

EPA Application Form

1.2 – Non-Technical Summary Attachment

Organisation Name: *

ERAS ECO Ltd.

Application I.D.: *

LA007376

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1. Introduction

ERAS ECO Ltd operates a biological treatment plant at Foxhole, Youghal, County Cork under an Industrial Emissions Licence (Reg No: W0211-02) issued by the Environmental Protection Agency (the Agency). The licence authorises the drying of wastewater treatment plant sludges and the anaerobic digestion of organic materials, including food waste.

2. Licensing & Planning History

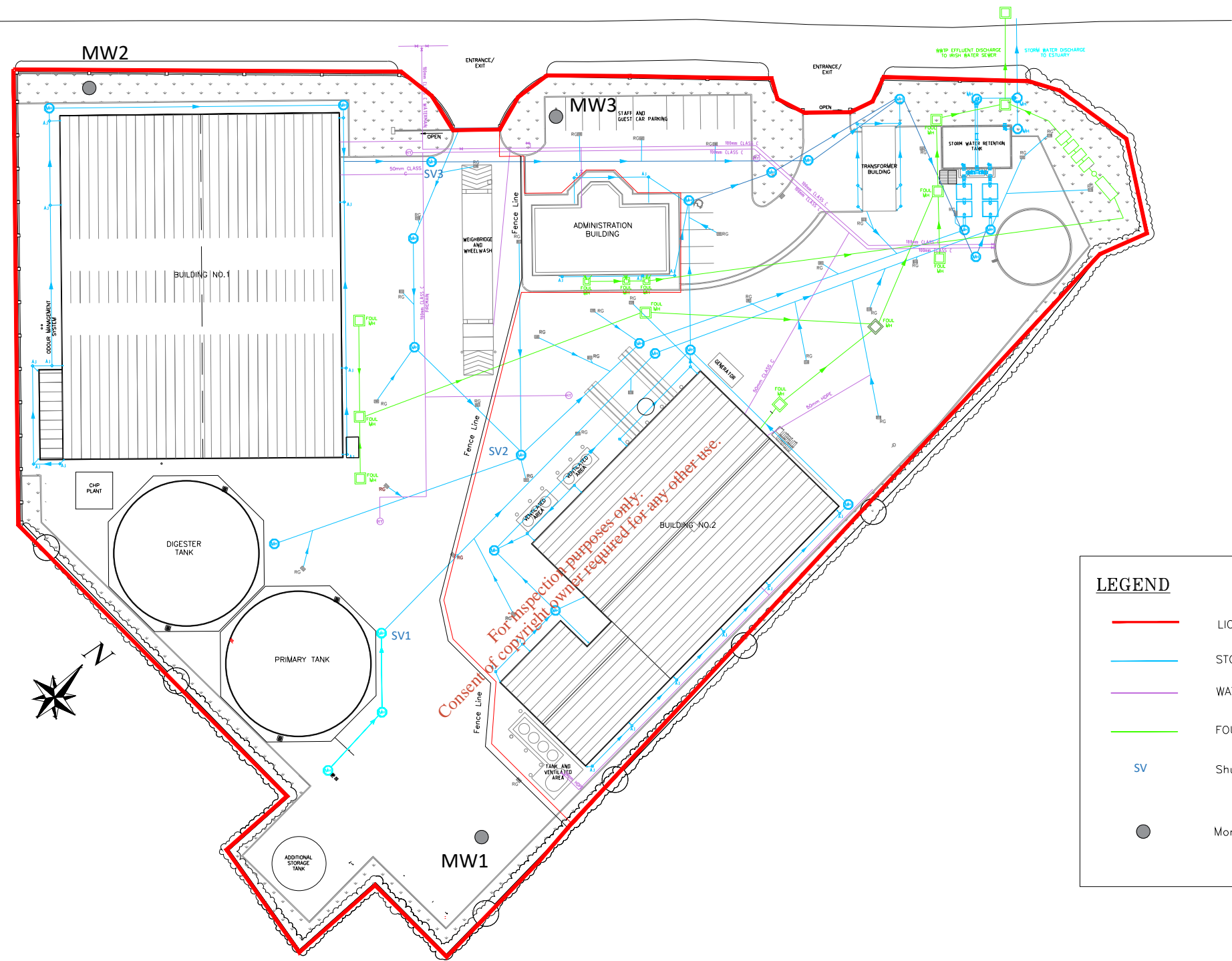
In 2001, planning permission was granted for the construction of a waste transfer station (Ref N. S/00/7093, 30th August 2001); however this development did not proceed and the permission expired. In 2005 permission (PL 04.21117) was granted for the construction of a sludge treatment facility. The original licence (Reg No. W0211-01) was issued on 9th November 2006. In 2013 permission (PL 04.239166) was granted for the construction of an anaerobic digestion plant. The revised licence (Reg No. W0211-02) was issued on the 5th July 2018.

3. Existing Facility

The facility is approximately 2km from Youghal, adjacent to the Blackwater River Estuary. The surrounding lands have a variety of commercial uses including Cork County Council's Youghal Landfill, the Youghal NCT Centre, the Foxhole IDA Industrial Estate and the Foxhole Business Park. The current licence authorises the acceptance of 65,000 tonnes of waste per year of non-hazardous sludge and off specification food ingredients, landfill leachate and mixed dry recyclables. The site layout is shown on Drawing No. 21-193-01 and details of the infrastructure are presented in Table 1.1.

Table 1.1 Site Infrastructure

Ref	Infrastructure	Details
1	Building 1 - Anaerobic Digestion Feed Area	Area 2,162m ² . Steel portal frame with 300mm reinforced concrete floor slabs. Central floor drain leading to underground feed hopper (130m ³). Below ground access chamber for hopper maintenance (180m ³). Odour abatement system comprising air extraction fan, wet scrubber and activated carbon filter.
2	Building 2 – Former Sludge Drying)	Area 1,323m ² . Steel portal frame with 300mm reinforced concrete floor slabs.
3	Site Office	Area. 460m ² Used for administrative offices, canteen and changing rooms, washing machines, with Puraflo sanitary waste water treatment system.
4	Transformer Building	Area. 46m ² .
5	Anaerobic Digesters 2 No.	Each has 2,500 tonnes storage capacity
6	Digestate Storage Tank	1,000 tonnes storage capacity
7	Combined Heat & Power Units and Transformers	2 No. Combined generating capacity 1.2MW 2 No. Transformers
8	Gas Flare	Back-up to control gas pressure in digesters when CHP units shut down for maintenance
9	Above Ground Diesel Tanks	1 No. 2,600 litre
10	Water Storage Tanks	Firewater Storage Tank (475m ³), Storm Water Retention Tank (120m ³).
11	Electrical Substation	Controlled by utility company and not accessible by ERAS ECO.
12	Open Yards	10,597m ²
13	Weighbridges	1 No.



LEGEND	
	LICENCE BOUNDARY
	STORM SERVICES
	WATERMAINS
	FOUL SERVICES
	Shutoff Valve
	Monitoring Well



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CLIENT ERAS ECO Ltd

Drawing No. 21-193-01

TITLE Site Layout

SCALE	REV.
1:250	A

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The anaerobic digestion process generates a biogas and a liquid digestate. The biogas is currently used on-site as a renewable fuel to generate electricity in an on-site combined heat and power (CHP) plant comprising two gas engines. The electricity is fed into national electricity grid. In the longer term the gas will either be fed directly to the national gas grid or compressed and sent off-site for use as a bio-fuel. The digestate has a significant nutrient and soil enhancement value and is applied to land.

ERAS ECO stopped accepting mixed dry recyclable in 2013 and in 2018 ERAS ECO stopped accepting and drying sludges. The sludge drying equipment and associated process wastewater treatment plant and odour control systems were decommissioned and removed from the site. The operation of the anaerobic digestion plant is the only waste activity that is on-going.

4. **Proposed Changes**

It is proposed to amend a number of the licence conditions to reflect the changes in the waste operations; allow the acceptance and digestion of 65,000 tonnes/per year of organic waste; bring the licence into alignment with the Industrial Emissions Directive (2010/75/EU) (the Directive) and S.I. No. 605/2017 - European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017, as amended, and facilitate the pre-treatment of waste for anaerobic digestion and future biogas connection to the national gas grid.

5. **Class of Activity**

The class of activity as listed in the First Schedule of the EPA Act as amended is.

Class	Description
11.4 (b)	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 Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) apply): (i) 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.

6. **BAT Documents**

The facility has been assessed against the BAT Conclusions in Commission Implementing Decision (EU) 2018/1147 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU.

7. **Waste Management Policies**

The foundation policy statement on waste management “*Changing Our Ways*” bases national policy on the EU Waste Management Hierarchy, which in descending order is:

- Prevention,
- Preparing for Reuse,
- Recycling,
- Other Recovery (including energy recovery); and
- Disposal.

Policy Statement ‘*A Resource Opportunity Waste Management Policy In Ireland 2012*’ da range of measures across all tiers namely, prevention and minimisation, reuse, recycling, recovery and disposal.

It is a policy objective that when waste is generated, the maximum value must be extracted from it by ensuring that it is reused, recycled, or recovered.

The current policy “*Waste Action Plan for a Circular Economy*” is an action focused plan for Ireland to embrace the opportunities in becoming a circular economy and its objectives include ensuring that measures support sustainable economic models (for example by supporting the use of recycled over virgin materials).

8. Resource Consumption and Energy Use

Operations involve energy (electricity) and resource (groundwater) consumption. The resource consumption in 2020 was

- Electricity : 412 MW hrs,
- Water : 569 m³

9. Sources of Emissions

Potential and actual emissions associated with the waste activities include vehicle exhausts, dust, noise, combustion exhaust gases from the CHP plant, odours and rainwater run-off to the River Blackwater.

The odour control system extraction fans are sources of continuous noise emissions. Waste transport vehicles, staff private cars and the mobile plant are sources of intermittent noise emissions occurring during the waste acceptance and processing.

The incoming wastes, the anaerobic digestion process and the associated odour control system are sources of odours. The CHP plant and the back-up gas flare are point emission sources that contain the biogas combustion products. The waste transport vehicles are sources of exhaust gases. Potential dust sources include vehicle movement over the concrete yards during dry periods.

Stormwater run-off from the building roofs and open yards is collected and directed to two silt/oil interceptors (Class 1) and a storm water retention tank. The outlet valve from the tank is normally closed and only opened to release water to the estuary via a non-return valve after an inspection confirms that water quality is satisfactory.

Process wastewater is not generated and sanitary wastewater from the offices is treated in a proprietary treatment system (Puraflo ©) adjacent to the northern site boundary, before being discharged to the Irish Water foul sewer that connects to the municipal wastewater treatment plant in Youghal. The foul sewers that originally served the anaerobic digestion plant have been sealed at the inspection chambers outside the building, severing the connection to the foul sewer system serving the office and remainder of the site

10 Environmental Monitoring

The environmental monitoring programme includes the CHP plant stack, the odour control unit serving Building 1, surface water, groundwater, dust, noise and air. The licence specifies the emission limit values that must be achieved.

11 Existing Environment, Potential Impacts, Mitigation and Residual Impacts

11.1 Climate

The climate in the area is mild and wet, with the prevailing wind direction from the south and south-west. There is a link between direct and indirect greenhouse gas (carbon dioxide, methane and nitrous oxide) emissions and climate change. Direct emissions from waste management plants are associated with on-site processing and off-site electricity power generation, while indirect emissions are linked to the vehicles transferring wastes to and from the site and staff transport.

The biogas from the anaerobic digestion consists largely of methane (60-65%) and carbon dioxide (35-40%). The gas is currently combusted on-site and in future may be treated to a point where it can either be exported directly to the national grid or compressed to form a biofuel that can be used compressed and sent off-site for use as renewable fuels.

Carbon dioxide arising from the combustion of renewable fuels is deemed to be carbon neutral and not a net contributor to greenhouse gases. Furthermore, the reduction in the reliance on non-renewable sources as a result of the generation of electricity using the biogas has a positive impact.

11.2 Land & Geology

The site is underlain by up to 3m of made ground, which overlies more up to 11.6m of glacial till that in turn overlies up to 2m of sandy gravel. The made ground is predominately clay, with a small amount of construction and demolition waste. The subsoils are at least 14m thick. The underlying bedrock is part of the Waulsortian Limestone Formation, which is a massive, unbedded deposit form of mudstones, wackestones and packstones.

11.3 Water

The site is in the catchment of the River Blackwater. The Tourig River joins the River Blackwater approximately 200 m to the north of the site. The bedrock is classified as a Locally Important Karstified Aquifer. Based on the type and thickness of the subsoils the aquifer vulnerability rating is Moderate. The groundwater flow direction is to the south-east towards the estuary at low tide, but the direction could vary during high tide.

Rainwater run-off will continue to discharge to the River Blackwater and there will be no change to either the quality or the volume.

The prevention and mitigation measures required by the EPA licence to protect surface water and ground will continue to be implemented. Three shut-off valves have been installed on the drainage system, which when closed will retain run-off inside the revised licensed area.

11.4 Biodiversity

The site is located adjacent to the Blackwater River and Estuary which is designated a Special Protected Area (SPA) (Code 004028), and a Special Area of Conservation (SAC) (Code 002170) and a proposed National Heritage Area (pNHA) (Code 000072)

Rainwater run-off from the building roofs and paved areas of the site not susceptible to contamination does and will continue to discharge to the Estuary via an oil interceptor and flow attenuation system that regulates the discharge rate. There will be no change to the storm water quality but the volume

will decrease due to a reduction in the size of the licensed area. The proposed development will have no significant effects on designated sites.

11.5 Air

The EPA conducts ambient monitoring at stations around the country to establish regional air quality. The monitoring station in Dungarvan is the nearest active ambient monitoring point to the site. Continuous monitoring is carried out for particulates and the results for and the results are used to update the Air Quality Index for Health (AQIH).

The AQIH is a number from one to 10 that indicates the air quality currently in a region and whether or not this might affect human health. A reading of 10 means the air quality is very poor and a reading of 1 to 3 inclusive means the air quality is good. In July 2021 the AQIH was 1 meaning the air quality was good.

Point and fugitive emissions from the biological treatment processes with the potential to adversely impact on air quality include, odours, particulates, dust, bioaerosols, combustion gases from the gas engines and vehicle exhaust.

The trucks that deliver the wastes are typically fitted with nitrous oxides reduction systems and it is ERAS ECO policy not to allow engine idling.

11.6 Population & Human Health

The combustion gases from the gas engines and vehicle exhaust gases can affect air quality with consequent implications for human health. While odours, noise and dusts do not present a direct risk to health, they can be a significant nuisance and cause of discomfort that may indirectly affect human health.

Biological treatment plants are potential sources of nuisance (birds, vermin and insects) that can significantly adversely impair the amenity value outside the site boundaries if they are not properly controlled. Traffic movement to and from waste management facilities can, depending on the size, location and capacity of the local road network, be a cause of congestion that affects local residents.

A major accident, such as a fire, presents a risk to site staff and there is the potential, depending on the weather conditions, for smoke to affect residential and commercial premises in the vicinity of the site.

ERAS ECO has engaged a specialist pest and vermin control contractor who visits the site regularly to ensure pests and vermin are properly controlled. Fire prevention, detection and suppression measures are in place to minimise the risk of fire outbreak and ensure that in the event of a fire there is an appropriate and rapid response to bring it under control.

The air quality in the vicinity of the site is good. The existing operational controls, and those conditioned in the revised EPA licence, will ensure that the site will not be a source of odour, dust or noise nuisance outside the boundary. Appropriate measures are already in place to prevent, detect and suppress a fire outbreak.

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 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. The licence conditions require the site management team to have the appropriate training and qualifications; they specify the types of wastes and processes that can be carried out; stipulate how wastes and raw materials that have the potential to cause pollution are handled and stored; describe the control measures that must be applied to prevent nuisance, for example litter and dust control, and require appropriate emergency response procedures to be in place.

13. Measures to Comply with Waste Management Hierarchy

The installation contributes to the implementation of the principles of the waste hierarchy through the provision of waste recovery infrastructure that facilitates the management of wastes in an EPA approved facility incorporating the best available techniques to ensure environmental protection, thus supporting the self-sufficiency and proximity tenets of the Waste Directive.

14. Abnormal Operating Conditions

ERAS ECO has adopted an Emergency Response Procedure (ERP) that identifies the responsibilities and actions required to deal quickly and efficiently with an emergency.

15. Avoidance of the Risk of Environmental Pollution due to Closure of the Facility

A Decommissioning Management Plan has been prepared and approved by the Agency.

16. Environmental Monitoring

ERAS ECO currently conducts monitoring of the following:

- Combined storm water / Surface water discharge
- Groundwater
- Dust
- Air
- Noise

17. Measures to Comply with an Environmental Quality Standard

The emission limit values set in the current licence are based on achieving compliance with the relevant environmental quality standards. The measures also effectively minimise the risk of pollution over long distances.

The environmental quality standards that are relevant to the overall assessment for the licence application are those specified in:

- European Communities Environmental Objectives (Surface Water) Regulations S.I. No 272 of 2009, as amended;
- European Communities Environmental Objectives (Groundwater) Regulations S.I. No 9 of 2010, as amended;
- Air Quality Standards Regulations (S.I. No 271 of 2002), and
- Directive 2008/50 EC on ambient air quality and cleaner air for Europe.

18. 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.

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