well numbers not presented in the analysis results – only descriptions of where they are located. Made assumptions based on Figure 7.3 of EIS**

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	28/3/14	11/11/14	Date	Date			
Phosphate PO_4							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Arsenic As							
Barium Ba							
Boron B							
Fluoride F							
Phenol							
Phosphorus P							
Selenium Se							
Silver Ag							
Nitrite NO_2							
Nitrate NO_3	27.411	23.9					APHA - 4110 - B
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Water level (m OD)							

Table I.4(i) GROUNDWATER QUALITY
(Sheet 1 of 2) Monitoring Point/ Grid Reference: **MW 2 NB. Monitoring well numbers not presented in the analysis results – only descriptions of where they are located. Made assumptions based on Figure 7.3 of EIS**

Parameter	Results (mg/l)				Sampling method (composite etc.)	Normal Analytical Range	Analysis method / technique
	28/3/14	11/11/14	Date	Date			
pH	6.63	6.37					APHA-4500-H+-B
Temperature							
Electrical conductivity EC	9.06	809					APHA - 2510 - B
Total Ammonium as N	1.94	0.5					APHA -4500-NH3-D
Nitrite as N							
Nitrate as N							
Orthphosphate as P							
Dissolved oxygen DO							
Residue on evaporation (180°C)							
Aluminium Al							
Arsenic As	<0.01	0.006					APHA - 3120 - B
Boron B							
Calcium Ca							
Cadmium Cd	<0.01	<0.0006					APHA - 3120 - B
Chromium Cr							
Chloride Cl	42.6	35.1					APHA - 4110 - B
Copper Cu							
Cyanide Cn, total							
Iron Fe	0.033	15.9					APHA - 3120 - B
Lead Pb							
Magnesium Mg							
Manganese Mn	0.189	3.32					APHA - 3120 - B
Mercury Hg							
Nickel Ni							
Potassium K							

Sodium Na							
Sulphate SO_4							

GROUNDWATER QUALITY (SHEET 2 OF 2) MW 2 **NB. Monitoring well numbers not presented in the analysis results – only descriptions of where they are located. Made assumptions based on Figure 7.3 of EIS**

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	28/3 /14	11/11 /14	Date	Date			
Phosphate PO_4							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Arsenic As							
Barium Ba							
Boron B							
Fluoride F							
Phenol							
Phosphorus P							
Selenium Se							
Silver Ag							
Nitrite NO_2							
Nitrate NO_3	<0.01	0.3					APHA - 4110 - B
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Water level (m OD)							

Table I.4(i) GROUNDWATER QUALITY
(Sheet 1 of 2) Monitoring Point/ Grid Reference: **MW 3 Deep and Shallow**

Parameter	Results (mg/l)				Sampling method (composite etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
pH							
Temperature							
Electrical conductivity EC							
Total Ammonium as N							
Nitrite as N							
Nitrate as N							
Orthphosphate as P							
Dissolved oxygen DO							
Residue on evaporation (180°C)							
Aluminium Al							
Arsenic As							
Boron B							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Cyanide Cn, total							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							
Nickel Ni							
Potassium K							
Sodium Na							
Sulphate SO_4							

GROUNDWATER QUALITY (SHEET 2 OF 2) MW 3 **Deep and Shallow**

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Phosphate PO_4							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Arsenic As							
Barium Ba							
Boron B							
Fluoride F							
Phenol							
Phosphorus P							
Selenium Se							
Silver Ag							
Nitrite NO_2							
Nitrate NO_3							
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Water level (m OD)							

TABLE I.4(ii): LIST OF OWNERS/FARMERS OF LAND

Land Owner	Townlands where landspreading	Map Reference	Fertiliser P requirement for each farm
			*NMP must take account of on-farm slurry

Total P requirement of the client List _____

TABLE I.4(ii): LANDSPREADING

Land Owner/Farmer_____

Map Reference_____

Field ID	Total Area (ha)	(a) Usable Area (ha)	Soil P Test Mg/l	Date of P test	Crop	P Required (kg P/ha)	Volume of On-Farm Slurry Returned (m^3/ha)	Estimated P in On-Farm Slurry (kg P/ha)	(b) Volume to be Applied (m^3/ha)	P Applied (kg P/ha)	Total Volume of imported slurry per plot (m^3)

TOTAL VOLUME THAT CAN BE IMPORTED ON TO THE FARM:

Concentration of P in landspread material	- kg P/m^3
Concentration of N in landspread material	- kg N/m^3

Table I.7(i): AMBIENT & BACKGROUND NOISE ASSESSMENT

Need to carry out an assessment for tonal and impulsive noise[1]

	National Grid Reference (6N, 6E)	Sound Pressure Levels (dB)					
		L_{Aeq}		L_{A10}		L_{A90}	
		Ambient	Background[2]	Ambient	Background[2]	Ambient	Background[2]
1. SITE BOUNDARY [3]							
Location 1:							
Location 2:							
Location 3:							
Location 4:							
2. NOISE SENSITIVE LOCATIONS [3]							
Location 1:							
Location 2:							
Location 3:							
Location 4:							

1. Refer to section 5 of the Agency's *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012).
2. Background noise levels should be determined in the absence of site specific noise. Where an installation is operational on a 24hr basis, estimates may be given for background noise levels, but this should be noted.
3. All locations should be identified on accompanying drawings.

ANNEX 2: CHECKLIST FOR Regulation 9 COMPLIANCE

Regulation 9 of the Environmental Protection Agency (Industrial Emissions)(Licensing) Regulations, 2013 sets out the statutory requirements for information to accompany a licence application. The Application Form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Regulation 9. In order to ensure a legally valid application in respect of Regulation 9 requirements, all Applicants should complete the following checklist and submit it with the completed Application Form.

Regulation 9(2)		**Section in Application**	**Checked by Applicant ✓**
(a)	Give:		
	(i) the name, address and telephone number of the applicant and, if different, any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,	**B1**	√
	(ii) The location or postal address (including, where appropriate, the name of the relevant townland or townlands) of the premises to which the activity relates,	**B1**	√
	(iii) The name of the planning authority in whose functional area the activity is or will be carried on, and	**B6**	√
	(iv) In the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or b which it is controlled	**B7**	√
(b)	give -		
	(i) in the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or	**B5**	√

Regulation 9(2)		Section in Application	Checked by Applicant ✓
	(ii) in any other case, the gross capital cost of the activity to which the application relates,	**Not Applicable (N/A)**	
(c)	specify the relevant class or classes in the First Schedule to the Act to which the industrial emissions directive activity relates,	**B3**	✓
(d)	In accordance with Section 87(1B)(a) of the EPA Act of 1992, as amended in the case where an application for permission for the development comprising or for the purposes of the industrial emissions directive activity to which the application for the licence relates is currently under consideration by the planning authority concerned or An Bord Pleanála, a written confirmation from the planning authority or An Bord Pleanála, as appropriate, of that fact together with either: (i) a copy of the environmental impact statement, 2 hard copies and 2 electronic copies or in such form as may be specified by the Agency, that was required to be submitted with the application for planning permission, or (ii) a written confirmation from the planning authority or An Bord Pleanála that an environmental impact assessment is not required by or under the Act of 2000,	**N/A** **N/A**	
(e)	In accordance with section 87(1B)(b) of the EPA Act of 1992, as amended, in the case where permission for the development comprising or for the purposes of the industrial emissions directive activity to which the application for the licence relates has been granted, a copy of the grant of permission together with either: (i) a copy of the environmental impact statement, 2 hard copies and 2 electronic copies or in such form as may be specified by the Agency, that was required to be submitted with the application for permission, or (ii) a written confirmation from the planning authority or An Bord Pleanála that an environmental impact assessment was not required by or under the Act of 2000,	**Attachment B6 & CD's** **N/A**	✓

Regulation 9(2)		Section in Application	Checked by Applicant ✓
(f)	specify the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity,	**G1 & Tables G1(i) & G1(ii)**	√
(g)	describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity,	**D, E & F**	√
(h)	indicate how the requirements of section 83(5)(a)(i) to (v) and (vii) to (xa) of the Act shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3)(b) of that Act or any applicable best available techniques (BAT) conclusions adopted in accordance with Article 13(5) of the Industrial Emissions Directive and the reasons for the selection of the arrangements proposed,	**Attachment L**	√
(i)	give particulars of the source, nature, composition, temperature, volume, level, rate, method of treatment and location of emissions, and the period or periods during which the emissions are, or are to be, made,	**Tables E**	√
(j)	identify monitoring and sampling points and outline proposals for monitoring emissions and the environmental consequences of any such emissions,	**Tables F & Section I**	√
(k)	provide: (i) details, and an assessment, of the impacts of any existing or proposed emissions on the environment as a whole, including on an environmental medium other than that or those into which the emissions are, or are to be, made, and (ii) details of the proposed measures to prevent or eliminate, or where that is not practicable, to limit, reduce or abate emissions,	**Section I & EIS** **EIS**	√ √

Regulation 9(2)		Section in Application	Checked by Applicant ✓
(l)	describe in outline the main alternatives to the proposed technology, techniques and measures which were studied by the applicant,	**EIS**	√
(m)	describe the condition of the site of the installation,	**EIS**	√
(n)	Provide, when requested by the Agency, in the case of an activity that involves the use, production or release of relevant hazardous substances (as defined in section 3 of the Act of 1992) and having regard to the possibility of soil and groundwater contamination at the site of the installation, a baseline report in accordance with section 86B of the Act of 1992,	**Not Completed**	
(o)	specify the measures to be taken to comply with an environmental quality standard where such a standard requires stricter conditions to be attached to a licence than would otherwise be determined by reference to best available techniques,	**N/A**	
(p)	describe the measures to be taken for minimising pollution over long distances or in the territory of other states,	**N/A**	
(q)	describe the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages,	**Section F**	√
(r)	describe the measures to be taken on and following the permanent cessation of the activity or part of the activity to avoid any risk of environmental pollution and to return the site of the activity to a satisfactory state or the state established in the baseline report if such is required under section 86B of the Act of 1992,	**Section K**	√

Regulation 9(2)		Section in Application	Checked by Applicant ✓
(s)	describe the arrangements for the prevention of waste in accordance with Part III of the Act of 1996, and where waste is generated by the installation, how it will be in order of priority in accordance with section 21A the Act of 1996, prepared for re-use, recycling, recovery or where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment,	**Section D.2.4**	√
(t)	specify, by reference to the relevant European Waste Catalogue codes as prescribed by Commission Decision 2000/532/EC of 3 May 2000, the quantity and nature of the waste or wastes produced or to be produced by the activity, or the quantity and nature of waste or waste accepted or to be accepted at the installation,	**Tables H.3(i)**	√
(u)	state whether the activity consists of, comprises, or is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2006(S.I. No. 74 of 2006) apply,	**N/A**	
(v)	describe, in the case of an activity which gives rise, or could give rise, to an emission containing a hazardous substance which is discharged to an aquifer and is specified in the Annex to Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances, the arrangements necessary to comply with said Council Directive,	**Section I & EIS**	√
(w)	include a non-technical summary of information provided in relation to the matters specified in subparagraphs (c) to (x) of this paragraph ,	**Section A**	√
(x)	include any other information required under Article 11 of the Industrial Emissions Directive.	**N/A**	

Regulation 9(2)		Section in Application	Checked by Applicant ✓

Regulation 9(4) An application for a licence shall be accompanied by -		**Section in Application**	**Checked by Applicant ✓**
(a)	a copy of the relevant page of the newspaper in which the notice in accordance with Regulation 5 has been published,	**Attachment B9**	√
(b)	a copy of the text of the site notice erected or fixed on the land or structure in accordance with Regulation 6,	**Attachment B9**	√
(c)	a copy of the notice given to the planning authority under section 87(1)(a) of the EPA Act of 1992, as amended	**Attachment B9**	√
(d)	a copy of such plans, including a site plan and location map, and such other particulars, reports and supporting documentation as are necessary to identify and describe -		
	(i) the activity	**Attachment B2**	√
	(ii) the position of the site notice in accordance with Regulation 6,	**Attachment B2**	√
	(iii) the point or points from which emissions are made or are to be made, and	**Attachment E**	√
	(iv) monitoring and sampling points, and	**Attachment F**	√

(e)	a fee specified in accordance with section 99A of the EPA Act of 1992, as amended.	**€10,444.00**	√

Regulation 9(5)		Checked by Applicant ✓
	A signed original and 1 hardcopy and 2 electronic copies of the application as required under paragraphs (1) and (2) or under paragraphs (1) and (3), where the application concerns a review of a licence, and the accompanying documents and particulars as required under paragraph (4) shall be submitted to the headquarters of the Agency. The 2 electronic copies of all application documentation and particulars must be in searchable PDF format on CD Rom.	
	Hardcopies submitted.	
	CD version submitted.	